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The 2024 AIESEP International
Conference “Past meets the Future”

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A WARM WELCOME FROM THE PRESIDENT OF AIESEP

It is such a joy to welcome you all to the University of Jyväskylä, hosts of our 2024 AIESEP Conference. I wish to sincerely congratulate the Faculty of Sport and Health Sciences at the University of Jyväskylä who are currently celebrating 60 years of educating Physical Education teachers in Finland. It is wonderful to celebrate this occasion with them, given how they have not only contributed to Physical Education Teacher Education but also so that we can acknowledge their considerable involvement in the leadership and work of AIESEP over many, many years.



In the coming days, we will have a unique opportunity to share ground-breaking and thought-provoking research from every corner of the globe. This is research that has and will have a positive impact on the quality of people's lives across the world.

Most importantly, given that we are an AIESEP Family, during this conference we will have a chance to rekindle our friendships in person and, perhaps, forge new research partnerships in this the Land of the Midnight Sun.

Finally, if you are not already a member of the AIESEP Family, please consider joining AIESEP as an individual or institutional member. Find out how to do this by chatting to any member of our AIESEP Board during the conference or visiting our website.

Beannachtaí libh go léir
Fiona Chambers PhD
President of AIESEP

FOREWORD

Faculty of Sport and Health Sciences in the University of Jyväskylä is organizing the AIESEP international congress fourth time in Jyväskylä. The first two congresses were organized by Professor Risto Telama in 1982 and 1989 and the third one by professor Pilvikki Heikinaro-Johansson in 2006. The AIESEP family is back in Jyväskylä in May 2024!

We received 465 abstract proposals written by 1719 academics. Abstracts were reviewed by 36 scientific experts under the themes: 1) Physical education teacher education - professional development, 2) Pedagogy and didactics, 3) Physical activity in children's and adolescent's life, 4) Physical activity supporting children's and adolescents' overall development, 5) Physical activity interventions, 6) Coach education - professional development, and 7) Health Teacher education - professional development. Altogether 538 participants in 34 symposiums (including 113 presentations, 2 workshops and 1 practical session), 272 oral presentations, 104 poster presentations and 2 practical sessions will be presented during the congress.

Before the official congress days, the pre congress seminars was organized under the themes AIESEP Early Years SIG, Teaching Games for Understanding (TGfU) SIG, Early Career Researcher workshop, Policy work in Physical Education, Finnish Education system and Coach Education. All together approximately 300 persons participated in these activities.

AIESEP wants to support young researchers in their journey to become academics. Therefore, after the congress the AIESEP summer school will be organized by Professor Risto Marttinen. In that event, future researchers and current PhD students will be supervised by experienced AIESEP scholars from different part of the world.

We wish you all warmly welcome to AIESEP 2024 in Jyväskylä!

On behalf of organizing and scientific committees,
Arja Sääkslahti & Timo Jaakkola

Arja Sääkslahti, associate professor
Chair, Organizing committee

Timo Jaakkola, associate professor
Chair, Scientific committee

1 KEYNOTES

More than movement: The potential of embodied learning to support pupils' holistic growth

Professor Eeva Anttila (Uniarts Helsinki, Finland)

During my presentation I outline the notion of embodied learning and its theoretical foundations. I discuss the so-called embodied turn that has roots in phenomenology and art philosophy and is currently advanced by several fields, including neuroscience and cognitive psychology. Recent research supports the view of cognition as embodied. This means that the brain, body, and environment are entangled, and that cognitive and motor systems are united in perception and action, as well as in learning and knowing. An increasing number of educational scholars attest to the significance of mind-body integration in education.

Embodied learning can be broadly defined as a conception of learning where learners are holistically engaged and intertwined in their social and material surroundings. Bodily engagement is a broader notion than just physical activity. A view of embodied learning articulated in arts education and dance pedagogy underscores that embodied activity goes beyond visible, bodily activity to also account for inner bodily sensations, experiences, and physiological changes. Thus, embodied learning extends beyond learning through movement. In embodied learning non-symbolic sensations generated by physical action and/or multisensory engagement become interconnected with symbolic knowing, and lead towards complex meaning-making processes within the social and cultural world. Through this process movement, emotions and thoughts become connected. Reality and imagination may intertwine in these meaning-making processes, and the borders between science and art may become blurred.

I argue that creative movement and dance have great potential in supporting embodied learning and learners' holistic growth. Dance is physical, cultural, and creative activity that it engages the human being quite fully. It involves sensory processes, social interaction, various modes of reflection, and creative processes. The performative elements and cultural aspects of dance open wide possibilities for learning that are grounded in the body but reach complex cultural meanings. Creative and embodied activities like dance also support the ability to access and interpret bodily experiences and emotions that our embodied system generates and transmits. Dancing and moving with others enhance the ability to understand others' experiences and emotions and fosters empathy and compassion to other human beings and also, to other living and non-living beings.

If taken seriously, embodied learning challenges conventional conceptions of learning and calls for novel pedagogical practices. As ***more than movement***, embodied learning has great potential in supporting pupils' holistic growth. I discuss implications for pedagogical practice and substantiate them through current research findings.

Restorative Justice as a Transformative Practice in Physical Education Scholarship

Associate Professor Michael A. Hemphill (University of North Carolina at Greensboro, USA)

In my keynote address I urge us to move towards a restorative physical education. This requires us to engage with three essential questions: 1) who has been harmed in physical education, 2) what are their needs?, and 3) whose obligations are these. Drawing on the three pillars of restorative justice – harms, needs, and obligations – I describe how restorative justice practices can be utilized in physical education programs.

I draw upon my community-engaged scholarship that involves working in partnership with schools and communities to address community-based needs. This work has been centered in my university community in the USA as well as in international contexts. Drawing upon Hellison's (2011) Teaching Personal and Social Responsibility model, I describe how reciprocal relationships led to the development of Restorative Youth Sports, a model for using restorative justice in physical education.

The presentation outlines the status of restorative justice as it has evolved from indigenous practices, use in criminal justice systems, and its current growth in

education contexts. Restorative justice in education has shown promise for resolving conflicts and addressing curricular objectives but has been plagued by mis-implementation models that undermine the justice-orientation. To avoid this pitfall, I offer four pedagogical stances to approaching restorative justice pedagogy. The stances insist that we reflect on things that matter in education including history, race, justice, and language.

I describe how the use of pedagogical stances is used to provide a justice orientation in an alternative physical education program that I direct in Greensboro, North Carolina. This program aims to respond to harms and needs of students and understand whose obligations those needs belong to. I conclude that educators focus most of their attention on interpersonal harm but there are in fact three types of harm for us to consider including interpersonal, institutional, and systemic. These three types of harm intersect and provide a more complex framework for us to consider when we encounter conflict and harm.

I conclude that there are a variety of harms and needs that are evident in physical education although they are not commonly identified in our scholarly discourse. Therefore, it is our obligation, individually and collectively, to understand and respond to the harm caused in physical education.

Citations count, but students matter: Optimising the impact of physical education research

Professor David Lubans (University of Newcastle, UK)

There is mounting pressure for academics to demonstrate research impact across economic, knowledge, social, and health domains. While physical education research holds promise across all four areas, my focus today will be on its potential for social and health impact. I'll explore how the impact of physical education research results from its influence on students, and the adoption and implementation by teachers, schools, universities, as well as departments of education and health.

It takes an average of 17 years for research evidence to change clinical practice. Although it has not been studied extensively, the physical education research translation process also appears to move at a glacial pace. My presentation will discuss the various pathways to research impact, emphasising the limited number of school-based physical activity interventions that have achieved population-level impact. I will outline how interventions become less impactful as they are scaled up and the use of evidence-based behaviour change techniques to minimise the 'scale-up penalty'.

Drawing on examples from the University of Newcastle's Centre for Active Living and Learning (e.g., Resistance Training for Teens, Burn 2 Learn, and Learning to Lead), I'll present strategies that might help expedite the research translation process. Resistance Training for Teens was designed to provide adolescents with the knowledge, confidence, competence, and motivation to participate in foundational resistance training across the lifespan. It underwent efficacy and effectiveness trials before a statewide dissemination study. Burn 2 Learn offers time-efficient physical activity for older adolescents, while Learning to Lead fosters physical activity leadership among elementary students using transformational leadership theory. Both have progressed from efficacy to effectiveness studies, with dissemination efforts underway.

I will finish my presentation by highlighting the importance of addressing current school challenges and leveraging implementation science and partnerships with government and non-government organisations to optimise the impact of physical education research.

Motor trajectories, developmental disorders, and the impact of community and school-based intervention for children: Nurture children's competence

Professor Nadia C. Valentini (Universidade Federal do Rio Grande do Sul, Brazil)

Individual and environmental factors that affect children's motor skill development will be discussed based on scientific evidence.

How delays and developmental disorders, as well as the risk and protective factors associated with these outcomes, affect children's participation in physical education in school will be discussed, considering the opportunities in the context of children's development.

The strategies used to ameliorate those restrictions will be presented considering a conceptual and operational model for implementing a cognitive-motor mastery climate intervention – the scientific evidence for those interventions and how they can be meaningful for all children.

2 SYMPOSIA

ID 81 Quality of Teaching in Physical Education – The QualiTePE project

Menno Slingerland (Fontys University of Applied Sciences), **Lars Borghouts** (Fontys University of Applied Sciences), **Alina Sarah Lemling** (University of Luxembourg), **Wiebke Langer** (University of Hamburg), **Erin Gerlach** (University of Hamburg), **Angelo Crapa** (Zurich University of Teacher Education) & **Christian Herrmann** (Zurich University of Teacher Education)

In the realm of education, the pivotal role of teaching quality in determining student learning and academic achievement has garnered significant attention in recent decades. Various different frameworks have been devised to conceptualize teaching quality, particularly within the domain of cognitive school subjects (Charalambous & Praetorius, 2020). However, the definition of high-quality teaching in the context of physical education (PE) remains less elucidated. This collaborative endeavor, funded under the Erasmus+ program and involving ten European countries, was undertaken to address this gap in understanding. The primary objective was to delineate the fundamental criteria of effective teaching in PE, culminating in the creation of the QualiTePE framework. In tandem, our efforts aimed to develop a digital QualiTePE evaluation tool tailored to diverse PE teaching and learning scenarios, alongside teacher resources, facilitating the practical assessment of teaching quality in PE. The interactive symposium presented here serves as a platform to introduce the overarching goals and outcomes of the QualiTePE project. The symposium commences with an overview of the project's background and objectives. Subsequently, the second presentation discusses a cross-cultural Delphi study undertaken to achieve consensus on the concept of quality teaching in PE and presents the QualiTePE

framework. We then move on to explain the development and validation of the digital QualiTePE evaluation tool, offering attendees a hands-on demonstration of its functionality. The last presentation will then delve into insights gleaned from the two-phase piloting process of the digital QualiTePE evaluation tool. Ultimately, the symposium concludes with an interactive discussion rooted in the collaborative insights and findings of our project. The goal is to underscore the relevance of our work to the broader field of physical education and encourage a robust exchange of ideas among attendees. The QualiTePE project endeavors to shed light on the multifaceted aspects of teaching quality in PE, ultimately enhancing the educational experiences and outcomes of students in this domain. References Charalambous, C. Y., & Praetorius, A.-K. (2020). Creating a forum for researching teaching and its quality more synergistically. *Studies in Educational Evaluation*, 67. <https://doi.org/10.1016/j.stueduc.2020.100894>

Keywords: teaching quality, didactics, pedagogy, physical education, Erasmus

ID 687 The QualiTePE project - Background and Aims

Alina Lemling (University of Luxembourg)

The QualiTePE project The quality of teaching is considered as a central determinant of successful learning in schools. Educational research in recent decades has developed characteristic lists for good teaching across various subjects (Helmke, 2014; Brophy, 2000), providing valuable guidance for planning and reflecting on instruction to predict learning outcomes and enhance pedagogical practices. In Europe, there is currently no consensus on what constitutes good physical education (PE) practice. Consequently, there are no available observation or assessment instruments that could be employed for educational research and teacher professionalization purposes. The QualiTePE project aims to bring together experts from various European countries to establish a shared understanding of high-quality PE and develop the QualiTePE framework, which determines and describes the central teaching dimensions and features in PE. Therefore, the goal of the QualiTePE project (with its 11 project partners from 10 countries) is to conceptualize and operationalize quality characteristics of PE. It addresses the need for (1) a QualiTePE framework concept for central teaching dimensions and features in PE, agreed upon by experts from various countries, (2) a QualiTePE evaluation instrument for the formative assessment of PE, to be developed based on this framework concept, and (3) QualiTePE teaching materials enabling educators at universities to experiment with and,

in the long term, implement the QualiTePE framework and evaluation instrument in evidence-based teacher education as well as teacher training. The QualiTePE framework concept can complement or modify teacher education in European partner countries, contributing to standardization and quality improvement across several countries as well as European-wide. Particular potential lies in the use of the QualiTePE evaluation instrument by PE teacher students for criterion-based reflection on their own teaching practices. This provides students with tools to plan, conduct, evaluate, and further develop their own PE practice. In addition to the use in initial teacher education, the materials can also be utilized in teacher professional development. For the long-term implementation of the QualiTePE framework concept and evaluation instrument, QualiTePE materials (including guides and presentations) will be developed to facilitate the transmission of theoretical content to educators, aiding in the delivery of theoretical content and its empirical-practical implementation to pre-service and in-service teachers. Brophy, J. (2000). *Teaching* (Educational Practices Series, Vol. 1). Brussels: International Academy of Education (IAE). Helmke, A. (2014). *Unterrichtsqualität und Lehrerprofessionalität. Diagnose, Evaluation und Verbesserung des Unterrichts*. Seelze: Klett-Kallmeyer.

Keywords: physical education, characteristics, QualiTePE

ID 681 Conceptualizing and Operationalizing the Quality of Teaching in PE: A Cross Cultural Delphi Expert Consensus Study

Wiebke Langer (Universität Hamburg), **Claude Scheuer** (EUPEA), **Christophe Schnitzler** (University of Strasbourg), **Lisa Léfèvre** (University of Strasbourg), **Richard Bailey** (University of Nottingham) & **Erin Gerlach** (University of Hamburg)

Introduction: The question of what can be described as high-quality PE teaching depends on the educational goals and subject-didactic concepts in different national contexts in PE. The first aim of the Erasmus+-funded QualiTePE project is to bring together experts in different European countries to establish a common understanding of high-quality PE teaching and to develop a common framework, which will determine and describe the central teaching dimensions and characteristics in PE. This framework can help to provide a common understanding of good teaching in PE and enables evaluations and empirical studies. Methods: For this purpose, a three-round Delphi study (Bailey et al., 2021; Häder, 2014) involving a group of 324 European experts was carried out to articulate shared expert opinions on the main research question: what are the most effective characteristics of teaching quality in PE? In three rounds of data-gathering, participants with different levels of expertise

on the quality of teaching in PE were asked to assess specific dimensions by rating and ranking 28 sub-dimensions via online questionnaires. Results and Conclusions: High consensus with only slight differences (threshold of 90%) was reached on a final ranked list of 20 sub-dimensions which in turn are assigned to 6 overarching dimensions. Cautious of overly generalizing from the results, we suggest the findings provide empirically based and content related information for the framework – the so called QualiTePE framework. Taking this framework as a starting point, we operationalized the formulated characteristics and dimensions of good PE teaching and develop a digital QualiTePE evaluation tool, which will be presented in the next oral paper of this symposium. In this presentation, the process but also the potential of conceptualizing and operationalizing teaching quality for quality improvement in Europe and beyond will be discussed. References: Bailey, R., Glibo, I., & Scheuer, C. (2021). Effective Elements of School-based Provision for the Promotion of Healthy Lifestyles: A European Delphi Study. *Health Behavior and Policy Review*, 8(6). <https://doi.org/10.14485/HBPR.8.6.5> Häder, M. (2014). *Delphi-Befragungen: Ein Arbeitsbuch* (3. Auflage). Springer-Lehrbuch. Springer VS.

Keywords: teaching quality, didactics, pedagogy, quality of physical education, Erasmus

ID 678 Assessment of Quality of Teaching in Physical Education – development of the digital QualiTePE evaluation tool

Angelo Crapa (Zurich University of Teacher Education), **Wiebke Langer** (University of Hamburg), **Erin Gerlach** (University of Hamburg) & **Christian Herrmann** (Zurich University of Teacher Education)

Empirical educational research has developed various general models to describe and evaluate teaching quality. Teaching research is increasingly pointing out that teaching quality can only be adequately assessed if subject-specific aspects are included, as these in particular are considered to be effective for learning. There are currently no validated questionnaires that enable a subject-specific evaluation of teaching quality in PE and consider the different subject-specific didactic discourses within Europe (Herrmann & Gerlach, 2020). For this reason, the QualiTePE questionnaire was developed based on the theoretical framework of teaching quality in PE (QualiTePE framework) and the validated QUALLIS instrument (Qualität des Lehrens und Lernens im Sport; Herrmann et al., 2023). The QualiTePE questionnaires describe the quality of teaching in PE through the assessment of (a) teachers, (b) observers and (c) pupils on specific teaching characteristics. The questionnaires and

the analyses of the surveys are written in the respective national languages of the project countries: Czech, Dutch, English, French, German, Slovenian, Spanish and Swedish. For a successful formative evaluation of PE lessons, it is essential that the preparation, evaluation and interpretation can be carried out by teachers, observers and pupils in a short time period. The digital QualiTePE evaluation tool ensures this and brings together the various QualiTePE questionnaires in their different language versions and perspectives and makes them available to all partner countries as freely combinable templates. Teachers can manage the questionnaires in the QualiTePE evaluation tool independently by creating class-specific QR codes or web links. The survey data is collected automatically so that teachers can analyse it in real time during PE lessons. This minimises the workload for teachers, increases user-friendliness and lowers the barriers to voluntary evaluation. To date, there is no corresponding interactive tool for evaluating quality in PE lessons, which promises great potential for innovation and digitalisation in school sport. We also see potential for transferability in the application of the QualiTePE evaluation tool in the context of extracurricular sport. In future, it should be discussed if the concept of the digital QualiTePE evaluation tool can also be adapted and used for other school subjects.

References: Herrmann, C., Niederkofler, B., & Seelig, H. (2023). Evaluation der Qualität des Lehrens und Lernens im Fach Sport – Validierung des QUALLIS-Instruments. *Schweizerische Zeitschrift für Bildungswissenschaften*, 45(2), 202–219. <https://doi.org/10.24452/sjer.45.2.10> Herrmann, C., & Gerlach, E. (2020). Unterrichtsqualität im Fach Sport – Ein Überblicksbeitrag zum Forschungsstand in Theorie und Empirie. *Unterrichtswissenschaft*, 48(3), 361–384. <https://doi.org/10.1007/s42010-020-00080-w>

Keywords: teaching quality, subject-specific didactics, classroom management, teaching climate, activation

ID 620 The QualiTePE evaluation tool – results from pilot phase 1 and 2

Menno Slingerland (Fontys University of Applied Sciences) & **Lars Borghouts** (Fontys University of Applied Sciences)

Based on the QualiTePE framework developed in the first part of this Erasmus+ project, the next phase was dedicated to the development and validation of a digital evaluation tool. The intended purpose of the tool was to facilitate feedback and discussion on dimensions of teaching quality in a diversity of teaching-learning scenarios through an easy-to-use web-based platform. One example of a teaching-learning

scenario is a pre-service PE teacher who teaches a (series of) lesson(s) during an internship while various, self-selected teaching quality dimensions are evaluated by students, an observer (i.e. supervisor) and through a self-assessment. Between January 2023 and March 2024, we tested the QualiTePE tool in two distinct pilot phases. Phase 1 was aimed at gaining insight into the technical usability of the tool. Ten partner countries implemented the tool in various teaching-learning scenarios and use of the tool was evaluated through the User Experience Questionnaire (Laugwitz et al., 2008). Results pointed out that although the tool was not regarded as very novel or attractive, the tool scored moderate to high on efficiency, perspicuity, and dependability and was deemed a potentially useful tool to support the learning process. Phase 2 piloting then focused on the extent to which the tool is useful for generating quality feedback and discussion. A concise feedback-manual was drafted for users whereupon multiple partner countries implemented the tool in various teaching-learning scenarios. Afterwards, participants filled in an evaluation questionnaire probing the value of the tool and areas for improvement. As this phase is still on-going, results will be presented during the symposium. References Laugwitz, B., Held, T., & Schrepp, M. (2008). Construction and evaluation of a user experience questionnaire. *USAB 2008: HCI and Usability for Education and Work*, 63-76.

Keywords: quality teaching, digital tool, evaluation, feedback

ID 277 Trauma-Aware Pedagogies in Physical Education: A Focus on Teacher Learning and Practice

Rachel Sandford (Loughborough University), **Thomas Quarmby** (Leeds Beckett University), **Oliver Hooper** (Loughborough University) & **Shirley Gray** (University of Edinburgh)

Growing numbers of children and young people are encountering 'adverse childhood experiences' (Felitti et al., 1998) which can lead to trauma and have lasting effects on their learning, as well as their health and wellbeing (Howard, 2021). The impact of trauma on young people is also becoming more significant for teachers, who are increasingly being encouraged to become 'trauma-aware' (O'Toole, 2022). Within physical education (PE) - where participation is public and the body is central to practice - such approaches are particularly pertinent (Quarmby et al., 2021). However, research has shown that working with trauma-affected pupils can be

challenging (Kinman et al. 2011), and that many teachers feel ill-prepared for such encounters. While some research has focused on the trauma-related professional learning of in-service teachers, little is known about how pre-service teachers (PSTs) of PE learn about trauma or how to develop/enact trauma-aware practice. Drawing on empirical research with 22 PSTs, this symposium seeks to shed light on practitioners' understandings and experiences of working with trauma-affected pupils and consider the implications for teacher well-being and practice. Following an overview that introduces trauma as a topic of significance to the PE field, three papers will be presented. Each discussion will draw on data generated through online research workshops with participants and highlight a key consideration for trauma-aware practice, namely: PSTs trauma-related learning experiences (Paper 1); strategies for enacting trauma-aware pedagogies in PE (Paper 2); and teacher self-care practices (Paper 3). The symposium will then close by highlighting implications for future practice and research, extending existing conversations on this important area of practice.

References Felitti, V., Anda, R., Nordenberg, D., Williamson, D., Spitz, A., Edwards, V., Koss, M. & J. Marks. (1998) "Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study". *American Journal of Preventative Medicine*, 14 (4): 245–258. Howard, J. (2021). *National Guidelines for Trauma-Aware Education*. Queensland University of Technology and Australian Childhood Foundation. Kinman, G., Wray, S., & Strange, C. (2011) Emotional labour, burnout and job satisfaction in UK teachers: the role of workplace social support. *International Journal of Experimental Educational Psychology*, 31(7), 843-856. O'Toole, C. (2022) "When trauma comes to school: Toward a socially just trauma-informed praxis," *International Journal of School Social Work*: 6(2). <https://doi.org/10.4148/2161-4148.1076> Quarmby, T., Sandford, R., Green, R., Hooper, O. & Avery, J. (2022) Developing evidence-informed principles for trauma-aware pedagogies in physical education, *Physical Education and Sport Pedagogy*, 27(4), 440-454. DOI: 10.1080/17408989.2021.1891214

Keywords: Trauma, physical education, pedagogy, teacher learning, self-care

ID 609 Becoming trauma-aware: reflecting on pre-service physical education teachers' trauma-related learning in schools

Shirley Gray (University of Edinburgh), **Rachel Sandford** (Loughborough University), **Thomas Quarmby**, (Leeds Beckett University) & **Oliver Hooper** (Loughborough University)

The impact of trauma on young people is significant for teachers, who are increasingly being encouraged to become trauma-aware practitioners (Thomas et al., 2019). Importantly, this also holds relevance for those teachers entering the profession, including pre-service teachers of physical education (PE). However, we currently know little about how pre-service PE teachers become trauma-aware, particularly in the context of their school placements. Consequently, the purpose of this presentation is to report on a study we conducted that explored the placement-based learning experiences of pre-service PE teachers. We worked with three groups of pre-service PE teachers (n=22) through an online professional learning programme designed to support their trauma-related learning. The online programme consisted of two workshops (each lasting two hours). In workshop one, participants were provided with space to reflect on what they already knew about trauma, with some focus on their trauma-related learning during school-placements. In workshop two participants were invited to critically reflect on their learning from the first workshop, their own practice, and the five principles of trauma-aware pedagogies (Quarmby et al., 2022). The reflections and discussions generated in each of the workshops were recorded, transcribed and then analysed, first deductively to highlight the participants' school-based learning experiences and then inductively to identify emergent themes across participants. Findings suggest that understanding the context of the school was important in becoming trauma-aware, both in terms of being familiar with the geography of the school and the structure of the school. Furthermore, findings highlighted that learning was not limited to the classroom, but took place across multiple sites throughout the school (corridors, staffrooms and changing rooms). Our analysis also uncovered that pre-service PE teachers' learning emerged from their experiences of, and reflections upon, working with and observing young people who were perceived to have experienced trauma which, at times, they found challenging and distressing. Finally, many of the participants discussed how they learned from other teachers through, for example, observing how they responded to challenging situations, or by receiving feedback and having informal professional learning conversations. These results point towards the ways in which pre-service PE teachers might be supported, by ITE and schools, in becoming trauma aware during their school placements. References Dewey, J. (1958). *Experience and Education*. The Macmillan Company. Quarmby et al. (2022). Developing evidence-informed principles for trauma-aware pedagogies in physical education. *Physical Education and Sport Pedagogy*, 27(4), 440-454. Thomas et al. (2019). Trauma-Informed Practices in Schools Across Two Decades: An Interdisciplinary Review of Research. *Review of Research in Education*, 43(1), 422-452.

Keywords: physical education; pre-service teachers; trauma; school-based learning

ID 615 “I had a lot of pupils that kind of needed that safe space”: Co-creating strategies for enacting trauma-aware pedagogies with pre-service physical education teachers.

Thomas Quarmby (Leeds Beckett University), **Rachel Sandford** (Loughborough University), **Oliver Hooper** (Loughborough University) & **Shirley Gray** (University of Edinburgh)

Tinning (2020) has suggested that while physical education (PE) can not be responsible for healing young people with histories of trauma, it should certainly cause no further harm. However, PE is the only school lesson that places an overt emphasis on the body, on physical contact and touch and this may be particularly problematic for those impacted by trauma. Moreover, without knowledge of the effects of trauma, PE teachers often defer to punitive responses, which may exacerbate rather than mediate the needs of trauma-affected youth. The aim of this presentation is to highlight how we have worked with pre-service PE teachers to co-create strategies for enacting trauma-aware pedagogies in PE. More specifically, we worked with three distinct groups of pre-service PE teachers (n = 22) from a range of different institutions, delivering a total of 12 hours of online workshops (2 × 2-hour sessions per group). The interactive workshops were designed to support pre-service PE teachers in becoming trauma-aware and were grounded in the principles of trauma-aware pedagogies, namely: (1) ensuring safety and wellbeing, (2) establishing routines and structures, (3) developing and sustaining positive relationships that foster a sense of belonging, (4) facilitating and responding to youth voice and, (5) promoting strengths and self-belief (see Quarmby et al., 2022). During the workshops, participants were invited to consider, in conversation with us and each other, how these principles could be enacted in practice during various ‘PE moments’ (e.g., transitions into PE, getting changed, responding to incidents). The workshops resulted in the co-creation of a host of tangible strategies. In this presentation, each of the strategies is explored in relation to the individual principles of trauma-aware pedagogies they were associated with through the workshop discussions. Ultimately, this presentation highlights a range of strategies that could be used by both future and current teachers to enact trauma-aware pedagogies in PE. However, while the strategies were developed for students impacted by trauma, it is notable that they are broadly reflective of ‘good pedagogy’, with some pointing to the significance of

whole school approaches in addressing childhood trauma. In closing, it is argued that, given there is no one-size-fits-all approach, teachers should not aim to enact all the strategies outlined here but rather draw on strategies as relevant to support students in PE, depending on the context they find themselves in. Quarmby, T., Sandford, R., Green, R., Hooper, O. & Avery, J. (2022) Developing evidence-informed principles for trauma-aware pedagogies in physical education. *Physical Education and Sport Pedagogy*, 27 (4): 440-454 Tinning, R. 2020. "School PE and 'Fat' Kids: Maintaining the Rage and Keeping a Sense of Perspective." *Curriculum Studies in Health and Physical Education*, 11 (2): 101-109

Keywords: trauma; adverse childhood experiences; pedagogy; strategies; co-creation

ID 619 'Looking after yourself is hugely important': exploring 'self-care' with pre-service physical education teachers

Rachel Sandford (Loughborough University), **Thomas Quarmby** (Leeds Beckett University), **Oliver Hooper** (Loughborough University) & **Shirley Gray** (University of Edinburgh)

Trauma can result from adverse childhood experiences (ACEs) –stressful events that children and young people up to the age of 18 years have been exposed to (Felitti et al., 1998). An individual's response to ACEs determines whether they are considered traumatic or not, though where trauma is experienced, the impacts can have lasting, negative effects (SAMHSA, 2014). Trauma can often 'play out' in young people's behaviour within various social contexts, including schools. As such, there are growing calls for practitioners to be 'trauma-aware', including within Physical Education (PE) (Quarmby et al., 2022). However, working with trauma-affected youth can be a challenging and, at times, emotionally demanding process for teachers (Miller & Flint-Stipp, 2019) and there is therefore a need to also consider the implications for practitioner well-being. Within this paper, we consider the challenges and implications of enacting trauma-aware pedagogies from a practitioner perspective. We draw on research undertaken with 22 pre-service teachers (PSTs) of PE which sought to: i) explore understandings of trauma and how it might manifest within PE; ii) gauge PSTs' perspectives on trauma-aware principles (Quarmby et al., 2022); and iii) co-construct activities that would facilitate the enactment of trauma-aware pedagogies in PE. Data generated through online workshops with participants were collated and analysed to identify key findings and points of interest. Findings revealed

that PSTs had several encounters during their school-based placements with pupils who may have experienced trauma. These experiences were felt by the PSTs teachers both emotionally and physically. PSTs acknowledged a need to develop self-care strategies but noted that this was not always easy to do. That said, participants were able to describe strategies they engaged with to take care of themselves and safeguard their own well-being, many of which were relational and involved spending time with others who were available to offer practical and emotional support. Thus, our findings reinforce the importance of PSTs learning about self-care and emotional regulation as part of initial teacher education (ITE) courses. Felitti, V., Anda, R., Nordenberg, D., et al. 1998. "Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study". *American Journal of Preventative Medicine*, 14(4): 245–258. Miller, K. & Flint-Stipp, K. (2019) Preservice Teacher Burnout: Secondary Trauma and Self-Care, *Issues in Teacher Education*, 28(2): 28-45. Quarmby, T., Sandford, R., Green, R., Hooper, O. & Avery, J. (2022) Developing evidence-informed principles for trauma-aware pedagogies in physical education, *Physical Education and Sport Pedagogy*, 27(4): 440-454. SAMHSA (2014) SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach. Rockville, MD: Substance Abuse and Mental Health Services Administration.

Keywords: Teacher wellbeing, vicarious trauma, compassion fatigue, burnout, teacher education

ID 188 Insights related to European and Latin-American children's actual and perceived motor competence and its implications for overall development

Isaac Estevan (University of Valencia)

Purpose: To share diverse and innovative approaches for understanding the association of actual and perceived motor competence with health-related factors in childhood. **Rationale:** Among the factors that might drive children to develop and maintain healthy lifestyles, actual and perceived motor competence (MC) are considered as key. Adequate levels of MC relate to higher enjoyment and engagement in a diversity of physical activities which in turn is also associated with a variety of social, mental, and physical health benefits. So, understanding not only motor skills proficiency but also the role of perceived MC in individuals' development might

contribute to the gap regarding the impact of the association of actual and perceived MC in health-related factors. Objectives: The purpose of this symposium is to provide insights into the association between actual and perceived MC in European and Latin-American children. This topic can be studied from diverse approaches and methodologies, and we will face some of them: 1) Variable- and person-centered approaches; 2) Cross-sectional and longitudinal designs; 3) Early and middle childhood. Summary: Understanding the association of actual and perceived MC with different health-related factors requires the development of new approaches and conceptual models which in turn must be based on the application of diverse, innovative, and effective techniques of analysis. Empowering MC should start in infancy and requires to be studied in diverse populations. Presenters from Brazil, Chile, Finland, Spain, and Switzerland will share diverse proposals to MC research, specific to population groups and countries. Format: Dr. Isaac Estevan (Chair) will introduce the symposium topic and the four symposium presenters, with special interest in the model of motor competence (12 minutes). Dr. Clarice L. Martins (Federal University of Paraíba, Brazil), Dr. Donna Niemistö (University of Jyväskylä, Finland), Dr. Jaime Cárcamo-Oyarzún (Universidad de La Frontera, Chile) and Dr. Kathrin Bretz (Zurich University of Teacher Education, Switzerland) will conduct their presentations (12 min each). Finally, Dr. Estevan (Chair) will provide an overall discussion of the symposium highlighting implications for practice, followed by an interactive Q & A discussion session (12-15 minutes) wherein attendees will be encouraged to engage in a Q & A session with the multi-disciplinary, international panel. Attendees will be invited to reflect on their own country, context, and research perspective, identify collaborative opportunities, and reflect on ways this symposium may influence their own work.

Keywords: motor competence, self-perception, health, motor development

ID 607 Exploring a hierarchical networks structure for correlates of actual and perceived motor competence in preschoolers

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Background: Adequate levels of actual motor competence (AMC) and perceived motor competence (PMC) can favorably impact children's development. Nonetheless,

a large number of children have low levels of AMC and PMC. Biological, environmental, and socio-cultural correlates are reported as barriers or facilitators to children's AMC and PMC in theoretical models. This approach is pedagogically supported by isolated associations in literature, although most of the available evidence disregards the non-linear, reciprocal, and dynamic characteristics involving both constructs. The hierarchical network perspective allows evaluating different variables as an interconnected system, and highlights different hierarchies (layers) of a network structure. Purpose: to investigate the hierarchical networks' structure of AMC, PMC and its correlates in preschoolers. Methods: data of 380 preschoolers (53.7 ± 8.7 months of age; 74 girls) composed this study. Correlates of different natures, belonging to distinct theoretical layers (individual, interpersonal and environmental) were assessed: 24-hour movement behaviors (accelerometer wGT3-x), process measures of MC (Test of Gross Motor Development-3rd edition), perceived motor competence (PMC), cardiorespiratory fitness (Shuttle-run Test), executive function (Early Years Toolbox), BMI, prematurity, family income, socioeconomic status and neighborhood structure for PA (Physical Activity Resource Assessment). The Exploratory Analysis of Hierarchical Graphs, with the Louvain Algorithm (EGALv) was used to analysis, through the EGA package of the Rstudio. Results: The exploratory analysis results showed that a five-clusters structure was created with the assessed variables (1: sex; total PA and accuracy in No-Go; 2: mother's educational level; family income; and PMC; 3: age, accuracy in Go; cardiorespiratory fitness; and MC; 4: prematurity; and BMI; 5: sleep duration, time in sedentary behaviour, and available squares in the neighborhood). Then, the hierarchical analysis highlighted a two-layers' structure, being the lower-order layer combined by clusters 2 and 5; while the higher-order layer combined clusters 1, 3, and 4. Conclusion: This study presents evidence-based information to support a complex hierarchical structure between preschoolers' AMC, PMC, and their correlates, in which variables of different scales and natures were combined in the same layer's level. These results are particularly important for a lifelong perspective, as interventions to increase AMC and PMC should prioritize the closest layer of correlates (lower-order) in a dynamic and complex perspective.

Keywords: complex systems, preschoolers, motor competence

ID 605 Perceived motor competence in early childhood predicts perceived and actual motor competence in middle childhood

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Perceived motor competence (PMC) is important to health as it mediates the association between actual motor competence (AMC) and physical activity. We examined how PMC and AMC in the early years (T1) predicted PMC and AMC in middle childhood (T2). PMC-AMC profiles were identified in children separately at two timepoints three years apart. Also, we explored the transitions between the profiles from T1 to T2. PMC was assessed by the pictorial scale of Perceived Movement Skill Competence for young children (PMSC). At T1, AMC was measured with Test of Gross Motor Development-third version (TGMD-3) and at T2 with a shortened TGMD-3. All analyses were conducted with Mplus statistical package (Version 8.7) to identify profiles using latent profile analysis. There were 480 children (mean age 6.26 yrs., 51.9 % boys) at T1, 647 children (mean age 8.76 yrs., 48.8% boys) at T2 (some children were too young to have the PMC assessment at T1) and 292 at both timepoints. Three profiles were identified at each timepoint for each gender. Boys had two realistic profiles with medium and low levels of PMC-AMC, and an overestimation profile. Girls had a medium realistic profile, an over estimation, and an under-estimation profile. Overall, the findings supported earlier research by showing that children's PMC declines from early to middle childhood. Also, it showed that the profile in early childhood predicted the profile in middle childhood for both genders, especially if child had a low PMC level in early childhood. As a conclusion, children with low PMC in early childhood are at risk of low PMC and less AMC development in middle childhood.

Keywords: perceived motor competence, actual motor competence, children, longitudinal study, childhood

ID 608 Association of movement behavior and motor competence in Chilean children: A compositional, and isotemporal substitution analysis

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The benefits of engaging in adequate levels of physical activity (PA) are well documented, with 60 min of moderate-to-vigorous PA (MVPA) daily recommended. Considering that a large percentage of children do not engage in sufficient PA, and motor competence (MC) is a key factor contributing to develop a healthy and active lifestyle; the purpose of this study was to compositionally analyse the association between actual and perceived MC with different levels of physical activity (sedentary behaviour, light and MVPA), with special focus on whether changes in PA domains impact MC. In this cross-sectional study, 322 typically developed 11.0 ± 0.9 years-old children (45.3% girls) participated voluntarily. Children's objectively measured PA and sedentary behavior (accelerometer wGT3-x), actual and perceived MC (MOBAK and SEMOK, respectively) were assessed. The association of movement behaviors with actual and perceived MC, in self-movement and object control was explored using compositional and isotemporal substitution analyses, and multiple linear regression models by using different R packages (<http://cran.r-project.org>). When adjusted for sex, age and body mass index, the 24h-composition was associated with actual ($B = 0.34 [1.78, 4.41]$; $p = .015$) and perceived ($B = 1.31 [2.51, 3.03]$; $p = .040$) self-movement. Reallocation of 10 min from sedentary to MVPA, was marginally associated with changes in perceived MC. Although PA composition was associated with perceived self-movement, it did not predict perceived object control. Achieving adequate levels of MVPA, at the expense of sedentary behavior, seems to be associated with increases of perceived MC (self-movement). So, in line with new educative proposals of the Chilean Ministry of Sports, increasing PA during school time might involve benefits not only in physical but psychological development.

Keywords: motor skills, motor development, perceived motor competence, physical activity, compositional data analysis

ID 624 Gender differences in actual and perceived motor competence in first and second grade children – mediated through club sports participation?

Kathrin Bretz (Zurich University of Teacher Education, Switzerland), **Anne Strotmeyer** (University of Paderborn, Germany), **Harald Seelig** (Department of Sport, Exercise and Health, University of Basel, Switzerland) & **Christian Herrmann** (University of Teacher Education)

Models of motor development consider both actual motor competence (AMC) and perceived motor competence (PMC) (Stodden et al., 2008). In addition to AMC and PMC, other health-related factors such as physical activity (PA) or health related fitness are taken into account, whereby most studies measure PA using accelerometry data. As the context of PA is usually not captured, club sports participation was recorded in this study to calculate correlations with AMC and PMC and explain possible gender differences. In this study, data from three different data sources were collected from 404 children ($M=7.8$ years, $SD=.69$, 49% boys). AMC was measured by using the MOBAK-1-2 instrument (Herrmann, 2018) for first and second grade, and the children's PMC was assessed using the aligned and illustrated SEMOK-1-2 instrument (Bretz et al., under review). In addition, the children's parents received a questionnaire about sports club participation (type and frequency). Structural equation models and mediation analyses were calculated. The latent correlations of AMC and PMC were $r=.88$ for "object movement" and $r=.85$ for "self-movement". Boys performed better in AMC "object control" ($r=-.36$) whereas girls were better in AMC "self-movement" ($r=.20$). Regarding PMC, boys rated themselves higher in "object control" ($r=-.65$). Associations between AMC and PMC with sport participation were found, especially for "object movement" and the frequency of team sports ($\beta=.53$) as well as "self-movement" and the frequency of individual sports ($\beta=.39$). Furthermore, it was shown that the sex differences in AMC and PMC were partially mediated by the frequency of sports club participation, whereas the partial mediations were identified mainly on PMC and less on AMC. The indirect effect from sex on PMC «object movement» via team sports was $\beta=-.13$ ($p<.001$) and from sex on PMC "self-movement" via individual sports was $\beta=.08$ ($p=.007$). The results confirm the hypothesis that the differences between boys and girls in AMC and PMC can be partly explained by participation in club sports. This leads to the assumption that different PA contexts influence AMC and PMC differently. In addition to quantitatively measured PA, the context of PA (e.g., club sports, informal play with peers) should be considered.

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Keywords: self-perception, motor development, sports participation, physical activity

ID 379 Children Outdoor play: a forward-looking education

Jidovtseff Boris (University of Liege) & **Fjortoft Ingunn** (University of South-Eastern Norway)

As society evolves in Western countries, less and less time is spent outdoors. This social phenomenon is problematic for everyone, and particularly for children, because outdoor activities, whether in a natural environment or a man-made one, are ideal situations for children to play actively, to develop and to express themselves more freely. Scientific studies have shown that playing outdoors benefits children's physical, motor, social, cognitive and emotional development, as well as their connectedness to nature. In fact, outdoor activities could provide a particularly relevant response to the various issues raised in our society such as the increase in sedentary lifestyles, the hyper-security trend in society, the reduction in opportunities for children to play freely, and the disconnection with nature. Outdoor play appears to be an educational tool that should be favored in the future by teacher, caregivers and families. The aim of this symposium is to present recent data on the central theme of outdoor activities and their role in children's education. Several presentations will focus on the potential of outdoor environments, and how they can be ideal spaces for being physically active, playing and learning. The first one will focus on physical activity levels while the second and third presentations will also look at the teaching methods that can be put in place to help children enjoying and making the most of outdoor play. The conditions under which children play and the limits set by supervising adults depend mostly on adults 'perceptions of the benefits and risks associated with outdoor situations. Several studies have shown that such perceptions vary greatly from one cultural context to another. A better understanding of these perceptions would be useful to improve the training of supervising adults (teachers, childcare professionals and parents). To this end, an original research methodology based on a photo questionnaire will be presented, opening up perspectives for international research. Finally, a general discussion will be held at the end of the presentations to discuss how to encourage the development of outdoor play in children as a forward-looking education. • Impact of different outdoor environments on sedentary, moderate, vigorous physical activity in preschoolers: a study using the

observational System for recording PA in childrens. (Patrizia Tortella, Italy) • Movement and Physical Activity in nature, nature as an arena for play and learning (Robert Larsen and Inguun Fjortoft, Norway) • Highlighting stimulating games that impact physical, social and nature-related behaviors in different outdoor environments for preschool children (Laurane Leboulengé, Belgium) • Measuring adult's perceptions on outdoor risky play with a photo based questionnaire (Boris Jidovtseff, Belgium)

Keywords: outdoor play, children, education, motor development, physical activity

ID 709 Outdoor movement education: impact of methodology on development of motor skills and executive functions in kindergartens in Northern Italy

Patrizia Torrella (University of Enna "Kore") & **Guido Francesco Fumagalli** (University of Verona Italy)

Introduction: As highlighted by the World Health Organization, practice of motor and physical activity at a young age lays the foundation for healthy lifestyle and reduction of risk of "noncommunicable" diseases in adulthood. The Covid-19 experience with restriction of outdoor leisure time has induced to consider the importance of the use of outdoor spaces to promote development in preschool children. Indeed, it has been shown that outdoor physical activity promotes well-being and motor development and can increase cognitive processes. However, several studies have also suggested that these effects may require the child to be exposed to challenging and repeated situations with clear and specific goals. The aim of this study is to compare the effects of 3 different methods of conducting outdoor motor activities on the development of motor skills and executive functions in preschool children. Methods: A quasi-experimental study was carried out in 3 preschools in northern Italy with the same socioeconomic and cultural background. The 3 schools had large indoor gardens and had easy access to outdoor green spaces with lawns and trees. Three classes (87 children with an average age of 5.36 years) were recruited. Each class, led by an expert in motor activity carried out the outdoor activities and followed well-defined teaching methodologies for 10 meetings of 1 hour each: 35 children were exposed to the "Storytelling in Motion" method, 22 children to "free play," and 29 children to traditional motor education. All children in the 3 groups were tested before and after completion of the 10 sessions. Standardized tests were administered: TMC, M-ABC-2, Test of Physical Fitness, Day/night Test. To assess the impact of the three different interventions across two time periods a

mixed between-within subjects' analysis of variance was conducted. Results: For all the three groups there was significant interaction between program type and time (Wilks' Lambda) in some tasks. Comparing the three type of interventions the main effect was significant for: long jump, throwing bean bag, jumping on mats, walking, running in slope, platform bricks, bicycle trail, day/night, suggesting a possible difference of the impact of the three teaching approaches in the outdoor. Only the group of "Storytelling in motion" promoted significant increase over program type and time ($= .001$) and among groups ($= .043$). Conclusion: All three methods showed significant results in some motor tasks and significant results comparing the three approaches in the outdoors. The "Storytelling in motion" method seems to be more effective in executive function tasks. The existing literature on storytelling highlights its effectiveness in developing executive function tasks, and the results are in line with this. These results are encouraging for preschool teachers. There is also a need to further investigate the effectiveness of the methodologies in outdoor motor activities.

Keywords: Outdoor movement education, methodology, motor skills, executive functions, kindergarten

ID 654 The outdoor environment as a "third teacher" for stimulating fundamental motor skills in early years – A pedagogical approach introduced in ECTE

Ingunn Fjørtoft (University of South-Eastern Norway) & **Robert Larsen** (University of South-Eastern Norway)

Outdoor environments afford challenges to children in different ways. Several studies have shown the value of outdoor environments for children's development of motor skills, harmonious and imaginative play, exploratory and problem-solving tasks promoted through the landscape affordances. Consequently, this approach deserves more attention in kindergarten portfolios as well as in early childhood teacher education (ECTE). The methodological approach to outdoor motor play will be based on a Dynamic Systems Approach introducing the outdoor environment as a "third teacher". This perspective will afford children different challenges through problem solving and experiential approach. Fundamental motor skills in early years will be the basic approach using theories that support these perspectives reflected in an ECTE perspective. This presentation will focus on a better understanding of how these perspectives can be useful to improve the ECTE in a Norwegian context

with the focus on outdoor affordances for play, learning and motor development. Claiming that, “being outdoors is the best warranty for being in motion” is a basic notion that makes the background for outdoor studies included in Norwegian ECTE. The outdoor environments constitute important learning arenas and more knowledge in this fields can contribute to a more reflective and pedagogical use of the outdoor space. This presentation will focus on and discuss the teaching methods that can be applied to help children enjoying and learning motor skills from outdoor play where the environments act as” the Third Teacher”. These approaches will introduce the outdoor environment as a context for learning, affording children different challenges to be explored through problem solving and experiential learning. Pedagogical and didactical approaches to motor learning through learning landscapes will be the main focus of the study and the main points will be introduced in this presentation: - Describing how outdoor environments may afford physical activity and promote motor development in young children - Describing the concept of affordances: Perceiving environmental objects is to perceive what they afford - Demonstrate that motor abilities are task specific and that they need to be trained in the context of the environment - Give examples on how to organize and facilitate activities in outdoor environments to promote motor learning in young children - Discussing the importance of outdoor environments for motor learning in young children. Based on this the learning outcome is the competence to assess the outdoor landscape as a learning arena for play and motor development. It is important for the teacher to be able to assess the outdoor landscape as a learning arena and discover the potentials for a process-oriented learning environment. Based on these main aims and guidelines the focus on experiences and knowledge requirements for teacher qualifications will be discussed.

Keywords: children, outdoor learning, affordances, "Third Teacher", motor development

ID 258 Highlighting stimulating games that impact physical, social and nature-related behaviors in different outdoor environments for preschool children

Laurane Le Boulengé (University of Liège), **Boris Jidovtseff** (University of Liege), **Gilles Fossion** (University of Liege), **Fanny Bonaventure** (University of Liege) & **Lucie Debrus** (University of Liege)

Introduction and objectives The natural outdoor environment is recognised to be stimulating for children's global development with critical impact on their physical health and social outcomes (1,2). Furthermore, outdoor educational activities have been associated with connectedness with nature which may play an important role in education for sustainable development and empathy towards nature. The aim of this study was to highlight examples of stimulating situations found in outdoor play that make a particular contribution to children's development.

Method Children aged 4 to 5 took part in various outdoor physical activities organised by a teacher specialising in motor education for pre-school children. The activity took place in eight different and complementary environments. The behaviour of 12 children was recorded using a portable GoPro and a focal-length camera. A qualitative inductive approach was used to identify relevant physical, social and toward-nature behaviours.

Results Exploratory qualitative analyses are under way. For each environment, we will highlight examples of play moments considered as very stimulating for children and how they may impact on their development. A particular attention will be paid to the risky play and also to socio-motor, naturo-social and naturo-motor interactions.

Discussion Results of this qualitative analysis will be available in May 2024. This research is expected to identify very specific moments in multiple contexts that bring out salient elements related to development and learning during outdoor activities (global development and are) useful to understand why and how outdoor play is so relevant for children education.

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Keywords: Outdoor, Children, Risky play, Behaviors

ID 634 Measuring adult's perceptions on outdoor risky play with a photo based questionnaire

Boris Jidovtseff (University of Liege), **Anne Martin** (University of Glasgow), **Avril Johnstone** (University of Glasgow) & **Paul McCrorie** (University of Glasgow)

The outdoor environment offers children large spaces and multiple opportunities for discovery that allow them to move, to play, to express themselves freely, and to assert their personality. Opportunities for challenging and risky play are highly beneficial to their health, development and well-being. However, fear of accidents and the need for supervision lead many parents and caregivers to restrict children's access to outdoor activities. Adult's attitudes toward children outdoor play are built on the basis of several correlates such as personal experience, education, sensitivity, environment or socio-cultural context. It leads to different ways of perceiving the situation which may explain why outdoor play is sometimes considered very differently from one person to another. As children's possibilities to play highly depends on adult's analysis of the situation and consequent decisions, it seem critical to investigate the mechanisms involved in adult's decision-making in the context of outdoor play. To meet such research objectives an original photo-based questionnaire has been recently developed and used to explore attitudes of adults in different parental and childcare contexts (1-2). The concept of the questionnaire consists of presenting various outdoor play situations through the combination of a picture and a sentence describing a context that can be considered as risky for adults and that requires a decision-making process that may differ according to adult own representations. For each photo-based situation, participants are asked to answer questions related to their perceptions (perceived danger, perceived benefits, perceived competence of the children), own and children's experience and permission to play outdoors. The use of illustrated situations facilitates the expression of responses and limits the risk of confusion or over-interpretation that can happen in traditional survey. Additionally, it aimed to create virtual situations that are very credible, allowing participants to project themselves into the situation. It also ensures that participants all refer to the same situation. This research methodology has been successfully used with parents and caregivers in Belgium (1) and in Scotland (2). The positive results of the first studies seem to confirm the tool's relevance but require the development of a methodological framework to enable the development of high-quality scientific research. The aim of this presentation is to provide an update on this original approach, to present the results of the initial studies, and to suggest a methodological framework and scientific perspectives. 1. Jidovtseff et al (2022) Parental Assessment of Benefits and of Dangers Determines Children's Permission

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Keywords: Outdoor play, decision-making, perception, benefits, risks

ID 119 Playshop on Planetary Health Education: A new opportunity for 'sustainable' Physical Education?

Christophe Schnitzler (UNISTRA, F3S UR 1342, France) & **Fiona Chambers** (University College of Kork)

These playshops aim to reshape physical education using an innovative life-centric model (Chambers, 2023) within the context of the planetary health education framework (Guzmán et al., 2021). They are driven by the increasing significance of sustainability in our lives and the need for a shift in our approach to education. Education for sustainability empowers individuals to actively engage in driving positive change by comprehensively addressing global issues such as climate change, resource depletion, and social inequalities (Lozano et al., 2014). UNESCO recommends incorporating sustainability education into existing subjects, including physical education. This necessitates a revision of curricula in various subjects, including physical education, which traditionally emphasizes health promotion through physical activity. It is important to note that conventional sustainability approaches, like the Sustainable Development Goals (SDGs) and the 2030 Agenda, may be susceptible to greenwashing. Hence, these playshops serve as a unique opportunity to integrate planetary health education into physical education without falling into such pitfalls. Their goal is to make physical education a catalyst for both personal and planetary well-being.

Keywords: Sustainability, Planetary health education, playshops, Physical education, physical literacy

ID 214 Navigating Transformative Journeys: Lived Experiences of Fulbright Fellowships for Physical Education Teacher Educators

Kevin Patton (California State University, Chico, USA), **Stefan Ward** (Central Washington University, USA), **Kevin Andrew Richards** (University of Illinois, USA), **Sara Flory** (University of South Florida, USA) & **John Williams** (University of Canberra, Australia)

Physical education teacher education (PETE) faculty members have been described as stewards of the profession, responsible for advancement of the field through teacher education, scholarship, and work with schools and communities (Richards et al., 2017). They have an essential role in the preparation of future teachers and doctoral students, “including how they frame and perform their teaching roles, and the extent to which they are committed to, and undertake research in support of improved practice and policy” (Mitchell et al., 2021, p. 392). As such, PETEs merit special attention as they play a pivotal role in the quality of education and are the lead researchers in every part of the physical education system (MacPhail & Lawson, 2020). The role of teacher educator is complex, requiring individuals to serve in a variety of capacities, often receiving minimal professional development (PD) to fulfill these roles (MacPhail et al., 2019). As such, recent research has highlighted a growing interest in the lives and careers of teacher educators including their identity, skills, roles, and PD (Kinder et al., 2023). It is the PD of PETE faculty members, specifically the exploration of the learning activities of teacher educators throughout their career, with which this session is concerned. Most studies which have addressed teacher educators’ PD report effects of specific activities over a relatively short period of time, and many focus on beginning teacher educators. Much needed are studies which explore PD among teacher educators throughout their career (MacPhail et al, 2019), including those grounded in self-initiation and self-determination to move out of one’s comfort zone and seek new challenges and collaborate with new colleagues. PD that is becoming more common among PETE faculty members are the Fulbright Scholar and Fulbright Specialist programs. These experiences provide opportunities to gain international perspectives and build relationships with peers in other countries. This symposium explores the impact of Fulbright Fellowships on PETEs, highlighting their transformative journeys, including cultural immersion, building professional networks, enhanced cultural competency, and personal growth. Symposium presentations will explore the application process and identification of a host country/institution. Additionally, this session will delve into how

these experiences contribute to the PD of PETEs, playing a pivotal role in informing their teaching, scholarship, and service. Papers: • Emerald Isle Reflections: Lessons from a Fulbright scholarship in Ireland. (Stefan Ward) • Co-Constructing meaning through teaching personal and social responsibility: A self-study in professional development provision. (Kevin Andrew Richards and John Williams) • Learning about inclusion in a rapidly transforming country: Lessons from Malta. (Sara Flory) • Collaborative learning from an Irish experience. (Kevin Patton)

Keywords: PETE professional development, Fulbright, professional learning

ID 699 Looking back: Reflecting on a transformational experience as a Fulbright specialist in Ireland.

Kevin Patton (California State University, Chico)

A program of the U.S. Department of State, the Fulbright Specialist Program provides U.S. academics opportunities to engage short term, project-based exchanges at host institutions across the globe. The program pairs U.S. academics with host institutions abroad to share their expertise, strengthen institutional linkages, hone their skills, gain international experience, and learn about other cultures (Fulbright, 2023). Working with the Physical Education and Sport Sciences Department at the University of Limerick in Ireland, I made two eight-week visits to Ireland to engage with a group of internationally recognized scholars. As part of the experience, I engaged in a number of activities, including two research projects, both focused on aspects of teacher education and teachers' professional development. The first project examined a community of practice (CoP) within a teacher education program. The second was a collaborative project studied perspectives of program facilitators and participants of Irish physical education professional development created to address teachers' interests. Additional specialist commitments included a research lecture, conducting several professional development sessions for local teachers, and working with undergraduate and professional diploma physical education students. Engagement in these experiences allowed my hosts to gain from my professional development experience in the U.S., including how teachers create and sustain communities of learning for their own professional learning. From a personal standpoint, the program was truly transformative, changing how I viewed myself as a professional and resulting in significant professional learning. Drawing on my own experiences as a teacher educator and researcher, this presentation will reflect back on the impact of this experience on my own learning, highlighting how cultural immersion, building professional networks, and enhanced cultural competency resulted in

significant personal growth. I will explore how engagement served as a professional turning point in my career and provided a platform to develop an international network of colleagues, resulting in multiple presentations and publications, as well as lasting personal and professional relationships.

Keywords: Professional development, professional learning, Fulbright specialist

ID 598 Co-Constructing Meaning through Teaching Personal and Social Responsibility: A Self-Study in Professional Development Provision

Kevin Andrew Richards (University of Illinois Urbana-Champaign) & **John Williams** (University of Canberra)

Introduction: Many faculty members work to support inservice teachers who are continuing to explore new pedagogies and expand their practices. Nevertheless, scholars have lamented that they are not always created intentionally or with purpose (Lawson et al., 2022). Challenges likely follow, particularly for those faculty members without firsthand teaching experience (Richards & Ressler, 2017; van der Mars, 2011), who may experience imposter syndrome (Clance & Imes, 1978) relative to working with inservice practitioners. Self-study of teacher education practices (S-STEP) represents one approach identifying, describing, and improving elements of practice (LaBoskey, 2004). This S-STEP project aimed to understand the development of Kevin's practice as a professional development collaborator given his lack of firsthand teaching experience with the support of his critical friend, John. Methods: In the spring of 2022, Kevin traveled from the U.S. to Australia as part of the Fulbright Specialist Program to work with physical educators in three Australian Capital Territory schools. The professional development partnership, which was negotiated with the teachers, focused on implementing the teaching personal and social responsibility (TPSR) model (Hellison, 2011). Kevin and John worked collaboratively with the participants to design and implement a professional development plan that considered their contextual needs, constraints, and interests (Lawson, 2017). Kevin's reflective journal, in which he made daily entries while in Australia, provided the primary data source. Supplemental data included Kevin's field notes and regular critical friend conversations between Kevin and John. Findings: With the participants, Kevin and John co-created an imbedded approach to professional development that placed Kevin in teachers' classrooms working with them to develop practice as he grew to better understand their constraints. While this looked different across the three schools, generally all followed a similar progression of

support. This included (a) an initial meeting to overview TPSR and invite a partnership, (b) observations of the teaching environment to understand unique facilitators and constraints, (c) encouragement to begin working with TPSR strategies by integrating them into existing lessons, and (d) expansion of TPSR with guided feedback. Discussion: Through S-STEP (LaBoskey, 2004), Kevin became more comfortable working alongside inservice practitioners and co-designing professional development. The four-stage process, which was developed through engagement in critical thinking and reflection, created a context for professional discourse and collaboration that centered and elevated the perspectives of the inservice teachers. These findings illustrate the utility of S-STEP for faculty development and illustrate that they can extend to work with inservice teachers.

Keywords: physical education, teacher education, professional development, self-study of teacher education practices

ID 697 Emerald Isle Reflections: Lessons from a Fulbright scholarship in Ireland

Kevin Patton (Chico State University) & **Stefan Ward** (Central Washington University)

Preparing culturally competent teachers and leaders has become a shared goal of both physical education teacher education and positive youth development programs (Ward et al., 2017). International service-learning can provide opportunities for learners to acquire academic, career, social, and personal skills through practical experience and reflection and provide a benefit to a broader community as well (Barnes, 2016). This is just as true for physical education faculty as it is for students. The Fulbright experience can provide an opportunity for professional development and scholarship, teaching, and service. This presentation will explore the experience of a Fulbright scholar through the lens of as international service learning. professional development. Barnes, M. (2016). The student as teacher educator in Service-Learning. *Journal of Experiential Education*, 39(3). 238-253. Ward, S., Henschel-Pellett, H., & Perez, M. (2017). Cognitive disequilibrium and service-learning in physical education teacher education: Perceptions of pre-service teachers in a study abroad experience. *Journal of Teaching in Physical Education*, 306, 70-82.

Keywords: Service Learning, Professional Development, Fulbright

ID 686 Learning about inclusion in a rapidly transforming country: Lessons from Malta

Sara Barnard Flory (University of South Florida)

As stated in the symposium abstract, a long-standing professional development opportunity that is available for PETE faculty members are Fulbright Scholar awards. This award provides an opportunity to gain international perspectives through teaching and research abroad, and by building relationship with peers in other countries. **Purpose/Objective:** The purpose of this paper is to describe my experiences of applying for a Fulbright Scholar award, completing my research and teaching experiences while abroad, and the “lessons learned” as a result of being a Fulbright Scholar for 10 months in Malta, a population-dense country in the southern part of the European Union (EU). I reflect on my personal experiences and examine various documents related to my Fulbright Scholar award process (application documents, personal journals, researcher journals, email communications, etc.) as my “data sources” for this paper. **Findings:** I share findings from the various “stages” of this experience that ultimately influenced how I navigated my time prior to, during, and after my Fulbright experience. These findings center on building an international professional network, leaning into cultural immersion and cultural competency through involvement in schools, national programs, and sports organizations, as well as the personal growth that resulted from this experience. **Conclusion & Implications:** Although not all experiences will unfold exactly as planned for an individual scholar, the benefits of pursuing and completing teaching and research abroad through the Fulbright program have lasting influences in personal and professional realms.

Keywords: Fulbright, cultural competency, Malta, professional development

ID 90 Exploring stimulating movement environments in young children’s everyday life

Susanna Iivonen (University of Eastern Finland), **Anne Soini** (University of Jyväskylä), **Henna Haapala** (JYU Open University) & **Signe Siklander** (University of Oulu)

This symposium explores young children’s and their families’ everyday movement environments. The examination will include children’s play in different environments

in Finland, such as sandboxes in ECEC settings, public playgrounds and swimming halls, and public roundabouts in Rome, Italy. In the presentation part of the symposium, the activities, practices, preferences, and experiences of children and families in these environments will be explored and analysed. The evidence will be synthesised to help identify factors that promote or constrain children's holistic developmental and family wellbeing outcomes in various everyday movement environments. In addition, research and action planning will be conducted to find solutions for targeting these environments to promote child and family outcomes. Reasons for why there should be a Symposium about this certain topic Early childhood is characterised by the most critical developmental phase over the human lifespan, as then the holistic development – including health, physical, cognitive, and social-emotional domains – strongly influences lifelong success in different areas of life, including social, physical wellbeing, academic, and economic (NRC, 2015). The environments (and experiences within) that children are exposed to in their everyday lives during the early years are critical to their health and development trajectory, as these environments link to children's biological processes with which they interact to shape children's outcomes across the life course (Human Early Learning Partnership & Commission on Social Determinants of Health, 2007). The rationale for organising this symposium lies in recognising the critical role that movement environments (and experiences within) of children and their families play on children's health and holistic development while promoting the wellbeing of families. It is inevitable that researchers approaching the same topic from different perspectives and disciplines can gather their findings and synthesise them in a joint discussion. The symposium provides an ideal platform to collate researchers to identify critical factors to make future research and action plans to promote stimulating movement environments that enhance children and their families' positive developmental and wellbeing trajectory. References NRC. (2007). National Research Council. (2015). Transforming the workforce for children's birth through age 8: a unifying foundation. The National Academies Press. <https://doi.org/10.17226/19401>. HELP & CSDH. (2007). Human Early Learning Partnership & Commission on Social Determinants of Health. (2007). Early child development: A powerful equalizer: Final report for the World Health Organization's Commission on the Social Determinants of Health. Prepared by Arjumand Siddiqi, Lori G. Irwin, and Dr. Clyde Hertzman. WHO IRIS. <https://apps.who.int/iris/handle/10665/69729>

Keywords: movement environments, everyday life, young children, family

ID 356 Aquatic environments and perceived swimming skills of 6-year-olds in Finland

Henna Haapala (Open University, University of Jyväskylä, Finland), **Piia-Liisa Lehtimäki** (Finnish Swimming Teaching and Lifesaving Federation, Finland), **Susanna Saari** (Faculty of Sport and Health Sciences, University of Jyväskylä, Finland) & **Arja Sääkslahti** (Faculty of Sport and Health Sciences, University of Jyväskylä, Finland)

Finland is a Nordic country with thousands of lakes and other natural waters. They are natural places for children to play and move. Aquatic skills are learned in formal and informal occasions, such as swimming schools and family visits in different aquatic environments. The aim of this study is to examine Finnish preschoolers' places to swim and participation in swimming schools. In addition, effects of Covid pandemic restrictions to preschoolers' aquatic activities and their perceptions of swimming skills are investigated. Participants were 222 preschool children and 384 parents from different parts of Finland. Children answered to a digital questionnaire with parental help. Items included swimming places, participation in swimming schools, swimming in preschool and self-evaluated swimming skills. Parental questionnaire included the effects of Covid pandemic restrictions to preschoolers' swimming. Differences between categories were examined using crosstabulation and Pearson's chi-square test, using the level of 0.05 for statistical significance. Almost all of the preschoolers (98%) had been swimming before. Most of them had been swimming in lakes (96%), swimming halls (92%) or spas (75%). Nearly half of the preschoolers had been swimming in the sea and 17% in rivers. In addition, open ended questions revealed preschoolers to swim in swimming pools, hot tubs and bathtubs. Over half (53%) of the preschoolers had participated in swimming schools. Regional differences appeared as preschoolers in middle and south-western Finland participated more often in swimming schools ($p < .001$). Nearly half of the preschoolers (45%) had been swimming in preschool. Parents reported that 70% of preschoolers had continued swimming during the Covid pandemic restrictions. Most of them had been swimming in natural waters (44%) or swimming halls (35%), whereas a minority had been swimming in spas (16%) or swimming schools (7%). Only 21% of the parents evaluated that the restrictions had not affected their preschoolers' swimming. Preschoolers had a positive view of their aquatic skills; 53% of participants reported to be very or rather good at swimming, whereas 15% considered themselves to be not that good at swimming. Those preschoolers who had participated in swimming school evaluated their aquatic skills to be better than preschoolers without swimming school experiences ($p < .001$). This study revealed that preschoolers visited a variety of aquatic environments. During the Covid pandemic restrictions,

natural waters and swimming halls were most often visited by preschoolers. Over half of the preschoolers had participated in swimming schools, which highlights its importance to the learning of preschoolers' aquatic skills. In addition, swimming schools seem to have a positive effect on preschoolers' perceptions of their swimming skills. Swimming school is a place to learn new skills which in turn supports perceived water competence.

Keywords: Swimming, Aquatic skills, Children, Perceived Competence

ID 253 Sandbox play and its associations with children's outcomes in early childhood education contexts: a mixed-methods systematic review

Susanna Iivonen (University of Eastern Finland), **Titta Kettukangas** (University of Eastern Finland), **Anne Soini** (University of Jyväskylä) & **Helena Viholainen** (University of Jyväskylä)

There may be a belief that sandbox play (SP) is an everyday activity in early childhood education (ECE) contexts, but research evidence is limited. This review aimed to collate and synthesize quantitative and qualitative evidence on SP and its associations with 0-8-year-old children's outcomes in ECE contexts. The review was based on the protocol (Iivonen et al., 2021) and followed the PRISMA 2020 statement (Page et al., 2021). Inclusion criteria were a) children aged 0-8 years, b) exposure to SP in the ECE, and c) child-level outcomes. Searches were performed in nine databases. Two reviewers independently screened the reports for possible inclusion and assessed study quality. Effect direction synthesis was performed for quantitative and thematic analysis for qualitative studies. Screening yielded 12 studies (9 quantitative, 2 qualitative, 1 mixed-methods) (n = 329 children) with "good" (n = 2), "fair" (n = 8), or "poor" (n = 2) quality. SP exposures consisted of sandboxes, sand as a play material or as a surface material outdoors (11 studies) and indoors (1 study). The effect direction synthesis indicated a negative association with physical activity levels and unclear associations with cognitive forms and social play. Based on the thematic analysis, SP afforded fine and gross motor physical activities, pretend play, and socioemotional experiences. In addition, SP seemed to be associated with girl gender and 3-4-year-old age. When compared to other play environments, SP was not the most popular. Conclusions: Based on low-quality evidence, SP does not promote children's physical activity levels, while associations with cognitive and socioemotional development are unclear. More high-quality studies are needed to understand the associations between SP and children's outcomes in ECE. References:

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Keywords: sandbox play, early childhood education, systematic review

ID 602 Children’s risky play at the city environment in Rome

Signe Siklander (University of Oulu)

Risky play includes following characteristics: 1) great heights, 2) high speed, 3) harmful equipment, 4) playing close to dangerous elements, 5) rough & tumble play and 6) playing out of adults’ supervision. (Sandseter, 2007). Rough & tumble play as a one element of risky play help children to practice perceptual, motor, and social skills and to engage in play activities (Storli, 2021). Children prefer play and play environments where they can explore through child-centered activities (Ernst, 2014; Siklander, Vuopala, & Martikainen, 2020) and experience joy, fear, excitement, and success (Coster & Gleeve, 2008; Hyvönen & Kangas, 2007; Sandseter, 2010; Sandseter & Kennair, 2011), as well as rough play forms (Storli, 2013). Risky play affords children joyful, loud, and big body engagement with others and various elements of the surrounding environment. Open-endedness, serendipity and reciprocity in play is desirable for children, and these are afforded through risky play in natural environments. Further, risky play affords opportunities for collaboration for children. Children are aware of physical risks and recognize their agency within risky play settings. (Siklander et al., 2020) I used naturalistic observation method and observed children in public city environments in Rome in to find out: where the children play in the city area and how do they play? The data comprises of 60 play events including 114 children, 58 girls and 56 boys. Children were approximately from 2 to 13 years old, mostly between three to five years. The exact age is not needed to know as Vuolanto (2017) writes, childhood should be seen as a performative childhood, when children are children by their repeated acts and social interaction. There is no exact age when we can separate a child from a non-child. (Laurence, 2017). The

written data was analysed through qualitative content analysis. Children played mostly in open air nature-based and fenced playparks, but also in commercial play-park, in restaurants, stores, at seashore, outdoor market areas, squares, and streets. The tentative results show that all six risky play elements were observed, mostly great heights, high speed, and playing close to dangerous elements. Togetherness and co-operation were present in the risky play. In addition, children negotiated regularly during their activities. Children constructed a play design having roles and rules, also within the risky play. If the play area didn't provide any tools or equipment, children found them in natural environments, such as sticks, cones and stones. Great heights and high speed was accompanied also with soft toys. The study brings insights about childhood and children's play in the city environments after the Covid 19 which restricted children from playing together (eg. Bulgarelli et al. 2022). The results are useful for ECE teachers, caregivers, and playground designers for understanding children's play, particularly risky play.

ID 600 Relationships between socioecological factors to playground use of Finnish families with under-school-aged children

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Jaana Minkkinen (University of Jyväskylä/Faculty of Education and Psychology),
Kaisu Peltoperä (University of Jyväskylä/Faculty of Education and Psychology) &
Essi Jouhki (University of Jyväskylä/Faculty of Humanities and Social Sciences)

This cross-sectional study used a socioecological perspective and multiple linear regression analyses to assess the relationships between child, family, and environmental factors in the use of playgrounds among Finnish families with under-school-aged children. The data was collected via a proxy-report Webropol questionnaire explicitly developed for the study during the summer of 2023. The specific variables were as follows: Dependent variable: Respondents were asked to rate (1–5) how often their child visits playgrounds in different seasons (1 = less than once a week; 2 = once a week; 3 = 2 times a week; 4 = 3–4 times a week; 5 = 5 times a week or more). For the study, spring and autumn variables were combined into one descriptor to describe the typical behaviour of the families. Independent variables: Child-related factors: age, gender, ECEC and hobby participation with participation fees, family-related factors: respondent's age, gender, level of education (lower vs. higher education), weekly working hours, respondent's own childhood playground experiences, and environmental factors: the type of housing (an apartment house vs. a terraced or semi-detached house or a house), the distance from home to the most often used

playground, and the location of the home (Southern, Central, Northern Finland). The respondents ($n = 561$; $M = 35.5$ years, $SD = 5.30$) included a greater number of females ($n = 491$, 88%). Children of participants were aged zero to seven years ($M = 3.65$, $SD = 1.51$). The sample of children comprised 281 boys (50%) and 262 girls (47%). Families visited playgrounds on average twice a week ($M = 3.14$; $SD = 1.04$). 91% of the children participated in ECEC, and 48% participated in weekly organised hobby activities. Two-fifths (39%) of respondents had higher University of Applied Sciences or University-level education, and their usual weekly working hours ranged from 7 to 70 hours ($M = 37.4$; $SD = 5.92$). Most of the respondents had their own childhood playground experiences (82%), lived in a terraced or semi-detached house or a house (74%), and had a distance of one kilometre or less to the playground from home (84%). 31% of the families lived in Southern, 68% in Central and 2% in Northern Finland. The multiple regression analyses revealed that the child's age ($p < .001$), playground distance ($p < .001$), the type of housing ($p < .001$), respondent's own childhood playground experiences ($p = .014$), and the level of education ($p = .017$), explained the families' playground use. The R-squared result was .194. Results reinforced that families with younger children living in an apartment building near the playground more regularly visited playgrounds than families with older children living in a house further from the playground. Also, highly educated respondents with their own childhood playground experiences visited playgrounds more often than those with lower education or no previous childhood playground experiences.

Keywords: playground, family, under-school-aged children

ID 117 Exploring Signature Pedagogies of Teacher Education in Physical Education

Mats Hordvik (Norwegian School of Sport Sciences), **Stephanie Beni** (Norwegian School of Sport Sciences), **Deniz Hünük** (Hacettepe University), **Antonio Calderon** (University of Limerick), **Eva Fors** (Swedish School of Sport and Health Sciences), **Marina Castro García** (University of Limerick), **Javier Fernandez Rio** (Oviedo University), **Bjørnar Taraldsen Johannessen** (Haugerud Lower Secondary School) & **Mikael Quennerstedt** (Swedish School of Sport and Health Sciences)

Teacher education in physical education (PE) involves an array of responsibilities, including preparing and supporting pre-service teachers (PSTs), in-service teachers

(ISTs), and teacher educators (TEs). There have been several calls for innovative, coherent approaches within teacher education to address these responsibilities, including the need for cross-national analysis and development of 'signature pedagogies' - the forms of teaching-learning that leap to mind when thinking about the preparation and continuous support of teachers in PE. Through a recent comprehensive scoping review of literature, , three distinct 'signature pedagogies' of teacher education in PE have been identified: (auto)biographical pedagogies, experiential pedagogies, and pedagogies of professional learning (Forthcoming). This symposium builds upon this scoping review. Specifically, we explore how the identified signature pedagogies serve as a shared language which can inform a more deliberate application of these pedagogies, both within and across different teacher education contexts. The research was guided by the question: What are the processes and outcomes of developing signature pedagogies across international teacher education in PE? We employed a collective action project approach, which entailed continuous collaborative learning and capacity-building activities and brought together TEs and ISTs from seven higher education institutions, seven schools and two PE associations across seven European countries. The project integrated self-study of teaching and teacher education practice alongside learning communities as complementary pedagogical and methodological frameworks. The symposium's specific studies included 70 PSTs, 22 ISTs, 14 TEs, and two meta-critical friends. Data from ISTs and TEs were generated through a combination of methods, including reflective diaries, observations, and audio recordings of both local and international learning community meetings. Additionally, 14 focus group interviews were conducted with PSTs. The aim of this symposium is to share experiences of signature pedagogies across international contexts through four presentations: (i) A pedagogical and methodological approach for exploring signature pedagogies of teacher education in PE. (ii) An exploration of PSTs' experiences with signature pedagogies in initial teacher education. (iii) An exploration of ISTs' experiences with signature pedagogies in continuous professional development. (iv) An exploration of TEs' experiences with signature pedagogies for their own professional learning. This research holds important insights for providing more authentic, transformative and equitable teacher education practices for PSTs, ISTs and TEs across international contexts.

Keywords: Continuous professional development, Physical education teacher education, Signature pedagogy, Experiential learning, Autobiography

ID 649 A pedagogical and methodological approach for exploring signature pedagogies of teacher education in PE

Mats Hordvik (Norwegian School of Sport Sciences), **Stephanie Beni** (Norwegian School of Sport Sciences) & **Mikael Quennerstedt** (Norwegian School of Sport Sciences)

The field of PE has continued to face several grand challenges (e.g. around articulating clear, coherent aims of PE), many of which are present across international contexts and highly related to initial teacher education (ITE) and continuous professional development (CPD) of PE teachers. In seeking to address common challenges, there have been calls to better integrate the work of teachers and teacher educators through collective engagement in projects focused on key pedagogical challenges in PE. Scholars have highlighted the need for a collaborative redesign of school PE and ITE for the 21st century, aiming to bridge the gap between recommended practices and the realities of school PE and ITE. Such an endeavour will necessitate teachers and teacher educators moving beyond their isolated contexts and seeking to learn with and from one another. The purpose of this project has been to facilitate sustainable international collaboration between PE teachers and teacher educators across seven European nations with a focus on identifying signature pedagogies of PE-ITE and CPD to support innovative PE practices in schools and ITE programs. This presentation aims to share the pedagogical and methodological approach which has guided this collaborative endeavour. Methods: This study involves a collaboration between 27 teacher educators, 22 in-service teachers and two international PE associations. In addition, 70 pre-service teachers, 70 school students, and 35 in-service teachers participated in data generation. Data sources were generated across two years and include: reflective diaries from teachers and teacher educators; focus group interviews with pre-service teachers and students; learning community meeting transcripts; non-participant observations in PETE and PE; and teaching/learning artifacts. Approach: In this project, we employ a collective action approach, guided by MacPhail and Lawson's (2020) strategies, which highlight the need for: a) international-comparative analyses, facilitating cross-border knowledge generation, innovation, professional learning, and continuous improvement; b) dynamic partnerships between exemplary ITE and school PE programs; and c) knowledge-generating teams of teachers and teacher educators. To maximize the effect of the collective action approach, the project integrates practitioner inquiry and learning communities as complementary approaches. In this presentation, we illustrate the approach as it has been used to explore signature pedagogies of PE-ITE and CPD and outline what can be learned from it. This research holds important implications for the

design and implementation of collective action projects seeking to promote the re-design of PE across contexts and for methodological approaches aiming to better understand signature pedagogies in PE-ITE and CPD. MacPhail, A., & Lawson, H. (Eds.). (2020). *School physical education and teacher education: Collaborative re-design for the 21st century*. Routledge.

Keywords: signature pedagogies, border crossing, collective action approach, practitioner inquiry, learning communities

ID 682 An exploration of teacher educators' experiences with signature pedagogies for their own professional learning

Antonio Calderón (University of Limerick), **Eva Fors** (The Swedish School of Sport and Health Sciences) & **Daniel Roe** (The Swedish School of Sport and Health Sciences)

The signature pedagogies enacted were Pedagogies for Professional Learning (i.e. learning communities) and (auto)biographical pedagogies (i.e. cases). In Ireland, the classroom was viewed as a large community, while the teacher established small groups that formed small learning communities. To promote community and enhance participation and motivation in a safe space the ticket-to-class strategy (further explored in this session) was implemented. In Sweden, (auto)biographical signature pedagogies were used as a theoretical point of departure for course alignment, and for insights therein. For example, a written case-based test to promote reflection on school development and topic teaching (PE) was developed. Findings/themes identified/developed In the case of Ireland, the main theme developed was: understanding, planning for, enacting and discussing signature pedagogies as powerful for the teacher educators' professional learning. The theme encapsulates the multifaceted process of comprehending, strategizing, implementing, and engaging in discourse about signature pedagogies. For the teacher educator, it involved delving into the existing pedagogies that defined the programme, aiming to grasp their nuances and inherent strengths. The planning phase entailed crafting deliberate approaches to incorporate these pedagogies into the programme practices. The enactment was challenging and involved back-and-forth conversations with the pre-service teachers to adapt the SP to their own context and needs. Lastly, discussion with other teacher educators fostered a safe and collaborative reflection that was an essential part of this professional learning opportunity. Swedish teacher educators explored and learned specific autographical pedagogies (vision, vignettes,

narratives) as well as general insights into course alignment and task-based learning approaches. In spring 2023, we piloted a re-designed version of the course “School Development” where we implemented different autobiographical pedagogies and tasks. Through the designing and piloting process, we gained insights into creating (from scratch) and implementing (delivering and evaluating) case-based examinations and storytelling and vision tasks. Engaging with the signature pedagogies also encouraged us to reconceptualize our course by centring on specific learning activities and examination tasks. Concluding remarks and take-home messages The process of engaging, planning for, enacting and reflecting on signature pedagogies in both contexts for the teacher educators was highly positive and seen as a powerful professional learning experience. In considering the use of signature pedagogies in PETE, teacher educators have to be creative in the planning process, create spaces for self-reflection, and consider learning experiences that clearly aligned with the core elements (surface, deep and implicit) from the selected signature pedagogies.

Keywords: Learning communities, autobiographical pedagogies, teacher educators, collegial dialogue

ID 659 An exploration of PSTs’ experiences with signature pedagogies in initial teacher education

Castro Castro-García (Department of Physical Education and Sport, University of Limerick), **Marina Castro-García**, Department of Physical Education and Sport, University of Limerick) & **Javier Fernández-Río** (Education Sciences Department, University of Oviedo)

In recent times, physical education has faced a crisis whereby there is a significant disparity between the recommended practices and policies, and what is being implemented in schools on a day-to-day basis. As part of this crisis, PETE programs have been criticized for not challenging PSTs’ beliefs about the objectives of physical education. In response to these concerns, the PhysEd-Academy project has developed innovative strategies and programs for initial PETE across Europe. This effort has led to the development of a set of ‘signature pedagogies’ (SPs) for learning across different PETE programs, which have the potential to improve the quality of PETE and, therefore, physical education. In this session, we will explore Spanish and Irish PSTs experiences of SPs. In the case of Spain, the two SPs implemented at the University of Oviedo belonged to the Experiential Pedagogies category: living the curriculum and peer teaching. In the first place, PSTs experienced pedagogical

models (e.g., cooperative learning, outdoor adventure education, teaching for personal and social responsibility), and later they had to teach their classmates using the first two models. The SP utilized in the Irish experience, implemented at the University of Limerick, was a Pedagogy of Professional Learning. The specific approach used was the Community of Learners. The classroom was viewed as a large community, while the teacher established small groups of six students that formed small learning communities. The ticket-to-class strategy was implemented to promote community, and it will be further explored in this session. As mentioned, the findings are in an early stage. By now, in the case of Spain, the themes identified were: a) Previous experience: important to integrate the signature pedagogies, and b) PSTs' goals: learning vs fun, being a student vs being a teacher. In the case of Ireland, the main themes were: a) increasing participation and motivation of students in the class by the sense of belonging and security fostered by the community, and b) creating safe spaces for students to speak, discuss, and challenge ideas, which was crucial for their deep learning. As a concluding remark, from the Spanish case, signature pedagogies are not easily integrated by PSTs; it is dependent on their previous experience and maturation as teachers. In the Irish case, on the other hand, we believe that creating such communities necessitates time and planning, but the engagement and commitment of PSTs to the subject make it a worthwhile endeavour.

Keywords: Physical Education Teacher Education, Pre-service teachers, Signature Pedagogies

ID 692 An exploration of in-service teachers' experiences with signature pedagogies in continuous professional development

Deniz Hunuk (Faculty of Sport Sciences, Hacettepe University, Turkey) & **Bjørnar Taraldsen Johannessen** (Haugerud Lower Secondary School, Norway)

Brief presentation of the Signature Pedagogies addressed The aim of this study was to investigate how in-service teachers (ISTs) experience signature pedagogies (SPs) during continuous professional development (CPD). Teacher educators and teachers from seven European countries collaboratively designed a mini teaching pack to support ISTs' learning about innovative PE content. Each teaching pack has been developed to include identified student learning outcome(s), assessment practices, a focus on teaching and learning, and related SPs. The signature pedagogies enacted through the CPD were pedagogies for professional learning (action research,

professional learning communities, community of learners), experiential pedagogies (living the curriculum and peer teaching) and (auto)biographical pedagogies (narratives). Findings/themes identified/developed During this presentation, we aim to share the experiences of in-service teachers who participated in a CPD program guided by signature pedagogies of PE-ITE and CPD. Although data collection is still ongoing, preliminary findings suggest three themes. Firstly, the facilitation of CPD through the SPs was challenging, particularly in contextualizing and customizing the approach for ISTs specific contexts. However, the conversations with teacher educators and other ISTs the CPD provided created a safe and collaborative environment for reflection, which was crucial for this professional learning opportunity. Secondly, their learning through the SPs supported them in creating a safe and reflective space for their students which they perceived to improve students' learning. Lastly, ISTs found CPD guided by the SPs valuable for their professional learning as a PE teacher. Concluding remarks and take-home messages As Guskey (2002) noted, the process of teacher change through professional development is a gradual and difficult process for teachers. Any change to increase teachers' competence and enhance student learning is likely to require extra work, especially initially. In considering these, while the enactment of the mini packs was challenging for teachers, the supporting CPD guided by SPs provided a valuable and powerful professional learning experience. The preliminary findings suggest that despite the challenges, the collaborative environment for reflection was crucial for professional growth. Additionally, the text highlights the gradual and difficult nature of the teacher change process through CPD, emphasizing the need for time, planning, and the commitment of participants. The overall message is that investing in communities focused on SPs in CPD is a worthwhile endeavor for enhancing teacher competence and student learning.

Keywords: Signature pedagogy, in-service teachers, professional development

ID 559 Movement integration (MI) to improve learning and well-being. Proposals and trends from primary school to teacher training

David Gutiérrez (Castilla-La Mancha University, Spain), **Joni Kuokkanen** (Åbo Akademi University, Finland), **Lia Gómez Domínguez** (Åbo Akademi, Finland), **Janina**

Enkvist-Snellman (Åbo Akademy, Finland) & **Nina Salmela** (University of Oulu, Finland)

Movement integration (MI) is a research-supported strategy focusing on merging activities that are intentionally physical, at any level of intensity, into content-specific academic lessons to expedite learning outcomes and academic performance and reduce off-task behavior in education (Moon et al., 2022; Webster et al., 2015). Thus, this symposium gathers five researchers and practitioners from different education levels and contexts to introduce and discuss the newest trends within MI. The symposium will follow a clear structure that guides participants through a coherent progression of related topics. The chair will present two frameworks that offer a deeper insight into the advantages of MI and provide a structured approach for the gradual incorporation of MI into teacher training, as well as its practical implementation within schools. The first presentation will highlight the outcomes and early findings from a study that applies MI strategies in a second-grade classroom. The study examines students' physical activity levels and the sustainability of MI strategies from the perspectives of both the teacher and the students within the classroom environment. Similar to the first presentation, the second presentation seeks to examine general upper secondary students' physical activity levels during the school day, with a particular emphasis on assessing the impact of MI on students' overall well-being and their efficiency in learning. The third presentation will show the development and first results of the application of the IMMA project (Faculty of Education, University of Castilla-La Mancha, Spain). This project aimed to teach pre-service teachers MI strategies using the living the curriculum approach (Oslin, Collier & Mitchell, 2001). IMMA includes different strategies and methods, being one of the most relevant the Building Thinking Classrooms method (Liljedahl, 2021). The fourth presentation will provide an overview of the Learning by Moving program, stemming from the Faculty of Education at Åbo Akademi University in Finland. The program is designed to equip preservice subject teachers (PSTs) with the necessary skills to seamlessly integrate MI strategies as an integral component of teaching in secondary classrooms. As an extension to the fourth presentation, the fifth presentation will delve into the methods through which Finnish PSTs incorporate movement into subject teaching, and the factors influencing the utilization of MI strategies in their teaching at Åbo Akademi teacher training school. The presentations will be summoned in a panel discussion lead by the chair. In addition, the symposium will integrate knowledge and movement breaks, enabling the participants an opportunity to experience the curriculum. We believe it is important that these

presentations are included in the same symposium because it provides a global, progressive and logical image of how to expand and establish these strategies in schools.

Keywords: Movement integration, Teacher education, Physical activity, Wellness, Learning

ID 640 Physically active lessons in foreign or second language and mathematics at the general upper secondary school

Nina Salmela (Oulun yliopisto)

Background: Physical activity and sedentary behaviour in the school environment have been researched in several international studies. The studies have mainly focused on children in primary school and adolescents at the lower secondary level (a.o. Chaput et al., 2020, Watson et al., 2017, Sneck, 2022). There is a need for studies exploring the acute effects of physically active learning, in which physical activity is integrated into learning goals within academic lessons, or physically active breaks on alertness and executive functions of general upper secondary school students. Moreover, little is known about the factors, such as physical and mental load or physical and academic competence. **Aim:** The aim of this study is to examine the general upper secondary students' experiences and perceptions on students' situational engagement and its' relation to the physically active classroom practices and academic activities. In addition to this, the study increases our understanding of the students' experiences and perceptions on the usefulness of differently used physically active classroom practices during the academic lessons. **Method:** A semi-structured interview is a useful method to employ subjective experiences and perceptions of students about physically active classroom practices. The data consists of 20 audio-recorded and transcribed interviews of students (aged 16 to 19) in three general upper secondary schools during the academic year 2023–2024. **Practical implications:** The preliminary findings suggest that high levels of physical activity and good physical fitness are associated with better academic achievement and better cognitive functions. The study bridges the existing research gap with in-depth and to-to-date knowledge about the effectiveness of PAAL for general upper secondary school students. Furthermore, the results can help teachers to develop their teaching innovatively via physically active approaches. **References** Chaput JP., Wil-lumsen J., Bull F., et al. 2020 WHO guidelines on physical activity and sedentary behaviour for children and adolescents aged 5–17 years: Summary of the evidence. *Int J Behav Nutr Phys Act.* 2020; 17(1): 1–9. Sneck, S. 2022. Moving Math - Effects

and experiences of physical activity integrated into primary school mathematics lessons. Oulun yliopisto. *Acta Universitatis Ouluensis, Series E, Scientiae rerum socialium* 216. Väitöskirja. Watson, A., Timperio, A., Brown, H., Best, K. & Hesketh, KD. 2017. Effect of classroom-based physical activity interventions on academic and physical activity outcomes: a systematic review and meta-analysis. *Int J Behav Nutr Phys Act* 14, 114.

Keywords: physically active academic lessons, general upper secondary school

ID 628 IMMA classroom: a thinking space to enhance learning and promote student well-being

David Gutierrez (University of Castilla-La Mancha)

Movement integration (MI) as a teaching strategy has demonstrated benefits for student learning and well-being, being perceived positively by both students and teachers (Martin & Murtagh, 2017). This work shows the first results of the IMMA project (for its acronym in Spanish, Movement Integration in Classroom Subjects). The IMMA project has the double objective of training future Early Childhood and Primary Education teachers in movement integration (MI) strategies in addition to increasing the well-being and academic motivation of preservice teachers through the living the curriculum approach (Oslin, Collier & Mitchell, 2001). 22 teachers from the Primary and Early Childhood Education degrees of the Faculty of Education of Ciudad Real (University of Castilla-La Mancha) participate in the IMMA project. This project is based on research evidence that teachers are more likely to implement MI strategies if they have previous successful experiences as students, as well as when they identify and understand the benefits of MI at different levels (Martin & Murtagh, 2017). The IMMA project included a teacher training phase and subsequently the implementation of MI strategies through the living the curriculum approach (Oslin et al., 2001), through which while students learn the content knowledge of the subjects, experience the benefits of MI, thereby increasing knowledge of the pedagogical content that includes the use of these strategies. One of the main achievements was the creation of a space that promoted MI strategies and methodological change. Inspired by the Building Thinking Classrooms method (Liljedahl, 2021), the IMMA classroom (formerly a gym) includes varied and mobile furniture, as well as drawable surfaces on the walls, which allow working standing up in small groups. Information was collected on the perception of teachers and students regarding the use of the IMMA classroom. Information on teachers' perceptions was

collected through interviews and self-reports. The students' perception was collected through a questionnaire and the basic psychological needs satisfaction scale in class (Conesa et al., 2020), that includes autonomy, competence, relatedness and novelty. The results showed high motivation among teachers, who also perceived a notable increase in student motivation, task involvement and learning. The qualitative results showed that the preservice teachers value the change in methodology very positively. The quantitative results showed improvements

Keywords: Movement Integration; Teacher training; Building Thinking Classrooms; school wellbeing; Living the curriculum approach

ID 633 Empowering Pre-Service Teachers through Movement Integration: A Comprehensive Overview of the Learning by Moving Program

Joni Kuokkanen (Åbo Akademi University)

Movement integration (MI) is a research-supported strategy that focuses on merging activities that are intentionally physical, at any level of intensity, into content-specific academic lessons. Teachers have been slow to adopt MI strategies into teaching due to perceived challenges such as a shortage of time and space, insufficient authentic training, and issues related to the availability or quality of resources. Building a sustainable foundation for embedding MI into teaching seems to require identifying efficient strategies to reduce teachers' personal barriers and overcome structural barriers. Incorporating MI into teacher training is one pivotal action with potential for sustainable long-term effects. This presentation provides a thorough overview of the Learning by Moving program, designed to empower pre-service subject teachers (PSTs) with the indispensable skills to incorporate MI as either physical activity breaks from academic tasks or as an integrated component of academic activities into their teaching practices within secondary classrooms. The program is a fundamental component of a mandatory course focused on cross-curricular teaching and learning, spanning a 17-week (semester-long) duration with three key components: workshops, tutor support, and teaching practice at the Åbo Akademi University teacher training school in Finland. The initial university-based component consists of a half-day workshop designed to facilitate a shift in PSTs attitudes and behaviors regarding the implementation of MI in secondary-level teaching. Invited guest speakers, provide an overview of MI strategies, illustrate practical examples and emphasize the importance of lesson planning. Before the workshop, tutors, representing PSTs in health and physical education, engaged in three 90-

minute training sessions focusing on readings and practical examples to pinpoint specific strategies for the implementation of MI. The tutors met twice with randomly assigned cross-curricular groups, typically comprising six or seven PSTs representing different subjects who were tasked to incorporate MI strategies into a minimum of two lessons (out of 12–15 lessons) during their teaching in secondary classrooms. During the first meeting, peer tutors assisted each PST within their group to plan their lessons incorporating MI strategies. The second meeting, held after the PSTs had completed five weeks of their teaching practice, allowed tutors to provide feedback and answer questions to support PSTs in their subsequent teaching sequences. The groups gathered to share their experiences related to the integration of MI at the end of the semester. The presentation provides insights and a starter kit for teacher trainers interested in introducing cross-curricular learning modules within teacher education programs.

Keywords: Movement Integration, Teacher Training, Cross-Curricular Teaching, Learning by Moving, Pre-Service Teachers

ID 650 Preservice secondary subject teachers' experiences, attitudes and application of movement integration in academic classroom.

Joni Kuokkanen (Åbo Akademi)

Background: Movement integration has positive implications for secondary students, thus extending previous findings on primary students. The MI method can be an effective way of increasing in-school physical activity without reducing academic time. (Romar et al., 2020.) Teachers have a central role in implementing MI in schools and they report positive experiences with and perceptions of MI after implementing it during academic lessons (van den Berg et al., 2017; Webster et al., 2017). Teacher education occurs early in teachers' careers, learning about MI in that setting allows them to incorporate the resulting knowledge and skills in their classrooms. Therefore, they may feel willing to use MI as part of their routine classroom practices. (Romar et al., 2020.) Aim: The aim of the study is to explore how Finnish preservice subject teachers apply movement in their teaching and to find out what affects the subject teacher's use of MI. Method: In the study, subject teachers applied an integrated approach to infuse physical activity into a required teacher-preparatory course. Data was collected through six individual interviews and five written essays, during spring semester 2020. Results: Movement integration was a new concept for the preservice teachers and their experience positively influenced their beliefs

regarding the use of that concept in academic lessons. Most of preservice subject teachers noted that MI can be easily incorporated into secondary academic classrooms and reported positive experiences after implementing it during academic lessons. In order to apply MI in academic classroom, you have to incorporate MI in the subject teacher education. All the preservice subject teachers were influenced by the teacher-preparatory course during their studies. They reported information, knowledge and inspiration as important factors in order to apply MI in academic classroom. References: van den Berg, V., Salimi, R., de Groot, R. H., Jolles, J., Chinapaw, M. J. & Singh, A. S. (2017). "It's a Battle You want to do it, but how will you get it done?": Teachers' and principals' perceptions of implementing additional physical activity in school for academic performance. *International Journal of Environmental Research and Public Health*, 14(10), 1160. Romar, J-E., Björkgren, M., Enkvist Snellman, J., Ruostekoski, A., Harjunpää, P. & Juslenius, V. (2020). Preservice secondary subject teachers incorporating movement integration into classroom practice. *Teaching and Teacher Education*. Webster, C. A., Russ, L., Vazou, S., Goh, T. L. & Erwin, H. (2015). Integrating movement in academic classrooms: Understanding, applying and advancing the knowledge base. *Obesity Reviews*, 16(8), 691-701.

Keywords: Subject teacher education, Movement integration, Physical activity

ID 194 School Readiness, Motor Skills, Physical Activity and Physical Education for Life – The Past and the Future Symposium

Kristy Howells (Canterbury Christ Church University), **Ellie Huggett** (Canterbury Christ Church University), **Dan Jones** (Teeside University), **Nicola Carse** (University of Edinburgh) & **Paul McMillian** (University of Edinburgh)

The symposium focuses on the school readiness, motor skills, physical activity and physical education for live. It considers where young children started pre-COVID, it will examine and explore mid pandemic research and post pandemic contexts as well as offer suggestions and recommendations for the way forward in the future as Physical Education for Life. Jones (2020) recommended from their longitudinal research in the Northeast England that by increasing children's motor skills in early years enables them to be more likely to possess the requisites skills and self-efficacy that allow them to engage in physical activity throughout life. Also by increasing the

number of children who achieve school readiness enables them to better access the learning delivered in formal schooling. Then the pandemic hit... The pandemic caused significant decreases in levels of physical activity were impacted in UK due to the national lockdowns and school closures. Howells and Huggett (2022) reported mid pandemic, that young children were not able to meet age related physical development expectations following the reopening of schools and there was a call for more targeted action to enable children to use tools effectively, and obstacle courses to promote energetic movement, strength, balance, coordination and spatial awareness. These targeted action plans have been implemented for children within the Southeast England (Huggett and Howells, 2023) and significant improvements in all physical development skills can be accomplished with bespoke motor development improvements. Jones and Howells (2021) identified previously an issue with teachers and practitioners understanding of motor competence and physical development, due to only 20% of 160 teacher education programmes, focusing on these areas. Yet the Lords Report (2021), which was discussed in Parliament, identified within the national plan for sport, health and wellbeing that teacher education is the place for developing knowledge and understanding of holistic physical development and education. This leaves us with the call for action within the UK, to raise awareness and to focus more on school readiness, motor skills, physical activity and physical education for life in the future of both classroom practices and teacher education. Jess et al. (2023) are at the forefront of this call for action are driving the importance of "Physical Education for Life" as well the importance of considering the lived experiences of both the children and teachers and how this will impact the way in which learning occurs. However, they promote the emphasis on physical education being a connective catalyst to help both life-long and life wide learning, linking back to Jones' (2020) pre-pandemic recommendations. This symposium draws together the past and establishes the way forwards for the future for the UK context, and we also wish to learn globally from those attending the symposium.

Keywords: school readiness; motor skills; physical activity; physical education for life

ID 679 Physical Activity, Motor Skills and School Readiness

Dan Jones (Teesside University)

The benefits of being physically active, possessing good motor skills and being school-ready are well documented in early years. Despite this , there is limited

evidence on the association between these variables. A cross-sectional study explored the relationship between these variables. We collected data on 326 four to five-year-old children from the northeast of England. Children's PA (ActiGraph GT1M accelerometers), motor skills (MABC-2 and the locomotor section of the TGMD-2) and school readiness (EYFSP) were measured, and associations between these variables were examined. This study found that, on average, children engaged in more MVPA (99.6 min/day) and less sedentary behaviour (261 min/day) than documented in previous research. Motor-skill scores were consistent with existing literature in early years. A higher percentage of children in the sample (79.6%) achieved school readiness than the average for England. Regression analyses found that motor-skill variables and sedentary behaviour were significantly predictive of school readiness, whereas physical activity was not. Motor skills and sedentary behaviour significantly predict school readiness. Therefore, promoting motor skills and developmentally appropriate sedentary behaviour activities may increase the number of children achieving school readiness. Furthermore, Stodden et al. (2008) hypothesised that physical activity drives motor skill acquisition in early years, and motor skill competence drive physical activity participation in mid to late childhood, which increases the likelihood of individuals continuing to be physically active throughout their life. Therefore, physical activity may have an indirect effect on school readiness by improving the acquisition of motor skills. Hence, we suggest the promotion of physical activity and motor skill development in early years in order to foster school readiness and an increased likelihood of physical activity engagement throughout the life course.

Keywords: Physical Activity, Motor Skills, School Readiness

ID 618 Motor Skills and Physical Development Targeted Interventions

Kristy Howells (Canterbury Christ Church University) & **Ellie Huggett** (Canterbury Christ Church University)

Huggett and Howells (2022) reported mid pandemic, that young children were not able to meet age related physical development expectations following the reopening of schools. They undertook a case study focusing on one primary school located in the South East of England, with 27 children, (13 four year olds and 15 five year olds), and undertook observation motor skill analysis for gross and fine motor skills levels. They reported in terms of significant gross motor skills results, the children appeared to be clumsy in moving, as they struggled to negotiate space and their surroundings

effectively. The children found it difficult to control their arms and legs, and struggled to hop forwards four times in a straight line. In terms of fine motor skills they struggled with pencil grip. The children were found to be pressing too lightly or pressing too forcefully, and using more fist grips than tripod grips. The children found using scissors and cutting difficult to undertaken especially the stabilising of the paper with one hand and cutting using the scissors with the other hand. When using cutlery they found it difficult to stab food and then eye track the food into their mouth, highlighting poor hand and eye coordination. Huggett and Howells (2022) called for more targeted action to enable children to use tools effectively, and obstacle courses to promote energetic movement, strength, balance, coordination and spatial awareness. These targeted action plans have been implemented for some children identified as having difficulties when they returned to school post COVID-19 lockdowns. Significant improvements have been found in hopping, running, galloping, sliding, dribbling, rolling a ball, climbing, balancing, kicking, catching as well as the use of cutlery and scissors. Highlighting that it is possible to accomplish improvements with bespoke motor development curriculum. These targeted action plans and improvements will be discussed in detail within the symposium with the aim of recommending to others, who may find their children are still struggling post pandemic. Huggett, E., and Howells, K., (2022) The impact of COVID-19 on the physical development of reception age children. *Physical Education Matters Autumn* p.60-63.

Keywords: physical development; physical activity interventions; motor skills

ID 637 Physical Education for Life.

Kristy Howells (Canterbury Christ Church University), **Paul McMillian** (University of Edinburgh), **Nicola Carse** (University of Edinburgh), **Mike Jess** (University of Edinburgh) **Jeanne Keay** (Leeds Beckett University) & **David Cooke** (Leeds Beckett University)

Jess et al. (2023) are at the forefront of a call for action within the UK and are driving the importance of Physical Education for Life (PEL). Within the symposium, the concept of School Physical Education being the “connective catalyst” will be shared, analysed and discussed. The connective catalyst is the way to connect informal community activity; cross school activity and formal community activity to gather together the components of each child’s and young person’s individual PEL journey. The importance of PEL is situated within complexity thinking, and the notion of a

catalyst allows for a more integrated, coherent and emergent practices within all educational settings. PEL is based on the view that everyone is ‘becoming’ physically educated and this is a lifelong and life-wide developmental process that begins at birth and carries on throughout life (lifelong), taking places in all life spaces: school, community and home (life-wide). School PE has a fundamental role in PEL as the connective catalyst. In terms of the symposium we will look at the curriculum implications for school PE to be the connective catalyst for PEL and discuss a) Understanding of the lifelong dimensions of PEL through health-related, performance-related; recreational; functional; socially-responsive. B) Developing flexible holistic foundations for PEL, through the learning domains of PE, Physical, Cognitive, Social; Emotional. C) Supporting Life-wide PEL Journeys through contextual and involving key stakeholders. D) Becoming Adaptive and Creative Practitioners. E) Developing Stakeholder Relationships across and beyond school; Primary to Secondary; Secondary to Lifelong. Jess, M., Howells, K., McMillan, P., Carse, N., & Keay, J., (in press), *Young People, Physical Education & Physical Activity: The Ontological Shift to Complexity*, Routledge Resources Online - Sports Studies Jess, M., Howells, K., & McMillan, P., (2023), *Becoming physical education: the ontological shift to complexity*, *Sport, Education and Society*, DOI: 10.1080/13573322.2023.2177984

ID 386 Early Childhood Physical Activity Promotion: What we learned?

Tanjian Liang (Central Washington University)

Physical activity provides multidimensional benefits for young children’s growth, development, and long-term health (Piercy et al., 2018). However, many children ages 3-5 fail to meet recommended activity levels, raising concerns (Pate et al., 2019). Experts recommend that young children engage in physical activity throughout the day for optimal development (Piercy et al., 2018). Physical activity habits formed early tend to track into later childhood (Wang et al., 2016). Furthermore, physical activity boosts school readiness, supporting cognitive, linguistic, and social-emotional development (Carson et al., 2019). Especially, developmentally appropriate physical activity fosters motor skill proficiency needed for participation in games, sports, and recreational activities (Robinson et al., 2022). While numerous studies have addressed the relationships between physical activity, cognition, healthy behaviors, and motor skill development, most focus on participants from Europe or

North America. Rarely do studies delve into implementing diverse programs and even less common are investigations into the connections between physical activity, social-emotional learning, and physical literacy. Therefore, this symposium will explore studies promoting early childhood physical activity in a mega-city in China, social-emotional learning in early-year children's physical activity in Macau, physical literacy and physical activity for ages 3-6 children. List of papers: 1. A systematic review of physical activity programs on physical fitness, cognition, and affective outcomes in early-year children. (Xiuye Xie, Xiaoping Fan, Tanjian Liang) 2. Tricore-learning model for early-year children's development. (JinXia Dong) 3. Physical Activity Intervention Influencing Young Children's social-emotional skills - Practical Lesson Learned in Macau (Si Man Lei, Tanjian Liang) 4. Physical literacy and physical activity curriculum for ages 3-6. (Fangyuan Ju). Reference Piercy, K.L., Troiano, R.P., Ballard, R.M., Carlson, S.A., Fulton, J.E., Galuska, D.A., & Olson, R.D. (2018). The physical activity guidelines for Americans. *Journal of the American Medical Association*, 320(19), 2020–2028. Pate R. R, Hillman C. H, Janz, K.F., Katzmarzyk, P. T., Powell, K. E., Torres, A., & Whitt-Glover M. C. (2019). Physical activity and health in children younger than 6 years: A systematic review. *Medicine and Science in Sports and Exercise*, 51(6), 1282-1291. Robinson, L.E., Palmer, K.K., Webster, E.K., Logan, S.W., & Chinn, K.M. (2018). The effects of CHAMP on physical activity and lesson context in preschoolers: a feasibility study. *Research Quarterly for Exercise and Sport*, 89(2), 265-271.

Keywords: Physical literacy, physical activity, social-emotional learning, early childhood

ID 630 A systematic review of physical activity programs on physical fitness, cognition, and affective outcomes in early-year children

Xiuye Xie (Missouri State University), **Xiaoping Fan** (State University of New York at Cortland) & **Tanjian Liang** (Central Washington University)

Introduction: Physical inactivity has been identified as one of the leading risk factors for global mortality and various health-related diseases. Schools play a critical role in making a positive impact through physical activity interventions. However, a comprehensive review of the effectiveness in early childhood needs to be included. Therefore, the purpose of this study was to review school-based physical activity intervention studies in early childhood and identify the gaps and future trends in this topic. Methods: Forty-one quantitative experimental studies were identified using

seven inclusion and four exclusion criteria from nine electronic databases. All identified studies were coded using a predetermined coding template. The interrater reliability between the two trained coders was 96.5%. The frequencies and percentages for each coded category were reported descriptively. Results: More than two-thirds (78.1%) of all intervention studies were conducted in North America and Europe, with 48.8% in North America and 29.3% in European countries. 36.6% of the reviewed intervention studies reported the usage of a theoretical/conceptual framework to guide the study, with social-ecological theories and motivation theories (i.e., achievement goal theory, self-determination theory, self-efficacy theory) as the most prevalent frameworks. Randomized controlled trials with a control group (70.7%) were the most used research design. The intervention length ranged from four days to three years, and 41.5% of the studies reported an intervention fidelity check in various forms. Different dependent variables were measured, and about half of the studies were focused on physical activity levels and anthropometry outcomes. A trend of the positive impact of school-based physical activity programs on children in early childhood was found. However, the rigor of studies needs significant improvements in multiple areas. Conclusion: Future intervention programs are suggested to include different elements in the design to develop children's cognition, physical fitness, and affective outcomes.

Keywords: Early childhood, children's cognition, physical fitness, affective outcomes

ID 599 Tricore-learning model for early-year children's development

Jinxia Dong (Peking University), **Xiaokun Meng** (Beijing Sports Association for Young Children), **Yanling Liu** (The District Educational Bureau of Central Qinan City) & **Baoqing Qi** (The District Educational Bureau of Central Qinan City)

Numerous studies have shown that children can benefit from participating in sport physically, psychologically and socially. Guided by sports physiology, science of movement, cognitive neuroscience and educational psychology, the TriCore program aiming at promoting the holistic development of young children's physical, cognitive, and social abilities through sport and play was initially designed jointly by US and Chinese scholars in 2010. In specific, the dimension of Physical Development includes Fundamental Movements and Fitness, Motor awareness and Motor Skills: The dimension of Cognitive Development include attention, memory, thinking ability and creativity. The dimension of Social and Emotional Development include listening, expression, discipline, cooperation, leadership and motivation. The following test tools, including National Fitness Test Standard, TGMD-3, Flanker, Go/No-

Go, DCCS and Working Memory Test, and Griffiths Empathy Measure as well as “peer nomination”, were adopted to evaluate the children’s physical, cognitive and social development. In the past 12 years the program was tried, improved and finalized in over twenty primary schools and fifty top-tier kindergartens in China. Both statistical data and interviews show that implementing the program has indeed enhanced children’s physical fitness and movement skills, developed their cognitive functions and the social skills of communication, motivation, and team work. The unique features of curriculum goals shifting from the body-focused single dimension to multiple dimensions integrating physical, cognitive, and social development; the classroom setting integrating game roles, life scenarios, and music into the cultivation of fundamental movement skills; the approach of embedding cognitive tasks such as attention, memory, reaction, and reasoning into physical games and activities and the multi-dimensional assessments makes it an innovative learning model in China. Possibly the model will bring about significant changes to the theory and practice of physical education and sport in primary schools and kindergartens in China.

Keywords: Tricore-Learning, Social and Emotional Development, Fundamental Movements and Fitness

ID 653 Physical Activity Intervention Influencing Young Children's social-emotional skills - Practical Lesson Learned in Macau

Si Man Lei (University of Macau), **Tanjian Liang** (Central Washington University, Ellensburg, WA, USA) & **Man Cheng Lei** (University of Macau, Macau, China)

Purpose: This study examines the impact of a weekend creative movement and dance program on children's social-emotional learning (SEL) in Macau. The integrated intervention consisted of 50-minute sessions led by professional fundamental movement instructors over 12 weeks. Method: In Macau, 60 kids between the ages of 5 and 7 participated in a quasi-experimental controlled study. A control group (n=30) and an intervention group (n=30) were each assigned a set of participants. Over twelve weeks, the intervention group engaged in 50-minute weekend sessions of structured physical activity. The program featured creative movement and dance lessons designed around fundamental movements. Professional dance instructors led lessons on building physical literacy and motor skills through active play. The control group participated in interesting after-school extracurricular classes during the 12 weeks. Social-emotional competencies were measured using the

Social-Emotional and Character Development Scale (SECDS), conducted at baseline and post-intervention. Gross motor skills were assessed using the Preschooler Gross Motor Quality Scale (PGMQS), which was measured before and after the program. Changes in SECDS and PGMQS scores were analyzed to determine the effectiveness of the movement-based intervention compared to standard after-school participation. Results: Repeated-measures ANOVA revealed significant time x group interaction effects for SECDS and PGMQS measures. In terms of social-emotional skills ($p < 0.001$), character strengths ($p = 0.002$), and gross motor skill quality ($p < 0.001$), the physical activity intervention group showed significantly higher gains over time in comparison to controls. According to paired t-tests, the creative movement program significantly improved participants' mean gross motor and balance scores. The structured curriculum using active play and fundamental movement skills facilitated robust developmental growth. Conclusion: The physical activity program integrated with creative fundamental movement effectively promoted SEL and motor skill development among young children in Macau. Practical lessons learned include the feasibility of after-school programming, the value of professional instruction, and the incorporation of developmental skills practice. More research should examine implementing cost-effective physical activity programs on a broader scale.

Keywords: Physical activity program; culture and art center; young children; social-emotional learning; motor skills.

ID 652 Physical Literacy and Physical Activity Curriculum for Ages 3-6

Fangyuan Ju (Yangzhou University, China) & **Mengyun Zhao** (Yangzhou University, China)

Physical activity during the early years and childhood are strong indicators of future behaviors, and each age stage also influences the next growth stage. Physical literacy is critical in early childhood, a crucial period in developing foundational movement skills (Taplin, 2013). The Chinese government emphasizes the concept of physical literacy "to take responsibility for engaging in PA for life" (Whitehead, 2019). However, few physical activity curricula for the early years of childhood aim to develop physical literacy. They motivated children to participate in physical activity (Weiss, 2000). Therefore, this study aimed to create a physical literacy curriculum integrated with physical activity for children ages 3-6 in China. A whole-person education model and the concept of physical literacy guide the curriculum framework.

The curriculum framework integrates the fundamental concepts of "Join it, Do it, Enjoy it, Got it!". This framework emphasizes developing foundational movement skills at the critical age of 3-6, guiding children to join physical activities. Physical activities encompass daily life movement, encouraging children to do it and be active, helping 3-6 children enjoy it in the process of participation, getting a healthy body, mind, and brain in one, and supporting holistic body and mind development. It utilizes a modular teaching structure, integrating foundational skills, movement competence, cooperative games, and formal competition. Formal competition replaces fitness testing for assessment, with parent participation encouraged. Lessons are designed in 30-minute units with adaptable break times based on instructional pace. Streamline transitions through building age 3-6 children's self-efficacy, minimizing queued waiting times to maximize physical activity learning time. Developing physical literacy in early childhood is vital for building lifelong physical activity patterns and promoting comprehensive physical and cognitive growth in ages 3-6. This curriculum can serve as an exemplary model to facilitate holistic growth in the early childhood population in China.

Keywords: early years children;literacy-based curriculum;whole-person education; curriculum development

ID 318 Assessment in Pe: Developing Diagnostic Competences of Physical Education Teachers

Menno Slingerland (Fontys University of Applied Sciences), **Anneke Langer** (Europa-Universität Flensburg), **Miriam Seyda** (Dortmund University), **Philipp Hendricks** (TU Dortmund University), **Inga Fokken** (German Sport University Cologne), **Ilka Staub** (German Sport University Cologne) & **Tobias Vogt** (German Sport University Cologne)

The quality of assessment in PE seems to be moderate at best (Borghouts et al., 2017) and previous research shows that PE teachers experience difficulties with the task of accurately assessing student performance related to various PE goals in their students (Seyda, 2018). These diagnostic competences are considered a core aspect of a teacher's (assessment) expertise. Having a high diagnostic competence enables PE teachers to better evaluate the students' learning prerequisites and support their learning processes (Ohle & McElvany, 2015). It allows for the identification of the

learners' difficulties as well as their development potentials. It can also be used to provide adequate individual learning support. Further, PE teachers with a high diagnostic competence are better able to gain information about the effectiveness of their teaching and curriculum, which provides possibilities to adapt the learning environment to the students' needs. This demonstrates that developing and fostering the diagnostic competences of PE teachers is a necessity. Within this symposium we therefore explore the questions of why promoting diagnostic competences of PE teachers in all phases of their career (pre-service and in-service) is beneficial and how this can be further developed in teachers. This symposium consists of the following presentations: M. Slingerland will introduce the symposium topic within a broader scope on assessment and its functions within PE. M. Seyda and A. Langer then address the relationship between the diagnostic competences of PE teachers and their quality of teaching. Their research is based on the assumption that a higher diagnostic competence leads to a higher quality of teaching. Therefore, a PE teacher's diagnostic competence would directly affect the students' performance, for example, because they are better able to identify the students' difficulties and react accordingly. P. Hendricks explores the task analysis skills of PE teachers. The ability to analyse tasks is a central aspect of PE-teachers' diagnostic competence. It helps teachers to adapt the tasks to the prerequisites of the students in the sense of individual support. By comparing the task assessment results of pre-service and in-service PE teachers, the presentation gives a first insight into the development of task analysis skills and discusses how task analysis skills can be promoted. Swimming lessons in school are associated with challenges for teachers, mainly because of the increasing diversity of learning groups. By looking at this specific field within PE, I. Fokken introduces a diagnostic procedure for swimming skill analysis and addresses the question of how PE teachers subjectively evaluate its feasibility for school use. The session wraps up with a chaired discussion. References
DOI.10.1080/17408989.2016.1241226 DOI.10.25656/01:11487
DOI.10.1007/s42010-017-0006-4

Keywords: diagnostic competence, motor performance, assessment, teacher education, professional development

Symposium introduction
Menno Singerland

ID 623 How are diagnostic competences of PE teachers and quality of teaching linked?

Anneke Langer (Europa-Universität Flensburg, Germany) & **Miriam Seyda** (Dortmund University)

Successful teaching requires pedagogical content knowledge (PCK) (Blömeke et al., 2022). It includes diagnostic competence (DC) as the ability to accurately assess students "as well as learning and performance-relevant facts" (Schrader, 2009, p. 237). Research on DC show that the assessment of motor performance is a challenging task for PE teachers (Seyda, 2018). PCK may have an indirect effect on the quality of teaching. But the linkage between DC and quality of teaching in PE have not yet been investigated. It is the aim of the presented study to address the assumption that a higher level of DC should have an positive impact on the quality of teaching and thus also on the experience of students in PE. Method 10 PE teachers (50% females, primary schools) assessed each of their 158 students (47% fe-males; 3/4 grade) motor performance. All students completed a motor performance test. By comparing the teachers' assessment with the students' performance test results, the rank component was determined (DC). The quality of the teaching was surveyed using the Classroom Assessment Scoring System (CLASS). In addition, the motivation and anxiety in physical education among the students was determined (questionnaire). Findings and discussion The results of correlations analyses showed a non-linear relationship between DC and CLASS: moderately accurate assessments of teachers corresponded to high values in some CLASS dimensions (i.e. classroom organization (co), emotional support (es)), whereas extremely high accurate as well as extremely low accurate assessments of teachers were associated with low values. The results of regression analysis suggested that these dimensions of teaching quality (co;es) had an positive effect of the motivation and anxiety of the students. DC did not have a direct effect on students, but seemed to be mediated through some dimensions of the teaching quality (co;eg) and had a benefit for their experience on PE. It has to be taken into account, that the sampling was very small and therefore other studies are needed to confirm the present findings. References Blömeke, S., Jentsch, A., Ross, N., Kaiser, G., & König, J. (2022). Doi: 10.1016/j.learninstruc.2022.101600 Schrader, F.-W. (2009). Anmerkungen zum Themenschwerpunkt Diagnostische Kompetenz von Lehrkräften [Notes on the special issue of diagnostic competence of teacher]. *Zeitschrift für Pädagogische Psychologie*, 23(3-4), 237–245. Seyda, M. (2018). doi:10.1007/s42010-017-0006-4

Keywords: diagnostic competence, assessment, teaching quality, pedagogical content knowledge

ID 622 Developing task analysis skills of pre-service and in-service PE teachers

Philipp Hendricks (TU Dortmund University)

Teachers should adapt the tasks in physical education (PE) to the prerequisites of the students in the sense of individual support. To adapt tasks, teachers must be able to analyze the demands in tasks. This ability is a central aspect of PE teachers' pedagogical content knowledge and it is part of the diagnostic competence (Ohle & McElvany, 2015). Besides diagnosing students' skills, assessing the demands in tasks is essential for initiating successful learning processes in PE classes. Although the development of task analysis skills is an important goal in teacher education, it has not yet been investigated. This study aims to answer the questions of whether in-service and pre-service PE teachers can assess task demands and whether they differ in their assessments. In addition, the study provides a first insight into the development of task analysis skills and investigates the factors that might influence the development of these skills. Methods Tasks for PE classes were systematically developed and then assessed by experts in a previous study (each $n=6$ of university professors, sports didactics PhDs, and PE subject leaders) in terms of their motor and cognitive demands. Based on this, eight pairs of tasks differing in the level of motor and cognitive demands were formed (adapted from Rieu et al., 2022). In a pairwise comparison, in-service PE teachers ($n=62$) and pre-service PE teachers in an advanced stage of their studies ($n=64$) rated the respective higher cognitive and motor demand levels of the tasks. Results The descriptive results show that there are minor differences between the cognitive assessments (in-service PE teachers: 77.01%, pre-service PE teachers: 74.25% proper ratings) and almost no differences between the motor assessments (in-service PE teachers: 67.37%, pre-service PE teachers: 68.37% proper ratings). An independent t-test was performed, showing that there are no significant differences between in-service and pre-service PE teachers in either assessment (cognitive assessment: $t(124) = -1.004$, $p = .317$; motor assessment: $t(124) = .345$, $p = .731$). The study also demonstrates that there is no correlation between work experience and the ability to assess task demands. Discussion The results may indicate that the ability to analyze tasks is a professional competence that can be developed during education and training and does not correlate with work experience. The findings suggest that there are no significant

differences between in-service and pre-service PE teachers, which might be unexpected. One reason may be that the pre-service PE teachers were far advanced in their studies and had received extensive subject didactic training. Further reasons for these results as well as implications for teacher education will be discussed in the presentation. References Ohle, A., & McElvany, N. (2015). <https://doi.org/10.25656/01:11487> Rieu, A., Leuders, T., & Loibl, K. (2022). <https://doi.org/10.1016/j.tate.2021.103621>

Keywords: task analysis, assessment, competence

ID 327 The Evaluation of a Diagnostic Procedure for Swimming Skill Analysis

Inga Fokken (German Sport University Cologne), **Ilka Staub** (German Sport University Cologne) & **Tobias Vogt** (German Sport University Cologne)

In swimming lessons, the realization of individualized teaching depends on a qualitative analysis of the learners' skills. However, research addressing the diagnostic competence of PE teachers shows that they often have difficulties analyzing their students' motor skills in order to purposefully guide their learning process (Lounsbury & Coker, 2008; Ward et al., 2021). It is in line with the authors' observations that even experienced PE teachers face challenges with swimming skill analysis. Findings of a previous study (Fokken et al., 2023) suggest that the quality of information gathering is not sufficient to design swimming lessons tailored to the individual needs of the students. In order to support PE teachers in the diagnostic process, the authors' research group developed an easy-to-use diagnostic procedure for swimming skill analysis on the basis of the "Assessment of Basic Aquatic Skills" (ABAS; Vogt & Staub, 2020). The procedure is designed to enable teachers to easily perform an initial classification during the first swimming lesson and to gain direct insight into the learning group. The present study investigates how teachers evaluate the feasibility of this procedure and how they subjectively perceive the value of its use. German PE Teachers (n = 155) were asked to include the procedure at the beginning of their swimming lessons for diagnostic purposes. Afterwards, they were asked to participate in an online survey to evaluate the tool. The questionnaire comprised several statements to be rated on a five-point scale, which were derived from the teachers' answers of a qualitative pilot study (n = 14). Preliminary findings of the pilot study indicate that using this procedure helped teachers to better structure their swimming skill analysis and to make a more reliable judgement. Participants

also mentioned that the procedure is most helpful for PE teachers with little experience. Teachers described the procedure as child-oriented and reported that the students mostly enjoyed performing the tasks. As the data collection is still ongoing, the final results of the study are expected to be presented at the AIESEP 2024. The interviewed PE teachers seem to benefit from the support provided by the presented diagnostic procedure. The large-scale quantitative online study aims at verifying this hypothesis. A particular focus will be on the group comparison between experienced and less experienced PE teachers. Future research should investigate whether the improved information gathering can also increase the adaptivity of swimming lessons. Fokken, I., Staub, I., & Vogt, T. (2023, accepted). DOI: 10.1123/jtpe.2022-0297 Lounsbery, M., & Coker, C. (2008). DOI: 10.1080/00336297.2008.10483580 Vogt, T., & Staub, I. (2020). DOI: 10.7752/jpes.2020.02085 Ward, P., Ayyazo, S., Dervent, F., Iserbyt, P., Kim, I., & Li, W. (2021). DOI: 10.1080/07303084.2020.1853635

Keywords: diagnostic competence, motor skill assessment, individualized teaching

ID 273 The effects of physical activity and motor skills on executive functions and academic performance in children

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The aim of the symposium is to present recent studies that investigate how physical activity and motor skills are associated with executive functions and academic skills in children. This symposium brings together research in this field using various age groups, research methods and study designs. The symposium aims to further the discussion how different characteristics of physical activity (i.e. intensity, motor

complexity and cognitive demands) are associated with executive functions and academic skills in different phases of the children's development. The symposium includes three presentations. The first paper presents findings on reciprocal associations between physical activity, motor skills, and executive functions in preschoolers. The second paper continues with preschoolers and provides evidence on the effects of an intervention program combining motor skills and early numeracy on executive functions and early numeracy. The third paper focuses on the association between sports participation and executive functions in primary school children. Several domains have an impact on a child's cognitive development, and thus holistic study designs are needed to better understand the effects of various factors on the cognitive development in childhood (Stodden et al., 2023). In recent years, a growing number of research have focused on the association of physical activity with cognitive and academic skills. Physical activity and motor skill learning has been identified potential factors to promote the development of cognitive and academic skills in children (Best et al., 2010; Donnelly et al., 2016). However, despite the different proposed mechanisms, it is unclear which characteristics of physical activity explain this relation in children. This symposium presents novel knowledge on the nature of the link between physical activity, executive functions and academic skills. The symposium also extends research to preschool-aged children, which is a less studied population in this field of research. Chair: Professor Pirjo Aunio, University of Helsinki Discussant: Professor Lars-Erik Malmberg, University of Oxford Best, J. (2010). Effects of physical activity on children's executive function: Contributions of experimental research on aerobic exercise. *Developmental Review*, 30(4), 331–351. Donnelly, J. E., Hillman, C. H., Castelli, D., Etnier, J. L., Lee, S., Tomporowski, P., Lambourne, K., & Szabo-Reed, A. N. (2016). Physical Activity, Fitness, Cognitive Function, and Academic Achievement in Children: A Systematic Review. *Medicine and Science in Sports and Exercise*, 48(6), 1197–1222. Stodden, D. F., Pesce, C., Zarrett, N., Tomporowski, P., Ben-Soussan, T. D., Brian, A., Abrams, T. C., & Weist, M. D. (2023). Holistic Functioning from a Developmental Perspective: A New Synthesis with a Focus on a Multi-tiered System Support Structure. *Clinical Child and Family Psychology*.

Keywords: Early numeracy, Executive functions, Motor skills, Physical activity, Sports participation

ID 611 Reciprocal associations between physical activity, fundamental motor skills and executive functions in preschoolers

Anssi Vanhala (Faculty of Educational Sciences, University of Helsinki), **Anna Widlund** (Faculty of Educational and Welfare studies, Åbo Akademi University), **Johan Korhonen** (Faculty of Educational and Welfare studies, Åbo Akademi University) & **Pirjo Aunio** (Faculty of Educational Sciences, University of Helsinki)

Executive functions are higher order cognitive processes that are important for academic achievement and school readiness (Blair & Razza, 2007). Fundamental motor skills (FMS; Niederer et al., 2011) and physical activity (McNeill et al., 2020) are proposed to be beneficial for executive functions in preschool years. However, evidence on the developmental dynamics of physical activity, FMS and executive functions is scarce in preschoolers. This novel knowledge is important as it potentially offers interventions and instructions to promote children's development. Therefore, the aim of this study was to examine whether there are reciprocal associations between physical activity, FMS and executive functions over two years in preschoolers. The participants of this study were 318 children (150 boys, 168 girls) aged 3-5 years. Children's physical activity, FMS, and executive functions were measured three times (T1-T3) with one year between the measurements. Physical activity was measured using waist-mounted accelerometers and time-spent in moderate-to-vigorous physical activity (MVPA) was defined. FMS were measured with the jumping sideways task from the KTK-test. Two components of executive functions (inhibition and switching, and working memory) were measured using computer-based tests. A cross-lagged panel model was constructed to test reciprocal longitudinal associations between MVPA, FMS and executive functions. We found that FMS ($\beta = -.205, p < .001$) and MVPA ($\beta = -.169, p < .05$) at T1 predicted better performance (faster reaction time) in inhibition and switching task at T2. Moreover, FMS at T2 predicted better working memory at T3 ($\beta = .279, p < .01$). Interestingly, MVPA at T2 predicted weaker performance (slower reaction time) in inhibition and switching ($\beta = .229, p < .05$) and working memory ($\beta = -.294, p < .01$) at T3. Reciprocal associations between physical activity, FMS and executive functions were not found. Our findings indicate that particularly FMS seems to be a positive predictor for later executive functions suggesting that, in addition to FMS, complex motor activities might be beneficial for the development of executive functions. The longitudinal associations between physical activity and executive functions are less clear. References: Blair, C., & Razza, R. P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development*, 78(2), 647–663. McNeill, J. et al. (2020). Longitudinal

associations of physical activity and modified organized sport participation with executive function and psychosocial health in preschoolers. *Journal of Sports Sciences*, 38(24), 2858–2865. Niederer, I. et al. (2011). Relationship of aerobic fitness and motor skills with memory and attention in preschoolers (Ballabeina): A cross-sectional and longitudinal study. *BMC Pediatrics*, 11(1), 34–34.

ID 612 Comparing the effects of three interventions on preschoolers' early mathematical and fundamental motor skills

Pinja Jylänki (Research Unit Teachers, Teaching and Educational Communities, University of Oulu), **Arja Sääkslahti** (Faculty of Sports and Health Sciences, University of Jyväskylä) & **Pirjo Aunio** (Faculty of Educational Sciences, University of Helsinki)

A previous systematic review has demonstrated that preschoolers' cognitive and academic skills can be improved with fundamental motor skill (FMS) interventions (Jylänki et al., 2022). However, there are only a few studies investigating the effects of FMS interventions on early mathematical skills in preschoolers. This study aimed to examine the immediate and long-term effects of Movement with Early Numeracy (MovEN) -intervention on preschool-aged children's early mathematical skills and FMS. The MovEN -intervention combined the learning of early numeracy (EN) via story reading with FMS practice. A previous pilot intervention study provided preliminary evidence of the effectiveness of MovEN-intervention on children's EN. In order to examine if the combined EN and FMS practices are more effective compared to EN and FMS learning separately, the MovEN -intervention was compared to two active control groups where children participated in either EN or FMS interventions. Together 50 children ($M = 5.07$ years, $SD = 0.85$) from six preschools participated in the interventions. All interventions included 16 sessions, approximately 45 min per session, and were led two to three times a week by preschool teachers. Children's EN (i.e., numerical relational and counting skills), mathematical problem-solving skills, and FMS (i.e., jumping sideways task) were measured once before and twice after the interventions. The preliminary results showed that both the MovEN and EN -interventions effectively improved children's EN (MovEN: $p = .004$, EN: $p = .021$), and mathematical problem-solving (MovEN: $p < .001$, EN: $p < .001$). With the MovEN -intervention, it was also possible to support children's FMS development ($p < .001$). With FMS practice, it was possible to support children's FMS development ($p < .001$), but not early mathematical skills. All intervention effects were sustained in the delayed measurement 9.5 weeks after the intervention. The results suggest, that children's early mathematical skills can be

supported effectively with combined MovEN intervention as well as with EN practice. However, with the MovEN intervention, it is possible to support children's FMS at the same time. Together with the preliminary analyses, in the AIESEP 2024 congress, results from the effects of background variables such as socioeconomic status, language skills, and executive functions on the intervention effectiveness are discussed. References Jylänki, P., Mbay, T., Hakkarainen, A., Sääkslahti, A., & Aunio, P. (2022). The effects of motor skill and physical activity interventions on preschoolers' cognitive and academic skills: A systematic review. *Preventive Medicine*, 155, 106948.

ID 613 Physical activity supporting children's and adolescents' overall development, Accepted symposium abstract

Lu Yang (Department of Human Movement Sciences, University Medical Center Groningen), **Eva Corperleijn** (Department of Epidemiology, University Medical Center Groningen) & **Esther Hartman** (Department of Human Movement Sciences, University Medical Center Groningen)

Objective: Executive function (EF) refers to the cognitive processes necessary for goal-directed, purposeful thoughts and behaviors. This study aims to explore the relationships between sports participation and EF in primary school children. We hypothesized a stronger association in team sports than in individual sports because aspects such as quick decision-making and strategic gameplay are important features that may rely on EF. **Methods:** From the Dutch GECKO Drenthe birth cohort, 823 children (46.5% boys) were enrolled in this study. The number and type of sports were collected at age 10-11 using Short Questionnaire to Assess Health-enhancing physical activity (SQUASH). EF was assessed at the same age using the parental BRIEF questionnaire, yielding an overall EF score and two composite scales: Behavioral Regulation Index (BRI) covering inhibition, shift and emotional control, and Metacognition Index (MI) including initiate, working memory, plan/organize, organization of materials, and monitor. Types of sports were classified as individual and team sports, and children were grouped based on these types. To examine the associations between sport types and EF, multiple linear regression models were applied, using individual sports as reference group. The similar models were used to explore the associations between specific popular sports and EF. These models were adjusted for age, maternal education level, family size, and time spent in sports. **Results:** Compared to children participating in individual sports, those engaged in team sports exhibited lower overall EF (-2.99 [0.81], $p < 0.001$), BRI (-3.38 [0.77], $p < 0.001$),

MI (-2.50 [0.81], $p=0.002$), as well as lower scores in all subscales, indicating better executive function. Similarly, children involved in both kinds of sports also scored lower on overall EFs (-2.64 [0.93], $p=0.005$), BRI (-2.71 [0.88], $p=0.002$) and MI (-2.32 [0.93], $p=0.013$). For specific team sports, playing football was significantly associated with lower overall EF ($B=-2.37$, $p=0.001$), BRI ($B=-1.95$, $p=0.006$), MI ($B=-2.39$, $p=0.001$), and lower scores in most subscales. Engagement in volleyball was merely associated with lower scores in inhibition ($B=-2.77$, $p=0.016$) and monitor subscales ($B=-2.87$, $p=0.028$). For specific individual sports, doing gymnastics was significantly associated with lower MI ($B=-1.81$, $p=0.029$). In contrast, practicing martial arts was related to increased overall EF (2.34, $p=0.049$), and swimming was associated with higher overall EF ($B=2.443$, $P=0.049$) and BRI ($B=2.74$, $p=0.020$). No significance was observed with the number of sports. Conclusions: The type of sport, rather than the number of sports, is significantly associated with children's executive function. Team sports might have a greater impact on enhancing executive function compared to individual sports, whereas the effects of specific sports appear to vary.

ID 274 When Music and Sport Embrace – The Role of Music in Boosting Youth Wellbeing, Physical Activity, and Performance

Henna-Riikka Peltola (Centre of Excellence in Music, Mind, Body and Brain, University of Jyväskylä), **Andrew Danso** (Centre of Excellence in Music, Mind, Body and Brain, University of Jyväskylä) & **Alicia Lucendo-Noriega** (Centre of Excellence in Music, Mind, Body and Brain, University of Jyväskylä)

Background and Aims: The synergy between music and physical activity is undeniable, as music frequently acts as a potent motivator and catalyst for movement. Despite the wealth of supporting evidence, it's essential to explore how insights from music research can contribute to enhancing the development and well-being of children's and young people's lifestyles. In this context, our symposium delves into recent research findings that uncover the profound role of music and sports as sources of empowerment for Finnish children, adolescents, and young adults. Moreover, music emerges as a formidable ally in the pursuit of a healthier lifestyle. Recent studies at the University of Jyväskylä's Centre of Excellence in Music, Mind, Body and Brain underline its unique ability to engage both our minds and bodies. Our goal in

convening this symposium is to explore a) the myriad ways music and sport contribute to people's identity, emotions, and subjective wellbeing in everyday life, and b) how music combined with physical activity best support motivation, learning, and movement performance when it comes to children and young people. Our symposium will address these phenomena by introducing both empirical and theoretical perspectives for better understanding the crossroads between music engagement and physical activity. These discussions will converge on the insights they provide regarding the cognitive and personalised dimensions of music in the context of sports and well-being. Collectively, our symposium promises to deliver invaluable insights for researchers, health professionals, and young individuals eager to harness the transformative potential of music for a healthier and more active life. Relevance for the conference: Our symposium will cover multiple topics relating to physical education, as it provides perspectives on the role of music in boosting motivation for maintaining an active lifestyle, the cognitive processes of music listening during exercise, and the social environment affecting children and adolescents' experiences relating to sport and physical activities.

Keywords: well-being and health, physical activity, music engagement, emotion regulation

ID 639 The Influence of Music in Exercise and Physical Activity Interventions

Henna-Riikka Peltola (Centre of Excellence in Music, Mind, Body and Brain, University of Jyväskylä) & **Andrew Danso** (Centre of Excellence in Music, Mind, Body and Brain, University of Jyväskylä)

The incorporation of music into physical activity interventions has emerged as a dynamic area of research due to its compelling motivational influence and capacity to trigger movement. This talk integrates the findings of two seminal studies investigating music's enhancement of physical activity, as well as examining its impact on both physiological and cognitive dimensions. The power of music to cause movement and foster motivation has been extensively recognised. Personalised Interactive Music Systems epitomise this application within physical activity frameworks, utilising advanced technology to tailor musical elements, such as tempo and intensity, to individual exercise routines. These innovative systems, such as smartphones and wearable devices serve to invigorate users' motivation and monitor their physical engagement. Crucially, this is transformative for sedentary individuals embarking

on more active lifestyles. The scope of music's psycho-physiological influences extends well into the domain of exercise recovery and mood regulation, serving as a pre- and post-exercise motivational catalyst. Delving into the nuances of music's synchronous relationship with physical movement, the study "The Cognitive Processes of Music Listening During Exercise" elucidates how rhythmic and temporal aspects of music can significantly amplify the exercise experience. Further, it describes how musical stimuli may significantly sway cognitive functions such as attention, learning, memory, and perception during exercise, suggesting potential enhancements to mental as well as physical well-being. Collectively, these studies offer critical insights into the comprehensive role of music within the context of physical activity and exercise interventions. They underscore music's capability to elevate motivation, encourage consistent engagement in physical activities, and amplify cognitive performance during exercise. These studies underscore the emergence of music as a potent mechanism in the promotion of health and well-being.

Keywords: Personalised Interactive Music Systems, physical activity interventions, mobile technology, motivation

ID 636 Music and sport as sources of personal empowerment for Finnish adolescents

Henna-Riikka Peltola (Centre of Excellence in Music, Mind, Body and Brain, University of Jyväskylä), **Anne Soini** (Faculty of Sport and Health Sciences, University of Jyväskylä), **Suvi Saarikallio** (Centre of Excellence in Music, Mind, Body and Brain, University of Jyväskylä) & **Arja Sääkslahti** (Faculty of Sport and Health Sciences, University of Jyväskylä)

Engagement with music has great potential for evoking personally fulfilling experiences, providing opportunities for meaningful social connections, and thus enhancing subjective feelings of wellbeing and good quality of life. Similarly, a physically active lifestyle promotes wellbeing, and participation in sport provides many different psychological and social health benefits. For instance, team sports, especially, seem to be associated with improved health, self-esteem, and social interaction for adolescents (Eime et al., 2013). Even though music and sport have both been popular structured leisure activities among Finnish children and adolescents, they are often treated as two separate and even exclusive categories. For instance, in 2020, the Study of Young People's Leisure Activities by the Finnish State Youth Council excluded sport altogether while focusing on how young people engage with media,

art, and cultural activities (Salasuo, 2021). In the present study, we wanted to investigate music and sport side by side, because, despite their differences, there are potential similarities in the psychological mechanisms and individual and social meanings of these two types of activities. We gathered qualitative data from 28 Finnish adolescents who wrote narratives about the meaning of music and sport in their everyday life. The narratives were analyzed by utilizing thematic content analysis (Braun, Clarke, & Weate, 2016). A range of themes and subthemes emerged from the data covering shared features of music and sport associated with subjective wellbeing within adolescents, but also common negative aspects that have potential for diminishing the experienced quality of life. The relevance of the results for both future research as well as sport educators and parents of adolescents will be discussed. References Braun, V., Clarke, V., & Weate, P. (2016). Using thematic analysis in sport and exercise research. In B. Smith & A. C. Sparkes (Eds.) Routledge handbook of qualitative research in sport and exercise. Routledge, 191–205, doi: <https://doi.org/10.4324/9781315762012> Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity*, 10(98), doi: <https://doi.org/10.1186/1479-5868-10-98> Salasuo, M. (Ed.) (2021). Harrastamisen äärellä. Lasten ja nuorten vapaa-aikatutkimus 2020. Opetus- ja kulttuuriministeriö, Valtion nuorisoneuvosto, Nuorisotutkimusverkosto.

Keywords: music, physical activity, wellbeing, youth, quality of life

ID 638 Strengthening the Connection between Music and Physical Early Education for Children's Social-emotional Development

Henna-Riikka Peltola (Centre of Excellence in Music, Mind, Body and Brain, University of Jyväskylä) & **Alicia Lucendo-Noriega** (Centre of Excellence in Music, Mind, Body and Brain, University of Jyväskylä)

The benefits from maintaining wellbeing through physical education have emerged in previous studies, especially from an early age. Similarly, near and far transfer effects of music education in children's development have increasingly received attention in the education research field. The current presentation is focused on an ongoing longitudinal study exploring the potential connections between music and physical education in children's social emotional development in the early childhood

years. The project is carried out during 2 years in daycare centers in a mid-size city in Finland, for 4-5-year-old children. Participating children receive either weekly music education lessons (referred as “muskari” in the Finnish context), weekly physical education lessons (“liikkari”), or continue with their business as usual at the daycare centers. The main characteristics of the project, data collection procedure and measurements are presented. Besides this, the process of developing a research-based protocol for the interventions is reviewed. The theoretical foundations related to social-emotional development, design planning and the contextual characteristics of the sessions are detailed. As music and physical early education share common elements, some differentiating limits were needed to be drawn for research purposes, which are also discussed. This presentation will also examine the main challenges gather in the project such as the theoretical foundation of the project objectives as well as the operationalization of social emotional skills for the interventions design and measurements chosen. By presenting the current project and describing the interventions development, this presentation aims at providing a safe forum discussion on the association of physical and music education with children’s social emotional development as well as how to strengthen the synergy between both fields to promote wellbeing from an early age.

Keywords: music education, physical education, socio-emotional development, early childhood

ID 275 JoVeM Project: When salutogenesis met the activist approach

Luis García López (Universidad de Castilla-La Mancha), **Juan G. Fernández Bustos** (Universidad de Castilla-La Mancha), **David Gutiérrez** (Universidad de Castilla-La Mancha), **Irene González Martí** (Universidad de Castilla-La Mancha), **Antonio Morcillo** (Universidad de Castilla-La Mancha), **Nieves Saez Gallego** (Universidad de Castilla-La Mancha), **Yessica Segovia** (Universidad de Castilla-La Mancha), **David Zamorano** (Universidad de Castilla-La Mancha), **Nuria Martínez Palacios** (Universidad de Castilla-La Mancha) & **Lucía Reyes** (Universidad de Castilla-La Mancha)

The aim of the JoVeM project is to assess how a health program integrating the salutogenic and activist approaches (Antonovsky, 1996; Luguetti et al., 2017) can contribute to promote health among youth, especially on youth from socially vulnerable backgrounds. This perspective goes beyond individuals' deficits to try to

promote youth's health based on their strengths and involving them in the construction of the physical education (PE) curriculum or the community sport program. The study follows a participative action research design, which favours participants commitment, increasing the possibilities of change, especially on vulnerable individuals. It also has a mixed (quantitative-qualitative) and quasi-experimental (control and experimental groups) research design. The project is being implemented in three intact groups of Primary School, two intact groups of Secondary School, and a community programme in a city in Central Spain. A total of six PE teachers (five females, 1 male), 170 young people (10–15-year-old, 80 girls and 90 boys), and 20 researchers from Universities of Spain, Australia, and Netherlands are participating in this three-year long project. During the first year of intervention, a pilot study was implemented. It took three months, and all participants (students, teachers and researchers) had the opportunity of learning together how to implement a salutogenic program through an activist approach. After this pilot study, there are some interesting first results that we consider as very valuable and would like to present in this congress. Therefore, the structure of this symposium would be the following: (1) introduction and main guidelines of the project; (2) presentation of quantitative results on subjective health and the psychological, mental and social well-being; (3) presentation of qualitative results, analyzing how the high or low profile of social vulnerability of the group has influenced on the benefits of the program; (4) description of how a salutogenic and activist program looks like in a PE group of students who do not have socially vulnerable backgrounds; (5) description of how a salutogenic and activist program looks like in a sport community program with youth from socially vulnerable backgrounds; (6) analysis of how researchers have become activist researchers. The discussant would be Carla Luguetti. References Antonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health Promotion International*, 11, 11-18. <https://doi.org/10.1093/heapro/11.1.11> Luguetti, C., Oliver, K., Dantas, L., & Kirk, D. (2017). 'The life of crime does not pay; stop and think!': the process of co-constructing a prototype pedagogical model of sport for working with youth from socially vulnerable backgrounds. *Physical Education and Sport Pedagogy*, 22(4), 329-348. <https://doi.org/10.1080/17408989.2016.1203887>
Keywords: Salutogenesis, activist approach, participative action research, youth, vulnerable backgrounds

ID 658 JoVeM Project: When Salutogenesis met the activist Approach. An introduction

Luis M. García López (Universidad de Castilla-La Mancha) & **Juan G. Fernández Bustos** (Universidad de Castilla-La Mancha)

The aim of the JoVeM project is to assess how a health program integrating the salutogenic and activist approaches (Antonovsky, 1996; Luguetti et al., 2017) can contribute to promote health among youth, especially on youth from socially vulnerable backgrounds. This perspective goes beyond individuals' deficits to try to promote youth's health based on their strengths and involving them in the construction of the physical education (PE) curriculum or the community sport program. The study follows a participative action research design, which favours participants commitment, increasing the possibilities of change, especially on vulnerable individuals. It also has a mixed (quantitative-qualitative) and quasi-experimental (control and experimental groups) research design. During the first year of intervention, a pilot study was implemented in three intact groups of Primary School, two intact groups of Secondary School, and a community programme in a city in Central Spain. A total of six PE teachers (five females, 1 male), 170 young people (10–15-year-old, 80 girls and 90 boys), and 20 researchers from Universities of Spain, Australia, and Netherlands are participating in this three-year long project. The quantitative variables under study include self-concept and physical self-concept, intention to become physically active, quality of life related to health, basic psychological needs, achievement goals, sleep quality, empowerment and social and emotional learning. On the other hand, qualitative techniques (interviews, focus groups, photovoice, artifacts...) are implemented to study changes in all participants. This pilot study took three months, and all participants had the opportunity of learning together how to implement a salutogenic program through an activist approach. In this first presentation of the symposium, we will first show how salutogenesis and the activist approach as a critical pedagogy are aligned; second, we will do a brief introduction to the programs which were conducted in different contexts; and third, we will introduce the rest of the presentations of the symposium focused on the effects of the pilot study on the subjective health of participant youth, the influences of students profile on their health assets, how the salutogenic and activist approach looks like depending on the level of vulnerability of youth, and the difficulties of becoming and activist researcher. References Antonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health Promotion International*, 11, 11-18. <https://doi.org/10.1093/heapro/11.1.11> Luguetti, C., Oliver, K., Dantas, L., & Kirk, D. (2017). 'The life of crime does not pay; stop and think!': the process of co-

constructing a prototype pedagogical model of sport for working with youth from socially vulnerable backgrounds. *Physical Education and Sport Pedagogy*, 22(4), 329-348. <https://doi.org/10.1080/17408989.2016.1203887>

Keywords: Health, salutogenesis, activist approach, social vulnerability

ID 662 Effects of the pilot study (JoVeM project) on the subjective health and the psychological, mental and social well-being of children and adolescents

Juan G. Fernández-Bustos (Universidad de Castilla-La Mancha) & **Antonio Morcillo-Martínez** (Universidad de Castilla-La Mancha)

One of the priority aims of the JoVeM project was to influence on the improvement of the participants health from a salutogenic approach, placing special emphasis on indicators of emotional, mental, and social well-being. In this study, under a quasi-experimental design with pre and post measurements, 148 students participated (nfemales = 73; nmales = 75; Mage = 11.28) conforming a control group (n = 66) and an experimental group (n = 86) of year-6 Primary School (n = 107) and year-2 Secondary School (n = 41). In the experimental group, a three-month activist-salutogenic program during Physical Education lessons was implemented with a building the foundation phase and an activist phase. The participants completed the adaptation to the Spanish context of the KIDSCREEN-27 questionnaire (Rajmil et al., 2004), which includes five dimensions of health-related quality of life: Physical Well-Being, Psychological Well-Being, Autonomy and Parent Relation, Peers and Social Support, and School Environment. Repeated measures analyzes of variance (rANOVAs) were conducted on the collected data to examine the effect of the program (interaction effect time x group) on the dependent variables, controlling for the effect of sex, age and educational center (covariates). Considering the total KIDSCREEN scores, the results showed how the participants of the experimental group improved their self-perceptions of health-related quality of life. Improvements were also found in the dimensions of Physical Well-Being (Mpre = 18.47, Mpost = 19.07), Psychological Well-Being (Mpre = 27.68, Mpost = 28.91), Autonomy and Parent Relation (Mpre = 27.58, Mpost = 28.73), although the pre-post test differences were statistically significant only for Psychological Well-Being ($p = 0.32$) and Autonomy and Parent Relation ($p = 0.19$). The characteristics of the integration of activist-salutogenic approaches (active participation of students, co-creation, inquiry, reflection, empowerment of health resources, identification of barriers) allow increasing participation, autonomy, motivation, and satisfaction with the physical activity practice which

could directly influence your physical and psychosocial well-being. These encouraging initial results support the viability of carrying out this type of programs to influence positive health development. Nevertheless, we understand that similar longer programs enriched with interdisciplinary projects could further improve students' perception of quality of life. References Ravens-Sieberer, U, Auquier, P, Erhart, M., Gosch, A., Rajmil, L., Bruil, L, Power, M., Duer, W., Cloetta, B., Czemy, L., Mazur, J., Czimbalmas, A., Tountas, Y, Hagquist, C, Kilroe, J. & The European KIDSCREEN Group. (2007). The KIDSCREEN-27 quality of life measure for children and adolescents: psychometric results from a cross-cultural survey in 13 European countries. *Quality of Life Research*, 16, 1347-1356.

Keywords: Health, salutogenesis, activist approach, social vulnerability, wellbeing

ID 660 Influences of students' profile of social vulnerability on their health assets

Luis M. García López (Universidad de Castilla-La Mancha) & **David Gutiérrez** (Universidad de Castilla-La Mancha)

The aim of this study was to analyse the benefits on health and wellbeing of a salutogenic and activist program on a community program (CP), and five intact groups of Primary School (PS) and Secondary School (SS), depending on their profile of social vulnerability. The study follows a participative action research design, which favours participants commitment, increasing the possibilities of change, especially on vulnerable individuals. It was also a multiple case design, as each group included youth of different social profile and age. Participants of this study were six PE teachers (four females, two male), 109 young people (10–15 year-old, 49 girls and 61 boys), six researchers and one supervisor. Youth from socially vulnerable backgrounds (YSVB) in the experimental groups were 13 out of 13 in the CP (nine boys and four girls), zero out of 14 in PS1; five out of 24 in PS2 (one boy and four girls); seven out of 22 in PS3 (one boy and six girls); six out of 26 in SS1 (three boys and three girls); and six out of 20 in SS2 (five boys and one girl). Data were collected through storytelling, structured interview matrix, focus groups, photovoice, artifacts, teachers' diaries, and debriefing meetings. Data were classified, transcribed verbatim and analysed through traditional content analysis. We found three main themes: (1) differences in the barriers and the assets for participants to involve in the program depending on the level of vulnerability of the group; (2) students' and teachers' perception of the critical elements of the program; and (3) teachers' perceptions of the

efficacy and utility of the program depending on the level of vulnerability of the group. In this presentation we will focus on the assets of participants (part of theme one). Assets were classified in passions (team sports, individual sports, dancing...), talents (skills in different sports), social resources of the environment (friends, family, pets, coaches) and physical resources of the environment (sport facilities, urban facilities, parks, nature). We found some relevant differences in the assets when analysing extreme groups (CP and PS1): parents are not an asset for YSVB; ethnic active practices like dance and sport models are more relevant assets for some YSVB; sport tourism and pets are assets of youth without a socially vulnerable background. We found difficulties to find real assets related of YSVB in those groups in which were integrated with other students. We need further analysis to establish the influence of the interaction between YSVB and their peers on YSVB's assets. We also found some differences on the teachers' and the students' perceptions of the student's assets, as some students did not recognize the school health programs and their teachers as assets.

Keywords: Health, salutogenesis, activist approach, social vulnerability, assets

ID 663 How a salutogenic and activist program looks like in a context of low social vulnerability

David Zamorano (Universidad de Castilla-La Mancha)

Programmes based on the activist approach showed benefits for young people from socially vulnerable backgrounds. Similarly, students who do not have a socially vulnerable background could also benefit, more in synergy with the salutogenic approach. The objective was to present a proposal for the implementation of a salutogenic-activist programme in a school context of low social vulnerability. 14 children from year 5 of Primary School participated in the program, none of them in a situation of social vulnerability. The two phases proposed by the activist approach were followed: 1. In the building foundation (three weeks), various activities were carried out to identify barriers and resources for health: a) photovoice with students to identify health assets; b) interview with the Physical Education (PE) teacher and the school principal to complete the unidentified resources for health; and c) storytelling, discussion of their ideal PE class, identification of negative experiences, identification of the most and least motivating PE content, all of them to know barriers and facilitators to participation in PE. Barriers were identified as sexist stereotypes in PE,

disruptive social relationships, conflicts with peers and feelings of low motor competence. Among the assets for health, the school's physical activity (PA) programme, peers and family members, and the city's sports facilities were highlighted. 2. In the activist phase, the voice of the students was heard, based on the assets and barriers detected in the previous phase. The teaching of athletics was agreed based on the following arguments: to avoid sports in which women (i.e. football, basketball) and men (dance) felt uncomfortable and had less participation to practice different athletic disciplines that were adapted to the abilities and preferences of each pupil. To teach athletics and to overcome barriers and increase responsibility, autonomy, group belonging, feelings of competence and improve social relations, the Sport Education pedagogical model was used. Heterogeneous teams were formed, all teams had women, everyone had a good friend in the team and the pupils who caused the most conflicts were not part of the same team. In addition, the following actions were integrated in coherence with the assets detected: - PA school programme: integrating the regular Sports Education season into the active recess. - Families: invite parents to participate in the activities during recess and in the final event. - Sports offer and facilities in the city: organising the final event at the local athletics stadium and inviting the club monitors to organise the activity. Finally, although many health benefits emerged, the researchers found it difficult to identify important barriers. The main reasons were the following: upper-middle class families with sufficient resources; a school with successful programmes and facilities; a local context with a rich offer of sports and facilities; high participation in PA outside school. For these reasons, the context of low social vulnerability forced some modifications to the activist-salutogenic programme, focusing more on enhancing assets than on overcoming barriers.

Keywords: Health, salutogenesis, activist approach, social vulnerability

ID 671 How an salutogenic and activist program looks like in a context of high social vulnerability

Luis Miguel García López (Universidad de Castilla- La Mancha), **Nuria Martínez Palacios** (Universidad de Castilla-La Mancha) & **Lucía Reyes** (Universidad de Castilla-La Mancha)

The salutogenic and activist program was carried out as part of a project in a non-governmental organization. The program was held at a headquarters located in one

of the most disadvantaged neighborhoods of an Spanish city. A total of 19 children between nine and 14 years participated in the program. All these young people were in a situation of social vulnerability. The program lasted 18 sessions. Six sessions were dedicated to the building the foundation phase and 12 sessions to the activist phase. During the building the foundation phase, different activities were carried out to know the barriers and health resources that the participants had for the practice of physical activity. Some of these activities were: interviews with parents, photovoice, discussion about what their ideal sports program would be like or games that allowed the researcher to observe the behavior of the group. In the building the foundation phase, barriers such as impulsive and disruptive behaviors, inability to resolve conflicts, and absenteeism or passive participation were found. We also found health resources such as soccer, sharing a group with a friend or doing physical activity in a specific place, in this case, the school gymnasium. In the activist phase, a leadership program was proposed where the older children were the leaders and were given responsibilities in the design and control of the sessions with the younger children. Alternative sports (ringo and colpbol) were practiced. The health resources we found and games with social reflections were introduced. The health resources were included to enhance physical activity. For example, soccer was introduced as a health resource thorough an interview designed and conducted by the participant children to a professional soccer player. The games with social reflections were used to fight the barriers the children have to be active. In those games, first, an unfair game situation was posed. Then, the game was stopped to reflect on it and for the participants to offer modifications. When the game was more socially just, it was played again. Throughout the program, participants also followed a conflict resolution scheme. The researcher struggled in implementing some parts the program. On the one hand, when a program is implemented, it is usually scheduled and organized from the beginning. Working with an activist approach means building only the sessions of building the foundation and based on the results, continue to build. This can generate some insecurity in the researcher because he does not have his program planned. Another difficulty, linked to salutogenesis, is paying attention to the health resources of the participants. Because of the characteristics of the context, children have many more barriers than health resources, and the researcher's attention is often directed towards overcoming barriers. References: Ruiz Omeñaca, J. (2008). Educación física, valores éticos y resolución de conflictos: reflexiones y propuestas de acción. In Graó (Ed.), *La resolución de los conflictos en y a través de la educación física* (pp. 65-116). Grao Editorial.

Keywords: activist approach, salutogenesis, social vulnerability, community programmes, sport

ID 661 How to become an activist researcher and not die trying

Yessica Segovia (Universidad de Castilla-La Mancha), **Nieves Sáez-Gallego** (Universidad de Castilla-La Mancha) & **Irene González-Martí** (Universidad de Castilla-La Mancha)

The salutogenic approach could contribute positively to public health in schools from an integral (bio-psycho-social) perspective, encompassing all the agents involved in the school context. The activist approach is a pedagogical application of Participatory Action Research, which aligns with salutogenic perspective of health teaching. It is focused on generating some changes within communities through the empowerment of all their members and the development of critical consciousness, for which understanding and co-producing the knowledge is essential (Luguetti & Oliver, 2018). Luguetti and Oliver (2018) highlighted the existence of certain challenges derived from application of activist approach, as well as the importance of facing them in order to become an activist researcher. In this sense, this work presents a collaborative self-study that describes and analyses how two female university researchers learnt to manage a salutogenic program through an activist approach. The aim of this study is to examine the challenges that both university researchers found while learning to facilitate the implementation of a salutogenic and activist program and how these challenges were negotiated. The participants included seven university researchers (four women and three men) without experience in activist approach, a supervisor and facilitator of learning, two highly experienced secondary school teachers and two secondary school student groups (14 -15 age). A three-month programme was applied in two secondary schools. It included two phases: the building the foundation phase and the activist phase. In the building of the foundation phase a safe environment was created, and actives and barriers of health were detected, which served as an educational axis of action for the activist phase. The data were obtained by multiple sources, including researchers' journal, debriefing meetings and discussion groups. The results showed that the two researchers learned (from) and negotiated the following challenges: learning to lose part of the control of the research, facing a perception of low self-efficacy generated by the lack of experience in manage a salutogenic programme through an activist approach and finding ways of negotiating the curriculum with teacher to listen and

respond to students' voices. In conclusion, learning to deal with the challenges that came on the way to becoming activist researchers allowed them to turn a hard professional experience into a valuable experience of personal and professional development. References Luguetti, C., & Oliver, K.L. (2018). 'Getting more comfortable in an uncomfortable space': learning to become an activist researcher in a socially vulnerable sport context. *Sport, Education and Society*, 23(9), 879-891.

Keywords: Health, salutogenesis, activist approach, social vulnerability, activist researcher

ID 165 Nordic Collaboration for Movement in Early Childhood Education: The MovECE Symposium

Lars Breum Christiansen (Dep. of Sports Science and Clinical Biomechanics, University of Southern Denmark), **Ann-Christin Sollerhed** (Faculty of Teacher Education, Kristianstad University, Sweden), **Line Grønholt Olesen** (Steno Diabetes Center Aarhus, Denmark), **Karsten Froberg** (Dep. of Sports Science and Clinical Biomechanics, University of Southern Denmark), **Anne Soini** (Department of Education, University of Jyväskylä, Finland) **Arja Sääkslahti** (Faculty of Sport and Health Sciences, University of Jyväskylä, Finland), **Gudrun Kristjansdottir** (Faculty of Nursing, University of Iceland, Iceland), **Runar Vilhjalmsón** (Faculty of Nursing, University of Iceland, Iceland), **Ingunn Fjørtoft** (Sports and Educational Science, University of South-East Norway, Norway), **Robert Larsen** (Sports and Educational Science, University of South-East Norway, Norway), **Jan-Eric Ekberg** (Department of Sport Sciences, Malmö University, Sweden) & **Lisbeth Runge Larsen** (UCL University College, Denmark)

Topic: Recent research has revealed a concerning gap in the competencies of Early Childhood Education (ECE) teachers regarding movement and physical activity (MoPA). A network between seven Nordic universities has been launched to address this issue and enhance the quality of ECE across the Nordic region. The network conducts a comprehensive investigation into the presence and content of MoPA within ECE and ECTE (Early Childhood Teacher Education). The network also aims to develop a joint Nordic study module on MoPA which can be integrated into ECTE programs in the five countries. Content and structure: The symposium contains an introduction, three interrelated presentations from the network, and a discussion involving the attendees. Introduction to the symposium (10 min.) – Jan-Eric Ekberg See the description above. MoPA in ECE policies of five Nordic countries (15 min)

- Ann-Christin Sollerhed This study examined MoPA in government ECEC policy documents from Denmark, Finland, Iceland, Norway, and Sweden. Most children in the Nordic countries attend ECEC, which allows it to play an important role in promoting MoPA. However, findings indicated that MoPA is a low-priority value, to varying degrees, in the ECEC policies enacted by the Nordic countries. MoPA in ECTE policies in five Nordic countries (15 min) - Lars Breum Christiansen This study investigates the integration of MoPA within ECTE programs across the five Nordic countries. The comparative analysis showed a diverse integration of MoPA approaches rooted in national policies and educational traditions. The findings emphasize the necessity of a higher prioritized MoPA curriculum to equip future ECE teachers with desired competencies. MoPA study module across the Nordic countries (15 min.) - Anne Soini The network will develop and test a joint study module by blending insights and competencies across the five Nordic countries with the latest research. This process will shape the module's teaching methods, structure, and learning outcomes. The joint module will be presented based on the experiences, best practices, and work in progress. Discussion and feedback (20 min.) - Ingunn Fjordtoft Attendees are invited to actively engage in discussions on the development of the Nordic-best-practice module. Insights and perspectives from the attendees will be incorporated into the development of the module. Furthermore, the discussion will open for global perspectives for improving ECE focusing on collaboration and knowledge exchange. Reasons for why there should be a Symposium about this certain topic: The symposium will present valuable insights on how MoPA is included in policies in ECE and ECTE but will also provide practical guidance and experiences with developing the joint Nordic study module. Moreover, the symposium and network aspire to foster intercultural insights and competencies about MoPA in ECTE.

Key words: education policy; preschool; early childhood education and care; cross-national comparative

ID 645 Introduction to the symposium “Nordic Collaboration for Movement in Early Childhood Education: The MovECE Symposium”

Jan-Eric Ekberg (Malmö university), **Lars Breum Christiansen** (University of Southern Denmark), **Ingunn Fjørtoft** (University of South-Eastern Norway), **Karsten Froberg** (University of Southern Denmark), **Line Grønholt Olesen** (Aarhus University hospital, Steno Diabetes Center Aarhus), **Gudrun Kristjansdottir** (University of Iceland), **Lisbeth Runge Larsen** (UCL University College), **Robert Larsen** (University of

South-Eastern Norway), **Anne Soini** (University of Jyväskylä), **Ann-Christin Sollerhed** (Kristianstad University), **Arja Sääkslahti** (University of Jyväskylä) & **Rúnar Vilhjálmsson** (University of Iceland)

Most children in the Nordic countries spend a considerable amount of their waking time in Early Childhood Education and Care (ECEC). There are high expectations that ECEC will support the development and learning of the youngest children. The many assignments in ECEC (Vallberg Roth, 2020) can be challenging regarding time for and knowledge of movement and physical activity (MoPA), and ECEC teachers are central in promoting movement. However, recent research has revealed a concerning gap in the competencies of ECEC teachers regarding MoPA. A network between Nordic universities in Denmark, Finland, Iceland, Norway, and Sweden was established in 2020 to address the issue of enhancing the quality of ECEC and early childhood teacher education (ECTE) across the Nordic region. The ambition is also to produce deepened knowledge regarding MoPA in ECEC and ECTE. The network conducts comprehensive investigations into the presence and content of MoPA within ECEC and ECTE policies. The network also aims to develop a joint Nordic study module regarding MoPA that can be integrated into ECTE programs in the five countries, which can also promote intercultural competencies among the participants sustainably. The symposium will present valuable insights on how MoPA is included in policies in ECEC and ECTE and will also invite discussion of developing a joint Nordic study module. The symposium contains an introduction, three inter-related network presentations, and a discussion involving the attendees. The first presentation is about MoPA in ECE policies of the five Nordic countries. A study will be presented examining MoPA in government ECEC policy documents from Denmark, Finland, Iceland, Norway, and Sweden. The second presentation is a study comparing MoPA in ECTE policies in the five Nordic countries. The third presentation concerns the planned study module regarding MoPA for ECTE students in the Nordic countries. Finally, we discuss the study module and global perspectives for improving ECEC focusing on collaboration and knowledge exchange.

Key words: Movement, physical activity, early childhood education and care, early childhood teacher education, study module

ID 603 Movement and Physical Activity in Early Childhood Education and Care Policies of Five Nordic Countries

Ann-Christin Sollerhed (Kristianstad University), **Line Grønholt Olesen** (University of Southern Denmark), **Karsten Froberg Møller** (University of Southern Denmark), **Anne Soini** (University of Jyväskylä, Finland), **Arja Sääkslahti** (University of Jyväskylä, Finland), **Gudrún Kristjansdóttir** (University of Iceland), **Rúnar Viljálmsson** (University of Iceland), **Ingunn Fjørtoft** (University South-Eastern Norway), **Robert Larsen** (University South-Eastern Norway) & **Jan-Eric Ekberg** (Malmö University, Sweden)

WHO acknowledges the importance of movement and physical activity (MoPA) in early childhood. Since a growing number of children attend Early Childhood Education and Care (ECEC), high expectations are placed on its staff to support the healthy development and learning of the youngest children. ECEC is governed by policies embodied in laws and curricula. These documents represent the society's values and serve to guide the ECEC educators' work with the children. This study aimed to identify and discuss the similarities and differences in governmental policy documents (e.g., laws and curricula) on ECEC from Denmark, Finland, Iceland, Norway, and Sweden and to examine the value of MoPA in the Nordic policy documents. This descriptive, comparative study design was based on curriculum theory. It used word count and content analyses to examine the values of MoPA in the ECEC policies of the five Nordic countries: Denmark, Finland, Iceland, Norway, and Sweden. Seven concepts related to MoPA were identified in the policy documents. These concepts were body, coordination, idrott/liikunta, motor, movement, physical activity, and physical education. These concepts appeared sparsely in various contexts: development, environment, expression, health and well-being, learning, and play. MoPA was referenced in these contexts either as a goal of intrinsic value (value for its own sake) or as a means for other development goals. MoPA as a goal of intrinsic value was present in the Danish and Finnish curricula, and to some extent in the Norwegian curriculum, while MoPA only appeared as a means for other goals in the Icelandic and Swedish curricula. Results from the study show that MoPA in the ECEC policy documents is to varying degrees of a low-priority value in the Nordic law documents and curricula, as it is sparsely mentioned. Thus, the guidance provided to ECEC educators, decision-makers and stakeholders therein is inexplicit and might negatively affect young children's MoPA to varying degrees with potential consequences for public health. The study also raises the question of who influences the formulation of policy documents. Since education is a field where inconsistencies in the definition of the field can arise, those who formulate the documents get the right to describe what knowledge is considered important and what should be

included and prioritized in the curriculum. Reference Sollerhed, A.-C., Olesen, L. G., Froberg, K., Soini, A., Sääkslahti, A., Kristjánsdóttir, G., Vilhjálmsson, R., Fjørtoft, I., Larsen, R., & Ekberg, J.-E. (2021). Movement and physical activity in early childhood education and care policies of five Nordic countries. *International Journal of Environmental Research and Public Health*, 18(24), 13226.

Key words: Curriculum; Early Childhood; Early Childhood Education and Care; Movement; Physical Activity

ID 647 Movement and Physical Activity in Early Childhood Teacher Education policies in five Nordic countries

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The aim of this study is to investigate the integration of movement and physical activity (MoPA) within Early Childhood Teacher Education (ECTE) policies across Denmark, Finland, Iceland, Norway, and Sweden—the Nordic countries. This knowledge can inform the development of ECTE policies and practices that promote MoPA in Early Childhood Education and Care (ECEC) in Nordic countries and other countries worldwide. In this study, a Nordic cross-national network of researchers collaborated in investigating policy documents at the national and university levels, which govern the education of ECEC teachers. The comparative analytical process can be described in four steps: 1) Delimitation and definitions, 2) Retrieval of national and university documents, initial comparison, and analytical plan, 3) Keyword search for MoPA related courses, and 4) Qualitative description of MoPA in ECTE. A combination of investigations of policy documents at the national and university level and expert knowledge set a solid foundation for comparing MoPA in ECTE in

those countries. The comparative analysis of MoPA in ECTE reveals diverse approaches influenced by national and university policies. A central theme is the variability in MoPA integration across these nations. Finland and Norway prioritize MoPA with independent mandatory courses. In Iceland, compulsory MoPA courses exist at one of two universities, and in Sweden at three out of 19. All university colleges in Denmark offer an elective course. Furthermore, learning objectives related to MoPA are, to varying degrees, part of the internships in the five countries. In the participating countries, the teachers decide the content of the MoPA courses with little guidance, support, and agreement on essential MoPA content within and across the ECTE's. Norway has established guidelines, and in Finland, there is a network of ECTE Physical Education (PE) educators, which, to some degree, increases the consistency and quality of MoPA in education. In conclusion, the Nordic countries present diverse MoPA integration approaches rooted in national policies and educational traditions. The findings emphasize the necessity of independent and mandatory MoPA courses, integration of MoPA into internships and promoting networks across the educational and academic sectors to equip future early childhood educators with competencies for fostering movement, physical activity, and children's well-being. References: Christiansen et al., A comparative analysis of movement and physical activity in early childhood teacher education policy in five Nordic countries. (unpublished manuscript).

Key words: education policy; preschool; early childhood education and care; cross-national comparative

ID 601 The joint study module of Movement and Physical activity (MoPA) across Nordic early childhood teacher education (ECTE)

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A shared interest in promoting Movement and Physical Activity (MoPA) in early childhood education and care (ECEC) and in early childhood teacher education (ECTE) has led to the establishment of a Nordic research network from five Nordic

countries, Denmark, Finland, Iceland, Norway, and Sweden. In previous studies, the network has identified that MoPA has a low-priority value in national ECEC policy documents in five Nordic countries (Sollerhed et al., 2021), and the Nordic countries offer diverse approaches to MoPA integration in ECTE programs, reflecting national policies and educational traditions (Breum et al., unpublished manuscript). These findings have inspired the network for further investigations to develop and promote MoPA in ECTE in Nordic countries. The network's current task is to produce in-depth knowledge regarding MoPA in ECTE, which sets the basis for a unique joint study module to promote ECTE students' knowledge regarding MoPA and intercultural competencies among the participants. Once the model of the joint study module has been created, the MoPA module will be implemented and tested (2024). Students and teachers from the network will conduct the MoPA module in physical and virtual meetings. The network has received funds from Nordplus and will apply for further funding for the development project and mobility for student exchange. During the third year (2025), the MoPA module will be further assessed and renewed, and integration into study programs will be examined. Project findings, products, and results will be spread through a network webpage, conferences, and articles to have a broad and long-lasting impact. Finally, this presentation aims to arouse the symposium participants to share their thoughts and experiences and to discuss the best practical issues of MoPA in ECTE in different countries. This discussion will be utilized when planning and developing the final MoPA module. References: Breum, L. et al. A comparative analysis of movement and physical activity in early childhood teacher education policy in five Nordic countries (unpublished manuscript).

Key words: movement, physical activity, physical education, early childhood teacher education, study module

ID 122 (Re)inventing the Socially-Just Teaching Personal and Social Responsibility (SJ-TPSR) approach in Physical Education Teacher Education: An international learning community

Kellie Baker (Memorial University of Newfoundland), **Jeff Crane** (Memorial University of Newfoundland), **Dylan Scanlon** (Deakin University), **Maura Coulter** (Dublin City University), **Carla Luguetti** (Victoria University), **Cassandra Iannucci** (Deakin

University), **Antonio Calderón** (University of Limerick) & **Tony Sweeney** (Maynooth University)

The socially just Teaching Personal and Social Responsibility approach (SJ-TPSR) was conceptualized to support teachers and teacher educators with integrating social justice content into the physical activity contexts of physical education. In order to further develop the approach, an international community of physical education teacher educators (Australia, Canada, Ireland) examined their enactment of the approach through collaborative self-study. The Canadian collaborative included Jeff, the teacher educator enacting the approach, and Kellie as the critical friend. Jeff enacted the SJ-TPSR approach with 25 third and fourth year Bachelor of Physical Education students learning to teach the content area of Territorial/Zone games. The research was guided by the broad research question: What are the realities, for teacher educators, of translating a theoretically informed vision into practice? In addition, the Canadian collaborative's research questions were: In what ways does/doesn't teaching about and through a SJ-TPSR approach support teacher educators in becoming advocates FOR learning about and through social justice in their future teaching practice? In what ways does/doesn't learning about and through a SJ-TPSR approach support PSTs in becoming advocates FOR learning about and through social justice in their future teaching practice? Data included recorded weekly or fortnightly critical friend meetings, teacher educator plans and journals; reflections offered by other groups to which the teacher educator responded either on the documents or in the meeting; and recorded monthly meetings with the whole group and macro critical friend in which reflections were further discussed and examined. The findings are: a) to expect and embrace uncertainty, b) the SJ-TPSR approach does meet some of its design intentions, and c) the "for" remains elusive. While there is still much to learn about how to implement the SJ-TPSR approach in ways that support PSTs' understanding and perhaps future commitment to enact this approach in their future teaching, Jeff's brief experience enacting the approach convinced him of its value to the extent that he is committed to including the SJ-TPSR approach across the courses he teaches.

Key words: Socially-Just Teaching Personal and Social Responsibility (SJ-TPSR); teacher education, physical education teacher educator practice, social justice in physical education

ID 680 Exploring the enactment of SJ-TPSR in physical education with Irish primary and secondary pre-service teachers

Antonio Calderón (University of Limerick), **Tony Sweeney** (Maynooth University, Ireland) & **Maura Coulter** (Dublin City University Ireland)

The socially just Teaching Personal and Social Responsibility approach (SJ-TPSR) was conceptualized to support teachers and teacher educators with integrating social justice content into the physical activity contexts of physical education. In order to further develop the approach, an international community of physical education teacher educators (Australia, Canada, Ireland) examined their enactment of the approach through collaborative self-study. The community in Ireland enacting the SJ-TPSR approach included Tony, a teacher educator with generalist primary preservice teachers, Antonio with postgraduate PE preservice teachers (PSTs), and Maura who acted as a critical friend to both. Tony and Antonio also engaged in critical friendship along with Maura while each other's enactments were in progress. Tony enacted the SJ-TPSR approach, over a 7-week semester, with Year 3 generalist PSTs in their physical education module which covered activities including folk dance, gymnastics and cooperative games. The research was guided by the broad research question: What are the realities, for teacher educators, of translating a theoretically informed vision into practice? Tony explored how generalist PSTs could use a SJ-TPSR approach to integrate the teaching of social justice in a primary Physical Education context. Antonio enacted the SJ-TPSR approach as part of a larger module focused on foundations of teaching and learning in PE with secondary PSTs. Two research questions guided his experience: (1) What is the reality for an experienced teacher educator to move away from the notion of levels to the notion of spaces in teaching about and through SJ-TPSR? and (2) To what extent did the whole pedagogical approach activate a 'social justice mind-set' on PSTs? Data included recorded fortnightly critical friend meetings; teacher educator plans and journals; reflections offered by other groups to which the teacher educator responded either on the documents or in the meeting; and recorded monthly meetings with the whole group and macro critical friend in which reflections were further discussed and examined. Tony's experience demonstrated: a) clear PST recognition of the potential of the SJ-TPSR approach in teaching for and about social justice in PE which had not been considered by them previously. From Antonio's experience two main themes are being considered: a) slow moving away from the levels: 'Levels' still there but not there..., and b) a modest and thoughtful attempt to address some SJ matters in their teaching. Both the teacher educators and their PSTs made a modest, but also honest and thoughtful attempt to address some of the 'isms' they considered more relevant,

or they felt more comfortable with. The 5-stage learning plan gave both teacher educators and PSTs confidence and a structured entry into the enactment of the approach. The enactment experience triggered an awareness of the possibilities and challenges for teaching 'for' social justice.

Key words: Social Justice, TPSR, -isms, pre-service teachers, collaborative self-study

ID 656 (Re)inventing the Socially-Just Teaching Personal and Social Responsibility (SJ-TPSR) approach in Physical Education Teacher Education: An international learning community

Dylan Scanlon (Deakin University), **Kellie Baker** (Memorial University of Newfoundland), **Maura Coulter** (Dublin City University), **Carla Liguetti** (Victoria University), **Cassandra Iannucci** (Deakin University), **Jeff Crane** (Memorial University of Newfoundland), **Antonio Calderón** (University of Limerick) & **Tony Sweeney** (Maynooth University)

Teachers and teacher educators report uncertainties about the 'how' of integrating social justice content into physical education. As one possibility for addressing this challenge, members of the authorship team have re-imagined the existing Teaching Personal and Social Responsibility (TPSR) model through a social justice lens (i.e., SJ-TPSR) and implemented the teaching and learning of social justice matters in Physical Education Teacher Education (PETE). The purpose of this research was to examine our teacher educator practice enacting the SJ-TPSR approach across diverse tertiary course modules in three countries (Ireland, Australia, and Canada). There were 8 teacher educators involved in this exploration, organised into 3 learning communities with one macro critical friend. This interactive symposium aims to create dialogue on how we – the PETE community – can enact social justice work (and SJ-TPSR) in our PETE programmes. The symposium will start with a context piece: the conceptualisation of the SJ-TPSR approach and outline the international collaborative self-study design. The first, second, and third paper will share empirical research from the respective self-studies from Ireland, Australia, and Canada – each highlighting the opportunities, challenges, and learnings about the enactment of the SJ-TPSR approach. These papers will share the realities of translating a theoretically informed vision into practice in ways that support the next generation of teachers' learning about and through innovative pedagogy. The final paper will bring together all the empirical data to discuss the guiding principles of the approach and what we

have learned collectively about doing social justice work in PETE through a SJ-TPSR approach. We will then conclude the session with an interactive discussion based on what emerged through the international learning community regarding the (re)development of the SJ-TPSR approach and how other teacher educators can seek opportunities to embed social justice pedagogies into their practice. Honouring Hellison's forty years of (re)developing the theory of TPSR, we suggest that PETE colleagues may consider these findings in their endeavour to reconsider existing pedagogical models through a social justice lens, and as they strive to work toward social justice practices and pedagogies. The symposium will also be a space to: (i) encourage attendees to learn with and from each other in how they do (or not) social justice work in their respective PETE programmes; and (ii) have dialogue in identifying opportunities for the inclusion of social justice pedagogies in their PETE practice. We strongly believe there is a need for a symposium for this topic as there seems to be an appetite among teacher educators to enact social justice pedagogies in their practice, but a lack of understanding and support on how to do so. This symposium addresses this 'how' with one way of teaching about, through, and for social justice.

Key words: Social justice; physical education teacher education; socially-just Teaching Personal and Social Responsibility

ID 626 The Socially-Just Teaching Personal and Social Responsibility (SJ-TPSR) approach: A humanising lens and the power of the '

Dylan Scanlon (Deakin University), **Cassandra Iannucci** (Deakin University), **Kellie Baker** (Memorial University of Newfoundland), **Maura Coulter** (Dublin City University), **Carla Luguetti** (Victoria University), **Jeff Carne** (Memorial University of Newfoundland), **Antonio Calderon** (University of Limerick) & **Tony Sweeny** (Maynooth University)

There has been vast research in the critical pedagogy/pedagogy for social justice space calling on theorists to "translate their visions into practice" (Gore, 1998, p.274). There remains, however, little direction for enactment of social justice practises in physical education teacher education (PETE) contexts. In an attempt to address this challenge and 'translate our vision into practice', we developed a socially-just TPSR (SJ-TPSR) approach. This self-study research explores the enactment of the SJ-TPSR approach in an Australian context and is directed by the following research question: Adopting a humanising pedagogy, how can we teach 'about' social justice through the socially-just TPSE approach? The research was conducted using collaborative

self-study methodology. Data that was analysed using guidelines for quality self-study including: (i) weekly written reflections (10); (ii) weekly micro critical friend meetings (10); (iii) macro critical friend meetings (10); (iv) teaching artefacts; and (v) critical comments and questions from critical friends on written reflections which created further dialogue. Findings from this research highlight the importance of positioning social justice through a self-selected theoretical lens, in this case, a humanising pedagogy. This therefore influences the direction of the personal and social responsibilities (PSR) skill/capability development. We emphasise the attention needed to be placed on the '-' in the SJ-TPSR approach. The '-' involves positionality work, the creation of PSR learning intentions (to connect social justice and PSR), and teacher (educators') responsibilities. This presentation contributes to a symposium to provoke, question, and provide space for collaborative dialogue.

Keywords: Socially just Teaching Personal and Social Responsibility

ID 191 Learning from the past to support our digital future: Online and digital technologies in physical education practices.

Ove Østerlie (Norwegian University of Science and Technology NTNU), **Chad Killian** (University of New Hampshire) & **Julia Sargent** (Open University)

Topic / content of the Symposium: This topic aligns with the 'past meets the future' conference theme by considering online and digital technologies in physical education (PE) and physical education teacher education practices (PETE). This symposium will appraise lessons we can learn from past practices using online and digital technologies and how our digital future could be supported. The content background and theme of online and digital technologies within the context of PE and PETE practices will be introduced by the Chair(s) and will emphasize key findings from research and where our future thinking is leading. There will then be three presentations, followed by an open discussion facilitated by the Chair(s). Depending on which presentations are accepted, this could lead to discussions on aspects such as artificial intelligence in PE, virtual or digital worlds, or pedagogical debates. Reasons for why there should be a Symposium about this certain topic: The decision to host a symposium on this topic is driven by several compelling reasons, each of which underscores the significance and relevance of this event within the broader context of the AIESEP conference theme, "past meets the future." First and foremost, this symposium seamlessly aligns with the overarching conference theme of 'past meets

the future.' In an era where the realms of physical education and sports science are undergoing rapid transformations, it is crucial to explore how historical practices converge with cutting-edge innovations such as digital technologies. Moreover, the growing number of projects falling within this category demands increased attention at the AIESEP conference. The amalgamation of traditional practices and contemporary technologies in physical education is a dynamic field deserving of comprehensive exploration. Another compelling reason for hosting this symposium is the distinguished international representation of the chairpersons, hailing from the United Kingdom, the United States, and Norway. Their expertise and diverse perspectives make them ideal facilitators for stimulating discussions and insightful exchanges during the symposium. Despite the presence of numerous presentations and posters on the topic area in past AIESEP conferences, the absence of a dedicated symposium is noteworthy. Given the current conference theme, this symposium fills a critical void, offering a timely and well-aligned platform for in-depth exploration. Lastly, this symposium serves as a logical follow-up to the DiTePES Symposium held in 2022 (<https://www.ntnu.edu/ilu/symposium-ditepes>), underlining its continuity and relevance within the evolving landscape of physical education and sports science. The symposium's legacy and forward-looking approach ensure its pertinence for AIESEP 2024.

Keywords: digital technology, online, virtual reality, artificial intelligence, pedagogy

ID 129 Digital technology in physical education: An entangled pedagogy perspective

Antonio Calderón (University of Limerick) & **Julia Sargent** (The Open University)

The purpose of this presentation is to explore some of the uses of digital technology in physical education using the lens of 'entangled pedagogy' (Fawns, 2022). We present some of the practical realities of how technology is used in physical education, whilst recognising the connection with teaching, learning, and other contextual variables. A purposeful selection and discussion of some of the papers from Sargent and Calderón's (2022) critical review of technology enhanced learning in physical education is done, by unpacking the use of technology, pedagogy, and the potential entanglement of the two. This chapter teases out some of the practical uses for physical education whilst connecting this with theory. We conclude by presenting some of the aspirational approaches to technology use in physical education by

looking at the elements of purpose, context, and value. In doing so, we provide some teaching and research considerations to inform and promote more holistic and non-deterministic approaches to the uses of digital technology in physical education. Avainsanat: Digital technology, online, pedagogy, sociomaterial, determinism.

ID 189 Exploring the use of virtual reality tools to stimulate reflection in physical education teacher education: An intervention study on Norwegian students' perceptions

Ove Østerlie (Norwegian University of Science and Technology NTNU) & **Alicia Portals Riomao** (Universidad Politécnica de Madrid)

The ongoing discussion regarding the role of technology in improving teaching and learning within the realms of education and teacher training has persisted for several years. The integration of education and technology continues to evolve, with the digitalization of education becoming the primary mode of interaction between educators and students during the Covid-19 pandemic. This shift continues to drive the digital transformation of higher education. In the context of physical education teacher education (PETE), there have been well-founded proposals aimed at equipping PETE graduates with the skills to effectively utilize technology for enhancing teaching and learning. However, there remains a significant gap in shared knowledge regarding the pedagogical and technological practices associated with the use of 360-degree recordings and virtual reality (VR) technology to support both staff and student teaching and learning in PETE. Against this backdrop and guided by the theoretical frameworks of practice architecture and communities of practice, this study sets out to explore how students perceive the use of 360 recording, of authentic primary school PE, and VR technology, compared to observing live students-teaching- students classes on campus, as tools to prompt reflection and understanding when observing PE classes. This is in the context of creating didactical questions for further exploration. Semi structured interviews in focus-groups were conducted as mean to understand students' perceptions of the intervention. The interview guide was partly framed by the theoretical perspectives in the study. The student responses were analysed guided by reflexive thematic analysis. The study was reported to the Norwegian Agency for Shared Services in Education and Research to assure that students' protection regarding personal data and information. Ethical considerations beyond data protection were also considered and evaluated to be in line with the Declaration of Helsinki agreement and the Guidelines for Research

Ethics in the Social Sciences, Humanities, Law, and Theology stated by The National Committee for Research Ethics in the Social Sciences and the Humanities [NESH] in Norway. Results will be reported on by April 2024, as the intervention will be conducted in February of 2024. Hence, by May 2024 we are able to present results from the study.

ID 191 Learning from the past to support our digital future: Online and digital technologies in physical education practices.

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Keywords: Digital technology, online, pedagogy, sociomaterial, determinism.

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ID 332 Can flipped learning expand and enhance physical education opportunities? Exploring proof of concept from the teacher perspective

Chad Killian (University of New Hampshire) & **Amelia Mays Woods** (University of Illinois)

The purpose of this component study was to examine Physical Education (PE) teachers' conceptions and uses of the flipped learning (FL) modality as an instructional format for improving and/or adding active learning opportunities for their PE students. The digital learning embedded within FL operates outside space and time boundaries of standard schools, which makes it a natural avenue for expanding active PE opportunities to before and after school, household and/or community settings. Leveraging digital learning to deliver direct instruction asynchronously before class should also enhance active face-to-face (F2F) learning opportunities when instruction time is replaced with PA. In these ways, the FL modality seems to align with the Theory of Expanded, Extended, and Enhanced Opportunities for Youth Physical Activity Promotion (TEO), which posits effective interventions for increasing youth participation in PA essentially offer more (expanded), longer (extended), and/or better (enhanced) opportunities for them to be active. A total of 28 high school (grades 9-12) PE teachers employed in the Midwestern United States participated in telephone interviews. At the time of this study, all had adopted or were in the process of adopting an externally developed health-related fitness knowledge (HRFK) curriculum designed for implementation through FL. Deductive analysis was conducted using the TEO as a guiding framework. The inductive analysis was retained by identifying data that advanced or contradicted the theory. Open and axial coding were used to construct initial patterns. Through constant comparison and peer debriefing, a final thematic structure was generated to organize findings. Three themes were developed to communicate participants' perspectives. First, the outsourced and novel curriculum resulted in misapplications of FL, which limited its utility to expand and enhance PE opportunities. Second, FL enabled the expansion of cognitive learning opportunities that did not previously exist in F2F classes. Third, the digital learning component freed teachers' consciences to unapologetically emphasize moderate-to-vigorous PA in F2F classes, which resulted in (indirect) lesson enhancement. Most participants misused the FL curriculum to supplement regular classes with digital HRFK instruction, rather than applying FL principles to integrate the digital content and F2F lessons. This misapplication limited participants' ability to leverage FL to truly enhance F2F PA opportunities. The fixed nature of the externally developed curriculum also inhibited participants' ability to expand PA opportunities by tailoring digital instruction toward unique, community-based PE

applications. Supporting teachers' appropriate conceptions and use of FL modality as a natural means for enhancing and expanding PE and PA opportunities may enable more intentional integration of the modality for the benefit of students' learning and well-being.

Keywords: digital technology, hybrid learning, ICT, online, physical activity

ID 364 FitBack4Literacy: Applying Physical Fitness Monitoring to Support Physical Literacy Journey

Gregor Jurak (University of Ljubljana, Faculty of Sport)

In the special workshop, FitBack network, a leading organization dedicated to promoting physical fitness and healthy living, will present FitBack4Literacy project which promote physical literacy development for children and adolescents across Europe and beyond. FitBack4Literacy is an innovative E+ funded initiative that aims to demonstrate how to properly use fitness monitoring to improve physical literacy of children and youth. Physical literacy includes the physical, social, cognitive, and emotional understanding that people develop to maintain physical activity at an appropriate, healthy level throughout their life. Most of physical literacy interventions are focusing on physical domain. On the other side inappropriate fitness testing environment can result in bad experience of students and therefore also emerging stigma against fitness testing. Therefore, FitBack4Literacy project addresses both of these issues providing recommendations and educational material how to use fitness monitoring (not just testing) to build on cognitive domain of physical literacy. Namely, the goal of FitBack4Literacy is to design and test an open, transnational digital toolkit supported by multi-language FitBack platform (www.fitbackeurope.eu) to deliver relevant information about developing physical literacy with help of fitness monitoring to teachers, coaches and adolescents. To achieve this goal, FitBack4Literacy collaborates with several institutions across Europe and beyond. However, the project focuses its piloting activities at the local level (e.g., schools, sport clubs) to accelerate adolescents' PL development through several strategies. The first strategy involves teachers in a participatory process to upgrade the existing FitBack reporting system by class report and learning materials. Secondly, it leverages the support of several international sport and physical education associations to engage stakeholders to prepare guidelines how to organise fitness testing in school setting to foster a positive experience around physical fitness testing. Third,

it develops digital toolkit to support teachers and coaches. Finally, the upgraded Fit-Back reporting system, including a novel, multi-lingual digital toolkit, will be evaluated across eight European-wide sites to determine its feasibility and effectiveness in improving physical literacy with support of fitness monitoring.

Keywords: education, children, adolescents, teacher, pedagogy

ID 291 Basic Motor Competencies

Erin Gerlach (University of Hamburg), **Jaime Enrique Carcamo Oyarzun** (University of Temuco, Chile) & **Christian Herrmann** (Zurich University of Teacher Education, Switzerland)

Basic motor competencies (BMC) are context-based and functional dispositions which are developed from situation specific demands in Physical Education (PE) and Physical Activity. These BMC are necessary to solve specific problems in PE. Moreover, BMCs are sustainable, learnable, and consider existing experiences (Herrmann, Gerlach & Seelig, 2015). Additionally, BMC are a key developmental task of PE and in preschool in various countries and a prerequisite for the participation in the sport and movement culture. In the last decade, various studies have been conducted in different countries. The aim of the present symposium is to present the results of these projects. BMC are used in cross-sectional and increasingly in longitudinal studies. Furthermore, the BMC are used as a tool in monitoring systems and as school feedback instruments as well as in specific intervention programs. Moreover, determinants of PE and PE teachers are of interest. In addition, a teacher training and an app for the assessment and promotion of BMC were developed. The symposium composes two parts with three presentations each.

0. Introduction (Erin Gerlach, Christian Herrmann & Jaime Enrique Carcamo Oyarzun)
1. Development of basic motor competencies and connections with sport participation (Christian Herrmann et al.)
2. Basic motor competencies profile of primary school students: Comparison between two age groups (Manolis Adamakis, Irene Kossyva, Konstantinos Karteroliotis)
3. Construct validity of the MOBAK-KG test for the assessment of basic motor competencies in preschoolers from Chile and Spain (Jaime Enrique Carcamo Oyarzun et al.)
4. Promotion of basic motor competencies in primary school. Effects of an 8-week school-based PE program (Benjamin Niederkofler)
5. Evaluation of a teacher training programme to facilitate competencies of primary school students in Physical

Education (Lucas Schole et al.) 6. Usability of the MOBAK App for assessing and promoting basic motor competencies in primary school (Lucas Schole et al.) References Herrmann, C., Gerlach, E. & Seelig, H. (2015). Development and validation of a test instrument for the assessment of basic motor competencies in primary school. *Measurement in Physical Education and Exercise Science*, 19, 80-90.

Keywords: Basic Motor Competencies, Physical Activity, teacher training, MOBAK

Introduction

Erin Gerlach, Christian Herrmann & Jaime Enrique Carcamo Oyarzun

ID 691 Construct validity of the MOBAK-KG test for the assessment of basic motor competencies in preschoolers from Chile and Spain

Jaime Carcamo (University of La Frontera), **Kathrin Bretz** (Zurich University of Teacher Education), **Alicia Alonso-Martinez** (University of Navarra) & **Christian Herrmann** (Zurich University of Teacher Education)

The MOBAK-KG-instrument (Herrmann et al., 2020) can be used for the assessment of basic motor competencies (BMC) of preschool children. However, in order to use this instrument in Spanish-speaking countries, its validation was necessary. The aim of this study was to test the construct validity of the instrument and to analyze differences in the level of BMC in children from Spain and Chile. In this study, the BMC were collected from 523 preschool children from Chile (N=290, M=5.5 years, SD=.30, 43.8% girls) and Spain (N=233, M=4.9 years, SD=.61, 51.5% girls) by using the MOBAK-KG instrument. Descriptive statistics, multivariate analysis of variance (MANOVA) and confirmatory factor analyses (CFA) with and without covariates were conducted to test factorial validity. The one-way MANOVA with age, sex and BMI as covariates showed significant differences in the BMC between the countries. While children from Chile performed better in "Object movement" ($F(4,468)=18.32$, $p<.001$, $\eta^2=.038$), Spanish children were better in "Self-movement" ($F(4,468)=55.20$, $p<.001$, $\eta^2=.106$). CFA showed good model fits for Chile ($\chi^2=22.845$; $df=19$; $p=.244$; CFI=0.990; RMSEA=0.029; N=290) and Spain ($\chi^2=24.527$; $df=19$; $p=.177$; CFI=0.982; RMSEA=0.032; N=233). The results show that the Spanish version of the MOBAK-KG instrument can be used to assess BMC. The differences in performance in the competence areas between the samples from the two countries will be discussed in the presentation. References Herrmann, C., Ferrari, I., Wälti, M.,

Wacker, S., & Kühnis, J. (2020). MOBAK-KG: Motorische Basiskompetenzen im Kindergarten: Testmanual (3rd ed.). <https://doi.org/10.5281/zenodo.3774435>

Keywords: motor competence, motor development, physical activity

ID 670 Basic motor competencies profile of primary school students: Comparison between two age groups

Manolis Adamakis (School of Physical Education and Sport Science, National and Kapodistrian Univer), **Irene Kossyva** (School of Physical Education and Sport Science, National and Kapodistrian Univer) & **Konstantinos Karteroliotis** (School of Physical Education and Sport Science, National and Kapodistrian Univer)

Basic motor competencies (BMC) are minimal but fundamental movement dispositions. Children with sufficient BMC can actively participate in physical activities (Schierz & Thiele, 2013). Understanding the correlates of BMC across different cultural backgrounds is of great relevance (Lopes et al., 2021). Thus, the aim of this study was to examine possible differences in BMC between 1-2 and 3-4 primary school grade students and to create their BMC profile. The sample consisted of 310 students, of which 130 were 1-2 graders and 180 3-4 graders (51.0% females; M age=8.06±1.10 years; BMI=17.86±3.24). Assessment of BMC was done using MOBAK-1-2 and MOBAK-3-4 respectively. The test items covered the BMC areas: Object Movement (OM: throwing, catching, bouncing, and dribbling) and Self-Movement (SM: balancing, rolling, jumping, and running). Two profile analyses were run using repeated measures ANOVA (RM-ANOVA) followed by Bonferonni corrections to determine students' OM and SM profiles. The RM-ANOVA profile analysis for SM revealed a similar profile for 1-2 graders and 3-4 graders, with statistically significant differences between the tests [$F(3,878)=10.56, p<.001, \eta^2=.03$]. All students scored higher in running, followed by balancing, rolling, and jumping. The 1-2 graders outperformed 3-4 graders in balancing, jumping, and rolling, while 3-4 graders scored higher in running. The second RM-ANOVA profile analysis for OM revealed two statistically significantly different profiles for 1-2 graders and 3-4 graders [$F(3,924)=52.51, p<.001, \eta^2=.15$]. The 1-2 graders scored higher in catching and bouncing, while the 3-4 graders scored higher in bouncing and dribbling. The results of the present study revealed a clear ranking of BMC in 1-2 and 3-4 graders, with these rankings differing significantly. In general, the 3-4 graders had lower performance in most tests compared to 1-2 graders. These results are alarming and targeted educational interventions are deemed necessary to improve students' BMC.

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ID 665 Evaluation of a teacher training programme to facilitate competencies of primary school students in Physical Education

Lucas Schole (University of Hamburg), **Maike Niehues** (University of Hamburg), **Erin Gerlach** (University of Hamburg) & **Jeffrey Sallen** (University of Hamburg)

Introduction: Professional development of teachers is part of a European strategy to enhance the quality of education (European Commission et al., 2015). The structural and organisational prerequisites for participation in teacher training differ in the European countries (Cramer et al., 2012). Within the Erasmus+ project BMC-EU (590777-EPP-1-2017-1-DE-SPO-SCP), a teacher training concept and tool for primary Physical Education (PE) teachers were developed in order to facilitate individual support for children's development of basic motor competencies (BMC) in the context of PE. The aim of the study was to evaluate participants' reception of the teacher training by exploring the differences between the countries, between out-of-field and in-field teachers, and with regards to professional experience. Methods: In 2019, 200 teachers from twelve European countries participated in the teacher training answering an evaluation questionnaire. The teachers rated the statements in the questionnaire on a four-point Likert scale (1 = does not apply; 4 = applies). The questionnaire was developed in accordance with the four-level evaluation model by Kirckpatrick and Kirckpatrick (2006). The authors identify aspects of subjective satisfaction, acceptance, and relevance regarding the content and structure of the teacher training (level 1), the self-assessed learning progress (level 2), and the intention to apply the support approach (level 3). The questionnaire also collected information on teachers work experience and professional qualifications. Data was

analysed using variance analysis. Results: Teachers indicated a high satisfaction on all three levels. There were significant differences between countries for each level (Level 1: $F(9,63.185) = 23.93$, $p < .001$, $\eta^2 = .32$; Level 2: $F(9,67.300) = 4.78$, $p < .001$, $\eta^2 = .27$; Level 3: $F(9,65.569) = 4.73$, $p < .001$, $\eta^2 = .18$). With regards to the first level, the results differ between out-of-field and in-field teachers ($F(1,173) = 4.177$, $p < .05$, $\eta^2 = .02$). No significant differences were found at the other levels. Professional experience has no significance for the evaluation of teacher training. Discussion: The generally high level of satisfaction at all three levels suggests that the training was well designed and implemented. The differences between the countries can be attributed to different structural and organisational conditions. The results indicate that a separate teacher training for out-of-field teachers or teachers with low professional experience is not necessary. References: Cramer, C., Bohl, T., & Du Bois-Reymond, M. (2012). Comparative report teacher training: GOETE WP3 Comparative Report. European Commission, EACEA, & Eurydice. (2015). The Teaching Profession in Europe: Practices, Perceptions and Policies: Eurydice Report. Kirkpatrick, D. L., & Kirkpatrick, J. D. (2006). Evaluating training programs: The four levels (Third edition). Berret-Koehlers Publishers.

Keywords: teacher training, evaluation, primary school, basic motor competencies

ID 690 Promotion of basic motor competencies in primary school. Effects of an 8-week school-based PE program

Benjamin Niederkofler (Free University of Bozen-Bolzano)

The aim of this intervention study was to examine the effects of an 8-week competency-based program on basic motor competence (BMC) in primary school. Aligned with German Kompetenz paradigm, the program targeted students' self-regulation (willingness) while they motor-actively (ability) and cognitive-reflexively (knowledge) engage with their BMC - first in movement-games and then in movement-tasks at various difficulties with self-assessment forms. 116 2nd and 110 4th graders were randomly assigned to an intervention or control group. Object-movement (OM) and self-movement (SM) were tested pre-, post-, and follow-up. RmANOVAs revealed strong time effects and small to moderate timexgroup interaction effects for OM and SM. For OM in 4th grade, only a time effect was observed. These results suggest that a competency-based program can promote primary students' BMC. Nevertheless, the lack of interaction effect on OM in 4th grade shows that these effects are not general.

ID 693 Development of basic motor competencies and connections with sport participation

Christian Herrman (Zurich University of Teacher Education), **Johanna Kress** (Zurich University of Teacher Education), **Kathrin Bretz** (Zurich University of Teacher Education), **Ilaria Ferrari** (Zurich University of Teacher Education) & **Harald Seelig** (University of Basel)

During childhood, children develop their motor competencies. Basic motor competencies (BMC) are a central prerequisite for participation in sport activities (Herrmann et al., 2015) and form the basis for sport-specific skills (Hulteen et al., 2018). Children who are active in sports clubs have a higher level of BMC (Herrmann et al., 2017). As part of the longitudinal study “Development of basic motor competencies in childhood (EMOKK-study)”, funded by the Swiss National Science Foundation (SNSF), the BMC of N=526 (M=7.14 years, 50.4% boys) children were assessed longitudinally in the first and following second grade. In addition, parents answered a questionnaire about children’s sport participation (type and frequency). By using autoregressive structural equation models, the development of BMC was predicted by the change in participation in club sport. The model fits were acceptable in both competence areas “object-movement” (OM: $\chi^2=133.862$; $df=48$; $p<.001$; CFI=0.900; RMSEA=0.058) and “self-movement” (SM: $\chi^2=92.706$; $df=55$; $p=.001$; CFI=0.942; RMSEA=0.037). The participation in team- and individual sports and the OM- and SM-competencies had a medium to high stability between the two measurement points. The OM-competence in first grade had a positive effect on the change in the participation in team sports ($\beta=.41$), and this in turn resulted in a positive change in the level of OM ($\beta=.34$). The change in the participation in individual sport also predicted a positive change in OM ($\beta=.13$), but less than the participation in team sports. The SM-competence in first grade predicted the change in participation in individual sports ($\beta=.13$). The change in participation in individual sports ($\beta=.17$) as well as in team sports ($\beta=.17$) predicted the change in the level of SM. The results showed that the content of the sport is decisive for the development of BMC. While participation in team sports had an effect on the OM-competence, participation in individual sports showed an improvement in SM. It is therefore important to distinguish between the type of physical activity and sport participation in order to identify types of sport that have an effect on different competencies. References Herrmann, C., Gerlach, E., & Seelig, H. (2015). Development and validation of a test instrument for the assessment of basic motor competencies in primary

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Keywords: motor skills, motor development, sport participation, physical activity, physical education

ID 668 Usability of the MOBAK App for assessing and promoting basic motor competencies in primary school

Lucas Schole (University of Hamburg), **Pascale Lüthy** (Zurich University of Teacher Education), **Manolis Adamakis** (National and Kapodistrian University of Athens), **Maike Niehues** (University of Hamburg), **Jeffrey Sallen** (University of Hamburg), **Petr Vlček** (Goethe University Frankfurt am Main), **Christian Herrmann** (Zurich University of Teacher Education) & **Erin Gerlach** (University of Hamburg)

Introduction: The assessment of motor performance dispositions in Physical Education is increasingly taking place with the support of technological tools (Garbeloto et al. 2023). Within the Erasmus+ project Basic Motor Competencies in Europe – Digital Promotion (2020-1-LU01-KA226-SCH-078055), a mobile app for assessing and promoting basic motor competencies was developed building on the Erasmus+ project Basic Motor Competencies in Europe – Assessment and Promotion (590777-EPP-1-2017-1-DE-SPO-SCP). The evaluation of the usability of mobile apps is important as the users and their evaluation of the app determine its success or failure. **Methods:** In November 2023, teachers from different European countries participated in a teacher training for the implementation of the MOBAK-App. At the end of the teacher training, the participants answered an online usability questionnaire, which was translated in four languages. The teachers rated 15 statements in the questionnaire on a seven-point Likert scale (1 = disagree; 7 = agree). The questionnaire’s content is based on a questionnaire on the usability of mobile health apps (Zhou et al., 2019). The authors refer to the following usability attributes: Ease of Use (four items), Interface and Satisfaction (seven items), as well as Usefulness (four items). Reliability analyses were carried out before the subscales were formed. The

higher the average in each scale, the higher the usability of the app. Results: A high internal consistency was demonstrated for all subscales (Cronbach's α : Ease of Use = .91; Interface and Satisfaction = .95; Usefulness = .88). Initial analyses showed good results on all three subscales (Ease of Use: Max = 28, M = 23.32 SD = 3.41; Interface and Satisfaction: Max = 49, M = 40.27, SD = 7.09; Usefulness: Max = 28, M = 21.98, SD = 4.13). Discussion/Outlook: The usability of an app is crucial for its implementation and the MOBAK-App offers an adequate usability level. The next step is to disseminate the app and make the app widely available for use by physical education teachers (e.g. in the German project Digital Competence Centre for Basic Motor Competencies). Another possibility is to validate the questionnaire with the aim to be used in order to evaluate the usability of other mobile apps in the field of Physical Education. References: Garbeloto, F., Pereira, S., Tani, G., Chaput, J.-P., Stodden, D. F., Garganta, R., Hedeker, D., Katzmarzyk, P. T., & Maia, J. (2023). Validity and reliability of Meu Educativo®: A new tool to assess fundamental movement skills in school-aged children. *American Journal of Human Biology: The Official Journal of the Human Biology Council*, e24011. <https://doi.org/10.1002/ajhb.24011> Zhou, L., Bao, J., Setiawan, I. M. A., Saptono, A., & Parmanto, B. (2019). The mHealth App Usability Questionnaire (MAUQ): Development and Validation Study. *JMIR MHealth and UHealth*, 7(4), e11500. <https://doi.org/10.2196/11500>

Keywords: Usability, MOBAK App, Digitalisation, Questionnaire Design, Reliability

ID 241 Subject knowledge in movement in physical education teacher education (PETE)

Håkan Larsson (The Swedish School of Sport and Health Sciences, Sweden), **Dean Barker** (Oslo Metropolitan University, Oslo), **Jan-Eric Ekberg** (Malmö University, Sweden) & **Gunn Nyberg** (University of Agder, Norway)

In recent decades, the development of the school subject of physical education (PE) has in some countries led to that various movement activities (e.g., sports) are no longer seen as synonymous with the notion of 'content', although such activities still appear during lessons. Instead, content is now considered to refer to the knowledge and capacities that are integral in movement practice, or which are necessary to fulfil the purpose of the activity (be it recreative, competitive, exercise-related, or else). Partly, this development is related to a greater focus in physical education curricula

on generalised rather than specialised knowledge in movement. Partly, the development is also spearheaded by assumptions that too great focus of specialised knowledge in movement contributes to marginalisation and exclusion of some groups of students (among other things because specialised knowledge is often associated with set standards, competition and elimination). However, it has proven difficult to articulate what the generalised knowledge in movement consists of. Even if knowledge in movement is mainly embodied (i.e., there is not necessarily any need to be able to verbalise it in order to be able to solve movement tasks), it is nevertheless important within educational contexts to be able to put it into words in order to also be able to, for example, problematise – and possibly critique – it. Not only is generalised knowledge in movement hard to conceptualise, it has also proven difficult to identify a) the primary source of this knowledge, or where it is developed and refined, and b) which ‘parts’ or aspects of the knowledge are selected for teaching purposes in PE. The purpose of this symposium is to present insights from recent and ongoing research that aims to explore, verbalise, and problematise generalised knowledge in movement in PETE. How can this knowledge be systematised and codified, if not in terms of sports and various other movement activities? Or in simpler terms, how can generalised knowledge in movement be described? What are its primary sources and based on what principles is the knowledge to be recontextualised within PETE selected? What happens to the knowledge in the process of recontextualization? How can generalised knowledge in movement become powerful for students in their general education? We perceive that there is significant value in including a symposium about knowledge in movement. The development within PETE over several decades has meant that knowledge in movement more generally is getting less and less space in the education. This can have many reasons. Knowledge in movement is not valued in an academic context. Unlike in most other subjects, future PE teachers are assumed to already know large parts of their subject content. Sometimes, PE is not even perceived to aim at developing knowledge in movement among students and therefore future teachers do not need to be trained in that aspect either.

Keywords: Knowledge in movement, physical education, physical education teacher education, recontextualisation of knowledge

ID 614 Subject knowledge in movement in physical education teacher education (PETE)

Håkan Larsson (The Swedish School of Sport and Health Sciences, Sweden), **Dean Barker** (Oslo Metropolitan University, Norway), **Jan-Eric Ekberg** (Malmö University, Sweden) & **Gunn Nyberg** (University of Agder, Norway)

In recent decades, the development of the school subject of physical education (PE) has in some countries led to that various movement activities (e.g., sports) are no longer seen as synonymous with 'content', although they still appear in teaching. This development is related to a greater focus on generalised rather than specialised knowledge in movement. The development is also spearheaded by assumptions that too great focus of specialised knowledge in movement contributes to marginalisation and exclusion of some groups of students. Instead, content is now considered to mean the knowledge and capacities that are integral in movement practice, or which are necessary to fulfil the purpose of an activity. However, it has proven difficult to articulate what this knowledge consists of. Even if knowledge in movement is mainly embodied (i.e., there is not necessarily any need to be able to verbalise it in order to be able to solve movement tasks), it is important within an educational context to be able to put it into words in order to also be able to problematise – and possibly critique – it. Furthermore, it has proven difficult to identify a) the primary source of this knowledge, or where the knowledge is developed and refined, and b) which 'parts' or aspects of the knowledge are selected for teaching purposes in PE. The purpose of this symposium is to present insights from recent and ongoing research that aims to explore, verbalise, and problematise knowledge in movement in PETE. How can this knowledge be systematised and codified, if not in terms of sports and various other movement activities? Or in simpler terms, how can knowledge in movement be described? What are its primary sources and based on what principles is the knowledge to be recontextualised within PETE selected? What happens to the knowledge in the process of recontextualization? There is significant value in including a symposium about knowledge in movement. The development within PETE over several decades has meant that knowledge in movement is getting less space in the education. This can have many reasons. Knowledge in movement is not valued in academic education. Unlike in most other subjects, future PE teachers are assumed to already know large parts of their subject content. PE does not aim to develop knowledge in movement among students and therefore future teachers do not need to be trained in that aspect either. The four presentations of the symposium will deal with the following more specific topics: 1. The structure of knowledge in movement in PETE (a Bernsteinian perspective) 2. Powerful

knowledge in movement in PETE? (the notion of powerful knowledge was a coined by educational sociologist Michael Young) 3. Knowledge in movement in creative dance (an empirical example) 4. The relationship between the primary fields of knowledge (e.g., ball games, dance, friluftsliv, gymnastics, etc.) and the recontextualising field of PETE (and PE; a Bernsteinian perspective)

Keywords: Knowledge in movement, Physical Education, Physical Education Teacher Education

ID 629 What do you think you are doing? Making scientific contributions in physical education research

Håkan Larsson (The Swedish School of Sport and Health Sciences), **Dean Barker** (Oslo Metropolitan University / Örebro University), **Gunn Nyberg** (University of Agder / Dalarna University) & **Jan-Eric Ekberg** (Malmö University)

Scholars have expressed concern about physical education (PE) researchers': (1) lack of impact on practice, and (2) tendency to work in closed discursive communities (Armour, 2014; Casey and Larsson, 2018; Tinning, 2015). Such expressions are valuable because they give PE researchers pause for thought and encourage them to consider the purpose of researching. In this paper, we extend the discussion by considering what it means to make a scientific contribution in PE scholarship. Our specific aim is to show how the subdiscipline of physical education has a particular knowledge structure and explain how this structure affects what it means to contribute to the subdiscipline. To achieve this aim, we draw on the work of Basil Bernstein (1999). From this framework, we propose that the subdiscipline of PE has a horizontal knowledge structure with a weak grammar. Having such a structure and grammar means that: contributions are made as either the creation or elaboration of 'languages', rather than the creation of formal models that can predict empirical relations; instead of superseding old research, new PE contributions will sit alongside old ones; contributions take place within insulated perspectives that contain criteria for what constitutes legitimate questions, evidence, and problems, and; the majority of contributions within PE scholarship are derivative rather than new. Conceptualizing the subdiscipline in this way has implications for researchers concerning: (1) the possibility of communication across perspectives; (2) the ways researchers relate to existing research; (3) the relationship between research and practice, and; (4) the relationship between research and society. References Armour, K. (2014). New directions for research in physical education and sport pedagogy. Sport,

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Keywords: Impact, Bernstein, discipline, theory-practice, discourse community

ID 635 Knowledge in movement in creative dance

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Knowledge in movement is often tacit. It does not need to be verbalised to exist. That it is verbalised is, however, of great importance to enable deliberation about its meaning in educational contexts, and how to reason about it in relation to, e.g., selection. Arguably, it also needs to be verbalised if it is to gain value in the academy, a place where "knowledge about" often trumps "knowledge in". In this paper we explore knowledge in movement as it is expressed in creative dance in physical education teacher education (PETE). In the literature, creative dance is sometimes associated with a view that "there is no right or wrong way to move". But if there is no "right or wrong", or at least something "better or worse", then what is there to know? Or is it activity without direction? The purpose of the study is to explore what knowledge in movement is becoming as PETE students are practising creative dance. The notion of practising is sometimes negatively connoted (it has been likened to drill, for example). However, we draw on Aggerholm et al's (2018) conceptualisation of practising as "the form of activity in which we seek to improve our capabilities through repeated efforts" (p. 201). An analysis of WHAT the students are practising makes it possible to discern knowledge in movement in creative dance. Two units of creative dance have been documented using video filming, short interviews and field notes. In total, around 15 hours of teaching have been documented, with around 30 students in one course and 20 in the other. The preliminary analysis shows that knowledge in movement among these students, who often have a background in competitive sports, is expressed as an ability to shift focus from the

function of movements to the expression of movements. Furthermore, knowledge in movement is also expressed as the ability to move outside of one's habitual movement patterns, and to distinguish nuances regarding the expression of movements in connection with a differentiation of the execution of the movements. Intensive practising enables the students to arrive at magic moments, occasions “where a content with a meaning is communicated with a special intensity” (Svendler Nielsen, 2006, p. 58). We believe that the capacity to move outside of one's habitual movement pattern and to learn to perceive and discern nuances with respect to what movements express (e.g., with respect to social norms) can be an important contribution to the discussion of what is valuable knowledge in movement within PETE – and by extension also within physical education. References Aggerholm, K., et al. (2018). On practising in physical education: Outline for a pedagogical model. *Phys Ed and Sport Ped*, 23(2), 197-208. Svendler Nielsen, C. (2006). Betydningsfulde øjeblikke i sanselig praksis. In: L. Engel, H. Rønholt, C. Svendler Nielsen, & H. Winther (Eds.) *Bevaegelsens poetik: om den æstetiske dimension i bevaegelse* (p. 56-79). Copenhagen: Museum Tusulanum.

Keywords: Knowledge in movement, physical education teacher education, creative dance, practicing

ID 685 Powerful Movement Knowledge in PE and PETE

Gunn Nyberg (University of Agder, Norway, Dalarna University, Sweden), **Jan-Eric Ekberg** (Malmö University), **Dean Barker** (Oslo Metropolitan University / Örebro University) & **Håkan Larsson** (The Swedish School of Sport and Health Sciences, Stockholm, Sweden)

In this presentation we will bring in the question of knowledge in physical education (PE) and physical education teacher education (PETE) and specifically what subject content knowledge could be conceived as powerful with regard to movement. The aim with this conceptual study is to examine whether movement capability, as a significant content in PE and PETE, has the potential to provide students possibilities to develop powerful knowledge (Young, 2013), which we regard as involving also powerful knowing (Carlgren, 2020). The aim with physical education (PE) and consequently also the focus and scope of physical education teacher education (PETE) has been a topic for enduring discussions among researchers, PE teachers and PETE educators. The purpose of PE affects what is considered as knowledge in the subject and in this presentation, we zoom in on what knowledge, and specifically what

movement knowledge, could be regarded as important and worthwhile to teach and learn in school and consequently also in PETE, considering various purposes of PE. We will discuss this issue in relation to the concept and meaning of powerful knowledge, a concept which has been discussed and debated in educational research for more than a decade. Since the concept of powerful knowledge, as outlined by Young (2013) and colleagues, has strong connotations with so called 'theoretical knowledge', and movement capability has strong connotations with 'practical knowledge', the concept of powerful knowing (Carlgren, 2020), as comprising both aspects of knowledge, will be presented and included in our understanding of powerful knowledge. Since movement is assumed to be a key content in PE and PETE, we focus on movement knowledge, and we will do this in terms of movement capability. The meaning of movement capability has been a focus of the authors' research projects the last decade. In short, this concept, although still in a developing phase, can be described as something different from 'performing pre-determined movements' such as sport skills. Movement capability takes into account the subjective perspective of the mover, involving different ways of knowing of which the integration of so called mental and physical skills is a significant feature. With help from empirical examples from recent as well as ongoing research projects we will discuss in what ways movement capability can be regarded as powerful. Carlgren, Ingrid (2020): Powerful knowns and powerful knowings, *Journal of Curriculum Studies*. DOI: 10.1080/00220272.2020.1717634. Young, M. (2013). Overcoming the crisis in curriculum theory: A knowledge-based approach. *Journal of Curriculum Studies*, 45(2), 101–108.

Keywords: Powerful Knowledge; Powerful Knowing; Movement Capability

ID 695 Movement knowledge in physical education teacher education – perspective on origins and selections

Jan-Eric Ekberg (Malmö university), **Dean Barker** (Oslo Metropolitan University / Örebro University), **Håkan Larsson** (The Swedish School of Sport and Health Sciences) & **Gunn Nyberg** (University of Agder / Dalarna University)

This study is a part of a larger research project exploring knowledge in movement within physical education teacher education (PETE). The focus of the project is on the "what" question, i.e., "what" can be seen as movement subject knowledge. The aim of this study is to explore what the primary sources of this knowledge are, and which 'parts' or aspects of the knowledge are selected, in the education of different

movement areas in PETE. Following Bernstein (2000), and the concept of pedagogic device, knowledge used in pedagogical practice is recontextualised from its site of production into the subject in the educational setting. That which is stipulated in the curriculum as well as in the pedagogical practice, such as PETE, is the result of interpretation and selection, thus regarded by PETE educators as legitimate knowledge needed for becoming PE teachers. The empirical material was generated at four universities in Sweden during the period 2022 - 2024. Various PETE classes were followed where different movements areas such as dance, ball games, outdoor pedagogy, athletics as well as gymnastics and other acrobatics, were themes in the courses. Data was obtained through video filming, interviews with teachers and students and field notes written by the researchers. The study is ongoing, and the analysis will be led by questions such as if it is possible to identify from where the knowledge used in the different movement areas originates, similarities and differences between those areas and which 'parts' or aspects of the knowledge are selected (and elected). The results will be discussed in relation to what subject knowledge seems to be important in PETE and what the primary sources are from which this knowledge origins. Preliminary results indicate that knowledge used in movement is often implicit and there seems to be difficulties in the selection of what knowledge is relevant and how it is selected. The result will be further discussed in relation to studies on what movement knowledge appears as valid in PETE and the selection of relevant knowledge. The study also has implications for physical education (PE), as PE teachers' understanding of the characteristics of movement knowledge, as well as how the subject matter is structured, affects the teaching and learning in PE. The expected outcome of the study is to contribute to what can be seen as movement subject knowledge in PETE. Bernstein, B. 2000. *Pedagogy, Symbolic Control and Identity: Theory, Research, Critique*. Revised edition. Lanham, Md.: Rowman & Littlefield Publishers.

Keywords: Movement, physical education teacher education, knowledge domain, selection processes

ID 325 Understanding physical activity parenting – state of the research and future directions

Arto Laukkanen (University of Jyväskylä, Faculty of Sport and Health Sciences), **Patrizia Tortella** (Kore University of Enna, Italy), **Elina Meklin** (University of

Jyväskylä, Faculty of Sport and Health Sciences) & **David Lubans** (University of Newcastle)

Rationale. Forming physical activity habits in childhood is important because it plays a positive role in health and development. Physical activity parenting, i.e., behavioural strategies employed by parents to socialise children into a physically active lifestyle, has been found to be a construct correlating with children's physical activity and perceptions of physical self, such as perceived motor competence. However, the current physical activity parenting measures used with children are typically targeted for children aged over 10 years, and lack a theoretical basis, consideration of children's motivational perspective, and multidimensionality of the construct. Additionally, there is still lack of longitudinal evidence of how physical activity parenting predicts development of child's perceived motor competence. It is vital to understand physical activity parenting to find ways to increase physical activity levels and perceived motor competence in childhood.

Content of the symposium. The symposium explores the methodological development which has been conducted in relation to measurement of physical activity parenting and the importance of conducting research on this topic. We will present a process of quantifying children's perceptions of parental support for physical activity in different countries and a study examining longitudinal association between physical activity parenting and child perceived motor competence.

Objectives. The aims of the symposium are to 1. To describe development and validation of a physical activity parenting questionnaire for children, 2. To investigate the longitudinal association between physical activity parenting and child perceived motor competence, 3. To prompt discussion between researchers with an interest in physical activity parenting and physical activity promotion in family context to stimulate ideas for future research and collaboration. The symposium will be introduced by Dr Arto Laukkanen (University of Jyväskylä). Three 10-minute presentations will follow: Dr Arto Laukkanen will present development and construct and cross-cultural validation of a Physical Activity Parenting questionnaire for Children (PAP-C), Patricia Tortella (University of Enna, Italy) will present findings of the PAP-C in Italian children, and PhD student Elina Meklin (University of Jyväskylä) will present results from a geographically representative, randomly sampled longitudinal study examining the relationship between physical activity parenting and perceived motor competence in Finnish children across a transition from kindergarten to primary school. To conclude, Professor David Lubans (University of Newcastle) will provide a summary of the session and facilitate discussion amongst presenters and the audience.

Keywords: physical activity, children, adolescents, parenting

ID 606 Development, validation, and cultural translation of a Physical Activity Parenting questionnaire for young Children (PAP-C)

Arto Laukkanen (Faculty of Sport and Health Sciences, University of Jyväskylä), **Kaisa Aunola** (Department of Psychology, University of Jyväskylä, Finland), **Elisa Korhonen** (Faculty of Sport and Health Sciences, University of Jyväskylä) & **Arja Sääkslahti** (Faculty of Sport and Health Sciences, University of Jyväskylä)

Physical activity parenting (PAP), i.e., concrete behavioral strategies employed by parents to influence their children's physical activity (PA), is a consistent correlate of children's PA. Children's perception of PAP has gained internationally relatively little attention although it is hypothesized to affect the relationship between PAP and child PA outcomes. The aims of this study were, first, to develop and validate a new tool to Finnish children: Physical Activity Parenting questionnaire for young Children (PAP-C). Second, the study aimed to culturally translate the PAP-C into Italian for enabling cross-cultural validation. The PAP-C consisted of 22 items which were hypothesized to be developmentally suitable, and to cover three factors of parenting defined in the Self-Determination Theory—structure (10 items), autonomy support (6 items) and involvement (6 items). The construct validity was tested using a sample of first-, second- and third graders (N = 501; mean age = 8.25 ± 0.95 years, n girls = 48.1%) and by using confirmatory factor analysis. Reliability was tested using a sample of children who completed a 4-week retest of the questionnaire (n = 478; mean age = 8.84 ± 0.95 years, n girls = 48.3%) and by using the Pearson correlation coefficient. Overall, factor modelling showed different suitability for grade levels, first-graders having the lowest fit for models. Therefore, the model fitting was performed first for the first-graders. The hypothesised first-order 3-factor model was significantly better than first-order 1-factor-model for all subsets. A first-order three-factor model with 20 items, after removing 2 items from autonomy support factor, showed an acceptable fit for all grade levels. Similarly, a first-order one-factor-model with three items of screen parenting showed an acceptable fit for all the grade levels. The test-retest reliabilities of sum factors ranged in different grades between $r = .747 - .801$ (structure), $r = .584 - .640$ (autonomy), $r = .565 - .675$ (warmth) and $r = .572 - .809$ (screen parenting). Finally, the PAP-C was culturally translated into Italian by two official translators (native Italians), and then back-translated into Finnish by two official translators (native Finnish). In a consensus meeting with all the four translators, the cultural translation of PAP-C into Italian

was seen acceptable. The PAPC can be considered as a promising tool for investigating young children's perceptions of PAP. Further research is needed to examine cross-cultural validity of the PAP-C. References Laukkanen, A., Aunola, K., Korhonen, E., Barnett, L. M. & Sääkslähti, A. Construct validity and reliability of the physical activity parenting questionnaire for children (PAP-C). *Int J Behav Nutr Phys Act* 18, 61 (2021). Ryan R.M. & Deci E.L. *Self-determination theory. Basic psychological needs in motivation, development, and wellness*. New York: The Guilford Press; 2017.

Keywords: physical activity, children, parents, parenting, social support

ID 655 Children's perception of their parents as activators of physical activity. A survey in the autonomous province of Bolzano, Italy (PAP-C)

Patrizia Tortella (University of Enna "Kore"), **Alexia Runggaldier** (Free University of Bolzano), **Juliane Gruber** (Free University of Bolzano), **Alessandro Piva** (University of Verona), **Ruth Videsott** (Free University of Bolzano) & **Guido Fumagalli** (University of Verona)

Introduction Although there is a lot of scientific evidence that emphasizes that physical activity promotes mental and physical health, children's levels of physical inactivity and sedentary lifestyle remain very high. Practicing physical activity reduces the risk of non-communicable diseases, such as cardiovascular and metabolic diseases, improves body mass and bone health, increases motor skills and improves cognitive processes, and creates the basis for a healthy and healthy lifestyle as an adult. Newell highlights the role of culture, beliefs and social relations among the constraints of development. Bronfenbrenner places the child at the center and his most immediate and decisive relationships are those with his parents, with the family. Aim of the study was to investigate the role of parents as activators of physical activity in relation to the practice of physical activity. **A brief description of the methods** The Physical Activity Questionnaire for children (PAP-C) was administered in 3 cities of South Tyrol, Italy to 83 children (59.8% males and 40.2% females), aged 8.71 years, from 5 Italian, German and Ladin elementary schools (class 3). **A summary of the results** Children perceive their parents in reference to four categories: 1- parents who activate physical activity, 2- parents who support children's autonomy, 3- parents who involve children in the practice of physical activity, 4- parents who intervene to regulate the use of the screen. Significant differences were found in parents' perceptions of supporting children's autonomy (category 2): in German-

speaking males compared to Italian-speaking males, in German-speaking females compared to Ladin- and Italian-speaking females. **Conclusion** In the study, significant differences emerge in the perception of the role of parents, as a support for children's autonomy, by German-speaking males and females, compared to children of other language groups (Italian and Ladin). This interesting result suggests on the one hand to repeat the study with other children from the small and large municipalities of mountains and plains of South Tyrol and from the other to explore other constraints related to the environment, to better understand the determinants of the perception of children of the role of parents with respect to physical activity. **References** Laukkanen, A., et al. (2021). Construct validity and reliability of the physical activity parenting questionnaire for children (PAP-C), *International Journal of Behavioral Nutrition and Physical Activity*, 18,61

Keywords: Physical activity, children, perception, parents, physical activity questionnaire for children

Early childhood physical activity parenting and sport club participation as predictors of perceived motor competence – a three-year longitudinal study

Elina Meklin, Arto Laukkanen, Donna Niemistö, Jimi Kotkajuuri, Nanne-Mari Luukkainen & Arja Sääkslahti

ID 361 Water competence and aquatic literacy: from identifying relevant content to educational pillars

Jidovtseff Boris (University of Liege) & **De Martelaer Kristine** (Vrije Universiteit Brussel)

The theme of water education is attracting the attention of both the education sector and parents, as it is not only a gateway to the development of all water activities, but also a cornerstone of water safety and drowning prevention. The scientific work of recent years has clearly highlighted the limits of approaches focused exclusively on learning to swim, and has led to the development of more holistic concepts such as “water competence”, which integrate not only the development of aquatic fundamentals but also the ability to identify and manage risks associated with aquatic environments. The ability to identify water-related hazards, combined with a good perception of water competence, are crucial elements in drowning prevention. The

emerging concept of “aquatic literacy” focuses on the various educational pillars that promote the consolidation of aquatic activities as a source of long-term development and physical activity. Interestingly it additionally includes a motivational dimension to aquatic activities. These more global approaches of “water competences” and “aquatic literacy” enrich our understanding of what should be developed with children, but also of the pedagogical methods that could be developed by teachers and communicated with parents and caregivers. Speakers at the symposium will present recent work on and around these issues, and particular attention will be paid to an integrated understanding of “what to teach” and “how to teach”. After an introduction by Symposium Organisers, scientific presentations will focus on the following subjects:

- Presentation of Aquatic Literacy concept and preliminary results of the international comparison of the level of Aquatic Literacy (Léa Mekkaoui, France)
- Sixth-graders perceptions of swimming skills, and their participation in school and leisure-time swimming in Finland. (Henna Haapala, Finland)
- Developing a diagnostic procedure for teachers in order to improve Educational strategies for developing aquatic competences and water safety (Ilka Staub, Germany)
- Trainee teachers’ development of their aquatics language and competencies and confidence (Kristy Howells, UK)
- Communication with parents about water competence: policy and good practices at micro, meso, and macro level (Kristine De Martelaer, Belgium)

An open discussion will follow these presentations.

ID 632 International comparison of Aquatic Literacy level of children aged 6-to-12 years-old through the ALFAC test battery

Léa MEKKAOUI (University of Lille - URePSSS lab)

Introduction: A holistic education in the practice of Aquatic Activities (AA) represents an opportunity to reduce drowning accidents¹ while combating the increasing inactivity² of our young people worldwide. In this sense, a European consortium is proposing to develop the innovative concept of Aquatic Literacy (AL), combining the concept of long-term commitment promoted through physical literacy³ with the theoretical framework of Water Competences⁴ REF, which is currently the most widely used in water safety programs. This concept aims to develop young people's aquatic competencies (motor, psycho-social and cognitive) in order to educate them in the daily practice of AA and ensure their health benefits. Purpose: To combat this double aquatic challenge, this study aims to compare the aquatic literacy of young people aged 6 to 12 in 7 European countries (France, Belgium, Germany,

Poland, Portugal, Norway and Lithuania). Method: 1,400 European children (n=200 per country) completed a holistic battery of tests built by the ALFAC (Aquatic Literacy For All Children) project consortium, designed to measure the AL level of European school-age children. This test contains the measurement of their motivation, confidence, risk perception, pleasure, aquatic motor skills, ability to combine tasks by taking in information. Results: A 3-way ANOVA will be used to measure the age, gender and social background effects in each country on the 3 dimensions of AL. A Tukey DSH test will be conducted to analyze post-hoc. Data are currently being collected and results will be presented at the congress. Discussion: The results will enable the identification of strengths and weaknesses in aquatic programs in different European countries, regarding children's age, gender and social background. Perspectives: The results of this study will provide policy-makers with guidance on how to raise the level of AL among young Europeans, in line with the national and local particularities identified through the analysis of the study's findings. ¹ Bloomberg, L.P.; World Health Organization. (Eds.), 2014, Global Report on Drowning: Preventing a Leading Killer; World Health Organization: Geneva, Switzerland. ² 1.

Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. "Global trends in insufficient physical activity among adolescents: A pooled analysis of population-based surveys with 1.6 million participants." *The Lancet Child & Adolescent Health*, 2020 ³ Whitehead, Margaret. 2001. « The Concept of Physical Literacy ». *European Journal of Physical Education* 6 (2): 127-38. <https://doi.org/10.1080/1740898010060205>. ⁴ Stallman, Robert Keig; Moran, Kevin Dr; Quan, Linda; and Langendorfer, Stephen, 2017, "From Swimming Skill to Water Competence: Towards a More Inclusive Drowning Prevention Future," *International Journal of Aquatic Research and Education*: Vol. 10 : No. 2 , Article 3.

Keywords: Aquatic Literacy - Long-term Engagement - Aquatic Activities - Drowning Prevention

ID 642 Aquatic environments and perceived swimming skills of 6-year-olds in Finland

Henna Haapala (Open University, University of Jyväskylä), **Piia-Liisa Lehtimäki** (Finnish Swimming Teaching and Lifesaving Federation, Finland), **Susanna Saari** (Faculty of Sport and Health Sciences, University of Jyväskylä) & **Arja Sääkslahti** (Faculty of Sport and Health Sciences, University of Jyväskylä)

Finland is a Nordic country with thousands of lakes and other natural waters. They are natural places for children to play and move. Aquatic skills are learned in formal and informal occasions, such as swimming schools and family visits in different aquatic environments. The aim of this study is to examine Finnish preschoolers' places to swim and participation in swimming schools. In addition, effects of Covid pandemic restrictions to preschoolers' aquatic activities and their perceptions of swimming skills are investigated. Participants were 222 preschool children and 384 parents from different parts of Finland. Children answered to a digital questionnaire with parental help. Items included swimming places, participation in swimming schools, swimming in preschool and self-evaluated swimming skills. Parental questionnaire included the effects of Covid pandemic restrictions to preschoolers' swimming. Differences between categories were examined using crosstabulation and Pearson's chi-square test, using the level of 0.05 for statistical significance. Almost all of the preschoolers (98%) had been swimming before. Most of them had been swimming in lakes (96%), swimming halls (92%) or spas (75%). Nearly half of the preschoolers had been swimming in the sea and 17% in rivers. In addition, open ended questions revealed preschoolers to swim in swimming pools, hot tubs and bathtubs. Over half (53%) of the preschoolers had participated in swimming schools. Regional differences appeared as preschoolers in middle and south-western Finland participated more often in swimming schools ($p < .001$). Nearly half of the preschoolers (45%) had been swimming in preschool. Parents reported that 70% of preschoolers had continued swimming during the Covid pandemic restrictions. Most of them had been swimming in natural waters (44%) or swimming halls (35%), whereas a minority had been swimming in spas (16%) or swimming schools (7%). Only 21% of the parents evaluated that the restrictions had not affected their preschoolers' swimming. Preschoolers had a positive view of their aquatic skills; 53% of participants reported to be very or rather good at swimming, whereas 15% considered themselves to be not that good at swimming. Those preschoolers who had participated in swimming school evaluated their aquatic skills to be better than preschoolers without swimming school experiences ($p < .001$). This study revealed that preschoolers visited a variety of aquatic environments. During the Covid pandemic restrictions, natural waters and swimming halls were most often visited by preschoolers. Over half of the preschoolers had participated in swimming schools, which highlights its importance to the learning of preschoolers' aquatic skills. In addition, swimming schools seem to have a positive effect on preschoolers' perceptions of their swimming skills. Swimming school is a place to learn new skills which in turn supports perceived water competence.

Keywords: Swimming, Aquatic skills, Children, Perceived Competence

ID 360 DEVELOPMENT OF A DIAGNOSTIC PROCEDURE FOR SWIMMING SKILL ANALYSIS: THE OWL'S EYE

Ilka Staub (German Sport University Cologne), **Inga Fokken** (German Sport University Cologne), **Michel Brinkschulte** (German Sport University Cologne), **Nele Schlappkohl** (Europauniversität Flensburg), **Edgar Sauerbier** (German Sport University Cologne) & **Tobias Vogt** (German Sport University Cologne)

One of the main tasks of PE teachers is to analyze their students' skill levels to design appropriate lessons and adapt instructions to the students' individual needs¹. A recent study indicates that teachers use different strategies to analyze swimming skills, ranging from simple movement observation to more structured (but still informal) procedures². Most teachers in that study expressed uncertainty regarding the accuracy of their approach and a desire for a diagnostic procedure based on scientific findings. While there are formal assessments to measure the skills and motor competencies of children in the water (i.e., the Scale to Measure Aquatic Competence³, the Actual Skill Test⁴, and the Assessment of Basic Aquatic Skills⁵), these procedures do not seem to be suitable for use in school swimming lessons. We assume that teachers may avoid these procedures due to the high effort that is associated with their implementation. Further, none of these procedures provide specific guidance on how to conduct the assessment within the challenging conditions of school swimming lessons. To face this problem, we aimed to develop a diagnostic procedure for swimming skill analysis that is feasible for everyday use in teaching situations and helps to design individualized lessons. We hermeneutically analyzed the existing literature to derive a didactic framework that structures the acquisition of basic aquatic skills. We then used this framework to develop a first approach of a diagnostic procedure in collaboration with swimming education experts. Subsequently, teachers (n = 14) were asked to test the procedure in their swimming lessons and to evaluate its feasibility and perceived value. The teachers appreciated the procedure, however, raised additional valuable suggestions for improvement that resulted in final adjustments made by an extended expert group. In its current form, our procedure (named The Owl's Eye) consists of two stages: (1) Students complete two tasks and are assessed by the teacher. This gives teachers a first insight and allows them to form subgroups. (2) Additional tasks can be used to gain more detailed information on the swimming skills within those subgroups. The two-stage procedure allows for a quick analysis of the students' swimming skills (even in larger learning

groups) and appropriate lesson planning. The Owl's Eye provides a promising foundation for improving the accuracy and efficiency of swimming skill analysis. In the future, we aim to explore further possibilities to improve the procedure's range of application. One particular aim is to develop a digitalized version to enhance its accessibility and usability for teachers. [1] Heck & Scheuer (2019). DOI:10.1007/978-981-13-1179-6_339-1 [2] Fokken et al. (2023). DOI:10.1123/jtpe.2022-0297 [3] Moreno Murcia et al. (2020). DOI:10.3390/ijerph17176188 [4] Mertens et al. (2021). DOI:10.3390/ijerph19010446 [5] Vogt & Staub (2020). DOI:0.7752/jpes.2020.02085

Keywords: School Swimming Lessons, Design of Individualized Swimming Lessons, Basic Aquatic Skills, Comprehensive Swimming Education, PE Teachers for Swimming

Communication with parents about water competence: policy and good practices at micro, meso, and macro level

Kristine De Martelaer

ID 196 Transferring Wheels to Waves. Developing Aquatic Competencies for Primary Physical Education Trainee Teachers.

Alison Murray (University of Stirling) & **Kristy Howells** (Canterbury Christ Church University)

At the global outreach AIESEP Connect, we shared the Wheels Up curriculum (Murray and Howells, 2023) and how a spiral progression pedagogy approach using wheels can be implemented successfully into a range of environmental spaces for outdoor controlled spaces such as playgrounds as well as outdoors green spaces. Wheels Up curriculum was a trailblazing creative way to explore movement: agility, balance and coordination by embodying a reflective approach to a series of interconnected practical challenges and experiences. This paper focuses on using the spiral progression as in Wheels Up, but now into aquatics through the creation and sharing of accessible progression spirals in and outdoors controlled water based swim permitted spaces. The shape and number of islands along the coastline of UK means it has a relatively high coast area ratio and nowhere in the UK is more than

70 miles (113km) from the coast. All schools must provide swimming instruction, in the primary age phase, according to the DfE, (2013) and learners must swim competently, confidently and proficiently over at least 25m. In the UK school sport and activity action plan, (DfE, 2023) describes swimming as a key life skill. Yet, due to the cost of living crisis, more than half of UK pools face closure due to the energy costs and post pandemic the increase of fuel prices are impact on schools' being able to transport children to pools, with many now struggling to take children swimming. Therefore, the focus of this study is key to ensure that our trainee teachers are water competent and confident to then be able to overcome barriers described above. The study explores how general primary education student teachers could develop their aquatic teaching, learning and language within the lessons through the support of specialist primary education student teachers. The specialists, who had had specific aquatic sessions and had used the Pictorial Scale of Perceived Water Competence, (Jidovtseff, et al. 2020) in sessions to learn about the 17 aquatic skills of the scale, then modelled a series of lessons to help visualise and understanding the pedagogical content and subject knowledge to the generalist trainees. The generalists then tried these and then progressed fundamentals into water environment. Pedagogically, the students were able to change, challenge and choose their strategies they used within respective roles of: beside and or in water, dry side teaching, or water based learning. Inclusive elements were also planned and implemented as to meet student expectations through their shared constraints. They then developed their water awareness and competence, I can spiral progressions statements which will be shared within this paper. This co-construction method of developing aquatic literacy skills and the spiral progression task card series has helped support all of the student teachers on their teaching journeys showing them ways to adapt specific skills for a range of environments.

Keywords: aquatic literacy; teacher education; spiral progression

ID 322 Dialogue and solidarity in teacher education: Positionality in learning, teaching, and advocating for social justice

Elaine Murtagh (University of Limerick), **Ann MacPhail** (University of Limerick), **Antonio Calderón** (University of Limerick), **Brigitte Moody** (University of Limerick), **Clare McAuley** (Ulster University), **Mairead Davidson** (Ulster University), **Paul McFlynn** (Ulster University), **Carla Luguetti** (Victoria University), **Jennifer Walton-**

Fisette (Kent State University), **Allison Campbell** (Ulster University) & **Dylan Scanlon** (Deakin University)

Topic: There have been calls to address issues of equity and diversity, and more broadly, social justice in physical education teacher education (PETE). Social justice attempts to promote deep changes in the status quo of physical education, sharing a commitment to equity and democracy. This body of research points to the potential of social justice pedagogies to enable teachers and students to take action for democracy and empowerment in PETE. We explored two questions: (1) In what ways can social justice enhance pre-service teachers (PSTs) and teacher educators' perspectives and experiences with respect to the reality of addressing social justice in schools?; (2) What considerations need to be addressed in formalising a shared initial teacher education space to discuss and enact social justice in schools? This interactive symposium aims to create dialogue on how best we can position ourselves – as PETE educators – to learn, teach, and advocate for social justice. The first paper will outline the context for the research project and collaborative action research methodological design. This action research study gathered data through: (i) the action research process, (ii) PST and teacher educators focus groups; (iii) teacher educator reflective diaries and recorded meetings; (iv) critical friend meetings between teacher educators and advisory group. The second paper will explore teacher educator and PST learnings (and related challenges) through engaging in this project. The third paper will discuss the key features of the teaching approaches used throughout the action research cycle. The intent is to share implications for practice with colleagues with regards to learning and teaching for social justice. We will then conclude the session with an interactive discussion based on our considerations for teaching practice, recommendations for programmatic PETE approaches, and how other teacher educators can create opportunities to learn, teach, and advocate for social justice. Rationale: The research captures the realities of teaching for social justice while theoretically developing a pedagogy for social justice. Given the growing diversity of student populations, there is a need for PETE to educate PSTs on socially-just pedagogical approaches. This research gathered evidence-based best practices of such socially-just approaches. The findings will also inform future professional development for teacher educators by identifying how social justice matters can respectfully be addressed within PETE programmes, and simultaneously support teacher educators to develop their capacity to facilitate this learning for PSTs. The symposium will be a space whereby: (i) colleagues can learn with and from each other in how best to teach for social justice; and (ii) engage in dialogue in how the PETE community can move forward in advocating for social justice in

solidarity. We strongly believe there is a need for this symposium to provide such a space.

Keywords: Social justice, physical education, practice, teacher education, equity

ID 666 The SRASI project: Introduction and methodology

Antonio Calderón (University of Limerick) & **Brigitte Moody**

There has been a general acceptance for some time that education is likely to be the most powerful instrument in increasing mutual understanding, and perhaps increased co-operation, within and between the two parts of Ireland. It is this acceptance that has driven this project to believe that, while the structure and practice of education in the North and South are different, learning about these differences and aligned social justice issues can be a powerful medium for teacher educators and pre-service teachers (PSTs) to understand self-respect, respect for others, and strive towards the improvement of relationships between people of differing cultural traditions. Given that social, economic, environment and cultural inequality are evident in North and South, it is anticipated that social justice issues aligned to healthism, genderism, heterosexism, racism, classism, linguisticism and religionism are likely to direct, perhaps to different extents, contemporary debates in social justice and equity practices in North and South post-primary schooling. Sharing and considering the extent to which these social justice issues are prevalent and how they are addressed, provides teacher educators and PSTs with direction on how to evaluate their current programmes and practices by providing ideas for content, curriculum development, implementation and pedagogical practices and impact. The Shared Responsibility Across a Shared Island (SRASI) project aimed to (i) develop and share a teaching approach to social justice across two Physical Education Teacher Education (PETE) programmes from North and South, and (ii) encourage teacher educators and preservice teachers (PSTs) to learn with and from each other, within and across their respective jurisdictions. The participants were teacher educators and PSTs attached to two teacher education programmes in the North (Postgraduate Certificate of Education (PGCE) Physical Education) and in the South (Professional Master's in Education (PME) Physical Education). Three teacher educators and 12 PSTs were attached to the programme from the North and five teacher educators and 24 PSTs were attached to the programme from the South. Drawing inspiration from Freire's concept of dialogue, this social justice initiative fosters a community of learners where PSTs and teacher educators collaborated to refine their

pedagogical approaches and curriculum delivery, particularly in the context of social justice, through practitioner research. Multiple data collection was considered in the SRASI project: (i) Ten online recorded teacher educator team meetings; (ii) Three recorded online meetings and one face-to-face meeting with PSTs; (iii) Teacher educators written reflections; (iv) Two focus groups with PSTs; and (v) Two debrief meetings with teacher educators. All data was analysed throughout the thematic analysis.

Keywords: social justice, methods, reflection, positionality, isms

ID 667 SRASI: Making space for social justice in PETE

Antonio Calderón (University of Limerick), **Elaine Murtagh** & **Paul McFlynn**

Several lessons were learned in relation to the reality of addressing social justice in schools, and in PETE programmes. In the project, we chose to present the main findings as multiple ways of considering the experiences, positions and directions of those involved in the project and are captured with reference to 'space'. PSTs and teacher educators occupy multiple spaces (sometimes at the same time) that are considered to be connected to exposure to, and experiences of, social justice matters. The concept of space allows the findings to be presented in a way that directly relates back to addressing the research questions of (i) the way in which facilitating shared discussions around social justice (in PETE programmes North and South) enhance PSTs' and teacher educators' perspectives and experiences of addressing social justice in schools, and (ii) considerations that need to be addressed in formalising a shared North and South PETE space to discuss and enact social justice in schools. Six themes were developed for describing both, teacher educators and PSTs learning (and related challenges). Three of them will be presented in this abstract. Theme 1: Creating a safe space: Integration of social justice matters across two jurisdictions and within PETE programmes. The challenge was identified as how best PSTs could share their experiences across two jurisdictions and, in turn, interrogate their developing and interlinked social and teacher identity. Theme 2: A learning space: Teacher educators' exploration and experience in teaching about and for social justice. Consideration was given to the concept of engaged pedagogy (hooks, 1996), where the teacher educators and PSTs were sharing the same space. A level of vulnerability was evident from teacher educators looking to share the space with PSTs, particularly when they were asked to comment on social justice matters that PSTs may have experience of and the teacher educators do not. Theme 3: Realistic space:

Setting realistic expectations to encourage engagement with social justice matters. Teacher educators reflected on the somewhat stilted PST response to the introduction of 'isms' (e.g. racism, ableism, classism), surmising that PSTs had not had experience in aligning specific 'isms' with the social justice matters they discussed. Despite what might be considered a limited ability to engage with social justice matters, PSTs valued the importance of such matters and conveyed an interest and empathy towards social justice matters by wanting to learn more. The North-South connection of the project provided a unique element. Teacher educators and PSTs were exposed, and challenged, to consider social justice matters that arose in a different jurisdiction. This resulted in getting to know each other, trusting each other, challenging each other and challenging oneself. This, we contend, is the foundation of social justice work.

Keywords: social justice, learning spaces, reflection, positionality, isms.

ID 669 SRASI: Teaching approaches and pedagogical considerations

Antonio Calderón (University of Limerick) & **Mairead Davidson**

Central to the SRASI project was creating opportunities for PSTs from both North and South to explore social justice matters related to physical education. PSTs and teacher educators engaged in three online meetings which informed a three-tiered research approach. Meeting 1 introduced the PSTs to the concept of social justice where the focus was on trying to create a safe space for PSTs to firstly, discuss their understanding of the terms 'justice' and 'social justice' and, secondly, to reflect on their personal experiences of social justice matters. In Meeting 2, PSTs were given the opportunity to explore the strands of oppression and the 'isms' associated with social justice within the context of physical education. PSTs engaged with 3 case studies to consider their positionality in relation to ableism, genderism, heterosexism, and classism. Following this meeting, PSTs entered Tier 1 and Tier 2 of the research phase: In Tier 1, PSTs partnered with peers from the different jurisdictions to jointly identify specific areas of interest within the realm of social justice. In Tier 2, PSTs immersed themselves in relevant research related to their chosen social justice focus, selecting 6 research articles with the potential to inform their practice. Emphasis was placed on identifying literature specific to their respective jurisdictions to uncover potential nuances in their chosen areas. For each research article, PSTs collectively scrutinised the research's purpose, selected 3 key findings, and discussed the implications for their own practice. Upon completion of Tier 2,

Meeting 3 was held. In this meeting, PSTs discussed their school placement experience to date, sharing one teaching episode, the 'ism' they found in it and their socially just alternative. Finally, PSTs entered Tier 3 where they collaborated on crafting action plans based on their selected research findings, with the goal of influencing practice and approaches in their remaining school placement. This process involved five key steps: (i) implementing the action plan, (ii) documenting their actions and outcomes, (iii) reflecting on the overall action plan experience with their peer, (iv) sharing these experiences with PST peers in both ITE programmes, and (v) contemplating how to apply these insights in their subsequent teaching experiences. The study concluded by recommending that teacher educators' understanding of their positionality and vulnerability in exploring social justice matters is central to appreciating their role in encouraging PST engagement with social justice matters and that sufficient time needs to be allowed to determine the 'readiness' of teacher educators and PSTs to develop appropriate dispositions that will enhance engagement with social justice matters. PSTs also need support during school placement to consider how best to encourage teachers and schools to adapt approaches and practices that address social justice matters.

Keywords: social justice, teaching approaches, learning spaces, practice, isms.

ID 616 Moto-club: supporting motor skills in school setting

Anni Lindeman (University of Jyväskylä) & **Vilma Pikkupeura** (University of Jyväskylä)

Commonly used definition for developmental motor difficulties is developmental coordination disorder (DCD), DCD is a condition characterized by poor motor coordination and difficulty learning and executing motor skills. Significant challenges in motor functions create challenges in several life domains. Early recognition in motor difficulties is crucial to prevent health-related risks, such as poor physical fitness, psychosocial issues and poor academic achievement from accumulating in young age. Children's motor and cognitive skills seem to accelerate between years 5 to 10. Children spend significant time in school environment during this time period and thus more attention towards school environment and its potential in supporting children with motor difficulties is needed. The Finnish national core curriculum for primary education underlines the importance of recognition of motor difficulties that might be associated with other learning difficulties in grades 1-2. Children identified

with motor challenges should receive support for developing their motor skills and overall development. The importance of involvement of teachers and parents in the interventions has been underlined to increase opportunities for practicing motor performance in child's natural settings, such in schools, not only in therapeutical environments. University of Jyväskylä has a long history in offering motor support club, known as "Moto-club" for 1-2 grade children with motor challenges. In the support club, a light intervention is given for 10 children throughout the semester. In addition, in increasing children's motor competence, club aims to support learning, academic achievement, cooperation skills and daily life skills, such as dressing up, moving from place to another and taking care of own belongings. The intervention consists of pre and post-tests and 5-8 sessions in between where motor skills are practiced in a group. Selected objective measurements from different motor assessment tools such as Movement assessment Battery for Children (M-ABC2), Test of Gross Motor Development (TGMD-3), Körperkoordinationstest für Kinder (KTK) are used to identify the individual challenges in motor functions to develop individual plan for the intervention phase. Each child has a university student as a pair, who follows and supports the development of the child. Each session has repeating structure and own theme that concentrates on different motor skills. After the session, child fills the diary with the own student pair. In the diary, the child reflects on various aspects such as learning, cooperation, and the autonomy provided. Additionally, the child is assigned a 'skill card' as homework. The workshop will be held in gym hall. The idea of the workshop is to give a practical overview of the club: structure, activities, measurements, and homework used.

Keywords: Motor development, school setting, motor challenges

ID 283 Practicing in Physical Education lessons in Germany: A videographic analysis of potentials for cognitive, motor and aesthetic activation.

Vera Volkmann (Leibniz Universität Hannover), **Helga Leineweber** (Universität Münster), **Ilka Lüsebrink** (Pädagogische Hochschule Freiburg) & **Petra Wolters** (Universität Vechta)

The fundamental question of how Physical Education (PE) as a school subject can contribute to the general and holistic education of pupils has been a topic of discussion in the past as well as in the present with an eye on the future. In this symposium

we will present different theoretic positions prevalent in the German discourse as well as an empirical research design and finally a case-based videographic analysis of the process of practicing. Regarding the question above, the debate in German sports pedagogy seems to unfold between two opposing poles: PE should be a subject as every other school subject or, as advocated by the opposite position, PE should be a unique subject. While the proponents of the first position want to bring PE closer to other school subjects through reflective elements and cognitive demands, the advocates of the second position emphasize the special character of PE in its physicality or its aesthetic approach to the world. Practicing as one of the central forms of action of multi-perspective and action-oriented PE lessons, which aims at "the acquisition [...] and perfection of a skill" (Ehni, 2004, p. 48), is considered in both positions. From an educational theory perspective, it is essential to link practicing skills with both practicing abilities as well as attitudes (Bollnow, 1987). At the same time, practicing a movement implies practicing oneself, i.e. the confrontation with oneself. Processes of practicing in PE are conceptualized in different ways: Competency-oriented approaches concentrate on cognitive activation (cf. Pfitzner, 2018). This contrasts with the position of aesthetic activation, which emphasizes a bodily-aesthetic approach to the world (Laging, 2022): Aesthetic experiences are at the core of this approach and determine the design of practicing processes (Weigelt & Giese, 2022, among others). Another position which focuses primarily on the idea of compensation and regards PE foremost as a "practical subject" may be captured by the catchword of motor activation. While the theoretical debate on practicing has a longstanding tradition in Germany and different points of view persist to this day, there is a need for empirical research on teachers' design of practicing processes. In this symposium, the theoretical embedding of practicing in PE in Germany (presentation 1) is followed by methodological considerations for empirical research (presentation 2). Finally, a case-based study on a long jump PE lesson in primary school reveals challenges of implementing practicing processes in PE lessons (presentation 3).

Keywords: practicing, videography, activation, abilities, attitudes

ID 704 Practicing in PE Lessons - Didactic and Empirical Challenges

Helga Leineweber (Universität Münster)

Ehni's (1979) demand that statements and findings on Physical Education (PE) and sport didactics should be derived from and related to empirical reality is met with

this casuistic contribution within the symposium on practicing in PE. The focus is on a fourth grade class at an elementary school practicing long jump in the last lesson before a track and field competition. The children practise at three stations developed by the pupils themselves in a continuous rotation, i.e. the children decide for themselves which station they visit when and how often. Occasionally, a child is explicitly asked by the teacher to practise a particular detail. Although the overarching goal of the practice process, the preparation for the track and field tournament, was made transparent, the process raises a number of questions with regard to concrete goals and the learning and experience potential for the pupils. As part of a videographic case analysis, the practice process is examined in detail. In line with the different theoretical approaches to practicing (cf. contribution 1 in this symposium), the first step is to reconstruct the characteristics of the practicing process in the long jump lesson. Specifically: What potential for experience and learning does the didactic design of the practice process offer? What indications of motor, cognitive and/or aesthetic activation or even insight can be found? To what extent does the PE setting generally allow for meaningful, intelligent practice with corresponding motor, aesthetic or cognitive learning and experience gains? One challenge is the fact that (every) lesson is characterized by an excess of complexity: Both for the actors involved in the lesson and for the researchers, there is permanently more to perceive than can be perceived (Herrle & Dinkelaker, 2016). Those involved in the lesson act in different processes, both simultaneously and sequentially. This over-complexity places high methodological demands on the analysis of the exercise and the reconstruction of meaning structures in the various (inter)action contexts (cf. contribution 2 in this symposium). In addition to a critical examination of the exercise and its sensual-physical experience content from a didactic perspective, the requirements and limitations of the methodological approach will also be discussed in conclusion. References: Ehni, H. (1979). Handlungsorientierte Sportdidaktik. In S. Größing (Hrsg.), *Spektrum der Sportdidaktik* (S. 173-206). Limpert. Herrle, M., & Dinkelaker, J. (2016). Qualitative Analyseverfahren in der videobasierten Unterrichtsforschung. In: U. Rauin, M. Herrle, & T. Engartner (Hrsg.). *Videoanalysen in der Unterrichtsforschung* (S. 76-129). Beltz.

Keywords: case study, videography, practising, primary school

ID 705 Practicing in the context of different theories and concepts

Ilka Lüsebrink (Pädagogische Hochschule Freiburg) & **Petra Wolters** (Universität Vechta)

Practicing is a central form of action in physical education (Ehni, 2004), the importance of which is unanimously emphasized. However, a closer look reveals that there is no common understanding of practicing. This concerns, for example, the classification of practicing as a primary form of learning that aims to acquire skills or as a secondary form of learning that is merely about consolidation or automation (Brinkmann, 2021). From an educational theory perspective, it is important to note that practicing skills is linked to practicing abilities and attitudes (Bollnow, 1987). Accordingly, practicing involves a change in inner attitude (Bollnow, 1987). Practicing is always practicing something, but at the same time practicing oneself in the sense that the practitioner gives him/herself a form in the cultivation of skills and abilities (Brinkmann, 2021). Depending on the starting point, exercise processes in physical education are conceptualized differently. Competence-oriented approaches (Gogoll, 2014) focus on cognitive (Pfitzner, 2018) or cognitive-motor activation (Herrmann & Gerlach, 2020), assuming an alternation of cognitive and motor activity in the learning process. In contrast, the concept of basic body and movement education focuses on physical activation (Hummel, 2022) and assigns a subordinate role to cognitions, emotions and volition. Laging (2016) emphasizes the importance of perceptual processes for practice and movement learning, which is expressed in the concept of aesthetic activation. Bollnow, O.F. (1987). *Vom Geist des Übens* (durchges. und erw. Aufl.). Verlag Rolf Kugler. Brinkmann, M. (2021). *Die Wiederkehr des Übens*. Kohlhammer. Ehni, H. (2004). Sportunterricht in den Perspektiven des Handelns und Erlebens. In P. Neumann & E. Balz (Hrsg.), *Mehrperspektivischer Sportunterricht* (S. 34-56). Hofmann. Gogoll, A. (2014). Das Modell der sport- und bewegungskulturellen Kompetenz und seine Implikationen für die Aufgabenkultur im Sportunterricht. In M. Pfitzner (Hrsg.), *Aufgabenkultur im Sportunterricht* (S. 93-110). Springer. Herrmann, C., & Gerlach, E. (2020). Unterrichtsqualität im Fach Sport – Ein Überblicksbeitrag zum Forschungsstand in Theorie und Empirie. *Unterrichtswissenschaft*, 48, 361–384. doi.org/10.1007/s42010-020-00080-w Hummel, A. (2022). Worauf es im Schulsport ankommt: Plädoyer für eine grundlegende Körper- und Bewegungsbildung. In A. Hummel, T. Wendeborn & A. Zeuner (Hrsg.), *Studien zur grundlegenden Körper- und Bewegungsbildung in Deutschland* (Teil 1, S. 131-196). Springer. https://doi.org/10.1007/978-3-658-38971-0 Laging, R. (2016). Bewegungsaufgaben als ‚ästhetische Aktivierung‘ – ein Beitrag zur professionstheoretischen Einordnung der Aufgabenforschung. In D. Wiesche, M. Fahlenbrock & N. Gissel (Hrsg.), *Sportpädagogische Praxis – Ansatzpunkt und Prüfstein von Theorie* (S. 251-260). Czwalina. Pfitzner, M. (2018). Lernaufgaben im kompetenzförderlichen Sportunterricht. Springer.

ID 706 Practising in PE lessons – an empirical approach

Vera Volkmann (Leibniz Universität Hannover)

Practising in PE lessons can be categorized and described from various theoretical perspectives. Following these theoretical classifications, this presentation will focus on the research methodological implications for an empirical approach to the didactic design of practice phases by teachers and their interpretation by students. The different levels of practising - the external perspective and the internal perspective - are outlined in terms of research methodology. The empirical approach via the external perspective by means of videography (Herrle & Dinkelaker, 2016) is then deepened and the procedure for the subsequently presented case study is classified against the background of the various approaches to videographic classroom research (Corsten et al., 2020). In the following presentation, this procedure will be specified using a concrete case analysis of the long jump of a fourth grade class at an elementary school. Corsten, M., Pierburg, M., Wolff, D., Hauenschild, K., Schmidt-Thieme, B., Schütte, U. & Zourelidis, S. (2020). Qualitative Videoanalyse in Schule und Unterricht. Weinheim: Beltz. Herrle, M., & Dinkelaker, J. (2016). Qualitative Analyseverfahren in der videobasierten Unterrichtsforschung. In: U. Rauin, M. Herrle, & T. Engartner (Hrsg.). Videoanalysen in der Unterrichtsforschung (S. 76-129). Beltz.

Keywords: videography, research methodological implications, case study

ID 591 Conducting School-Based Research in Physical Education

Peter Iserbyt (KU Leuven), **Peter Hastie** (Auburn University), **Pamela Kulinna** (Arizona State University), **Jackie Lund** (Georgia State University) & **Hans van der Mars** (Arizona State University)

Just like K-12 teaching professionals, higher education faculty are expected to engage in continuous professional development. This symposium is intended to serve as an essential professional development opportunity for session attendees. It is our intention to discuss critical aspects of conducting school-based research in physical

education for sport pedagogy researchers and PETE program faculty. By school-based research, we mean observational work or interventions that are conducted with teachers and/or students in schools (i.e., research on teaching). Prior to starting research in schools, researchers should outline the added value of the collaboration for principals, physical education teachers, and their students. Combining one's personal research agenda with meeting specific needs that schools or teachers have requires careful planning and discussion. Next, researchers should prepare the implementation of their research in schools and consider critical aspects related to ecological validity (i.e., does this research reflect a real-world setting?), internal validity (i.e., is the change in the dependent variable solely the result of the independent variable?), and social validity (i.e., how did the teachers and students 'like' the intervention?). All three types of validity can significantly impact the value and impact of school-based research. Regarding ecological validity, researchers could decide whether an intervention will be conducted by themselves, or whether they will partner with schools in professional development of teachers for the implementation. In terms of internal validity, some level of control over the independent variable should be demonstrated, which impacts the design of the study. Regarding social validity, researchers should recognize that if/when teachers or students do not like or see the value of the intervention, or find it feasible, the work will most likely stop once researchers leave the school. Finally, it is mandatory to get the approval from the Institutional Review Board prior to starting the research and to consider ethical principles for school-based research (e.g., voluntary participation, the right to withdraw from the study). During school-based research, procedures should be put in place ensuring reliable data collected from teachers and students. These procedures can include live data collection (e.g., using systematic observation), audio- and video-recording, or both. Depending on the types of data collection, researchers need to make several critical decisions in terms of how, how much, and which observation instruments will be used. Finally, in addition to producing conference presentations and publish research papers, the results of the school-based research should be communicated to all parties involved and strategies should be put in place ensuring school support in the partnerships as well as a sustainable relationship with the schools.

Keywords: research on teaching; field-based research; Physical Education Teacher Education (PETE)

Gaining access to schools for research

Peter Hastie, Jackie Lund & Hans van der Mars

Research in Schools: a behavioral perspective

Peter Iserbyt & Hans van der Mars

The Need for Follow-up: Replication and Generalization

Pamela Kulinna & Hans van der Mars

ID 485 Quality in Physical Education – US and European Perspectives

Wiebke Langer (Universität Hamburg), **Erin Gerlach** (Universität Hamburg), **Kelly L. Simonton** (University of Wyoming), **Tristan Wallhead** (University of Wyoming) & **Ben Dyson** (University of North Carolina Greensboro)

Not only in Europe, but especially in the United States, the discussion and debate on the purpose of Physical Education (PE) in schools and what constitutes high-quality teaching has continued for decades. For instance, ten years ago, seminal discussions on teacher effectiveness and subsequent teaching quality in PE were provided by several prominent scholars from the U.S., in a 2013 special issue of *Research Quarterly for Exercise and Sport*. Notably, they point to differing priorities of PE and PE teacher effectiveness in the U.S. school system. Up until now, quality of teaching in PE (QPE) and teacher effectiveness are interconnected in the U.S. yet lack consensus (Dyson, 2014). The variability and autonomy on what are prioritized in PE continue to be the ‘double-edged sword’ in understanding QPE in the U.S.. In addition, the disconnect between and among the multiple PE system components creates difficulty in defining and common understanding QTPE. This interactive second symposium addresses international perspectives on QPE drawing upon the QualiTePE project conducted throughout Europe and how this work can be implemented in the U.S. (see symposium: “Quality of Teaching in Physical Education – The QualiTePE project”). The symposium commences with insights into the current situation in the U. S., presenting data and information to the differences in PETE training, K-12 curriculum recommendations, and PE teacher evaluation systems that

directly influence QPE by outlining perspectives, connectivities, and adaptations of the QualiTePE project. We then move onto the question, “What is good PE teaching from the viewpoint of Socio and Emotional Learning (SEL)”? Recently in the US, the SEL framework has emerged as one of the most important pedagogical discussions. So, how do we develop and create high-quality teaching that draws from our international knowledges? Subsequently, the last presentation compares the QualiTePE and the SEL approach. We discuss the theoretical assumptions grounding QualiTePE and the SEL. We will underline different pedagogical models, present the characteristics of good teaching, and analyze the emerging literature that supports these unique approaches to PE. We will present a pilot study that connected SEL to the QualiTePE evaluation tool. Eventually, we aim to empirically identify characteristic profiles of QPE for different types of PE lessons, particularly those PE lessons that focus on student’s social and emotional development. Ultimately, the symposium will conclude with an interactive discussion with attendees on the future development of curriculum and pedagogical in PE. How can the QualiTePE work incorporate other perspectives in the further development of PE in the U.S. and other countries, considering its specific requirements and challenges? References Dyson, B. (2014). Quality Physical Education: A Commentary on Effective Physical Education Teaching, *Research Quarterly for Exercise and Sport*, 85(2), 144-152

Keywords: teaching quality, didactics, pedagogy, physical education, cross-cultural studies

ID 627 US Perspectives of Quality Physical Education: Discussing the interconnections between teacher training, teacher practice, and effectiveness

Kelly Simonton (University of Wyoming) & **Tristan Wallhead** (University of Wyoming)

Discussion in the U.S. on the purpose of Physical Education and what constitutes effective teaching has continued for decades. There remains a lack of consensus in the US on Curriculum, Teacher Evaluation System, or Physical Education Teacher Education (PETE) requirements for teaching preparation. Through the lens of a Physical Education System or Work Force (Lawson, 2020) these interwoven pieces interact and influence one another to determine the definition and reality of QTPE in the U.S. While limited standardization exists, out of necessity of a highly diverse country, there are several competing forces pulling PE teachers, and teacher

preparation faculty in many directions. For example, the US Society of Health and Physical Educators (SHAPE) America (2017), provides recommendations for both K-12 PE curriculum standards and PETE training standards. The PETE standards are important to recognize as they hypothetically drive all teacher education preparation. In other words, they determine what QTPE looks like in teacher preparation programs and schools alike. Despite these standards, PETE programs throughout the U.S. prioritize and emphasize different standards and sub-standards for PETE training. One reason for continued disconnect between recommended practices and what happens in schools, is the policy and evaluation systems embedded in schools themselves. Thus, despite the national recommendations and teacher educator training, the type of PE provided to students may be most heavily impacted by district and state policies. Rink (2014) points out that evaluation systems of quality and effective teaching must happen, but those who decide what QTPE is may or may not have in-depth knowledge of QTPE or measure it appropriately. Furthermore, Metzler (2014) suggests that while many quality practices for PE teaching and teacher training (i.e., models-based practices) are known, pre-service teachers should not learn these best practices as they do not align with standardized versions of teacher evaluation accepted in-school policy. Similarly, a burgeoning question in the U.S. PETE landscape has been, to what degree do PETE programs continue to push “best practices” for quality PE in their teacher education programs if those best practices are neither reinforced, nor rewarded in the school systems. The disconnect among the multiple PE system components (PETE, PE practices, and K-12 standards) creates difficulty in defining QTPE. In this session, we plan to present information to the differences in PETE training, K-12 curriculum recommendations, and PE teacher evaluation systems that directly influence QTPE. We will present commentary to the complexity of the U.S. PE system and to what degree QTPE may need to be explored, defined, and evaluated at the national and state level. We draw upon the QauliTEPE work conducted throughout Europe and how this work may need to be pursued in the U.S.

Keywords: Teacher Effectiveness; US Curriculum; Best Practices

ID 683 Quality of Teaching in Physical Education and Social Emotional Learning: Bringing together two theoretical approaches to improve Physical Education

Wiebke Langer (Universität Hamburg), **Ben Dyson** (University of North Carolina at Greensboro), **Yongjin Lee** (University of North Carolina at Greensboro) & **Erin Gerlach** (Universität Hamburg)

Teaching quality is supposed to have a clear impact on student success and positive effects on the physical, cognitive, and affective development of students. Accordingly, the question: “What is good teaching in PE?” represents one of the major research areas of Physical Education (PE). Several frameworks and models have been developed to conceptualize high quality teaching in PE. In Europe, a common understanding of high-quality PE teaching is going to be established through a consensus process called Quality Teaching in PE (QTPE) framework (Langer et al. [in prep.]). In this scholarly work, the affective domain accounts for one of the key dimensions (i.e. social and emotional support) to be considered. Closely connected to this affective area, recently in the US, Social and Emotional Learning (SEL) has garnered considerable attention across the various fields of education with a growing body of knowledge that students' social and emotional development influence school and life outcomes. A considerable amount of school-based research has been generated (Dyson et al., 2021). Along with efforts in general education, PE also has been developing SEL frameworks (e.g., <https://casel.org>; Jones et al., 2019). We will argue that QTPE is not only compatible with SEL pedagogical practices but indeed complements each other. We comparatively describe the theoretical assumptions and models, as well as the characteristics of good teaching and the results of these approaches to analyze similarities and also differences or unique features. On this basis, the study aims to empirically identify characteristic profiles of QPE for different types of PE lessons. For this purpose, we selected two characteristic lessons [one typical SEL lesson, one typical PA-based/skill-based lesson] and rated them by four researchers using a new developed tool based on the QualiTePE-framework. The presentation will provide insights into the comparison of the two QPE approaches as well as into the process and the preliminary findings of the empirical application. Based on these findings, methodological and practical implications with relevance within Europe, US and beyond will be discussed. Dyson, B., Howley, D., & Wright, P. M. (2021). A scoping review critically examining research connecting social and emotional learning with three model-based practices in physical education: Have we been doing this all along? *European Physical Education Review*, 27(1), 76–95. <https://doi.org/10.1177/1356336X20923710> Jones, S. M., McGarrah, M. W., &

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Keywords: teaching quality, didactics, pedagogy, physical education, SEL

ID 684 How can Social and Emotional Learning be crucial for quality instructions in Physical Education?

Ben Dyson (University of North Carolina at Greensboro) & **Yongjin Lee** (University of North Carolina at Greensboro)

Recently in the US, Social and Emotional Learning (SEL) has been proposed as a critical component in physical education (PE) (Dyson et al., 2021; Wright & Richards, 2022). A wide range of benefits of SEL have been reported (Mahoney et al., 2021). Social, emotional, and relational skills have been historically called by various names such as character education, life skills, pro-social development, soft skills, non-cognitive skills (Jones et al., 2019). However, SEL has become more prominent with the publication of the CASEL (2017) framework. SEL can be defined as “the process through which all young people acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions” (CASEL, 2021). The framework has five key competencies: self-management, self-awareness, social awareness, relationship skills, and responsible decision-making (CASEL, 2021), which have been widely used in school-based professional development programs (Cipriano et al., 2023; Tantillo Philibert, 2022). We argue that SEL can be an effective framework to implement a holistic approach to PE incorporating motor, cognitive, social, and affective domains of learning. Over the years physical educators have developed various instructional approaches including models-based practices (Casey & Kirk, 2020; Metzler, 2011), Meaningful PE (Fletcher et al., 2021), and creative pedagogical approaches (Dyson et al., 2022). Although each approach has their own purpose, assumptions, and structured processes, we argue that SEL has the potential to be a core aspect in these approaches and should be considered as an imperative aspect of students’ holistic learning in PE (Dyson, Howley, & Wright, 2021). In this presentation we will highlight a current project in a high school Health and PE Program.

Emphasizing the importance of SEL to develop quality instruction. Action research was conducted to provide evidence of how SEL can be understood and incorporated into Health and PE. In the fall semester of 2023, two classes of high school students (n=51) took SEL-informed classes. The content was purposefully selected to align with SEL competencies, as well as using innovative pedagogies such as Cooperative Learning, self-reflection, and caring. In this symposium, we will briefly present the syllabus and share students' assignments and experiences from the course. Data included: lesson videotapes (n=12), post-teaching reflective analysis (n=10), students' reflective diaries (n=167), students' symbols of learning (n=45), and focus group interviews (n=32). Students experienced the development of a Health and PE SEL curriculum through teacher-student and student-student interactions, constructive group activities, and the fluid connection between SEL and Health and PE.

Keywords: didactics, pedagogy, physical education, SEL, health promotion

ID 494 Bridging gaps in children's Motor Development and Physical Activity through Physical Educators

Pim Koolwijk (The Hague University of Applied Sciences), **Lieke Wolfs** (The Hague University of Applied Sciences) & **Jonas Leenhouts** (The Hague University of Applied Sciences)

Chair: dr. Sanne de Vries, Professor Healthy Lifestyle in a Supporting Environment, Centre of Expertise Health Innovation, The Hague University of Applied Sciences, the Netherlands; Associate Professor Leiden University Medical Centre, Department of Public Health and Primary Care, Health Campus The Hague
 Presenters: Pim Koolwijk, Lieke Wolfs, Jonas Leenhouts, PETE lecturers/researchers Healthy Lifestyle in a Supporting Environment, The Hague University of Applied Sciences, the Netherlands
 Purpose: To inform participants on the development of motor competence (MC) and maintenance of physical activity (PA) of children (4-15 years) and discuss the role of Physical Educators in this process. Rationale: Currently there is an overall decrease in PA and MC during childhood. To solve this worrying trend, evidence-based insights and experienced-based insights should be combined. Potential barriers to do so are lack of insight in the determinants of physical behavior and how to translate these in daily practice. What role can Physical Educators play to guide this process? How can researchers support them? Objectives: -Increase knowledge on the MC development and maintenance of PA of children (4-15 years

of age) -Highlight determinants of PA during the transition phases of children aged 4-15 years -Start the discussion on how to support Physical Educators in implementing this research In this session we will focus on the implementation of scientific knowledge in daily PE practice by Physical Educators. The first presenter will highlight MC development during the transition from early- to middle childhood. Answers will be given about how determinants such as body mass index, enjoyment and perceived motor competence predict motor competence development based on a longitudinal study. The second presenter will highlight the factors correlating with PA during the transition from late childhood to early adolescence (10-15 years). In the third presentation we will focus on the translation of theoretical concepts and educational beliefs into teaching interventions during physical education. We will end with a discussion on the role of researchers and Physical Educators in and around primary and secondary schools. Format: 1.Introduction by Sanne de Vries 2.Presentation: Can we explain an unfavorable pattern of motor competence development on the basis of BMI, enjoyment and perceived motor competence of young children? Pim Koolwijk, The Hague University of Applied Sciences 3.Presentation: Correlates of physical activity in children aged 10-15 years: an umbrella review. Lieke Wolfs, The Hague University of Applied Sciences 4.Presentation: The relationship between educational beliefs and teacher interventions in Physical Education. Jonas Leenhouts, The Hague University of Applied Sciences 5.Group discussion (20 min) Interaction: There will be space for short questions after each presentation. The discussion will start with three statements.

Keywords: Physical activity, Motor competence, Physical education

ID 610 Characteristics of children with an undesirable motor competence development during the transition from early to middle childhood: results of a longitudinal study

Pim Koolwijk (The Hague University of Applied Sciences), **Ester de Jonge** (The Hague University of Applied Sciences), **Remo Mombarg** (Hanze University of Applied Sciences, Institute of Sport Studies, Groningen), **Teun Remmers** (Fontys University of Applied Sciences, School of Sport Studies, Eindhoven), **Dave Van Kann** (Fontys University of Applied Sciences, School of Sport Studies, Eindhoven), **Ingrid van Aart** (Hanze University of Applied Sciences, Institute of Sport Studies, Groningen), **Geert Savelsbergh** (Vrije Universiteit (VU) Amsterdam, Dep. of Behavioural and Human Mov. Science) & **Sanne de Vries** (The Hague University of Applied Sciences)

The aim of the study was to see how variance in motor competence (MC) development in young children can be explained by weight status, physical activity enjoyment and perceived motor competence (PMC). Within the literature weight status (BMI) and PMC are well documented determinants within the concept of MC development, however physical activity enjoyment is rather unknown. This longitudinal study analyses these potential determinants during the transition from early- to middle childhood and how this can explain variance in MC development. A total of 741 Dutch children (49% male) between 4 and 6 years old ($M = 5.58 \pm 0.62$ years) at baseline participated in this study. Data on anthropometrics and MC were collected at three time points one year between January 2020 and May 2022. MC was measured with the Athletic Skills Track (AST) which includes a string of different fundamental movement skills to be completed as fast as possible. Subsequently, AST times were converted into Motor Quotient (MQ) scores. Data on PMC and physical activity enjoyment were measured at T0 and T2. Data were analyzed using generalized linear mixed models with MQ scores at outcome and BMI, PMC and enjoyment as potential determinants. When a significant interaction of a determinant with time was found, analysis was stratified per time point. Sum scores of PMC and enjoyment were heavily skewed to the upper extremes at T0 but approached a rather normal distribution at T2. Preliminary results indicate a non-linear association of a high BMI with a low MQ score. Moreover, a high PMC was associated with a high MC for object control skills but not for locomotion skills. Both associations reached significance at T2 only, indicating a more prominent effect at middle childhood. Some concerning profiles were noticed of MC development when children transition from early- to middle childhood. More research is needed to get insight in parameters which could clarify these risk profiles of MC development. References: 1. Robinson, L. E., Stodden, D. F., Barnett, L. M., Lopes, V. P., Logan, S. W., Rodrigues, L. P., & D'Hondt, E. (2015). Motor competence and its effect on positive developmental trajectories of health. *Sports Medicine*, 45(9), 1273-1284. doi.org/10.1007/s40279-015-0351-6. 2. Niemistö, D., Barnett, L. M., Laukkanen, A., Tolvanen, A., & Sääkslahti, A. (2023). Perceived motor competence in early childhood predicts perceived and actual motor competence in middle childhood. *Scandinavian Journal of Medicine & Science in Sports*. 3. Trecroci, A., Invernizzi, P. L., Monacis, D., & Colella, D. (2021). Actual and perceived motor competence in relation to body mass index in primary school-aged children: A systematic review. *Sustainability*, 13(17), 9994.

Keywords: motorcompetence, earlychildhood, development, transition phase

ID 648 Correlates of Physical Activity in Children and Adolescents aged 10-15 years: an Umbrella Review

Lieke Wolfs (The Hague University of Applied Science), **Sanne de Vries** (The Hague University of Applied Science) & **Jessica Kieft-de Jong** (Leiden University Medical Centre)

During the transition from primary to secondary education there is a decline in physical activity (PA). Since a physically active lifestyle has a lot of health benefits and being active during puberty is a predictor of PA in later life, it is important to gain insight in the changeable correlates to prevent this decline. In previous research several correlates of children's and adolescents' PA have been found. These can be divided into Biological, Demographic, Behavioral, Environmental, Sociological and Psychological correlates. However, information on the correlates of PA during the transition phases is scarce. Next to this there is a tendency to only look for correlates within one category. This umbrella review aims to reveal all correlates of PA within the age group of 10-15 years. A systematic literature search was performed in Academic Search Ultimate, MEDLINE and SPORTDiscus in February 2022 using search terms divided into 3 groups: population, study design, and outcome measure. Terms were added using Boolean operator "NOT" to exclude special medical populations. To be included, studies had to be systematic reviews or meta-analyses which had objectively or subjectively measured PA as a dependent variable. Reviews focussing on intervention programs, PA on a specific moment or at a specific place (for example school yards), reviews that only included research from certain countries or regions and special medical populations were excluded. Quality of the selected studies was assessed using six items and three items were added for meta-analyses. Of the included studies most were systematic reviews. The majority of the included reviews focused on sociological correlates of PA (behaviour of parents, peers and/or siblings). Most reviews only included studies using objective and/or subjective measures of PA. Gender and motor competence are common biological variables correlating with PA. Girls are often less active compared to boys. Socio economic status (SES) was a demographic variable that has been found to be associated with PA. A lower SES seems to be related to less physical activity. For environmental variables, surrounding facilities as well as safety or promoting play and walking features seem related to PA. Within the sociological variables acts of peers and parents are often researched. Parents' actions (i.e. PA level of parents, support, encouragement, etc.) seems to be more related to children's PA compared to adolescents' PA. For peer influence, co-participation, modelling and positive feedback seem to be important. Self-efficacy and motivation seem to be the most commonly related variables in the

psychological category. Of all behavioral variables mostly active travel and outdoor time seem to have a correlation with PA. Almost all correlations seem to be small to moderate and often there is a lot of heterogeneity in the data. Therefore, in multiple article it is advised to use objective measurements of PA.

Keywords: Physical Activity, Children, Adolescents, Correlates

ID 664 The relation between educational beliefs and teacher interventions in Physical Education

Jonas Leenhouts (The Hague University of Applied Sciences)

Understanding the alignment or dissonance between a teacher's educational beliefs and actual teaching strategies is crucial for enhancing the effectiveness of learning. In this presentation we will focus on the translation of theoretical concepts and educational beliefs into teaching interventions during physical education. This study was part of a larger study on the perceptual capacity of Physical Educators, the Eye of the Master (<https://oogvandemeester.com>). Aim of this ongoing study is to gain more insights in the level and nature of this perceptual capacity and the possibility to train this. With this, we hope to foster Physical Education Teacher Trainer programs in amplification of their curriculum. In the first phase of this study, Physical Educators from different levels of expertise were measured during a observational-task. Educational beliefs were measured using a questionnaire. Preliminary results on the correspondence between these educational beliefs and resulting teacher interventions will be presented.

Keywords: Physical Education, Perceptual capacity, Teacher interventions

ID 519 Spectrum of teaching styles: the institute, current research, and directions for future research

Nikolaos Digelidis (University of Thessaly), **Mark Byra** (University of Wyoming, USA), **Feng-Min Wei** (National Yang Ming Chiao Tung University, Taiwan), **Robin Deng-Yau Shy** (National Yang Ming Chiao Tung University, Taiwan), **Maria Espada Mateos** (Universidad Rey Juan Carlos, Spain) & **Kelly Simonton** (University of Wyoming, USA)

Reasons why there should be a symposium on the Spectrum of Teaching Styles The Spectrum (Mosston & Ashworth, 2008), recognized worldwide, has been embraced in physical education for over 50 years as an instructional structure for teaching in schools, for designing and delivering courses in PETE programs, and for conducting research on teaching and learning. Over the past 50 years, much research has been conducted around the Spectrum of Teaching Styles, and today the number of peer-reviewed research studies published in peer-review journals continues to grow. It is an instructional framework that is receiving a lot of attention around the world. The potential of Spectrum as an educational tool is not yet fully explored, and there is a need for further research in many areas. This symposium is planned to focus on the promotion of further pedagogical and scientific research on the Spectrum.

Symposium Presentations Title: "Spectrum Institute for Teaching and Learning (SITL): Promoting Research and Collaboration" N. Digelidis, M. Byra, M. Espada, R. Deng-Yau Shy, & Feng-Min Wei The aim of this presentation is to explain the mission and initiatives that have been deployed to promote and disseminate further research with the Spectrum of teaching styles and collaboration among colleagues around the world. Title: "Reciprocal Style of Teaching and Student Learning: A Review...What we Know and Don't Know." M. Byra The aim of this presentation is to examine the most current research findings specific to the reciprocal style of teaching (style C). The findings of these studies indicate that style C (peer teaching) is a valuable instructional strategy to employ to meet multiple educational learning outcomes/domains of learning in physical education. Title: "Spectrum of Teaching Styles: The Evolving Research - Where We Are and Where to Go Next" Feng-Min Wei & R. Deng-Yau Shy The aim of this presentation is to examine what we know about the Spectrum based on current research and subsequently discuss directions to consider for future research. Title: "Developing and Testing SITL Educational Courses: A Pilot study" K. Simonton The purpose of this presentation is to describe the data collection procedures being used to examine the impact of three SITL online courses (Introduction to the Spectrum; Command Teaching Style; and Practice Teaching Style) on PETE major perceptions and knowledge development, and some initial findings. These three courses are a part of the 13-course educational curriculum currently being developed by the SITL. Title: "An in-Depth Analysis of the Taxonomy of Teaching Styles" Nikolaos Digelidis The aim of this presentation is the conduction of an in-depth analysis of the theory. The Spectrum is a pedagogical framework, an educational tool, and possibly a manner of classification of teaching methods based on the dynamics of teaching. This presentation will focus on the Spectrum as a method to analyze and possibly classify teaching based on criteria that this theory includes.

Keywords: Spectrum of teaching styles, reciprocal style, MOOC

Spectrum Institute for Teaching and Learning (SITL): Promoting Research and Collaboration

N. Digelidis, M. Byra, M. Espada, R. Deng-Yau Shy & Feng-Min Wei

The Spectrum (Mosston & Ashworth, 2008), recognized worldwide, has been embraced in physical education for over 50 years as an instructional structure for teaching in schools, for designing and delivering courses in PETE programs, and for conducting research on teaching and learning. Over the past 50 years, much research has been conducted around the Spectrum of Teaching Styles, and today the number of research studies published in peer-review journals continues to grow. It is an instructional framework that is receiving a lot of attention around the world. The potential of Spectrum as an educational tool is not yet fully explored, and there is a need for further research in many areas. This symposium is planned to focus on the promotion of further pedagogical and scientific research on the Spectrum. The aim of this introductory presentation is to explain the mission and initiatives that have been deployed to promote and disseminate further research with the Spectrum of teaching styles and collaboration among colleagues around the world. Special attention will be directed towards the SITL Educational Curriculum currently being unveiled in the form of online courses/modules.

Reciprocal Style of Teaching – What We Know and Directions for Future Research

M. Byra

The aim of this presentation is to examine some of the past and most current research findings specific to the reciprocal style of teaching (style C). In style C, learners work in pairs. While one performs the modeled task (the doer), the other observes, assesses, and offers feedback (the observer) according to priori movement criteria (Mosston & Ashworth, 2008). The pair then switch roles. The name of the style, reciprocal, is reflective of the paired learners serving in the roles of doer and observer. This process of reciprocity is what distinguishes style C from other peer teaching strategies/peer-assisted learning formats.

What do we know about style C? Physical education teachers from many different countries around the world report using this style within their regular instructional practices (Cothran et al., 2005; Jaakkola & Watt, 2011; Kulinna & Cothran 2003; Sympas et al., 2016). Results from numerous studies show style C to be effective in enhancing learner motor skill performance (Ernst & Byra, 1998; Goldberger & Gerney, 1986; Goldberger, Gerney, & Chamberlain, 1982; Hennings, Wallhead, & Byra, 2010; Iserbyt & Byra, 2013; Kolovelonis, Goudas, & Gerodimos, 2011). Researchers have determined that allowing learners to select their own partner in style C (i.e., an impact phase learner decision) positively impacts amount of learner feedback offered, learner comfort giving and receiving feedback, and general affect generated between learners (Byra & Marks, 1993; Chatoupis, 2015; Goldberger, Gerney, & Chamberlain, 1982). Researchers have also found that task sheets (task cards) and how they are designed positively impacts student learning in style C (Iserbyt, 2013; Iserbyt & Byra, 2013a, 2013b; Iserbyt, Elen, & Behets, 2010). Mosston and Ashworth (2008, p. 125) identify the task sheet “as the single factor that can determine success or failure of an episode” in style C. The impact of style C on students’ motivation has been examined over the years as well. Positive effects have been reported on learners’ enjoyment, interest, and effort (Morgan, Sproule, & Kingston, 2005), learners’ feelings of relatedness and perceived competence (Lentillon-Kaestner & Roure, 2023), learners’ perceived satisfaction and intrinsic motivation (Chatzipanteli, Digelidis, & Papaioannou, 2015), and learners’ perceptions of a motivational atmosphere (Pitsi, Digelidis, & Papaioannou, 2015). Most recently, research on training students to better serve in the role of observer in style C has been examined, a role that requires knowledge about the critical elements for correct performance, common content knowledge, and knowledge about identifying and correcting performance errors, specialized content (Iserbyt & Madou, 2022; Iserbyt, Mols, Charlier, & DeMeester, 2014); Iserbyt, Theys, Ward, & Charlier, 2017; Madou, Depaepe, Ward, & Iserbyt, 2023).

Research indicates that style C is a valuable instructional strategy to employ to meet multiple educational learning in physical education. Potential directions for future research will be discussed during this presentation.

Spectrum of Teaching Styles: The Evolving Research – Where We Are and Where to Go Next

Feng-Min Wei, R. Deng-Yau Shy & Ching-Wei Chang

The continuous attraction of the Spectrum of Teaching Styles (The Spectrum) research to researchers in physical education has led to ongoing and expanding related research activities. However, since Byra (2000), there are few detailed research reports on the exploration routes and outcomes related to the Spectrum. This study aimed to depict the state of the international peer-reviewed empirical literature on The Spectrum over the past 25 years. Based on this, it explored unresolved issues and knowledge gaps worthy of further investigation. Using the keywords "teaching styles AND spectrum OR Mosston," the study literature was searched in several databases. The following criteria were applied to delete literature for analysis: non-English, non-journal articles, inability to obtain full text, lack of peer review, and absence of empirical data analysis. The study found that published literature mainly focuses on the effectiveness of various teaching forms on students' learning outcomes. However, physical education learning involves the teaching method and the integration of specific teaching materials. The effectiveness of physical education learning is not only related to cognition, skills, or affective domains; perhaps human well-being is the goal. Landmark styles are just the outward manifestation of the content of the teaching spectrum, and their effects on student learning may need to be assessed from the source of "decision-making." Future research needs to consider both theoretical and practical aspects. On the academic side, it should be emphasized that the teaching spectrum is not just about pedagogy but also about making reasonable and adequate attributions to learning outcomes. On the practical side, it should plan how to help pre-service or in-service physical education teachers master the operational logic of the Spectrum, enabling them to flexibly apply their understanding for continuous interpretation and correction across projects and domains.

Developing and Testing SITL Educational Courses: A Pilot study

K. Simonton

Although knowledge about The Spectrum appears foundational to having effective pedagogical knowledge, a more traditional and homogenous approach to teaching prevails. The nascent use of The Spectrum strategies has consistently been identified within in-service PE teachers. The reasons for a narrow pedagogical approach are typically due to limited knowledge, experience, difficult contextual situations, and negative attitudes towards extensive planning. Many researchers suggest that The Spectrum training must be foundational in pre-service teachers' (PSTs) development as a way to restructure their perspectives and attitudes toward teaching

and learning, and in using The Spectrum when entering the job force. Previous evidence shows that when PSTs are left to their own devices, they rely on the same one to two instructional strategies as reported by in-service teachers. In addition, their naïve understanding on what the teaching and learning process is, or can be, limits how they perceive the use of multiple strategies. Thus, researchers have called for more foregrounding techniques for PE PSTs with the idea of teaching and learning is completely centered on knowing The Spectrum. Research shows that PSTs can positively shift their beliefs about the usefulness and perceived ability to deliver The Spectrum. However, that research also showed that PSTs require additional learning materials. These items include more style task/lesson examples, task sheet examples, video-based examples, and field practice. Thus, the purpose of this presentation is to highlight the development of an online Massive Online Open Course (MOOC) system used for PST training on The Spectrum. This presentation will describe ways in which the team explored the impact of the MOOCs on PSTs over one academic year. Specifically, PE PSTs (N=13) from one university participated in this study. All participants completed a pre-post survey, each of the two semesters (n=4), on their perception of usefulness and ability to use each of The Spectrum. In addition, all participants completed short answer questions and reflection of using a total of seven of the 11 styles. Throughout the year all students completed a series of MOOCs (1. Introduction to the Spectrum; 2. Command Teaching; 3. Practice Teaching, 4. Reciprocal Style, 5. Self-check, 6. Inclusion style, 7. Guided Discovery style). The investigation foci were two-fold, one was exploring student perceptions of completing the multiple facets of each MOOC course (included readings, examples, video descriptions, video of styles in action, quizzes, writing assignments, and reflection tasks). Secondly, we explored the potential impact it had on PSTs use and confidence in understanding The Spectrum as part of their developing pedagogical knowledge and readiness. Results of the strengths and weaknesses of the MOOCs will be shared as well as evidence (survey and interview) as to the development of PSTs knowledge and abilities for The Spectrum.

An in-Depth Analysis of the Taxonomy of Teaching Styles

Nikolaos Digelidis

The aim of this presentation is the conduction of an in-depth analysis of the theory. The Spectrum is a pedagogical framework, an educational tool, and possibly a manner of classification of teaching methods based on the dynamics of teaching. Since 1966, Mosston and Ashworth, with at least five publications of their book (plus one

online), advanced in the delimitation of 11 different teaching styles: from the «command style» where the teacher takes all the decisions in the teaching process, up to «self-teaching style» where all the decisions are taken by the student. This presentation will focus on the Spectrum as a method to analyze and possibly classify teaching based on criteria that this theory includes.

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ID 672 Promoting and monitoring physical activity among preschool-aged children in early childhood education and care in Finland

Tuija Tammelin (Jamk University of Applied Sciences), **Katariina Kämppi** (Jamk University of Applied Sciences, Likes), **Nina Korhonen** (Finnish National Agency of Education, Joy in Motion programme), **Janne Kulmala** (Jamk University of Applied Sciences, Likes) & **Anette Mehtälä** (Jamk University of Applied Sciences, Likes)

Majority of children spend a large part of their day in early childhood education and care (ECEC) units, so ECEC units are appropriate venues in which to promote children's physical activity. The symposium will discuss the promotion of physical activity among preschool-aged children in its four presentations. We describe the Finnish approach to promoting physical activity in early childhood education and care (ECEC) through the nationwide Joy in Motion programme and discuss a system developed to follow up on the programme's progress. We also describe the development of national monitoring system for young children's physical activity and motor skills, and provide the first national level data on physical activity for Finnish children aged

4 to 6 in 2023. Joy in Motion is a nationwide programme of physical activity and well-being launched in Finland in 2015 and aimed at ECEC. The goal is to enable every child to be physically active and to enjoy physical activity every day. The latest updates of the Finnish recommendations for physical activity in early childhood were published in 2016, and the key message in the recommendations is 'Joy, play and doing together'. Daily physical activity is just as important for children's well-being as healthy nutrition and sufficient sleep and rest. The presentation discusses the current state of the programme (which has more than 3,000 registered ECEC units in Finland) and provides concrete examples of the programme's work in practice. The progress of Joy in Motion has been monitored in ECEC units. For this purpose, a special self-evaluation survey for physical activity promotion was developed and launched in 2016. The online survey is available to all ECEC units on the programme's website. The units receive feedback based on their responses, and the information is gathered in a visual database that provides up-to-date results at the municipal, regional, and national levels. The self-evaluation survey and the results of over 3,700 self-evaluations during six years will be discussed in this session. JOY-PAM is nationwide monitoring system of the joy of motion, physical activity and motor skills of young children, Piilo in Finnish. It was developed during 2019–2021 through multidisciplinary expert work and with pilot measurement of 800 children. First nationwide level monitoring of physical activity for 4–6-year-old children was conducted in Finland in 2023 including about 1700 children. New nationwide data will be published at the begin of 2024 and presented in the symposium. In addition, the results on physical activity and motor skills from the development phase 2019–2021 will be presented.

Keywords: children, preschool-aged, motor skills, physical activity promotion

ID 673 Promoting and monitoring physical activity among preschool-aged children in early childhood education and care in Finland

Katariina Kämppi (Jamk University of Applied Sciences, Likes), **Nina Korhonen** (Finnish National Agency of Education, Joy in Motion programme), **Harto Hakonen** (Jamk University of Applied Sciences, Likes), **Arja Sääkslahti** (University of Jyväskylä, Faculty of Sport and Health Sciences) & **Tuija Tammelin** (Jamk University of Applied Sciences, Likes)

Majority of children spend a large part of their day in early childhood education and care (ECEC) units, so ECEC units are appropriate venues in which to promote

children's physical activity. A nationwide physical activity and well-being programme for ECEC, Joy in Motion, was established in Finland in 2015 with the aim of enabling every child to enjoy sufficient physical activity every day. Approximately 3,000 ECEC units (73% of all the ECEC units in Finland) participated in the programme in November 2023. The free programme offers concrete steps and objectives for creating a physically active learning environment and operating culture. ECEC units choose their own unique actions to implement the programme. Adults are responsible for supporting children's well-being, health and learning so that every child's right to be physically active and play every day is ensured. A special self-evaluation survey for physical activity promotion was developed in 2016 to monitor the progress of the programme at the levels of ECEC units, municipalities, and the nation. The online survey, available on the programme's website, has altogether 43 statements. Teams in ECEC units evaluate each statement using a scale of 0-4 (0=not at all, 4= fully realised). To summarise the results, four indexes have been formulated: strategy, facilities for PA, actions, and support. The scale was converted to a percentage of the maximum score. The strategy index describes plans and principles that lead the actions. The facilities index includes indoor and outdoor facilities and equipment. The actions index consists of all the actions that enable PA, and the support index consists of all the collaboration that supports actions. By the end of November 2023, the data consisted of 3,700 self-evaluations concerning the physically active operating culture in ECEC units. The newest index results (2022-23) show that the strategy (75.6%) and actions enabling PA (68.6%) achieved the highest values, and the lowest values were given to facilities (62.2%) and support (54.9%). The progress of the Joy in Motion programme can be examined using the index results over the past six years. The self-evaluation survey results are available online and are offered on three levels: national, regional, and municipal. At all these levels, the self-evaluation produces up-to-date information on the PA promotion progress in ECEC units for PA promoters, coordinators, and decision-makers. For ECEC units, it provides a diverse tool that increases ECEC units' awareness of the state of their physically active operating culture and inspires discussions among staff to find areas for development. By repeating the survey regularly every year, the progress of PA promotion in a ECEC units can be monitored in the results.

Keywords: monitoring and evaluation, physical activity promotion, early childhood education and care

ID 675 Co-development of the JOYPAM system of monitoring physical activity and motor skills in young children in Finland

Anette Mehtälä (Jamk University of Applied Sciences, Likes), **Arja Sääkslahti** (University of Jyväskylä, Faculty of Sport and Health Sciences) & **Tuija Tammelin** (Jamk University of Applied Sciences, Likes)

The aim of the research and development project JOYPAM on monitoring joy of motion, physical activity (PA), and motor skills of young children, was firstly to co-create, test, and make recommendations for a national monitoring system in Finland. Secondly, in accordance with the developed monitoring system plan, the aim was to carry out population-level data collection and assess PA and motor skills of 4–6-year-old children and the factors related to movement. The development project in 2019–2021 and the population-level data collection in 2023 set by the Ministry of Education and Culture, were implemented in co-operation with Likes by Jamk University of Applied Sciences, University of Jyväskylä and the national Joy in Motion programme. First, this presentation describes the process and results of the development project. During the project, pedagogical tools were produced for use by ECEC staff. Second, this presentation describes the population-level results of PA of 4–6-year-old children in Finland in 2023. The JOYPAM started in 2019, in collaboration with a multidisciplinary group of researchers. Based on the results of the expert collaboration and pretests, a decision was made on the measures for pilot study conducted in 2020–2021. The study was conducted in the southern, central, and northern Finland. Over 800 children participated in the study. Children's PA and motor skills were measured, and children's joy of motion and perceived competence were assessed by pictorial interview of children. Perceptions of children's PA and motor skills were collected via surveys of guardians and ECEC staff. Information on the children's ECEC environment were gathered by self-evaluation tool of the ECEC settings. In the pilot study 2020–2021, the recommended level of one hour of moderate to vigorous intensity PA reached 67 per cent of children. On average, boys and older children were more physically active than girls and younger children. Girls outperformed boys on static balance and boys had better ball handling skills. The children's motor skills were the better the older the children were. Almost all children said that they enjoy PA. The younger the children were, the more often they felt that they were good at physical activities. The children spent time outdoors every day. During typical ECEC day, they spent 1–2 hours outdoors in ECEC and 30–60 minutes during their free time. On free day, average time outdoors was less than on ECEC day. Six to seven per cent of children had some disability or disadvantage related to their PA or movement. The population-level results conducted

in 2023 will be published in Finnish at the beginning of 2024. In this presentation, we will present the main results from the perspective of ECEC. A nationally representative sample will be used to explore how differences in environments are linked to children's PA. The information from the study will help design early childhood PA policies and practices.

Keywords: physical activity, national monitoring, early childhood education and care

ID 676 Physical activity during different time-domains in Finnish 4–6-year-old children

Janne Kulmala (Jamk University of Applied Sciences, Likes), **Tuomas Kukko** (Jamk University of Applied Sciences, Likes), **Anette Mehtälä** (Jamk University of Applied Sciences, Likes), **Harto Hakonen** (Jamk University of Applied Sciences, Likes), **Arja Sääkslahti** (University of Jyväskylä, Faculty of Sport and Health Sciences) & **Tuija Tammelin** (Jamk University of Applied Sciences, Likes)

The early childhood education and care (ECEC) has an important influence on children's behaviour, including physical activity (PA). However, information is lacking where and when different children's PA is undertaken. According to the Finnish recommendation for PA in the early years, preschool-aged children should spend at least 180 minutes in variety types of physical activities at any intensity, of which at least 60 minutes is moderate to vigorous intensity physical activity (MVPA). The goal of the national Joy in motion physical activity programme, is to accumulate 2/3 of the daily recommended physical activity during the ECEC. The aim of the study was to describe the distribution of physical activity (PA) during different time-domains in Finnish 4–6-year-old children. The study also examined the proportion of children who met the PA recommendations for the whole week, weekdays, weekend days and early childhood education and care, considering the requirements for overall PA and MVPA. The research data was collected in the 2020–2021 JOYPAM study. Physical activity of children (n=777, girls 53%) was measured with a wrist-worn accelerometer for seven days. Differences in the physical activity between girls and boys, different age groups, and between the most and least active children were examined during ECEC and out-of-care, as well as on weekdays and weekend days using a three-level linear mixed model. In addition, the achievement of children's physical activity recommendations and goals was evaluated. Children were physically more active and less sedentary in ECEC than in free time, and on weekdays than on weekend days ($p < 0.001$). Boys and older children were physically more active compared to girls and younger children ($p < 0.001$). The differences in physical

activity and sedentary time between girls and boys and between younger and older children were greater in ECEC than during other periods ($p < 0.01$). MVPA during the ECEC of the least active children made up a larger portion of the daily MVPA than among the most active children ($p < 0.01$). The PA goal for ECEC time was achieved by 62 percent of the children (girls 49%, boys 76%, $p < 0.001$). ECEC is an important source of physical activity for a child. ECEC activates more boys, older children, and children with less overall MVPA than more active children. There might be potential for increasing physical activity may be at home environment during free time and on the weekend days, and for girls during early childhood education.

Keywords: early childhood education and care, children, physical activity, recommendations, time-domains

Physical activity and motor skills in Finnish 4-6-years old children: Cross-sectional associations and age-equivalency using compositional analyses

Janne Kulmala

ID 204 Extracurricular Physical Activity Programmes in All-Day Schools

Ilaria Ferrari (University of teacher education, Zurich), **Johanna Kress** (University of teacher education, Zurich), **Nicole Satzinger** (University Paderborn), **Ida Noetzel**, University Paderborn) & **Anne Strotmeyer** (University Paderborn)

In all-day schools, the school day is extended in terms of time and space and enables all children to participate in additional extended educational offers. Among other things, all-day schools assume responsibility for the development of appropriate and diverse physical activity and sports programs for children and young people. These offers are located at the interface between regular physical education and club training, between formal, non-formal, and informal learning opportunities, and between all-day care and education. Studies in this field are gaining in importance. Therefore, the symposium will focus on studies in the context of promoting movement, play and sports in all-day schools. The contribution of a Swiss study on the holistic promotion of physical activities in all-day schools (SINTA) shows how physical activities during childcare hours are being designed and expanded through a training program for the pedagogical staff. The focus is on the well-being and social inclusion of the

children, as well as on the professionalization of the pedagogical staff. In the movement activities at lunchtime and before and after school, both motor and social-cognitive skills are promoted and challenged, which are important for the physical and mental health of the children. The contribution titled “Qualified Promotion of Movement, Play and Sports in All-day Elementary School” addresses pedagogical staff’s qualification. As part of a pilot study a qualification program is being developed together with practitioners by means of a participatory approach (e.g. dialogue with stakeholders with practical experience in all-day schools). The qualification program aims to qualify pedagogical staff in all-day schools to enable them to exploit the potential of movement, play and sports. The presentation aims at presenting the pilot study and first results. The contribution titled „Movement, play and sports in German all-day schools from the perspective of children and employees - A qualitative study”, focuses on the perspective of the stakeholders and their view of movement, play and sports in German all-day schools. The study is part of the collaborative project move4health. The study involved focus group interviews with employees and tandem interviews with children at sixth to eight German all-day elementary schools. Fundamental knowledge on the topic is generated. The presentation titled “Professional knowledge of prospective physical education teachers for the design of a movement-oriented school day” focuses on a study, which is based on a three-stage approach. Five focus group interviews with experts were conducted to identify the facets of professional knowledge that are relevant from a practical point of view for the design of a physically active everyday school life. The contribution highlights findings, that can be used as a starting point for further research and as a guideline for the university education of physical education teachers

Keywords: Promotion of physical activity, all-day school, school development, active school life

ID 688 Holistic promotion of physical activity in all-day schools

Ilaria Ferrari (University of teacher education, Zurigo) & **Johanna Kress** (University of teacher education, Zurich)

The introduction of all-day schools in Switzerland has as a consequence that children and young people spend significantly more time at school. In this process all-day schools assume responsibility for the development of suitable and varied physical activity and sports programs for children and young people (Naul & Neuber, 2021). The programs are located between regular sports lessons and club training,

between formal, non-formal and informal learning opportunities and between all-day care and school education (Neuber, 2008). In addition to social learning opportunities, they also offer playful activity-based encounters and leisure (Cartmel et al., 2023). The project SINTA "Sport in all-day schools" offers various extracurricular sport and exercise-oriented activities (such as the open gym during the lunch break and voluntary school sports courses in the afternoon) at schools with the aim of promoting holistic and sustainable physical activity and creating a child-friendly rhythm in the school day. In these activities, both motor and social-cognitive competencies (e.g. cooperation and communication) should be promoted and challenged, which are important for physical and mental health of the children (Kemmis, 2023). The focus of the project is on the well-being and social inclusion of the children, as well as professionalization of the pedagogical staff. Sports didactics training was organised with the aim of enabling pedagogical staff to lead physical activity offers. The initial quantitative results based on the survey of pupils in primary school years 1 to 5 (6 to 10 years old) can be used to show how extracurricular time at school is used from the pupils' perspective and how it is perceived in terms of its quality and impact. The quality of sports didactics training can also be evaluated based on the survey of the pedagogical staff. On the one hand, it is shown what contribution the training in sports didactics makes to the professionalisation of the support staff. On the other hand, the implementation of physical activities during supervision time will be examined. In the survey the children and the pedagogical staff were questioned by means of a questionnaire. References: Cartmel, J., Irvine, S., Harrison, L., Barblett, L., Bobongie-Harris, F. & Lavina, Leanne: Hadley, Fay (2023). Conceptualising the education and care workforce from the perspective of children and young people. *Frontiers in Education*(8). Kemmis, S. (2023). Education for Living Well in a World Worth Living in. In K. E. Reimer, M. Kaukko, S. Windsor, K. Mahon & S. Kemmis (Hrsg.), *Living Well in a World Worth Living in for All*. Springer. Naul, R. & Neuber, N. (2021). Sport im Ganzttag – Zwischenbilanz und Perspektiven. In N. Neuber (Hrsg.), *Kinder- und Jugendsportforschung in Deutschland – Bilanz und Perspektive* (S. 133–150). Springer. Neuber, N. (2008). Zwischen Betreuung und Bildung – Bewegung, Spiel und Sport in der Offenen Ganzttagsschule. *sportunterricht*, 57 (6), 180–185

Keywords: Promotion of physical activity, all-day school, school development, active school life

ID 476 Participatory research in physical education: reflections on access, participation, power dynamics, legitimacy and impact

Kyriaki Makopoulou (University of Birmingham), **Laila Nahari** (University of Birmingham), **Sheryl Mansfield** (University of Birmingham), **Maria Karamani** (University of Birmingham) & **Anna Maria Gatt** (University of Birmingham)

Participatory Research (PR), advocating the engagement of children and young people as social actors and subjects-with-voice, has burgeoned across the social sciences over the last 20 years. Yet, scholars (Fitzgerald et al., 2021) caution that participatory methods are “messy” and “no less problematic or ethically ambiguous” than other methods (p. 430), and that scholarly engagement “with greater awareness and scrutiny” is imperative (p. 433). The aim of this symposium is to present the design and implementation of four distinct PR projects, and to discuss matters related to power relations, access, interactions, legitimacy and impact, with the aim to contribute to ongoing conversations about PR in physical education research. The aim of the first study was to examine Saudi female students' PE experiences. In this presentation, we will reflect on the challenges encountered to obtain parental consents (i.e., issue of access) and the ways participatory methods were utilised to ensure the research was carried out in a culturally sensitive way. The second study will present results from collaborative research project conducted in a primary school. Seven children, aged 10-11, became co-researchers with the aim to inform teachers' practices for inclusion. In this paper, we reflect on students' degree of ownership and the process of empowering them to conduct collaborative research in the context of evolving power relations between students and researchers. The aim of the third study was to capture disabled students' 'voice' about their PE experiences in special schools. We will reflect on the selection of participatory methods utilised, offering reflective accounts/insights on some of the backstage processes in this study. In the final paper, we will report results from a novel, proof-of-concept study conducted in Malta with 15-year-old students, seeking to work with nine students-as-researchers to re-imagine PE for wellbeing. Participation in this project involved varied degrees of responsibility, engagement and contribution for different students and we discuss the implications of this variability and unpredictability for future PR research in PE. Fitzgerald, H., Stride, A. and Enright, E. (2021) Messy Methods: Making Sense of Participatory Research with Young People in PE and Sport. *European Physical Education Review*, 27 (3): 421-435.

Keywords: Participatory research, methodology, reflections, physical education, students-as-researchers

ID 353 Liike – sports and development: Developing the lives of children and youth living in developing countries through sport and health education

There was a girl called Aisha, who at first did not attend school too well. When I got time to discuss with her, I got to know that she came only if there is PE/ sports personnel at present. She said that she comes to school only because of sports. I advised her to understand the importance of school. Now Aisha has started attending school all days, attending all the classes.

- Salome Luwanda, PE teacher, Mandewa Secondary school, Singida, Tanzania

LiiKe – Sports & Development is a Finnish NGO using sports and health education as a tool to encourage youth to go to school in developing countries. Since 2001 LiiKe has maintained thousands of sports fields and trained physical education teachers in primary and secondary schools, colleges and universities in Tanzania and Zimbabwe. One of the biggest success stories was in Mtwara region, Tanzania where the girls had major problems in attending the school and passing the examinations. There was initiation rituals, poverty, early marriages and pregnancies, long distances, and lack of school materials.

In 2015 only 9% of the girls in nine secondary schools passed the final examinations in Form 4. After establishing Girls' action clubs within the "Empowered Girls Speak Out (EGSO)" -project to these nine schools, the attendance and skills of girls started to develop rapidly. Throughout the 2017-20 implementation, the results were booming and at the end of the project, 51,3% of girls passed the examinations. On top of that, the project could hardly register any early pregnancies or marriages in the societies.

The project is continuing in Mtwara region (2021-24) in 50 secondary schools and the girls' action clubs are so popular that even boys want to join and learn too. The clubs are assessed for sports activities, health education, sexual and reproductive health, life skills and fun. Mtwara region is very poor and remote, and has a lot of traditional beliefs and activities, including Unyago initiation which teaches girls old fashioned stereotypes of life. The EGSO -project trains also the initiation educators, the Kungwis, to use the health education and initiation training of the 21st century.

“Since I got trained in EGSO project, I have learned to respect people including my parents, my teachers, I always observe hygiene and cleanliness and I have no fear to speak in the public and to men because I’m confident with what I say for example when say no to boys and when they approach me for sexual relation, I mean it. I have also increased my academic performance and I expecting to become optician because many people in my community are suffering from optic diseases”.

Student from Sino Secondary school, Mtwara, Tanzania

More information: www.liike.fi, and ari.koivu@liike.fi

Tanzanian rhythms and dance for all (practical)

Ally Milao & Mariana Siljamäki

ID 428 Schoolyard Affordances for Active Schoolchildren

Terhi Huovinen (Faculty of Sport and Health Sciences, University of Jyväskylä, Finland), **Irinja Lounassalo** (Faculty of Sport and Health Sciences, University of Jyväskylä, Finland), **Renata Rutkauskaitė** (Lithuanian Sports University, Lithuania), **Ingunn Fjørtoft** (University of South-Eastern Norway), **Lise Kjønniksen** (University of South-Eastern Norway) & **Pórdís Gísladóttir** (School of Education, University of Iceland)

Topic/ content of symposium: (1) What affordances do schoolyards in different countries offer for physical activity? (2) What affordances do children use during recess in different countries? (3) How actively do children from different countries move in schoolyards during recess? Reasons for symposium: Children and young people spend approximately 2000 hours during their basic education on recess breaks. A physically active recess, at its best, can enhance students' well-being and learning in school. Therefore, it is important to investigate what kinds of schoolyard solutions inspire students to engage in physical activity. In the symposium, research findings from six countries will be presented, based on data collected in schoolyards during autumn 2023. The affordances of schoolyards and children's physical activity during recess breaks were observed. The potential of primary education schoolyards to promote physical activity among children and young people during recess were investigated, as well as recess practices in schools. The research involved 60 primary

education schools from six countries: Finland, Norway, Iceland, Estonia, Latvia, and Lithuania, with 10 schools from each country. Preliminary results of the study will be discussed in the symposium.

Keywords: schoolyard, affordances, physical activity, children

ID 651 Schoolyard affordances for play , physical activity and motor learning during outdoor recess. Case studies from Norwegian schoolyards

Ingunn Fjørtoft (University of South-Eastern Norway) & **Lise Kjønnesen** (University of South-Eastern Norway)

Several studies have focused on how school ground environments can stimulate physical activity (PA) in children and positive effects of PA on children's health have been highlighted in many scientific studies. Children spend most of their daytime at school and consequently, school grounds are important arenas for facilitating PA in children. In Norwegian schools, the tradition is to be outdoors using their school grounds for PA both during recess and in physical education classes. Being outdoors is part of the Norwegian culture and a natural as well as integrated part of the school day as outdoor recess is mandatory. Facilities of a school ground should be varied and customized to different age groups and functions and the outdoor environment around a school may vary according to geography and location, rural or urban. This study aimed at investigating 10 different schoolyards in the southern part of Norway analyzing and describing the environmental contexts for PA and motor learning through free play and games in the schoolyards. The school ground environments were mapped and described using Google maps: Norway in pictures, 2010; indicating landscape qualities and facilities that potentially afforded PA in the children combined with an observation form for describing the children's use of the schoolyards. For estimating PA intensity, the SOPLAY observation method was applied. Preliminary results showed a close connection with diversity of the schoolyards and the multi-functional active play in the children, as well as children's attitudes and joy of being outdoors during the recesses. Great diversity of schoolyard size as well as area per child was documented. Also, schoolyard topography and green environments differed across the 10 schoolyards, the rural schoolyards being greener and hillier, affording more unstructured environments for free play. Forest areas, hills and rocks afforded different motor skills like climbing, balancing, sliding, rolling, jumping, and construction play. Open space, gravel fields and sport arenas were mostly used for

ball games. Intensity levels was higher in open space and ballgame areas as they afforded more running. Basic skills were performed in all the schoolyard, but in the multifunctional schoolyards with green environments and constructed areas for sports and ballgames showed more diversity in movement skills. Generally, equipment for different games and sport activities, were scarce. Conclusively, the impression from all schoolyards indicated a need for renovation of the schoolyards – especially the constructed parts needed upgrading and more facilitation for different age groups together with more loose materials for different activities. Also, an age differentiation of the schoolyard areas was demanded. For future design and renovation of schoolyards it was recommended to put more attention to green areas and topography combined with more delimited areas for games with available equipment.

Keywords: Children, schoolyards, environments, physical activity, intensity, motor development

ID 657 Enhancing Physical Activity and Motor Skill Development in Schoolyards: Insights from a Finnish Case Study

Terhi Huovinen (Faculty of Sport and Health Sciences, University of Jyväskylä) & **Irinja Lounassalo** (Faculty of Sport and Health Sciences, University of Jyväskylä)

Optimally designed schoolyards can fulfil various criteria essential for educational environments: facilitating inquiry-based learning, social interaction, health promotion, safety assurance, and nurturing children's creativity. Recess periods offer an opportune time for practicing fundamental motor skills and promoting physical activity within the schoolyard setting. This presentation delves into the outcomes of two distinct Finnish case studies. The first case study involved an observation of 16 basic education school yards, examining the affordances they offer for motor skill development. The second case study analysed the utilization of schoolyard affordances by children during recess and assessed their activity levels across 10 schoolyards. Both case studies employed systematic observation as their primary research methodology. Findings indicated that schoolyards provide conducive settings for practicing manipulative skills. Predominant affordances observed in these schoolyards included basketball courts, swings, and climbing structures, with soccer fields present in 75 % of the schoolyards. Recess observations revealed that soccer fields were the most frequented structures, followed by swings and climbing structures. Also, snowbanks motivated especially primary school children to practice their

motor skills and be physically active during recess. Permitting students to use mobile phones during recess exhibited a negative correlation with the intensity of physical activity. Furthermore, the study highlighted that children and adolescents exhibit a considerably more imaginative utilization of schoolyard affordances than originally envisioned by the designers.

Keywords: schoolyard, affordances, physical activity, children

ID 689 The Role of Schoolyard Affordances for Physically Literate and Active Schoolchildren in Era of Digitalization

Renata Rutkauskaitė (Lithuanian Sports University), **Rita Gruodytė-Račienė** (Lithuanian Sports University) & **Kristina Visagurskienė** (Lithuanian Sports University)

Research shows that a positive experience of physical activity in childhood years helps to lay the foundation for a future healthy and productive life. Optimum daily physical movement, social communication, experiential learning and learning environment for physical activity contribute to the harmonious development of the younger generation. The schoolyard is a place that can serve for the implementation of all these aspects (Thorèn et al., 2019; Rutkauskaitė, et al., 2021). Many studies stress the importance of schoolyard structure and variety in used materials to activate pupils physically and develop their motor skills (Anthamatten et al., 2014; Dudley, 2015). For this purpose, the Schoolyard Affordances for Physically Literate and Active Schoolchildren in Era of Digitalization (SAPLACED) project was recently developed, the aim of which was to carry out needs analyses of the learning environment for movement affordances by involving cross sectorial cooperation for reaching reliable results as well as preparing a sufficient study module to be used at all levels of lifespan. Needs analyses are important for all actors of the project as the obtained results enable us to have a new insight on the issue which is very important. The mapping results were presented during the pilot seminar and finally the recommendations were developed based on the tested prototype. Previous Nordic-Baltic network defined the typical features of schoolyards in different countries (Estonia, Finland, Iceland, Latvia, Lithuania, and Norway). Results demonstrated that schoolyard design and facilities are characterized by flat terrain covered mostly with asphalt and artificial cover and dominated by sports field of international standards, which is of limited use apart from physical education lessons. It was also established that pupils prefer vegetation, comfort, and versatility in schoolyards. If a schoolyard space is attractive and inviting children and youth to move and spend time with

friends communicating, playing, socializing, it is more likely that pupils shall use outdoors more often during recesses or be more willing to stay there after classes end and play together. REFERENCES Anthamatten, P., et al., (2014). An assessment of schoolyard features and behavior patterns in children's utilization and physical activity. *Journal of Physical Activity and Health*, 11(3), 564–573. Dudley, D. A. (2015). A conceptual model of observed physical literacy. *The Physical Educator*, 72(5), 236–260. Rutkauskaite, R., et al. (2021). Schoolyard Affordances for Physical Activity: A Pilot Study in 6 Nordic–Baltic Countries. *Sustainability*, 13, 11640. Thorèn, K.H. et al., (2019). Uteområder i Barnehager og Skoler. Hvordan Sikre Kvalitet i Utformingen. Available online: http://www.skoleanlegg.utdanningsdirektoratet.no/uploads/Artikler_vedlegg/Uteareal/nmbu--skolerog-barnehager--spreads--web.pdf

Keywords: schoolyard, affordances, physical activity, schoolchildren

Adolescents' physical activity, motivation and intentions to be physically active in schoolyards

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Millennials, or members of Generation Z, are growing up in a technology-saturated world of personal computers, smartphones, social media, and the Internet, so the concern is to raise awareness of physical literacy among children and teens. Research results show that younger students prefer vegetation, comfort, and versatility in schoolyards (Rutkauskaite et al., 2021). For this purpose, the Schoolyard Affordances for Physically Literate and Active Schoolchildren in Era of Digitalization (SAPLACED) project was recently developed, the aim of which was to carry out needs analyses of the learning environment for movement affordances, and especially in the adolescent population. As a part of this project, we aimed to analyze and compare the physical activity, intentions, and behavior of students from different

countries in schoolyards during recess and; compare the physical activity of students from different countries during breaks in schoolyards.

The research was carried out with 14-19 years old students (n=1611) from Estonia, Latvia, and Lithuania (n=656 males). Participants were asked to fill in an anonymous online questionnaire, which consisted of basic demographics, physical activity, intentions to be active in the school yard during breaks, students' opinion about the use of schoolyards. Questions about students' physical activity were formulated to determine the frequency, duration, and intensity of students' physical activity during free time (according to WHO recommendations). Students' motivation for physical activity in the schoolyard was assessed using the modified Behavioral Regulations in Exercise Questionnaire-2 (BREQ-2, Markland & Tobin, 2004). For this study, the original statements were modified and adapted to the context of schoolyard physical activity behavior. Students' opinions about the use of schoolyards were assessed by using the Playgrounds Questionnaire (Playgrounds Questionnaire prepared by Dilbil, Basaran, 2017). The questionnaire contains 21 Likert-type questions about students' opinions about the use of playgrounds.

Results and conclusions. The proportion of physical activity and physical inactivity in terms of gender, males were more physically active (51.7%, n=31) than females (23.4%, n=25), which is statistically significant ($p=0,001$). Just approximately 30 percent of students were satisfied with their schoolyard affordances. NO significant differences were found among different countries' students schoolyard evaluation.

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3 ORAL PRESENTATIONS

Tuesday 14th May

Physical education teacher education, professional development

ID 76 Peer assessment practices in physical education: development of teachers activity through self and cross confrontation interviews

Annabelle Grandchamp (University of Teacher Education, HEP Vaud)

Peer assessment practices include situations in which students are involved in observing or assessing their peers. For a long time, peer assessment was limited to performance assessments without pedagogical aim (Brau-Antony, 1991). More recently, studies have shown improved student engagement and learning through implementation of alternative methods, such as Assessment for learning (AfL), which aims to involve students through peer assessment situations (López-Pastor et al., 2013). By collaborating with peers and teachers, students would better integrate assessment criteria and take greater responsibility for themselves (Mougenot, 2016). In the french part of Switzerland, specifically in the county of Vaud where PE has no promotional grades, PE teachers don't succeed to use learning-oriented peer assessment practices (Lentillon-Kaestner & Grandchamp, 2020). This qualitative research, carried out in a context of PE reform, focuses on the development of PE teachers induced by underlying tensions in their assessment activity, more specifically for peer assessment. Theoretical concepts come from the Clinical activity. It supposes a potential development process for actors induced by intrapsychic conflicts linked to competing motives or non-realized possibilities for action (Clot, 2008). Data

collection used a qualitative method based on 26 self and cross confrontation interviews to identify a potential activity development by six PE teachers from secondary school (students aged 12 to 16). Results show that PE teachers' potential development activity is linked to intrapsychic conflicts due to resistances and/or difficulties to involve peer assessment in their practices. Analysis of the work illuminate of one of most recurrent PE teachers' concerns that is assessment judgment control. Through self and cross confrontation interviews, PE teachers involved in this qualitative study overcome activity tensions and succeed in modifying their perceptions. They find meaning in peer-assessment practices beyond time-saving aspect and try successfully to set up peer assessment practices. In non-promotional context, peer assessment is seen as an opportunity to improve student learning and engagement. Brau-Antony, S. (1991). Basket-ball : comment donner un sens aux apprentissages. *EP.S*, 232, 38-41. Clot, Y. (2008). *Travail et pouvoir d'agir*. PUF. Lentillon-Kaestner, V., & Grandchamp, A. (2020). L'évaluation sommative en éducation physique, du prescrit aux pratiques : le cas du canton de Vaud, un contexte non noté. In V. Lentillon-Kaestner (Ed.), *Penser l'éducation physique autrement* (pp. 143-164). EME éditions. López-Pastor, V. M., Kirk, D., Lorente-Catalan, E., MacPhail, A., & Macdonald, D. (2013). Alternative assessment in physical education: a review of international literature. *Sport, Education and Society*, 18(1), 57-76. Mougnot, L. (2016). Régulation différée et apprentissage en sport collectif. *Staps* 1, 111, 29-41.

Keywords: Peer assessment, summative assessment, clinical activity, professional development

ID 249 Teaching and assessment in Norwegian PETE: What appears to be important knowledge?

Erik Aasland (University of Agder), **Aron Gauti Laxdal** (University of Agder), **Bjørn Tore Johansen** (University of Agder), **Ketil Østrem** (University of Agder) & **Gunn Nyberg** (University of Agder)

Previous research shows that both Physical Education Teacher Education (PETE) students and educators have difficulties conceptualizing what knowledge students are expected to learn as well as what knowledge should be assessed in examinations (e. g. Backman et al., 2020). There are ongoing discussions in the research literature concerning what status/significance students' movement capability as content knowledge should have in PETE teaching and assessment. Considering this, our aim is to investigate what appears to be important knowledge for students to learn

during a practical course in PETE in Norway. Data was generated through fieldnotes during observation of 15 lessons and nine 30-minute practical-oral exams, course information, and a focus group interview with four students. The class that was observed consisted of 25 PETE students, and we observed seven PETE educators during lessons and the exam. We used discourse theory to analyze our empirical material. Our preliminary analysis shows that students are expected to know how to plan, conduct, and evaluate their teaching. Of particular importance is that PETE students must demonstrate teaching competence in a movement activity in accordance with a Physical Education (PE) curricular competence aim. However, when students demonstrate teaching tasks, the main learning goal seems to be that pupils in PE should learn to cooperate, reflect, and gain knowledge about rules. Developing pupils' movement capabilities is obscured when students teach. Furthermore, students must know how to incorporate teaching principles for "good teaching". These principles include how to motivate, activate, vary, and individualize. Students must also demonstrate knowledge about deductive and inductive teaching methods. We argue that traditional/craft and behavioristic discourses (Tinning, 2006) dominate in this PETE course. The teaching and assessment/exam seem to produce understandings ("truths") that PETE should equip students with the pedagogical skills to teach current PE curriculum. In contrast to other countries' PETE teaching and assessment, our study indicates that developing students' movement capabilities appears to be of minor importance. We argue that PETE educators in Norway need to address questions about what should be considered as subject content knowledge in PETE, and, whether and how to develop and assess students' movement capability. References Backman, E., Nyberg, G. & Larsson, H. (2020). Moving beyond rigid orthodoxies in the teaching and assessment of movement in Swedish physical education teacher education: A student perspective. *European Physical Education Review* 2020, Vol. 26(1) 111-127. Tinning, R. (2006). Theoretical orientations in physical education teacher education. In: D. Kirk, D. Macdonald & M. O'Sullivan (eds.), *The Handbook of Physical Education* (p. 369-385). Sage.

Keywords: Physical Education Teacher Education, knowledge, teaching, assessment, discourse

ID 163 Meaningful learning path of PE students during their studies

Tommi Mäkinen (Department of Teacher Education, University of Jyväskylä) & **Minni Matikainen** (Department of Music, Art and Culture Studies, University of Jyväskylä)

This presentation examines the meaningful learning experiences and learning path of PE teacher students in social and emotional skills during their university studies. Social and emotional learning (SEL) is an integrated part of physical education (Wright & Richards, 2022) but research of learning SEL in teacher education is scarce (Schonert-Reichl, 2019). Learning SEL is both learning skills and attitudes and through meaningful learning experiences it is possible to touch them both. The aim of this study was to find out what kind of meaningful learning experiences they have had during their studies, either in or outside their studies, and what kind of learning process they have formed. The data was collected in spring 2023. The interviewees (n=9) were teachers with a master's degree in physical education and health sciences and they had been teachers from one to four years. The interview was conducted with semi-structured thematic interviews, in which the interviewees told about their meaningful learning experiences during their studies and about learning their own social and emotional skills. The data were analyzed using a data-driven approach. The interviewees had various meaningful learning experiences both in formal studies and in informal settings and they were central to their learning. During their studies, they developed a learning process, which we divided in different phases. During this process, they experienced a change in their skills and their attitudes. This study helps to understand the learning of socioemotional skills as a long-term process that progresses both inside and outside studies. At the heart of the process are meaningful learning experiences that promote both the development of skills and attitudes. In teacher education, there is a need to focus more on holistic approach of learning processes than content-centered education. Education could also put effort to support students' own learning paths and acts. Schonert-Reichl, K. A. (2019). Advancements in the landscape of social and emotional learning and emerging topics on the horizon. *Educational Psychologist*, 54(3), 222–232. <https://doi.org/10.1080/00461520.2019.1633925> Wright, P. M. & Richards, A. R. (2022) Social and Emotional Learning as an Integrated Part of Physical Education. *Journal of Physical Education, Recreation & Dance*, 93(2), 5–7. <https://doi.org/10.1080/07303084.2022.2020048>

Keywords: physical education teacher education, social and emotional learning, meaningful learning

ID 160 Exploring Primary Physical Education Subject Leaders' Professional Development Needs: A Group Concept Mapping Approach

David Cooke (Leeds Beckett University), **David Morley** (Leeds Beckett University), **Ruan Jones** (Cardiff Metropolitan University), **Alex Donaldson** (La Trobe University), **Samuel Gregory** (Leeds Beckett University) & **Danielle Powell** (Munster Technological University)

This unique study explored the professional development needs of Primary Physical Education Subject Leaders (PPEL's) in England to inform changes to continuing professional development (CPD). The most recent All Party Parliamentary Group (APPG) for a fit and healthy childhood identified inadequacies in primary teacher training and CPD as a barrier to positive experiences for young people. Funding initiatives have sought to address this issue by identifying and supporting teachers to act as PPEL's. Group concept mapping (GCM) was used to collect data from 54 PPEL's in one city in Northern England. The PPEL's: (i) brainstormed what they wanted to know in relation to the prompt: 'What knowledge, skills, and experiences do you need to perform your role, as a PPEL, better?; (ii) grouped the brainstormed ideas around perceived similarity of meaning; and (iii) rated each statement by importance, and feasibility. A multidimensional scaling and hierarchical cluster analysis was conducted using the Concept Systems GroupWisdom™ platform. 54 PPEL's brainstormed 52 statements (after data cleansing). A 9-cluster map best represented the data with the following themes: finance and funding, assessing and monitoring learning, partnerships and networking, working school-wide, working with/supporting others, planning, integrating physical activity, topic specific support, and inclusive teaching. PPEL's placed the lowest importance on topic specific support (e.g. Dance, Gymnastics). Such findings contrast with traditional CPD offers and the standards and guidance for teachers' CPD, which suggest that subject knowledge development should be prioritised. PPEL's considered adapting teaching to the needs of all pupils, and planning/designing high quality PE curricula as high importance and high feasibility. In effect, participants suggested these areas are potential 'quick wins' for schools and CPD providers. The high importance/low feasibility data is dominated by statements relating to working with and influencing others. Examples of key statements include working with senior leaders; communicating the value of PESS; supporting and inspiring less engaged staff; and creating an environment where PE is a priority for all staff. These findings suggest leadership skills that allow PPEL's to communicate both up and down the school hierarchy are vital to them improving the experiences of all young people. Previous evidence has shown the importance of understanding the micropolitics of schooling

for secondary Heads of PE. Similarly, our analysis suggests PPEL's view influencing others (senior school leaders and fellow teachers) as their greatest challenge, but PPEL's also see the importance of addressing such gaps in their skills, knowledge, and experience. To conclude, this novel GCM approach provided the evidence for the process of co-constructing a city-wide Primary PE CPD offer.

Keywords: CPD, Primary PE, Concept Mapping

ID 457 "Teach us first, so we could teach the children": Kindergarten Teachers' Perceptions from PA REALITY Intervention Mapping Study

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Physical development and health in early childhood are important for establishing the foundations and patterns of movement behaviors, that will in turn benefit an individual's physical activity and health in later stages of life. However, physical education is not part of the kindergarten education curriculum in Hong Kong (HK). As an exercise of needs assessment using intervention mapping¹, we investigated the state of physical education in HK kindergartens, with the objective to systematically develop and implement a tailored school-home intervention for enhancing the teaching of preschool children's physical activity and fundamental movement skills. Semi-structured interviews were conducted with four in-service administrators and nine teachers from four kindergartens with varying physical environments and curriculum approaches. Recorded interviews were transcribed verbatim and analyzed using a hybrid of inductive and deductive thematic analyses. Three themes were identified: Lack of training for teachers at their in-service and pre-service stages, limited assessment guidelines for preschool children's fundamental movement skills, and low priority for physical education in kindergartens and families. Our results suggested that teachers are facing personal and environmental barriers towards quality physical education. At the individual level, they perceived low self-efficacy in pedagogical and teaching skills due to the gap between pre-service theoretical training and practical teaching. At the environmental level, teachers felt that instruction and assessment guidelines for structured physical education were unavailable. Further, children received inadequate parental support in relation to their physical development. Based on results from the interviews, we identified social cognitive theory (SCT)² as an appropriate framework for intervention design and delivery.

Within SCT, personal, environmental and behavioral factors are interactive elements within a reciprocal process of learning and behavior change. Our results suggest that personal and environmental barriers in-service kindergarten teachers face could limit their teaching effectiveness in physical domains. As such, future interventions should provide specific, targeted strategies to support teachers in overcoming these challenges. For example, immersion of physical activity games, standardizing assessment training, and engaging parents in regular parent-child co-physical activity. These key intervention concepts will be applied in the project titled Physical Activity Routines, Education, Assessment, Literacy, and Information Technology application in Young children (PA REALITY). 1.Eldredge, L. K. B., Markham, C. M., Ruiter, R. A., Fernández, M. E., Kok, G., & Parcel, G. S. (2016). Planning health promotion programs: an intervention mapping approach. John Wiley & Sons. 2.Bandura, A. (2006). Guide for constructing self-efficacy scales. *Self-efficacy beliefs of adolescents*, 5(1), 307-337.

Keywords: professional development, qualitative, social cognitive theory, fundamental movement skills

ID 481 Questionnaire on teachers' attitudes towards transgender students in Physical Education

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School in general and Physical Education (PE) in particular are settings where cis- and heteronormativity is (re)produced by marginalizing individuals who deviate from heterosexuality and binary gender constructions (Berg & Kokkonen, 2021). For students who identify themselves beyond heteronormative assumptions, experiences within PE are often affected by discrimination, rejection and exclusion (Devís-Devís, 2018). The crucial role of the PE teacher in creating safe spaces and a trans-inclusive PE and school environment cannot be neglected (Fuentes-Miguel et al., 2022). Quantitative school surveys show that positive teacher attitudes towards LGBTQ students also increase their support for LGBTQ students. Nevertheless, there is a lack of quantitative studies examining teachers' attitudes towards transgender students in the specific context of PE. Therefore, the aim of the study is to develop and empirically test a questionnaire on attitudes towards transgender students in PE by especially formulating PE-specific items. These items are adapted from general scales on attitudes towards LGBTQ individuals, but also are derived from the results of qualitative studies in PE. In addition, the questionnaire contains further

scales such as an adapted version of the teachers' self-efficacy scale for teaching LGBTQ youth (Jones et al., 2021) and knowledge of transgender (Gorrotxategi et al., 2020). The data collection process of the test-retest study is running. At the conference, the psychometric properties of the scale 'teachers' attitudes towards transgender students in PE' will be presented and discussed. Finally, further perspectives on PE teacher education – where the questionnaire can be used – will be introduced and discussed.

Literature Berg, P. & Kokkonen, M. (2021). Heteronormativity meets queering in physical education: the views of PE teachers and LGBTIQ+ students, *Physical Education and Sport Pedagogy*, 27(2), 368-381.

Devís-Devís, J., Pereira-García, S., López-Cañada, E., Pérez-Samaniego, V., & Fuentes-Miguel, J. (2018). Looking back into trans persons' experiences in heteronormative secondary physical education contexts. *Physical Education and Sport Pedagogy*, 23(1), 103–116.

Fuentes-Miguel, J., Pérez-Samaniego, V., López-Cañada, E., Pereira-García, S., & Devís-Devís, J. (2022). From inclusion to queer-trans pedagogy in school and physical education: a narrative ethnography of trans generosity, *Sport, Education and Society*. Advance online publication. <https://doi.org/10.1080/13573322.2022.2073437>

Gorrotxategi, M.P., Ozamiz-Etxebarria, N., Jiménez-Etxebarria, E. & Cornelius-White J.H.D. (2020) Improvement in Gender and Transgender Knowledge in University Students Through the Creative Factory Methodology. *Front. Psychol.* 11:367.

Jones, M. H., Hershberger, M. A., Goodrich, M., Hackel, T. S., & Love, A. (2021) Preservice Teachers' Self-Efficacy for Teaching LGBTQ Youth. *The Teacher Educator*, 56(4), 427-444.

Keywords: transgender, LGBTQ, questionnaire, attitudes, self-efficacy

Health teacher education, professional development

ID 79 University Students' Perceptions of a 30 minute Break During Class: A Realistic Practice for Wellness?

Shannon Kell (Mount Royal University)

Taking effective breaks is a topic of current research in the K-12 school setting as well as the post-secondary setting in relation to wellness practices. To take a break can be perceived as a waste of valuable time during working hours, class time, or

studying. However, cognitive fatigue accumulates during demanding mental tasks and productivity declines. Meijman and Mulder, (1998) explain how rest breaks can reverse strain reactions caused by mental work fatigue; sufficient rest and recovery can maintain long-term, sustainable wellness. However, the opposite is true if we do not sufficiently rest or the demands remain too high. Strain can accumulate and lead to prolonged health impairment. An interruption from demanding mental work with the intention to recover has been shown to reduce fatigue, increase vigilance, vigor (motivation), and production even though time is lost to the break (Wendsche, Lohmann-Haislah, & Wegge, 2016). This research project implemented a 30 minute, unstructured break during a weekly three hour university class for 12 weeks in a teacher-education program. It aimed to find out what post-secondary students thought about taking a 30 minute break, what they did during the break, what influenced their choices, if they felt refreshed (vigilance), and if they felt motivated to learn (vigor) after the break. Further, the researcher was interested in learning about if/how student-teachers may implement breaks in their future classrooms as teachers in the K-12 education system. Using a pre and post course online survey along with a weekly online log, quantitative data was collected and analyzed using descriptive statistics to illustrate participants' behaviour over time. Further, a focus group was conducted to collect more in-depth qualitative data which focused on forward-looking considerations for their own classrooms; barriers and opportunities were discussed. This data was analyzed using thematic coding and five themes emerged: Quality of Learning, Logistics of the Brea, Modeling and Leadership, Practicing a Life Skill, and So Many Barriers. This study represents an attempt at reconsidering that taking time out isn't a waste of time, or about 'being productive'. Rather, taking a break is about 'enabling productivity' - investing in healthy practices that allow our brains to perform better and for longer, thereby allowing us to do our best work instead of simply getting work done. Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload. In P. J. D. Drenth & H. Thierry (Eds.), *Handbook of work and organizational psychology* (Vol. 2 Work psychology, pp. 5–33). Hove, England: Psychology Press. Wendsche, J., Lohmann-Haislah, A., & Wegge, J. (2016). The impact of supplementary short rest breaks on task performance: A meta-analysis. *Sozialpolitik.Ch*, 2, 1-24. <https://doi.org/10.13140/RG.2.2.11901.97765>

Keywords: Teacher Wellness, Teacher Education, Pedagogy

ID 271 Movement pedagogy through the schooldays - teachers' experiences of working with sustainable daily movement at primary school.

Veronica Jägerbrink (Malmö Universitet)

Studies show that physical activity and movement at school can lead to improved subject knowledge, increased well-being and better concentration and motivation (Estrada-Tenorio et al., 2020). The primary school in Sweden has a mission to offer daily movements to students. To accomplish this mission, many schools appoint teachers to develop daily physical activities. The aim of the study is to identify, describe, and understand the educational processes connected to how the mission of daily movement for students is accomplished by teachers in primary school in Sweden. That includes the set-up of the organization to clarifying the framework and prerequisites for the movement assignment, as well as the competence required for the assignment. Institutional theory will be the conceptual framework together with a targeted focus on learning for sustainable development. In combination these frameworks can address both learning processes, teachers' competence, and knowledge about their work with daily movement in school. Two research questions guide the study: - Which educational processes are linked to the movement assignment in primary school? - What competence does the movement mission requires from the teachers? The study builds on 10 semi-structural interviews, both individuals and in focus groups, during October and November 2023. Three male and seven female teachers that work with daily movement in different primary schools in Sweden were interviewed. The daily movement assignment is a relative new content in school in Sweden, and it is clear how different schools interpret this assignment. The general teacher narrative is that it is possible to point out what aspects that increases physical activity and movement education in all students. Teachers talk about pedagogical responsibility, their own genuine interest in movement and physical activity and an informed understanding of movement as crucial ingredients for daily movement education. Furthermore, they describe the fruit of their work in terms of better contact with all students, increased movement capacities among students, less conflict during breaks, and that students express an increased sense of belonging to the place and space of the school. The preliminary results can show the didactic implication for daily movement education. It is not just an activation it also benefits students' experience of belonging to the school as a room and a place. By making visible teachers' experiences of working with daily movement in school, the study can thus highlight the institution's challenges and opportunities for sustainable learning about movement. Estrada-Tenorio, S., Julián, J. A., Aibar, A., Martín-Albo, J., & Zaragoza, J. (2020). Academic achievement and

physical activity: the ideal relationship to promote a healthier lifestyle in adolescents. *Journal of Physical Activity and Health*, 17(5), 525-532. The study highlights learning for sustainable development with its focus on movement activities as an inclusive part of institutionalized education and everyday school life for teachers and students. Increased physical education, movement in school is an important part of the future. Through physical activity and movement at school, the overall development of children and young people is supported.

Keywords: Daily movement in school, movement education, physical activity, sustainable, children's health

ID 562 Worldwide policy, monitoring and research on physical education and school-based physical activity: The Global Observatory for Physical Education (GoPE!) conceptual framework

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Purpose: The recently launched Global Observatory for Physical Education (GoPE!)(1) builds on Global Observatory for Physical Activity (GoPA!)(2) highly successful and impactful initiative to address the strategic policy action of strengthening the provision of quality physical education (PE) and physical activity (PA) within school settings worldwide³ and the gap of missing, misaligned and often outdated indicators around PE and PA at school policy, surveillance, and research⁽³⁾. Thus, we aim to present the first version of GoPE!'s conceptual framework. Methods: The GoPE!'s conceptual framework is derived from combining the frameworks of GoPA! and the European Physical Education Observatory (EuPEO)(4) with a non-systematic desk review that identified relevant literature and international PE monitoring systems (e.g. AHKGA, GoPA!, GSHS, OECD, WHO, UNESCO). From this, the

respective conceptual frameworks were extracted, analysed, and condensed through a collaborative, iterative, and qualitative analysis towards GoPE!'s first conceptual framework. The framework's operationalisation adopted the following criteria: representativeness, comparability, feasibility, validity-reliability, reach, and policy-actionability. Results: The GoPE! Country Card is going to be the main product released every 4 years, starting in 2024. This is a one-page graphic summary of a country's key dimensions and indicators compiled using a rigorous standardized methodology, where the data is first collected by the GoPE! researchers and next verified by country representatives. The GoPE!'s conceptual framework led to five dimensions, 27 indicators, and a set of comprehensive search strategies: (1) Country demographics (12 indicators) ; (2) PA prevalence (3 indicators) ; (3) PE policy (6 indicators) and (4) PE monitoring (1 indicator); and (5) PE and school-based PA research interventions (5 indicators). We will consult the best available data sources (e.g. The World Bank, UNESCO, physical activity surveillance systems, governmental websites, international reports/monitoring systems, google, and scientific databases) and conduct a systematic umbrella review to complete data collection. A network of PE experts will become Country Contacts to review and approve the data before publication. Conclusion: GoPE!'s conceptual framework will provide a highly consistent and feasible worldwide model of actionable dimensions that contribute to a minimum common denominator of quality PE and PA at school. GoPE! will facilitate critical periodic data to enable countries to initiate or improve PE and PA at school policy, monitoring, and research. References: 1Martins et al. 2023. *J Phys Act Health*, 20(7): 573. doi: 10.1123/jpah.2023-0099 2GoPA! <https://new.globalphysicalactivityobservatory.com/goals/> 3WHO. *Global Status Report on Physical Activity 2022*. ISBN 978-92-4-005915-3 4EuPEO. <https://www.eupeo.net>

Keywords: physical education, physical activity, policy, surveillance, research

ID 547 Integrating Racial Literacy, Anti-Racism & Equity and Justice into the School Health Education Program

Sarah Benes (Southern Connecticut State University)

The aim of this project was to embed racial literacy, anti-racism, and equity and justice outcomes into the school health education (SHE) program. The project had the following objectives: 1) Create student outcomes related to racial literacy, anti-racism, and equity & justice for the SHE program; 2) Develop a map which shows how the outcomes are embedded into courses throughout the program; 3) Articulate the

ways the proposed mapping supports students' skill development and advances competencies; and 4) Create a "guide" to support faculty with addressing these outcomes in their courses. The author reviewed current literature and examples of practice-based tools and methodologies to support the development of the outcomes for the program. The author reviewed current syllabi for the program and determined the most effective opportunities for integration across the courses. Results from the project included: a map highlighting the new objectives and outcomes in the course sequence, anticipated student outcomes, and a guidebook for faculty to support implementation of these changes. Results also included the themes from the researcher's experience throughout this work: personal growth, identity reflection, identity development, barriers, needs in teacher preparation, and student identity. Despite challenges, this project resulted in positive changes to the school health education program and personal growth of the researcher. The next step is to study the student outcomes of these changes (via surveys and focus groups) as well as faculty experience (via memoing and interviews) as they implement the changes. Health education teacher education programs must engage directly in the work of advancing equity and justice and helping future and current teachers advance their skills and knowledge to support diverse learners.

Keywords: health education teacher education, equity, anti-racism, program outcomes

ID 423 Examining Competencies for Health Education: A Look into Canada's Health Education Curricula

Lauren Sulz (University of Alberta), **Daniel Robinson** (St. Francis Xavier University), **Hayley Morrison** (University of Alberta), **Lindsey Wilson** (St. Francis Xavier University) & **Jodi Harding-Kuriger** (University of Alberta)

Health education curricula across Canada are developed by individual provinces/territories, enabling curriculum documents to be responsive to regional needs. This decentralized approach results in a lack of consistency in curriculum outcomes across the country, which impedes Canadian teachers and students from accessing a standardized set of curriculum competencies or outcomes. Physical and Health Education Canada (PHE Canada) recently developed Canadian Competencies for Physical and Health Education (CPHE Competencies). These Competencies contain core health education competencies/ outcome themes that are meant to be exemplars for education systems (K-12) across the nation. More specifically, the CPHE

Competencies offer a purposely planned, sequential, and culturally affirming curriculum framework that promotes comprehensive well-being at every stage of a student's development. These competencies are meant to spark change and offer guidance to (re)build more inclusive, empowering, and meaningful health education. In this milieu, we have recognized a need to provide an overview and analysis of health education curricula across Canada and contrast curricula with the recently released CPHE Competencies. This session will present the findings of our analysis, highlighting key themes including: allocated time for teaching and learning health education; age/contemporary relevance of health education curricula; and alignment with the CPHE Competencies. We will engage in open dialogue on the current status and future directions of health education to move towards meaningful and quality health education in K-12 schools. Our analysis of Canadian health education curricula offer possibilities for consideration, contemplation and comparison within other Western contexts. Specifically, these possibilities relate to inconsistencies within decentralized education systems and the purpose and potential of national organizations with respect to shaping/ influencing state-created curricula.

Keywords: Health education, Health literacy, competencies, curriculum, outcomes

ID 403 An examination of secondary school students' attitudes towards Physical Education in Ireland

Brendan O'Keeffe (University of Limerick)

Introduction Attitude is something that influences every part of our lives (Silverman 2017). Understanding the attitudes of students towards Physical Education is vital to enhance students experience of the subject. Despite the crucial role attitude plays in influencing behaviour, there is a distinct lack of research available in the Irish context on students' experiences of Physical Education. This aim of this study was to examine secondary school students' attitudes towards Physical Education in Ireland. **Methods** An online survey was administered via Qualtrics. Survey items were generated from the validated Students Attitudes Towards Physical Education Scale (SATPE) (Subramaniam & Silverman, 2000). Additional items specific to the Irish Physical Education context were also included. A mixture of close-ended, Likert scale and open-ended questions were used to elicit student responses. **Results** A cross sectional sample of 706 second level students (Mean Age= 14.7, SD = 1.5) participated. Overall, students' attitudes towards Physical Education (PE) were relatively neutral (3.0) according to the SATPE scale ranging from 1 (strongly disagree)

to 5 (strongly agree). Total attitude did not vary significantly across key demographic variables including gender ($p = .37$), school type ($p = .55$) and age ($p = .59$). However, statistically significant differences were observed across several individual items on the SATPE scale. Female students most commonly cited chatting with friends and not having to write, sit or study as the most enjoyable aspects of PE. In contrast, male students (31 in total) identified contact and competitive sports, particularly soccer, as the most enjoyable aspects of PE. **Conclusion** This research study provides valuable insights into the attitudes of students towards physical education in secondary schools in Ireland. The majority of students expressed ambivalence towards physical education, with nuanced differences in attitudes observed based on gender, age, and socio-demographic background. **References** Subramaniam, P. R., & Silverman, S. (2000). Validation of scores from an instrument assessing student attitude toward physical education. *Measurement in Physical Education and Exercise Science*, 4, 29–43.

Keywords: Attitude; Physical Education; Gender disparity

Coach education, professional development

ID 75 Hierarchies as educational systems in sport: automated use of power

Fabiana Turelli (University of Manitoba), **Alexandre Vaz** (Universidade Federal de Santa Catarina) & **David Kirk** (University of Strathclyde)

Bringing equity, diversity, and inclusion (EDI) into sport practice is an ongoing challenge for society (Oswick & Noon 2014). Sport, from grassroots to elite level, plays an important role in applying and improving EDI practices once different forms of sport are widely present in people's lives. Participation in a sport that lacks EDI can be harmful as research has been showing. In this work, we are focusing on gender inclusion issues in high-level sports karate. Karate, despite reaching the temporary condition of an Olympic sport, keeps its roots as a martial art. In both scenarios, it is supported in a complex system of hierarchies. In addition, we know that high-level sport is not about inclusion but usually the opposite. It yet resonates with the martial art background full of rituals and symbols that, due to the supposed tradition (Hobsbawm, 1983) of the particular practice, according to Segalen (2017),

strengthens a masculine charge and legitimates a masculine space. Hence, martial arts and combat sports (MACS) environments are often accepted as places of preservation of male primordial privilege (Theberge, 1985). Women entering such spaces need to scale the hierarchical system, which in some aspects, e.g. belts, is there for everybody but is increased in other occasions that apparently are neutral, although they can hide dynamics of power and a gendered hierarchy. Hierarchies organize structures indicating places and positions and are fundamentally concerned with power relations. Different MACS are organized following a hierarchical system of belts, which is only one form of hierarchy adopted in karate. There are many others though, obvious and subliminal, structuring karate in a pyramidal approach that can be overpowering for those located near the bottom of such a pyramid. Our aim in this work is to fill a gap in our knowledge regarding the multiple forms of hierarchies that sports karate is built over and discuss to what extent it is pedagogic and inclusive to women karateka. For doing so, we carried out an ethnographic study with the Spanish national squad in preparation for attending the Tokyo 2020 (2021) Olympic Games. We present data in the gendered hierarchy found with the high-level team. It ends up being embodied by women athletes to the extent that they consider men to “naturally” occupy the top positions. Other women, though, are questioning past traditions to open a path to a different future. References Hobsbawm, E. (1983). Introduction: Inventing Traditions. In: Hobsbawm, E., & Ranger, T. *The Invention of Tradition*. Cambridge University Press. Oswick, C., & Noon, M. (2014). Discourses of diversity, equality and inclusion: Trenchant formulations or transient fashions? *British Journal of Management*, 25(1), 23-39. Segalen, M. (2017). Rites et rituels contemporains. *Cursus*, Armand Colin. 192p. Theberge, N. (1985). Towards a feminist alternative to sport as a male preserve. *Quest*, 37, 193-202.

Keywords: Sports pedagogy, gender, karate, EDI, domination.

ID 97 Facilitating boundary crossing and professional learning through an international coach education project

Tim Fletcher (Brock University), **Nicola Carse** (University of Edinburgh), **Mats Hordvik** (Norwegian School of Sports Sciences), **Déirdre Ní Chróinín** (Mary Immaculate College), **Richard Bowles** (Mary Immaculate College), **Biljana Popeska** (Goce Delcev University), **Paul Mcmillan** (University of Edinburgh) & **Bård Solstad** (University of Agder)

Background and Context: The aim of this research is to analyze the experiences of eight sport pedagogy academics involved in a two-year project focused on supporting how coaches could prioritize meaningful experiences for children in youth sport contexts. Members of the Meaningfulness in Youth Sport (MiYS) project partnered with coaches from youth sport clubs in four countries to co-create an accessible resource. The particular focus is on the internationalization of activities (outreach, knowledge mobilization) that were part of the MiYS project. MacPhail and Luguetti (2021) suggest institutions or individuals might engage in international activities for political, economic, cultural, or moral imperatives. Our particular interest lies in the ways that internationalization supported our individual and collective learning. Boundary crossing offers a framework for this research. Akkerman and Bakker (2011) identify four learning mechanisms that can occur at boundaries: identification, coordination, reflection, and transformation. Each mechanism shows how learning is facilitated or constrained by transitions and interactions occurring at the boundaries. **Methodology:** Using practitioner inquiry, several forms of self-generated qualitative data were gathered, including focus group interviews, recordings of meetings, and blog posts. Data were analyzed deductively with the mechanisms of boundary crossing guiding coding and thematizing. **Results:** Analysis showed that individual and collective learning of the MiYS participants occurred at boundaries in terms of identification, coordination, reflection, and transformation. Each mechanism was evident in different ways. Of note, the coordination elements that facilitated the internationalization of the project activities seemed to be a catalyst and influence for learning occurring through other mechanisms (i.e. identification, reflection, transformation). This suggests that coordination elements were central to any success of the international activities in terms of learning and collaboration both within and beyond the specific MiYS project. **Significance:** This research provides evidence about the ways that internationalization of higher education activities in sport pedagogy can support individual and collective learning. Boundary crossing showed that coordination of international activities arguably acts as a fulcrum upon which learning through other boundary crossing mechanisms balances. The outcomes of this research carry implications for how other sport pedagogy academics might engage in and study international activities. **Reference List** Akkerman, S. F., & Bakker, A. (2011). Boundary crossing and boundary objects. *Review of educational research*, 81(2), 132-169. MacPhail, A., & Luguetti, C. (2021). Nurturing solidarity: considering the internationalization of research activities in kinesiology as a moral practice. *International Journal of Kinesiology in Higher Education*, 5(2), 56-67.

Keywords: meaningfulness; youth sport; resource

ID 98 Youth sport coaches and concussions: you don't know, what you don't know.

Donna Duffy (UNC Greensboro)

A vast majority of the youth sport coaches in the United States are volunteers, which means that they lack formalized, scientific coaching education knowledge and methods. This lack of coaching education has implications for physical, social and emotional development among youth sport participants. Of further concern is the lack of training and scientific knowledge regarding injuries, specifically concussions, sometimes referred to as mild traumatic brain injury (mTBI). Between 1.7 and 3 million youth sport athletes experience a concussion annually. The Centers for Disease Control and Prevention (CDC) defines concussion as “a type of traumatic brain injury—or TBI—caused by a bump, blow, or jolt to the head or by a hit to the body that causes the head and brain to move rapidly back and forth. This sudden movement can cause the brain to bounce around or twist in the skull, creating chemical changes in the brain and sometimes stretching and damaging brain cells.” Although most sports-related concussions have health-related outcomes of limited severity, more serious outcomes can include long-term neuropsychological dysfunction, dementia later in life, or even death. The literature is clear; coach and parent concussion education programs are essential for the prevention, diagnosis, management, and return to play of youth athletes (Feiss, et al, 2020). However, if youth sport coaches are largely volunteers, what are the realistic expectations of organizations and leagues to require concussion coach education training? This presentation will explore strategies to engage and train youth sport coaches on concussion, signs and symptoms, as well as prevention and management. CDC – National Center for Health Statistics https://www.cdc.gov/headsup/basics/concussion_what.html. October 16, 2023. Feiss, R., Lutz, M., Reiche, E., Moody, J., & Pangelinan, M. (2020). A Systematic Review of the Effectiveness of Concussion Education Programs for Coaches and Parents of Youth Athletes. *International journal of environmental research and public health*, 17(8), 2665. <https://doi.org/10.3390/ijerph17082665>.

Keywords: concussion, youth sport, coaching education

ID 100 The anatomy of body shaming in sports coaching

Valeria Varea (Edith Cowan University and Dalarna University), **Robert S. Primus** (Örebro University), **Natalie Barker-Ruchti** (Örebro University) & **Mikael Quennerstedt** (The Swedish School of Sport and Health Sciences and Inland Norway University)

Stories of body shaming in sports coaching are becoming increasingly present. Research also suggests that coaches adopt body shaming practices because they believe that athletes need to be fat-free to succeed. The assumption is that if athletes can attain a particular body shape, body composition, and body weight (e.g., child-like in women's gymnastics; extremely thin in rhythmic gymnastics; slim but toned in swimming; thin and light in running), they are more likely to reach peak performance. To reach such ideal body shapes, coaches have been found to criticise athletes' bodies, particularly female athletes' body shape and weight, joke about young athletes' bodies, not select athletes because of body composition (despite sufficient performance), demand extreme weight loss, and claim that weight loss would enhance performance. Body shaming can intentionally, unintentionally, or inadvertently be used in different sports coaching practices, but does not necessarily intend to harm athletes. The aim of the study in the presentation is to explore body sensitivity and body criticality sport coaching practices that have the potential to be shaming, or as we call it in the title, the 'anatomy' of body shaming. Data generation was conducted with 11 coaches from eight different sports in Sweden. We purposely selected individual and team winter and summer sports that are femininity-connoted (artistic swimming; gymnastics), masculinity-connoted (boxing; American football; ice hockey), and more 'gender-neutral' (cross-country skiing; orienteering). Building on the described literature on body shaming in sport, this study used photo elicitation, vignettes, and interviews for data generation, because such tools have shown to generate rich, in-depth, and detailed insights into the complexities of bodies in physical activity contexts. Photographs of a variety of bodies were sourced from different media and were used as a means of interview elicitation. Coaches were also presented with short scenarios about the topic under study. The results demonstrate that body shaming functions in different subtle ways and that coaches were well-aware of the potentially damaging influence that they can have on athletes. Seven types of body shaming practices in coaching practices were identified in terms of body critical and body sensitive practices. These were: 1. Shaming through unrecognition and avoidance; 2. Shaming through "good" body talk; 3. Shaming through education of athletes; 4. Shaming through the use of humour and irony; 5. Shaming through the use of science and tests; 6. Shaming through the

making of weight gain a lack of motivation; and 7. Shaming through individualisation. The presentation concludes with recommendations for further research exploring how athletes experience the most subtle and invisible ways of body shaming, and how they internalise this well-intended but still potentially shaming advice.

Keywords: Body shaming, body criticality, body sensitivity, coaching, elite athletes

ID 359 Changes in sport club participation in Finnish children and adolescents between two generations

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Background: Sport clubs play an important role in enabling children and adolescents to be physically active. However, not all have equal opportunities to participate in organized sport. This study aimed to examine whether the prevalence of sport club participation (SCP) among Finnish children and adolescents has changed between two generations from the 1980s to the 2020s. Also, the associations of sex, family's socioeconomic status, family's residential area (Western/Eastern Finland; rural/urban environment), and parental physical activity with SCP in the 1980s and 2020s was studied. Methods: This study was part of the population-based Cardiovascular Risk in Young Finns Study (YFS), in which the same cohort has been followed for 40 years since 1980. In addition to the original YFS cohort, their children participated in the study in the 2018-2020 follow-up. This study leveraged the data on the original YFS participants at the ages from 9- to 18-years (n=3439, 51% girls) and their 8- to 19-year-old children (n=1156, 53% girls). Self-reported SCP of the original cohort was compared to their children's SCP at the same age within four age groups: 8-10-, 11-13-, 14-16-, and 17-19-year-olds. The associations between explanatory factors and SCP were studied by multinomial logistic regression analysis. Those with no SCP were used as a reference group for those participating at most once a week and those participating more than once a week. Results: Finnish youth were more often involved in sport club activities in the 2020s than in the 1980s -

especially in the younger age groups ($p < 0.001$). In the 1980s, girls less commonly participated several times a week in sport club activities than boys ($p < 0.001$), while this sex difference was no longer observed in the 2020s. The income level of the family was positively associated with the prevalence of SCP; in the 1980s the association was observed among the two oldest age groups, while in the 2020s, it was found among the 8- to 16-year-olds ($p < 0.05$). In the 1980s and 2020s, youth participating in sport club activities several times a week lived more often in the urban than in rural areas ($p < 0.05$). In the 2020s, youth living in Western Finland participated more often several times a week in sport club activities than those living in Eastern Finland ($p < 0.05$). Only in the 1980s, parent's regular physical activity was found to be positively associated with the prevalence of their child's SCP ($p < 0.05$). Conclusions: SCP was more prevalent among Finnish children and adolescents in 2020s compared to 1980s. While sex difference in SCP has evened out, the family's income level explained child's SCP from even younger age today than in the 1980s. Youth living in rural sparsely populated areas or in Eastern Finland seemed to have less frequent SCP. We need to take actions to equalize income and residential disparities to make it possible for more children and adolescents to engage in organized sport.

Keywords: organized sport participation, physical activity, generation, residential area, socioeconomic status

ID 284 Corporeal Transformations: Tales of an Amateur Bodybuilder

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Becoming a bodybuilder may not correspond to the social expectations traditionally directed towards women. The practice of building and transforming a female body into a muscular form requires extensive and unbridled commitment. Through my personal experience in the field, I unfold key aspects of my journey in and through bodybuilding. I specifically focus on the emotional and physical labour that is part and parcel of making my body muscular yet retaining my socio-cultural status as a woman. Specifically, I connect my experience of socio-cultural conflicts between building my own muscular body and negotiating the challenges associate with being a woman in the male-dominated bodybuilding sub-culture. This project focuses on

a two-year journey beginning in the second semester of my PhD studies and is informed by my first European competition in the Figure Division. **Methods:** Autoethnography will be deployed as the primary method of data collection. Data will be analyzed through a discourse analysis (DA) framework. **Expected results and conclusions:** By sharing my narrative account on bodybuilding, I aim to explore a range of key internal as well as external challenges that women, who may experience the similar motivation and love for the activity as men do, yet do not receive the same respect and status, in the field of bodybuilding face.

Keywords: bodybuilding, muscular physique, autoethnography, discourse analysis, motivation

Physical activity in children's and adolescents' life

ID 88 Exploring Student's Physical Activity preferences in sixteen European Universities

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Physical activity (PA) is a cornerstone of health and well-being for all age groups. However, young adults aged from 18 to 24 are particularly vulnerable to dropping out of physical activity and becoming inactive. This study, conducted as part of the "How Young People in Europe Move?" project, aims to explore the complex phenomenon of PA preferences among 2,165 university students (65.3% female) across sixteen universities spanning thirteen European countries. Through an online questionnaire anchored in the bio-ecological model of PA promotion and derived from scientifically validated tests, participants were surveyed between April 2021 and January 2022. A factorial analysis of mixed data was used to examine relationship between PA preferences, individual characteristics and socio-cultural factors. PA preferences have been presented in terms of spatial, temporal, social, cultural, intensity, and equipment dimensions. Results highlight that spatial considerations, temporal aspects, and the availability of equipment are key variables in defining

students' PA profiles. Cluster analysis revealed three distinctive typologies of undergraduate sport and PA participation: cluster 1 (Named "autonomous", 42.6% of participants) characterized by autonomous physical activity, whereas cluster 2 (Named "networked supervised", 28.7% of participants) and cluster 3 (Named "regular supervised", 28.8% of participants) characterized by structured physical activity in clubs in outdoor locations throughout the year for the first mentioned and in enclosed spaces and at specific times for the second. These typologies challenge traditional paradigms prioritizing PA behaviors in terms of intensity and quantity. Furthermore, the study emphasizes that the format of PA, encompassing where, when, and how it is undertaken, is equally important significance. The emergence of autonomous PA practices including exercising at home, with pets, and using digital technology, suggests evolving trends among students. This shift reflects a desire for flexibility and self-organized sessions in PA. Sex plays a role in these preferences, with females being more engaged toward autonomous PA practices and outdoor activities. While cultural differences were not found to be a determinant factor, geographical disparities influenced students' PA preferences. Eastern European students preferred self-organized PA, while southern European students were more involved in organized activities during the academic year. In general, the research underscores the multifaceted nature of PA, design by individual characteristics, living and global environments and these results suggest that young people's preferences for PA should be taken into account when proposing the most attractive programs. Variables such as gender and European regions seem to be factors that should be further investigated in order to optimize PA programs.

Keywords: Physical Activity, Student, Sport, Europe, Preferences

ID 106 The Mediating Role of Fundamental Movement Skills and Spatial Abilities in the Relationship Between Physical Activity and Mathematics Achievement in Primary School Children

Jessica Scott (Loughborough University), **Tim Jay** (University of Nottingham) & **Christopher Spray** (Loughborough University)

Previous research has demonstrated positive relationships between fundamental movement skills (FMS) and mathematics achievement in children, and that this relationship may be mediated by performance on spatial ability tests. Engaging in physical activity (PA) may also have positive outcomes on mathematics achievement. A positive relationship between PA and FMS has also been demonstrated by previous

research, however no study has investigated this network of relationships between PA, FMS, spatial abilities, and mathematics achievement together. This research study aimed to examine the specific relationship between PA and mathematics achievement, and the mediating effects FMS and spatial abilities may have on this relationship, in primary school children. Using a cross-sectional design, data was collected from 137 Year 3 children (63 boys, 74 girls, aged 7-8 years old) across four schools in England. Participants wore accelerometers continuously for a week to assess the average time they spent in moderate-to-vigorous PA per day. The children's FMS were assessed based on their locomotion, object manipulation, and stabilisation performance. The children also completed four spatial ability tasks assessing intrinsic-static, intrinsic-dynamic, extrinsic-static, and extrinsic-dynamic spatial abilities, and a mathematics test assessing numerical, geometrical, and arithmetical abilities. Spearman correlations found that all four spatial abilities, mathematics achievement, and time spent in moderate-to-vigorous PA were significantly correlated to verbal intelligence scores. When controlling for verbal intelligence, time spent in moderate-to-vigorous PA was positively correlated with total mathematics score, and total FMS score was also positively correlated with total mathematics score and all four spatial abilities. Mediation analyses revealed that the relationship between PA and mathematics is no longer significant in the presence of FMS and spatial abilities, however no significant indirect effects were found, due to the weak relationship between PA and FMS. Significant indirect effects were found for the mediating effects of intrinsic-static and extrinsic-dynamic spatial ability on the significant relationship between FMS and mathematics achievement. These results outline that PA is not strongly related to mathematics achievement in this network and that children with more mature FMS perform better in certain spatial abilities, which results in higher mathematics achievement in young children.

Keywords: Physical Activity, Fundamental Movement Skills, Spatial Ability, Mathematics Achievement

ID 113 Video-based visual feedback in Physical Education in the context of digital transformation

Moritz Mödinger (Karlsruhe Institute of Technology), **Alexander Woll** (Karlsruhe Institute of Technology) & **Ingo Wagner** (Karlsruhe Institute of Technology)

Background Digitization opens up new methodological and didactic possibilities for Physical Education. This also has consequences for the professional development of

teachers. Therefore, this dissertation project investigates, on the one hand, the level of educational competence by examining the current state of training of pre-service teachers (Mödinger et al., 2023) as well as the role of instructors (Wohlfart et al., 2023). On the other hand, the work focuses on the potentials of digital media for Physical Education, with an emphasis on video-based visual feedback for motor learning (Mödinger et al., 2021). Methods A survey among pre-service Physical Education teachers (n = 185) in Germany based on the TPACK model was used to analyze their state of education and training. A systematic literature review was then conducted to examine potentials for using video feedback, before various feedback methods were subsequently tested (in a treatment-control-group-design) with n = 112 students in school practice. Results and discussion The results provide new insights on the educational competencies level of future Physical Education teachers in Germany as well as steering knowledge for the design of teacher training regarding video-based visual feedback. Furthermore, the results support earlier studies on video feedback in Physical Education (e. g. Potdevin et al., 2018) and implications are derived and discussed on how motor learning with digital media - independent of the teacher - can be used in Physical Education. Bibliography Potdevin, F., Vors, O., Huchez, A., Lamour, M., Davids, K., & Schnitzler, C. (2018). How can video feedback be used in physical education to support novice learning in gymnastics? Effects on motor learning, self-assessment and motivation. *Physical Education and Sport Pedagogy*, 23(6), 559–574. <https://doi.org/10.1080/17408989.2018.1485138> Mödinger, M., Woll, A. & Wagner, I. (2021). Video-based visual feedback to enhance motor learning in physical education: A Systematic Review. *German Journal of Exercise and Sport Research*, 52, 447-460. <https://doi.org/10.1007/s12662-021-00782-y> Mödinger, M., Wohlfart, O., Woll, A. & Wagner, I. (2023) Digitale Kompetenzen angehender Sportlehrkräfte – Eine fachspezifische Fragebogenstudie unter Referendar*innen auf Grundlage des TPACK-Modells. *German Journal of Exercise and Sport Research*. <https://doi.org/10.1007/s12662-023-00896-5> Wohlfart, O., Mödinger, M., & Wagner, I. (2023). Information and communication technologies in physical education: Exploring the association between role modeling and digital literacy. *European Physical Education Review*. <https://doi.org/10.1177/1356336X231193556>

Keywords: Physical Education, visual feedback, video analysis, motor learning

ID 134 Exploring the perceptions of adolescents on the impact of a 12-day outdoor learning project on life skills development in Scotland

Meijun Qu (University of Edinburgh), **Neil Buchanan** (University of Edinburgh), **Russell Martindale** (Edinburgh Napier University), **John Sproule** (University of Edinburgh) & **Lorcan Cronin** (Mary Immaculate College)

This study investigates adolescents' reflections of their life skills development through participation in a 12-day outdoor learning project, with teachers as facilitators, in Scotland. Key elements of the project experience were: active engagement, reflection, and opportunities for students to take the initiative be accountable for their actions. From 252 participants, 18 students were randomly selected to form three focus groups. Each focus group (n = 6; 3 female and 3 male students; mean age = 14.6 (± 0.6) years) were drawn from the 18 different outdoor learning projects in different remote areas in Scotland. Each 12-day project included several (from 3 to 5) of the following activities: hill-walking, conservation work, paddle boarding, canoeing, mountain biking, coastal walking, rock climbing, mountain survival skills, sea-kayaking, overnight camping, bothy night (basic shelter), ice climbing, cycling, wildlife walking, and coasteering. Semi-structured (range = 38 to 46 minutes) electronically recorded interviews were conducted with the 3 focus groups, 14 days after completion of the projects. These interviews explored the adolescents' perceptions, attitudes, and reflections on their personal and life skills development post-project participation. Eight open-ended life-skills type questions (modified from Allison et al., 2015, Bean et al., 2018 and Cronin et al.2023) were used during the focus group interviews, aimed at uncovering participants' experiences, opinions, challenges faced, learning outcomes, and the perceived impact of the project on their future. Transcribed interviews were analysed by the lead researcher using thematic analysis. Five Central themes emerged: key life skills developed through outdoor learning; the context of outdoor learning; the process of coping with challenges; the development and transfer of life skills; and the building of relationships. This highlights not only the acquisition of essential life skills during outdoor activities but also the experiential learning context, the overcoming of challenges, and the transferability of these skills to other life domains such as family, school, and future settings. Furthermore, the development of meaningful relationships was a key finding, with participants noting the project's role in fostering not just enjoyable and motivating experiences but also in enhancing vital skills like communication, social abilities, confidence, independence, teamwork, resilience, and perseverance. Additional skills such as adaptability, work ethic, and personal responsibility were also identified, albeit less frequently. The findings from this study give insights into the

effectiveness of outdoor learning projects in developing life skills from the participants' perspectives, offering valuable guidance for educators and project designers. This includes the importance of creating supportive environments (i.e. autonomy-supportive learning), engaging in experiential learning (i.e. learning by doing, and using reflective practice) to gain a deeper understanding of life skills development through outdoor learning projects in adolescents.

Keywords: life skills development, outdoor learning project, perception, adolescents

ID 190 Digital technology in physical education teacher education: A scoping review

Ove Østerlie (Norwegian University of Science and Technology (NTNU)), **Geir Olav Kristensen** (Norwegian University of Science and Technology (NTNU)), **Steven Holland** (Norwegian University of Science and Technology (NTNU)), **Maria José Camacho-Miñano** (Complutense University of Madrid) & **Sue Whatman** (Griffith University)

Health and physical education (HPE) is experiencing rapid transformation in the wake of COVID19. This is, in part, due to the collective turn towards hybrid and online learning in teacher education around the world. What does this mean for embodied subjects such as physical education teacher education (PETE)? What does this mean for appropriate, contemporary, and effective continuing professional development (CPD) for HPE teachers? To explore the use of digital technology in PETE, we are conducting a scoping review to answer the following research questions: 1.

What are the characteristics of the included studies? 2. How are digital technologies used as content in PETE? 3. How are digital technologies used as pedagogy in PETE? 4. How is the use of digital technologies in PETE perceived by students and staff? The recommendations for scoping review (Munn et al., 2018), and the PRISMA-ScR checklist (Tricco et al., 2018) in the results reporting were applied. A study protocol was created guided by the JBI Manual for Evidence Synthesis (Aromataris & Munn, 2020), and registered prospectively with the Open Science Framework, OSF registry (Registration <https://doi.org/10.17605/OSF.IO/Q7RUD>). The Covidence online review management tool (<https://www.covidence.org/>) was used throughout the process of searching, screening, extracting, and reporting. As we were interested to see how PETE educators are using digital tools educatively in their classes, we excluded papers that focused upon theoretical assumptions or used digital technology for data generation. The types of papers that were included

presented findings on student or staff perceptions, learning or motivation, for example. We will report on the following extractions from the included articles: general information (authors, year), characteristics of the included studies (study aims, study design and data collection, sample characteristics), findings (digital technology usage and main findings). In our search period, there has been a marked increase in papers purporting to be concerned with digital tools in HPE. However, as we found with our scoping review, there is some confusion as to what it means to use tools educatively. The full findings of the review will be available to present at AIESEP in May 24.

Keywords: digital technology, PETE, scoping review

ID 703 Correlations between digital gaming relationships and physical activity relationships: pilot study

Miikka Sokka (University of Turku), **Kwok Ng** (University of Turku) & **Pasi Koski** (University of Turku)

Digital gaming is often considered one of the causes behind low levels of physical activity among adolescents. However, little is known about the links between physical activity and inactivity and digital gaming. Initial studies suggested that playing sports digital games was positively associated with physical activity and would therefore be part of an individual's physical activity relationship (PAR). PAR reflects the role that sports and physical activities play in an individual's life, whereas Digital Gaming Relationship (DGR) reflects the role of digital games and gaming in one's life. The stronger the relationship, the more meaningful the subject is to an individual. Additionally, the stronger the perceived meaningfulness, the more time the individual is likely to spend on activities related to the specific issue (such as physical activity or gaming activity). With the help of the PAR and DGR approaches, the links between physical activity and inactivity and digital gaming in the lives of adolescents can be explored. This study aimed to investigate the correlations between the DGR and PAR and how these differ by gender. Students ($n = 176$) in a Finnish high school completed a survey on DGR and PAR in the spring of 2023 on two occasions. Relationship components were competition (com), fantasy (fan), game-specific attributes (gss), physical development (dev), mental health (hea), joy and enjoyment (joy), learning and development (lad), and sociality (sos) and separated for DGR and PAR. Pearson's correlations were used to test the correlations between each component of DGR and PAR. Generally, PAR scores were higher than DGR scores, with the PAR

'dev' factor scoring the highest (mean = 10.4, SD = 3.6), and the DGR 'hea' factor the lowest (mean = 3.7, SD = 4.5). Correlations ranged between $r = .13$ (joy) and $r = .40$ (hea). Four ('com', 'gss', 'hea', 'sos') of the eight factors had correlations over 0.3. After stratifying by gender, seven of the eight factors had correlations over 0.3 for males (range $r = .30 - .70$), yet none for females (range $r = .10 - .26$). The one factor for males with low correlation was 'lad'. Early evidence supports that four out of eight dimensions of DGR are correlated with PAR. When looking at males only, seven out of eight dimensions are correlated. The results support the assumption that, at least in males' lives, gaming activities can provide similar kinds of meanings to physical activities. For example, a venue for enjoyable activity with social aspects can be provided by both worlds. In a digitalized contemporary world, where gaming is a highly popular pastime, participating in digital activities can be much easier compared to physical activities. With this behaviour, however, there is a danger of further physical inactivity, as gaming is largely a sedentary activity. More in-depth studies are needed to investigate how these relationships complement each other.

Keywords: Adolescents, Physical activity relationship, Digital gaming relationship, Physical activity, Digital gaming

Physical activity interventions

ID 132 The impact of a 12-day outdoor learning project on life skills development in adolescents in Scotland

Meijun Qu (University of Edinburgh), **Neil Buchanan** (University of Edinburgh), **Russell Martindale** (Edinburgh Napier University), **John Sproule** (University of Edinburgh) & **Lorcan Cronin** (Mary Immaculate College)

The research aimed to assess the effectiveness of a 12-day outdoor learning project on the life skills development of adolescents. Using the Life Skills Scale for Outdoor Learning (LSSOL) online questionnaire, data was collected from students (aged 13-15 years) from two schools in Scotland. The sample consisted of 252 students. One hundred and eighty participants (female = 50.6%; male = 49.4%), with a mean age of 14.3 (± 0.5) years took part in the outdoor learning project and completed the LSSOL at pre-intervention, post-intervention, and at six-months post (i.e. retention).

A control group of 39 students (female = 56%, male = 44%) with a mean age of 14.3 (± 0.5) years completed the LSSOL at the same timings as pre- and post-intervention. Results following MANOVA analysis indicated a statistically significant improvement in life skills in the intervention group from pre- to post-intervention, but not the control group. All sub-factors (i.e., teamwork, social skills, problem-solving, emotional skills, leadership, time management, and communication), with the exception of goal setting showed significant improvements. At a six-months post-test, all life skills, except goal setting, remained above baseline for the 12-day intervention. These findings suggest a lasting positive impact of the intervention. Overall, the small to medium positive effect of life skills development from the 12-day outdoor learning project supports their inclusion in school curricula for the holistic development of students.

Keywords: life skills development, outdoor learning project, adolescents, holistic development

ID 137 Understanding Implementation Facilitators and Barriers in the Delivery of the Generation Healthy Kids School-Based Physical Activity Component: A Mixed-Methods Study of Intervention Fidelity, Adaptations, and Teacher Acceptability

Sofie Koch (University of Southern Denmark), **Jonas Vestergaard Nielsen** (University of Southern Denmark) & **Thomas Skovgaard** (University of Southern Denmark)

Generation Healthy Kids (GHK) is a holistic, multifaceted cluster-randomized controlled trial, focusing on PA, nutrition, screen time, and sleep running from August 2023 until June 2025. Children aged 6-11 years at 24 schools were invited to participate in the study. The PA component builds on the FIT FIRST 10 concept, which is a high intensity, fun, and inclusive movement concept developed for schools. The purpose of this study is to clarify how the PA component is perceived, delivered, and translated by teachers, and the mechanisms facilitating or hindering the implementation of the PA component included in GHK. A total of four out of 12 intervention schools will be invited to participate in this case study, representing different school prerequisites. The Consolidated Framework of Implementation Research (CFIR) and the COM-B model for behaviour change will be used to guide the data collection. In August-September 2023, observational data were collected during the initial PA teacher courses, focusing on how the teachers perceived and responded to the course. Observational data will be collected from winter 2023 until summer

2025 during PA sessions. The focus of this data collection is on fidelity – to which degree the teachers deliver the PA component and adhere to the core design of the study, the teacher course, and the provided PA manuals. Additionally, at three intervals throughout the study period, teachers will be asked to complete a survey, focusing on the teachers' perceived capabilities, opportunities, and motivation, as well as fidelity, acceptability, feasibility, appropriateness, and adaptations of the PA component. Information on school characteristics is collected through school management surveys twice during the study period. In the second year of the study, interviews with PA teachers will be conducted to discuss barriers and facilitators for implementation. These interviews will also serve to elaborate on the quantitative findings regarding teachers perceived capabilities, opportunities, and motivation regarding their continued engagement with the PA component. Thematic and theory-based analyses of observation notes and interviews will be conducted. Analyses of the survey data will mainly be descriptive. This study will provide comprehensive insights into how the PA component is unfolds in practice throughout the GHK study. Consequently, the study will offer important insights into the sustainability and potential scaling of the intervention.

Keywords: physical activity, acceptability, fidelity, facilitators, barriers

ID 138 Psychological effects of an eight-week functional fitness intervention in older adults

Attila Szabo (Eötvös Loránd University), **Eliza Tóth** (Eötvös Loránd University), **Aleksandar Vujić** (Eötvös Loránd University), **Ferenc Ihász** (Eötvös Loránd University) & **István Soós** (Hungarian University of Sports Science)

Apart from physical benefits, research has demonstrated that regular physical activity yields substantial improvements in mental health and wellbeing that improve quality of life. This connection between regular exercise and mental health is especially true in older adults. However, the inner motivation to persist with an exercise program strongly depends on the experienced benefits. The shorter-term benefits have greater motivating power than rewards experienced after a long period. This eight-week intervention study used a functional fitness exercise-training program consisting of three one-hour weekly interventions to determine whether psychological changes occur after a short-duration training program in older adults. Participants were 38 nursing home residents (13 men and 25 women) were medically fit and volunteering for the intervention. Their mean age was 80.11 (SD = 7.30) years,

and all were above 60. Participants were selected into an intervention group (n = 24) and a control group (n = 14) by lot. Those not selected in the exercise group had a chance to participate later. The intervention aimed to strengthen upper and lower body flexibility, upper and lower body strength, endurance, and agility. Psychological measures (resilience, wellbeing, perceived stress, happiness, and life satisfaction) were obtained at baseline (before the start of the exercise program) and after completing the eight weeks of training. A mixed model multivariate repeated measure analysis of covariance (MANCOVA), using biological sex as a covariate, yielded a statistically significant multivariate group by time interaction. The covariate was statistically not significant. The univariate tests revealed that statistically significant positive changes occurred in all psychological measures in the intervention but not in the control group. The largest effect sizes were obtained for resilience, wellbeing, and happiness (Eta squared > .45, smallest for life satisfaction .17, and perceived stress .29, which were still large). Consequently, the results of the current study demonstrate that after a relatively short eight-week (only 24 one-hour sessions), functional fitness-oriented gentle exercise training in older adults elicits significant changes in psychological measures, suggesting that this type of intervention could favor mental health beyond the functional advantages provided by the physical activity program in older adults.

Keywords: Ageing, Exercise, Functional fitness, Physical Activity, Training

ID 373 Physical Education and Literacy: An innovative pilot study fostering deep learning connections in the early years.

Susannah Stevens (University of Canterbury), **Sarah-Kate Miller** (University of Canterbury), **Brigid McNeill** (University of Canterbury), **Jen Smith** (University of Canterbury) & **Gail Gillon** (University of Canterbury)

This presentation is an innovative pilot research project connecting Physical Education and quality movement experiences with an existing world leading Literacy Approach. The “Better Start Literacy Approach” is an evidenced-based, award-winning approach to teaching our youngest children how to read. It is progressively becoming the go-to Literacy programme in New Zealand and has support from our Ministry of Education, specifically because of its strengths’ based approach and significant success rates for Māori and Pacific children. Literacy is vital for a child’s success and participation in this world, however not at the expense of that child also becoming physically educated. We know that Primary school teachers grapple with full

programmes of learning, and at times, physical education experiences become “a run to the fence” “fitness” or cancelled completely. This pilot project sought to address this concern and combine quality literacy teaching with quality movement experiences in the junior school. A highly regarded interdisciplinary team, designed 10 weeks of learning based on deep connections between the themes of the quality children’s storybook, letter sounds, and creative and enjoyable movement experiences. The idea was to re-tell and bring the story alive using varied physical education contexts. For our New Zealand setting, we chose Māori and bicultural books with a mixture of English and Māori words to match these with physical activities. We used a variety of measures to generate data; perceived movement competence, systematic observation, the Harre Circuit Test (HCT) and teacher interviews. Alongside this, there was extensive data from the pre-existing Literacy intervention. We were incredibly excited and interested to explore how children viewed themselves as movers and learners, what their self-regulation was like, and whether combining movement and Literacy strengthened both curriculum areas. There will be some initial data to share by the time of the conference.

Keywords: Physical Education, Primary, Deep Learning, Literacy, Movement

ID 195 Developmentally left behind. A case study to show how physical development interventions can help young children catch up.

Kristy Howells (Canterbury Christ Church University) & **Ellie Huggett** (Canterbury Christ Church University)

In England, five years olds have been failing to meet age related physical development (PD) expectations, some of which are likely to be due to the pandemic and decreases in child participation levels in physical activity (Huggett & Howells, 2022). We previously called for targeted action to address specific PD skills, using tools effectively and obstacle courses to promote energetic movement, strength, balance, coordination and spatial awareness. Stanford et al., (2021) suggests that children's PD is likely to have suffered as a result of the pandemic, particularly vulnerable populations such as children from low income families. Their research highlights the gap in examining the effects of the pandemic on young children in the UK, as the majority of research is on older children. This paper is a novel study as it focuses on an under researched area and continues to follow the same children as in our earlier research to implement and support PD change. The case study school is a rural primary school (low socioeconomic area) in Southeast England, focusing on 25 children, (n=14, 5 years

old and $n=11$, 6 years old). Data was collected over 3 academic terms, April to July. The extensive data points included: 1. baseline line PD measurement, the skills were: hopping, galloping, skipping, sliding, kicking, catching, dribbling, rolling, climbing, balancing, scissors usage, and cutlery usage. Each PD item had 3-5 success criteria. A focused PD intervention scheme of work was implemented for the whole class. 2. PD was collected at the end of term. This 2 part data collection process was repeated for the next 2 more terms. The six data collection points were used to assess the effectiveness of the interventions and any regression occurring across holidays. The research uses observations as in normal curriculum practice within this age phase, completed by the class teacher (lead researcher) and teaching assistants. The teaching assistants were trained to observe through the use of a mock circuit. PD significant improvements in: hopping, running, galloping, sliding, dribbling, rolling a ball, climbing, balancing, kicking, catching as well as the use of cutlery and scissors ($p=0.05$). For the focus of this paper, an example of the improvements is demonstrated, (in the presentation, all will be discussed). Hopping had significant improvements for 4 of the 5 success criteria, including: non support leg swinging forward in pendula fashion to produce force ($\chi^2_{17.091}$, $p=0.001$), foot of non support leg remaining behind the body ($\chi^2_{8.620}$, $p=0.035$), arms flexed and swing forward ($\chi^2_{22.730}$, $p=0.001$) and take off and lands three consecutive times on non preferred foot ($\chi^2_{18.756}$, $p=0.002$). In conclusion the results highlighted the need for interventions focusing on PD coupled with practitioner observations. This study has demonstrated the possibility of significant longitudinal improvements and recommends that this be implemented nationwide.

Keywords: physical development; physical activity; motor development

ID 376 Influence of two Supervised Exercise Programs at the Workplace on Quality of Life

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Background: Engaging in regular physical activity (PA) is associated with improved quality of life among office workers (Arslan et al., 2019). Nevertheless, many workers do not meet the International Guidelines for PA. Occupational PA could contribute to engaging office workers in PA and enhancing their health. However, the type and dose of PA suitable for each sector remain unclear. Objective: To assess the effectiveness of two supervised PA interventions at the workplace on the quality of life of workers. Methods: A six-months pre-experimental study was conducted on workers with physically inactive occupations from three companies and sectors: (1) Renewable Energy Engineering; (2) Insurance; and (3) Infrastructure and Services. Participants from the first two sectors enrolled in a supervised physical exercise programme (PRODET®; n=23; age 44.38 ± 4.91) at their Spanish corporate headquarters (Madrid, Navarra, Catalonia, and the Basque Country). The third company undertook another multicomponent intervention at its location in Madrid (HASAVI; n=27; age 39.25±9.83). A pre- and post-test intragroup analysis was performed using the SF-36 instrument. The PRODET® program consisted of a series of six mesocycles according to the WHO and American College of Sports Medicine guidelines: (M-1) evaluation and familiarization with the training program; (M-2) Improvement of overall physical condition (M-3) Improvement of aerobic endurance and muscle toning; (M-4, 5 and 6) functional exercises with greater applicability to daily activities. Evaluations were conducted after the sixth mesocycle. The HASAVI corporate health and wellness program consisted of a six-month global toning session with a duration of 8 minutes in the form of warm-up, 30 minutes for the main part (intended to tone upper and lower body, and do agility, strength and endurance work) and finally stretches. Wilcoxon tests were used to assess the pre-post differences, with eta squared (η^2) used to calculate effect size as $\eta^2 = Z^2 / N$ (where N represents the total number of observations). Effect sizes were classified as small, medium, or large, corresponding to values of 0.01, 0.06, and 0.14, respectively. The threshold for statistical significance was set at $p < 0.05$. Results: PRODET® observed a reduction in bodily pain for workers at the Madrid headquarters of the renewable energy engineering company ($p=0.024$; $\eta^2=0.18$), an improvement in overall physical health at the Navarra headquarters ($p=0.009$; $\eta^2= 0.40$), as well as in the insurance company ($p=0.048$; $\eta^2=0.10$), and an increased in the general health at the Basque Country headquarters ($p=0.034$; $\eta^2= 0.33$). HASAVI program achieved improved vitality ($p=0.041$; $\eta^2=0.09$). Conclusions: Both programs could be effective in improving the quality of life for office employees in the sectors studied, but PRODET seems provide higher benefits.

Keywords: Physical inactivity; Exercise; Physical activity

Pedagogy and didactics in physical education

ID 438 Physical Education for Life: Pre-service Teachers' Lived Experiences of PE

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We are developing a collaborative research and knowledge exchange project - Physical Education for Life (PEL) - based across Scotland and England that presents the case for an ontological shift towards more holistic, inclusive and emergent forms of school PE (Jess, Howells & McMillan, 2023). PEL emphasises the leading role of PE and the PE teacher in establishing a foundation for life-wide and lifelong movement experiences for all young people. This initial research aims to understand pre-service teachers' lived experiences of PE. These insights will provide a picture of lived PE experiences, which is an area requiring more empirical attention, and will be one data source used to further inform PEL and its design. In the academic year 2023/24, pre-service teachers (primary and secondary) from three university contexts, one in Scotland, one in the North of England and one in the South of England, were asked to reflect on and share a written response capturing a lived experience of PE. These lived experiences were then collated by the research team and analysed to identify themes within and across each university context. This research is still in the data collection phase, thematic data will be presented within the final paper. Initial reflections on responses indicate a range of PE experiences. Some experiences reflect recent developments in PE where more democratic and reflective pedagogies are in evidence. Other experiences reflect the well documented challenges for PE, indicating the dominance of sport and performance discourses. There are also lived experiences that suggest negative PE experiences that have affected sense of self and identity, in particular the impact of body image and confidence in being able to demonstrate within PE. This research provides a valuable insight into the lived PE experiences of pre-service teachers. Reflecting Quennerstedt (2019) we acknowledge that teaching and teachers matter, and our findings offer an important insight into the socialisation of pre-service teachers revealing how teachers and

teaching mattered to them. Furthermore, in collating and analysing lived experiences we aim to develop a series of vignettes to exemplify a range of PE experiences. These vignettes will be shared with education stakeholders (e.g. teachers, school management, parents, physical activity providers, policy makers) as they provide a picture of PE and could act as a catalyst for discussion in the next knowledge exchange phase of the project where we seek to further develop the PEL vision and co-construct the project with stakeholders. Jess, M., Howells, K., & McMillan, P. (2023). *Becoming physical education: the ontological shift to complexity*. *Sport, Education and Society*, 1-15. Quennerstedt, M. (2019). *Physical education and the art of teaching: Transformative learning and teaching in physical education and sports pedagogy*. *Sport, Education and Society*, 24(6), 611 - 623

Keywords: Physical Education, Lived Experiences, pre-service teachers

ID 77 Changing the Game: Implementing Lifestyle Sports in Schools Through Meaningful PE. A Mixed Methods Action Research Approach

Jordan Wintle (University of Gloucestershire)

Lifestyle sports such as parkour, skateboarding and BMX have experienced high growth in participation during the 21st century, yet, despite their popularity, have struggled to feature heavily in physical education curricula across the globe. This action research project, positioned in the pragmatic research paradigm, implemented two units of lifestyle sports (parkour and a CrossFit/Kickboxing hybrid) in two English secondary schools (48 pupils aged 11-13 years) taught by the lead researcher over an 8-week period, using pedagogies aligned to the meaningful physical education approach. Data was collected using a multi-mixed-methods approach that included pre and post-unit pupil questionnaires (aligned to meaningful physical education), lesson plans and resources, structured observations by an observing teacher, teacher-researcher reflections, post-unit pupil focus groups and teacher-observer interviews. Data analysis of the quantitative questionnaire data was completed through a range of inferential statistics, and the qualitative data was analysed using thematic analysis. In this presentation, I share some of the overall findings of the project, with statistically significant quantitative results for many elements of meaningful physical education, as well as key themes relating to the potential for lifestyle sports in physical education, the importance of matching the activity with the approach and the potential challenges of integrating lifestyle sports into physical

education. Finally, I can make some recommendations for practice and future research in this area.

Keywords: Lifestyle sports, meaningful physical education

ID 545 Physical education in an era of climate crisis

Anna Kristiina Kokko (University of Eastern Finland) & **Annu Kaivosari** (University of Eastern Finland)

Climate change and the loss of biodiversity have become significant topics of discussion, combining different fields of research. One key question that has united researchers has been the Anthropocene and its potential in defusing the climate crisis. In this presentation, we start by stating that combining environmental education in formal educational institutions requires that we turn our gaze also to the epistemological foundations of the subjects, in this case physical education. We ask what kind of environmental perspectives previous research in the field of physical education highlights and what kind of tensions are associated with these perspectives. The data selection process was carried out using the PRISMA protocol. In the presentation, we will explore various tensions that intertwined perspectives and theories of environmental education, geo-political, historical and cultural flows in their contexts, and physical education that takes shape through local actors. Through the clashes and mergers of these tensions, the opportunities and challenges of environment-oriented formal physical educational can be better understood.

Keywords: Physical education, climate crisis, anthropocene, literature review, thematic analysis

ID 86 Teaching fitness testing paradoxically: what tests do and can do in PE practice

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In many countries, fitness testing is used in physical education (PE). Advocates of fitness testing in PE practice maintain that testing promotes physical activity, has long-term benefits regarding healthy lifestyles, and that it motivates students to be

physically active. Fitness testing has, however, proven to be a contentious issue in PE, and other scholars question fitness tests for children in an educational context and describe them as demotivating, embarrassing, and humiliating. Despite criticism, fitness testing in school PE takes place, and we contend that using testing (or not), or indeed the way tests are used, is an educational choice teachers make with political and moral implications. The purpose of the study is thus to contribute to this educational dilemma with knowledge on the use of 'fitness tests' in PE practice. This is done through an exploration of a pedagogical intervention in a school in Sweden where tests were used to teach from a norm creative perspective in relation to how different bodies with different weight and form could be included. During the pedagogical intervention, the students tried different tests, discussed if tests were just or not, and also created their own tests. In the study, we draw on 'new materialist' methodologies asking what tests do and can do in PE practice. In our analysis, we brought together different affective elements of what tests do. These elements highlight that many tests produced traditional PE practices with activity, measurements, comparisons, and enjoyment in focus. Testing also in this way produced exposure and embarrassment. There were also obvious silences regarding body hierarchies, which often rendered big bodies invisible. However, teaching tests paradoxically also produced opportunities for creativity in moving, and opportunities to reflect upon norms about justice and normal bodies. As Alfrey and Landi (2022) and Alfrey (2023) contend, there seems to be a potential for de-territorializing in making tests meaningful and educative through student influence and to test out possible new practices. This involves space to discuss and critically scrutinize norms regarding bodies, movement, and testing regimes. In this way, we observed several more opportunities for de-territorializing through norm creative events regarding body weight and form in the lessons. These were, however, seldom recognized by the teacher. This highlights the importance of not only using tests but instead teaching with the tests and that both teachers and students become aware of paradoxical moments if they are to become educational. Alfrey (2023) An expansive learning approach to transforming traditional fitness testing in health and physical education: student voice, feelings and hopes. *Curriculum Studies in Health and Physical Education*, 1-16 Alfrey & Landi (2022) Fitness testing as a debated and contested PE-for-health practice. In *Physical Education Pedagogies for Health* (33-47) Routledge

Keywords: physical education, pedagogy, teaching, learning, didaktik

ID 252 A multi-sports game-play development over a school year in a student-centred Physical Education Teacher Education Program

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Recent research points to student-centred pedagogies as an effective means for developing students' Physical Literacy (PL) (physical, cognitive, social, and psychological domains) in Physical Education (PE). However, there is scant research on students' long-term physical-motor and cognitive development related to game-play and how this is affected by their gender and skill level. Importantly, there is a striking disregard for understanding the evolution (or not) of these PL domains in classes taught by inexperienced teachers. Focused on a Sport Education and game-based PE curriculum applied in multiple sports, this study examined students' game-play development over an entire school placement year. A heterogeneous 11th-year class with 18 students (11 girls and 7 boys with an average age of 15.9 ± 0.68), three of whom had special educational needs, participated in three units (1^oterm: Handball, 13x45-mins lessons, 2^oterm: Badminton, 18x45-mins lessons; 3^oterm: Basketball: 1x45-mins lessons). In each unit, pre and post-test games were coded for all students regarding decision-making (DM), skill-efficiency (SE), skill-efficacy (SEF) and a Game Performance (GP) index. A 2(time)x3(group) with 2 independent samples (gender and skill level) repeated measures ANOVA was calculated to examine potential time effects. The overall class scores showed significant pre to post-test increments in DM, SE and GP (units Handball, Basketball) but not in Badminton. Female and higher-skilled students showed the highest number of pre-test/post-test progressions. Nonetheless, both boys/girls and higher-skilled/lower-skilled students showed significant pre to post-test improvements in DM (Handball, Basketball), SE (Handball), SEF (Handball) and GP (Handball, Basketball). Gender differences were statistically significant, with girls showing higher scores, in DM pre-test (Handball, Basketball), SE (Badminton) and GP (Badminton) and in post-test scores in DM (Basketball), SE (Basketball), SEF (Badminton) and GP (Basketball). As for skill-level, in pre-test, statistically significant differences were found in DM (Handball, Basketball), SEF (Badminton) and GP (Basketball). In post-test, the higher-skilled students showed higher scores in DM (Handball, Badminton, Basketball), SE (Basketball), SEF (Badminton, Basketball) and GP (Handball, Badminton, Basketball). Globally, PL development occurred mainly in team sports (Handball, Basketball), stressing the potential implicit impact of PL's social interactional dimension, which warrants further research (how students' team learning interactions affect their motor/cognitive

development?). A transfer of motor and cognitive skills is suggested, as the last unit (Basketball), showed higher pre-test scores than the first unit (Handball). This study corroborates that student-centred pedagogies may contribute to students' realization of their PL journey (as referenced to game-play development), regardless of their gender or ability level.

Keywords: Physical Education Teacher Education; Physical Literacy; Game-play development; Student-centred models

ID 321 Frame factors influence on the PE teachers' structural conditions for professional practice

Eli-Karin Sjøstad Åsebø (Volda University College) & **Ingeborg Berg Skogen** (Volda University College)

The objective of this study is to identify the nature and extent of research evidence on how frame factors influence PE teachers' structural conditions for professional practice and hence influence PE practices. Following established scoping review methods (Arksey & O'Malley, 2005), we will search the electronic databases ERIC, SportDiscuss, Web of Science, Academic Search Elite, Idunn, NORART, SwePub, and NORA. Online articles that are peer-reviewed and published are included in the analysis, in addition we will include books, book chapters, research reports and dissertations in the results. Included research should be situated in the primary and upper-primary level and lower- secondary level in school (year 1-10, student aged 6-16 years). Frame factors are factors determined outside teaching, beyond the teachers' and students' control, that may influence the teaching practice in PE (Lundgren, 1979). According to Kemmis (2022) and the Theory of Practice Architectures, practices are happening in three dimensions: doings, sayings and relatings. In this review we aim to explore factors in the material-economic arrangements as the resources that make possible the activities characteristic of the practice (Kemmis et al, 2014, p. 32), and hence influence the doings (practices) in PE. The analysis of this scoping review will focus on the impact of the material-economic arrangements, understood as resources or frame factors such as time, equipment, and facilities (Kemmis et al, 2014), and how these may inter-connect and influence the content and nature of PE practices. There is a lack of literature reviews and knowledge in this field, but preliminary searches indicates that limitations on resources and equipment influence the content and delivery of PE practices (Buaas & Sandseter, 2023; Lundvall & Meckbach, 2008; Moen et al., 2018). This review seeks to identify and

understand research within the field and may facilitate a more comprehensive understanding of how frame factors influence PE teachers' structural condition for professional practice and hence how PE practices are shaped. References Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *Int. J. Soc. Res. Methodol.* 8, 19–32. doi: 10.1080/136455703200011961 Buaas, I. Ø. & Sandseter, E. B. H. (2023). The Content of Norwegian Primary Physical Education: Teachers' Perspectives on Possibilities and Barriers. *Journal for Research in Arts and Sports Education*, 7(3), 1–20. <https://doi.org/10.23865/jased.v7.5491> Kemmis, S. (2022). The Theory of Practice Architectures: Practices. In Kemmis, S. (ed), *Transforming Practices* (pp. 53 – 74). Springer Texts in Education Kemmis, S., Wilkinson, J., Edwards-Groves, C., Hardy, I., Grootenboer, P. & Bristol, L. (2014). *Changing practices, changing education*. Springer. Lundgren, U. P. (1979). Background: The Conceptual Framework. In U.P. Lundgren & S. Pettersson (Eds.), *Code, Context and Curriculum Processes*. CWK Gleerup. Lundvall, S. & Meckbach, J. (2008). Mind the gap: physical education and health and the frame factor theory as a tool for analysing educational settings, *Physical Education and Sport Pedagogy*, 13:4, 345-364, DOI: 10.1080/17408980802353362 Moen, K. M., Westlie, K., Bjørke, L., & Brattli, V. H. (2018). Når ambisjon møter tradisjon: En nasjonal kartleggingsstudie av kroppsøvfaget i grunnskolen (5.–10. trinn). Høgskolen i Innlandet

Keywords: Physical Education, frame factors, constraints, structural conditions, scoping review

Physical activity supporting children's and adolescents' overall development

ID 115 A cross-cultural comparative investigation of personal and social responsibility in Spanish and Hungarian university students

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When making attributions, people in collectivist cultures (e.g. Spain) as opposed to individualist cultures (e.g. Hungary) prioritise group goals. They focus on context more than content when communicating, and also pay less attention to internal processes as determinants of social behaviour. The Collective Constructionist Theory suggests that day-to-day situations vary among cultures and generate specific learned expectations. People who follow their cultural values and social-expectations exhibit behaviours consistent with those values and expectations. This makes the comparison of individualistic and collectivist cultures a significant topic for research.. As such, this study aimed to identify if differences in personal and social responsibility existed among university students in Hungary and Spain. Following ethical approval, 368 university students (n=163 Spanish, n=205 Hungarian), studying sports related courses voluntarily completed the Personal and Social Responsibility Questionnaire (PSRQ), the Academic Motivation Scale (AMS), the Resilience scale (RS-14), and the Intention to be Physically Active after Graduation Scale (IPA). Descriptive statistics and multivariate analysis of variances (MANOVA) were performed on the data using JASP 0.17.2.1 software package. Cronbach alpha showed good internal consistency in the three scales (ranged from 0.801 to 0.881). Personal and social responsibility have the highest correlation with resilience, and negatively correlate with amotivation. Intention for physical activity after graduation has medium correlation with resilience as well as with personal and social responsibility. Controlling motivation was higher in Hungarian students, while amotivation was low in both cohorts. Multivariate analysis of variances (MANOVA) found no two-way interaction, however, there were significant multivariate main effects by country (Pillai's Trace = 0.686, $F = 59.033$, $P < 0.001$). Univariate tests showed significant differences by country for autonomous motivation ($F = 52.345$, $P < 0.001$), resilience ($F = 311.956$, $P < 0.001$), personal responsibility ($F = 250.114$, $P < 0.001$) and social responsibility ($F = 218.322$, $P < 0.001$). The level of self-determination has a strong influence on the positive development of young people, as they can decide to participate in an activity freely, with pleasure and satisfaction. Hellison's Model, TPSR (Teaching Personal and Social Responsibility through Physical Activity) should be implemented in individualistic countries (e.g. Hungary) to enhance autonomous motivation towards health-related physical activity in students after graduation. This model can also provide students with a safer sport environment if doing the activity, but also when working with younger students. According to this study, such a model can be well learned from collectivist countries such as Spain.

Keywords: Collectivist cultures, individualist cultures, TPSR model, health-related physical activity, cross-cultural study

ID 185 Integrating physical activities with music for sustainable and holistic development of school children in Winneba, Ghana

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Children are intrinsically motivated to regularly participate in physical activity with music which may extend across lifespan. This is because children are often enthralled by the beats and rhythms of music as fun, non-competitive and friendly that sustain their interest and increase endurance in physical activity. The battle against the declining rate of physical activity among children has become a global issue and researchers are apprehensive because about 4.2% of deaths and childhood obesity in Ghana are due to failure to develop the habit of engaging in lifelong physical activity from the formative stage. The study was to investigate the effects of six weeks of integrating physical activities with music intervention on the sustainable and holistic development of school children in Winneba, Ghana. The study addressed the following research questions: 1. What are the effects of integrating physical activities with music on the cognitive abilities of school children? 2. What are the effects of integrating physical activities with music on the affective abilities of school children? 3. What are the effects of integrating physical activities with music on the psychomotor development of school children? **Methods** The study used a pre-test post-test quasi-experimental design, in which purposive sampling was used to select a Basic Six class of 28 participants from the University Practice School at North Campus, in Winneba. The participants were made up of 14 males (50%) and 14 females (50%), with ages ranging from 10 to 13 years old. The participants were taken through pre-test activities comprising of a flexibility test (sit and reach), cardiorespiratory endurance test (beep test) and strength test in the upper limbs (inclined push-ups). In addition, a questionnaire was administered to the participants to fill out to test their cognitive and affective abilities after the researchers had explained the purpose and the instructions to them. The intervention programme was run twice a week (Tuesdays and Thursdays) for six weeks, with each session lasting for 60 minutes. Post-test was conducted on Friday 1st March 2024 immediately after the intervention programme using the same protocols that were used for data collection at the pre-test stage. Research questions one, two and three were analysed with

paired sample t-test using SPSS vs 23. Pre-test and post-test variables of cognitive, affective and psychomotor domains were measured using means, standard deviation and paired t-test at 95% confidence level. Results The results indicated that the participants after going through the intervention had significantly higher ($M=30.61$, $SD=3.34$) cognitive domain scores than before the intervention ($M=21.54$, $SD=3.28$), $t(27) = 9.74$, $p<.001$. Additionally, the results established that the participants had a significantly higher ($M=31.25$, $SD=2.86$), affective domain scores after going through the intervention compared to their pretest score ($M=23.86$, $SD=4.96$), $t(27) = 9.73$, $p<.001$. The results also revealed an improvement in participants aerobic capacity at the posttest stage ($M=5.85$, $SD= 1.28$), compared to their pretest score ($M=4.70$, $SD=1.23$), $t(27) = 6.09$, $p<.001$. Participants result for muscular strength also improved ($M=15.93$, $SD=8.46$), compared to their pretest score ($M=11.71$, $SD=6.66$), $t(27) = 3.28$, $p<.003$. However, participants flexibility before ($M = 22.91$, $SD = 6.91$) and after going through the intervention ($M = 23.19$, $SD = 6.48$), $t(27) = 0.29$, $p = .777$ was polarized. Conclusion The provision of interesting and popular background music during physical education lessons increases students' participation in physical activity leading to significant development in learners' cognitive and affective domains. The sustenance of interest of children in physical activity has a significant influence on the development of life-long attitudes toward continuous participation in physical activity to decrease sedentary lifestyles and associated diseases that are detrimental to national development. Recommendation We recommend that physical education lessons should be taught with music especially in primary schools for the holistic development of children as well as to sustain their interest in regular participation in physical activity for lifelong healthy living.

Keywords: affective, psychomotor, holistic development, music, physical activity

ID 226 How Is The Physical Fitness of Schoolchildren Related to Their Estimation of Their Health Status?

Saima Kuu (Tallinn University)

The aim of this study was to find out how schoolchildren's health-related physical fitness is correlated with their estimation of their health status and main health problems. Schoolchildren aged 12-17 years ($n=811$: 387 males and 424 females) participated in this study, which is based on the data of the study „The Study of Testing the Physical Fitness and the Physical Activity of Estonian Schoolchildren and the Factors That Affect It, 2021“ (the ethics committee of Tallinn University approved

the study). Health-related physical fitness (flexibility, strength and endurance) was measured using five different tests: sit and reach test, standing broad jump, bent arm hang, curl-up test and 20-m shuttle run. The opinion of the students regarding their health status and the frequency of the main health problems was determined using a questionnaire. The students' physical fitness level was assessed according to the results of the tests. After each test they were assigned to either the health risk group or the good health group, based on the 40th percentile (By Ortega et al. (2011) a ≥ 40 percentile can be considered good from a health point of view) within each age and gender group. Those students who remained in the health risk group in all or most tests had a lower level of physical fitness, and vice versa - those who were at a good health level in all or most tests had better physical fitness. These data were analyzed with the SPSS program, and Spearman's correlation analysis was used to find relationships. Students with better physical fitness rate their health status higher than those students who belong to the health risk group based on the tests ($\rho=0,348$; $p<0,001$). Students with lower levels of physical fitness complain more about depression and sadness ($\rho=0,098$; $p<0,01$), more irritability and bad mood ($\rho=0,095$; $p<0,01$) and more dizziness and drowsiness ($\rho=0,078$; $p<0,05$) compared to students with physical fitness good level. The frequency of headache, stomach ache, backache, nervousness and difficulty falling asleep in schoolchildren is not related to their level of physical fitness ($p>0,05$). Low levels of physical fitness not only predict students' health problems in later adulthood, but also indicate their presence already in adolescence. The author of this study thanks her colleagues and students who helped in data collection. Reference: Ortega FB, Artero EG, Ruiz JR, et al. Physical fitness levels among European adolescents: the HELENA study. *Br Journal Sports Med* 2011;45:20-9.

Keywords: schoolchildren, health-related physical fitness, estimation to health status, more common health problems

ID 304 Can a student using an electric wheelchair get an A in a regular PE-class?

Karin Bertills (Linköping University) & **Maria Björk** (Jönköping University)

Background Norms of ableism and values of a physically fit body make some students vulnerable to prejudice in General Physical Education (GPE). Physical performance is valued before knowledge about physical activity when grading. Studies show that student's with disability are academically and socially more successful if

included in regular mainstream schooling. Adaptations necessary to facilitate inclusive education also benefit peers without disability. Teaching students with disability in GPE classes is everyday practice for Swedish PE teachers. This study describes how PE teachers teach to be able to grade students with disability in GPE. Methods Nine experienced physical educators teaching students with disability in secondary school GPE were interviewed in two focus groups. Qualitative content analysis was used to interpret meaning from the data. The analysis revealed two categories, using systematic teaching strategies and trying to regulate expectations. Results Grading students with disability with the same standardized grading criteria for all students is difficult. Skills and abilities are to be graded, but a conflicting issue is what causes what, is the disability causing actual limits to the performance or is the performance an outcome of achieved skills (nonskills). Irrespective of disability or non-disability, the PE teachers use systematic teaching strategies to collect assessment-based information. To be able to grade students with disability they set up long-term plans and provide opportunities to practice skills that are to be graded. To regulate students' expectations, they communicate grading criteria by illustrating differences between grade levels. Adapting activities that can provide information for assessment teachers try to focus on what the student can do rather than on what they cannot do due to their restricted functional skills. Teachers agree that students with disability often overachieve. Grading students with disability, students' theoretical knowledge about physical activity may compensate for documented physical restrictions. Discussion A competitive high-stakes grading system works against the strive for equity in inclusive education. Grading is subjective and equity is largely dependent on teachers' knowledge about what to grade and their understanding of what causes what, i.e., ability versus disability. All students are graded in relation to the same fixed set of criteria and student progress should be mirrored in higher grades. However, further challenges are added to students with restricted functional skills to reach higher grades in PE, since the disability limits the advancement of physical performance. Grading of students with disability is unfair. To show student progress grading criteria should comply with adapted and feasible standards that fit individual abilities of students with disabilities.

Keywords: Inclusive Physical Education, teaching strategies, grading, disability

ID 394 Role of Video Technology in Football Coaching: An Integrative Review

Antti Nyman (University of Jyväskylä), **Antti Ekonoja** (University of Jyväskylä), **Tommi Kärkkäinen** (University of Jyväskylä) & **Mihaly Szerovay** (University of Jyväskylä)

Coaches, players, performance analysts, pundits, and even football fans analyse the game by using videos. In this presentation, we review how video-based coaching and performance analysis of football have been studied in academic literature and propose a framework that highlights the technological, pedagogical, and sport-discipline elements of such literature. Drawing on our framework, we pinpoint relevant opportunities and barriers for coaching practice in terms of video-based coaching and performance analysis. A qualitative content analysis, with an integrative literature review of 34 carefully selected scientific articles, shows that the main opportunities include the evidence-based analyses of teamplay and performance, personalised assessment of player participation and identity, and advancements in coaching practice. Regarding barriers, issues such as overreliance on technology, increase of mental workload, and under-resourcing of turning videos into game-changers were identified.

Key words: Football, soccer, video coaching, integrative literature review, qualitative content analysis

ID 430 WĪCIHITOWIN: Working together to sustain Northern Canadian community physical activity and wellness programming

Lee Schaefer (University of Saskatchewan), **Payton Hall** (University of Saskatchewan), **Sean Lessard** (University of Alberta), **Lisa Hunter** (Monash University) & **Marta Erlandson** (University of Saskatchewan)

“You guys won’t come back - no one ever comes back.” The health disparities between Indigenous and non-Indigenous Canadians have been well documented (MacMillan et al., 1996). Indigenous individuals have a higher rate of obesity, diabetes, and heart disease as well as shorter life expectancy and higher suicide rates (Hahmann & Kumar, 2022; Park, 2021). While these statistics are based on adults, similar health disparities are seen in the Indigenous youth population (Mason et al., 2018; Blanchet-Cohen, McMillan, Greenwood, 2011). Given these material realities, there has been a great deal of research and programming focused on youth living

within these communities. However, youth living in Northern communities often experience one and done programming where adults (mentors) come in and out of their lives for a short period of time. It is not surprising that this type of programming is common. Spending limited time working in isolated communities is easier than a long-term commitment given the isolation, problematic working conditions, increased student needs, limited support services, and inadequate professional support networks (Monk, 2007). On top of that, the work itself can be exhausting, expensive, and requires consistent grant-funding to help support limited education/recreation budgets. This revolving door approach diminishes the relationships that need to be built with youth in order to promote physical activity and healthy behaviors. Our experience has shown us that this work is not always easy, but that the rich relationships we have developed with the youth—and with the broader community and team members—sustains us. The research question I intended to address was how can we make recurring Northern community wellness programming sustainable for both the professionals involved and the communities that desire it? Our descriptive qualitative study utilized semi-structured interviews to better understand experiences of 7 Wellness programmers—all of whom are current physical education teachers and coaches—who have worked in the community of Montreal Lake Cree Nation for at least 3 years. Reflexive thematic analysis was used to analyze the data and to interpret the results (Braun & Clarke, 2019). Having a personal passion for physical activity, a feasible role, and strong, stable relationships with one another and the community all emerged as major themes that sustained programmers. While this is one study in one specific context, we hope that these findings help researchers and programmers in a variety of contexts to better understand how they might build and sustain meaningful physical activity and wellness programming alongside communities.

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Keywords: Physical activity, Indigenous health and wellness, physical education, physical activity programming

Physical activity, physical education

ID 409 A school-based and holistic intervention program for increasing physical activity in 3 to 5-years- old children

Vladimir Martínez-Bello (Faculty of Teaching. University of Valencia), **Patricia Segura-Martínez** (Faculty of Teaching. University of Valencia), **María del Mar Bernabé-Villodre** (Faculty of Teaching. University of Valencia) & **Herminia Vega-Perona** (Faculty of Teaching. University of Valencia)

The Early Childhood Education Curriculum establishes that early childhood institutions are an ideal context for promoting physical activity. Despite the great importance given by the educational community to physical activity in the overall development of children, few studies in our country have evaluated the impact of physical activity promotion programs in Early Childhood Education on the levels of physical activity of girls and boys during the school day. This study aimed to analyze the impact of the process of creation, implementation, and evaluation of a physical activity promotion program on the physical activity levels of children between 3 and 5 years of age in a school in the province of Valencia, Spain. The study was carried out over two years in a school in the province of Valencia. A total of 60 subjects participated (32 girls) with a mean age of 48 months (SD 12). A longitudinal design consisting of two phases (diagnostic phase and intervention phase) was used. To measure physical activity, the children wore an accelerometer during school hours and for one week during both phases. To assess the barriers and facilitators perceived by the educational community during the two phases of the project, twelve interviews were conducted and subsequently analyzed through a content analysis. Subsequently, the educational community constructed a physical activity promotion program. In the second phase of the study, the program was implemented physical activity levels were re-evaluated and the barriers and facilitators perceived by the educational community were investigated. In the diagnostic phase, the levels of physical activity during the school day were well below the recommendations established by national and international organizations for children under six years of

age, with differences being observed between girls and boys. The educational community actively participated in the construction and implementation of the physical activity promotion program. In the intervention phase, physical activity levels increased. Barriers and facilitators to the implementation of the intervention program included the lack of training on physical activity promotion and the importance of a participatory approach as a driver of change in school culture, respectively. The co-constructed school-based physical activity promotion program developed new curricular proposals both inside and outside the classroom. These proposals had a positive impact on physical activity levels during the school day.

Keywords: Preschool, Physical Activity, Early Childhood Education, Intervention

ID 279 Intrinsic Motivational Climate of PE Lessons: A Comparative Study among High School Students in Iran and Hungary

Narges Ghazvini (Department of Pedagogy, Hungarian University of Sports Science, Budapest Hungary), **Prof. Dr. Pal Hamar** (Department of Pedagogy, Hungarian University of Sports Science, Budapest Hungary) & **Prof. Dr. Istvan Soos** (Department of Pedagogy, Hungarian University of Sports Science, Budapest Hungary)

Introduction: The ultimate goal of physical education as a subject is to mold behaviors and attitudes that will motivate students to engage in physical activity throughout their lifetime. (Alderman et al., 2006). However, in a 2022 report by the World Health Organization (WHO), it was revealed that 81% of adolescents between the ages of 11 and 17 worldwide did not engage in sufficient physical activity. The significant decline in enthusiasm for physical education reflects a lack of motivation, which plays a vital role in students' active engagement in PE classes. (Owen et al., 2014). The aim of this study was to compare the intrinsic motivational climate of PE lessons questionnaire (IMCPEQ) (Soini et al., 2004) among female high school students in Iran and Hungary. The self-determination theory and the theory of goal orientation were used as a theoretical framework for this study. Methods: The study included a sample of 620 female students aged 13 to 15 from Iran and Hungary. Participants were selected from (wealthy, moderate-, and lower-income districts) They completed two questionnaires online: the IMCPEQ and a general information and demographic data questionnaire. Ethical approval for the study was obtained from the research ethics committee of the Hungarian University of Sports Science. The IMCPEQ consists of four subscales comprising Ego, Task, Social, and Autonomy on a 5-point Likert scale (anchored from not at all important=1 to extremely

important=5). Data analysis was carried out using IBM SPSS v. 26 software, and descriptive statistics, including frequencies, means, and standard deviations, were reported. The independent T-test was used to determine differences between variables in the two groups. Results: The results showed that there is a significant difference between Iranian and Hungarian female students in all variables of the IMCPEQ. Iranian female students achieved superior mean scores in all variables compared to Hungarian female students ($p \leq 0.05$). Discussion and conclusions: The results of this study indicated that there is a significant difference between Iranian and Hungarian female students in all IMCPEQ subscales, including Task, Ago, Social, and Autonomy, as well as factors like Enjoyment and Physical activity (which are not part of IMCPEQ). Based on the results of the present study, it can be said that the environment provided for Iranian female students better meets the needs of autonomy, competence (ego and task), and relatedness compared to Hungarian female students. Since these needs are fundamental factors of intrinsic motivation, it is recommended that experts and authorities work on strengthening these factors to foster greater motivation in PE lessons.

Keywords: PE, Iranian and Hungarian female students, IMCPEQ

ID 412 Movement and music in the Early Childhood Education context: a study protocol for the evaluation and assessment of the implementation of evidence-based practice program

Vladimir Martínez-Bello (Faculty of Teaching. University of Valencia), **Herminia Vega-Perona** (Faculty of Teaching. University of Valencia), **María del Mar Bernabé-Villodre** (Faculty of Teaching. University of Valencia) & **On behalf of MOVIMUSIC research team** (Research team, University of Valencia)

The Early Childhood Education and Care (ECEC) (0-3 years), despite being an educational space with its own identity, is unfortunately a sector forgotten by both the Public Administration and the Academy. For this reason, our study protocol seeks to position the ECEC (Infants and toddlers education) as a key context in the curricular development in our country. This project aims to fill a knowledge gap on the necessary attention that must be paid to the development of the curriculum of the first cycle of Early Childhood Education in Spain and attends to the possibilities of incorporating music concerning knowledge of the body and the expressive possibilities derived from Rhythmic use and its implications in the socio-emotional development of the students of this stage. Therefore, the main aim is to carry out an

assessment of teaching practices related to movement and music in the ECEC context from a socio-ecological perspective and to evaluate the impact of the implementation of a program of quality curricular practices on movement and music with an approach based on gender equality with the participation of the entire academic community. The project will be carried out in three Spanish capitals: Valencia, Toledo, and Murcia. It will follow a cluster randomized controlled trial. The ECEC centers will be randomly assigned to an intervention or control group. The study period will be 36 months, starting with baseline measurements in the first year of the project (diagnostic phase). In the second year (intervention implementation phase) the results of the first phase of the project will be shared, the creation of the intervention programs will be monitored and the music-guided movement patterns will be evaluated longitudinally during and outside the school day. The accompaniment is composed of four axes (training, participation, implementation, and evaluation). The intervention programs will be aimed at promoting positive and egalitarian behaviors around physical activity with music (adaptation of the Dalcrozian Rhythm for Children) with a gender approach in the Early Childhood Education centers of the intervention group. These programs will pay attention to the barriers and facilitators perceived by the educational community in the introduction of music and movement in the first cycle. Finally, in the third year, the evaluation phase of the implementation will be carried out and the experience of building the proposals based on the participation of those involved will be disseminated. Given the interdisciplinary nature of the project and the team, techniques and instruments of a quantitative and qualitative nature will be used aimed at promoting participatory processes among the entire academic community involved. In short, we believe that carrying out a diagnosis, co-creating an intervention, and its subsequent evaluation can dignify the first cycle and improve teaching practice.

Keywords: Movement, Music, Study Protocol, Early Childhood Education

ID 583 Preservice Physical Education Teachers' Adaptations to Lesson Plans in School Placement

Jana Bosmans (KU Leuven), **Toon Dehandschutter** (KU Leuven), **Lore Vleugels** (KU Leuven), **Anke Mous** (KU Leuven) & **Peter Iserbyt** (KU Leuven)

Introduction Teaching requires decision-making to support all students' learning in a multidimensional, unpredictable environment. This decision-making reflects the ability of teachers to adapt their teaching to meet the diverse needs of students

which is called adaptive competence. Adaptive competence is a key outcome for preservice teachers (PSTs) in practice-based teacher education (PBTE) (Ward et al., 2022). Within PBTE, focus lies on teaching transferable knowledge and skills, which are called core practices. These practices are central to the teachers' daily work and need to be adapted depending on the teaching context. To date, research on adaptive competence has mainly focused on PSTs in methods classes (e.g., Bosmans et al., in press). Therefore, the purpose of this study was to examine adaptations to core practices in lesson plans of PSTs in physical education during school placement. Method A total of 14 PSTs (9 female, 5 male) from one Flemish physical education teacher education program (PETE) wrote lesson plans for teaching middle- and high school students. Following each lesson, PSTs reflected on their teaching and adapted core practices in their lesson plans using the track changes function in Word. For each adaptation, trained coders assessed which core practice the adaptation referred to (goals and assessment; rules and routines; management; content development; task presentation; active supervision) and whether the adaptation reflected a modification (i.e., major adaptation) or a refinement (i.e., minor adaptation). All data were descriptively analyzed and reported in percentages, means and totals. Results In total 253 lesson plans consisting of invasion games (n=102), net/wall games (n=44), individual sports (n=59), fitness (n=14), and rhythmic sports (n=34) were analyzed. From a total of 684 written statements, 609 were coded as adaptations to core practices. Most adaptations were made to content development (n=200; 33%) and management (n=162; 27%), accounting for more than 50% of all adaptations. Least adaptations were made to goals and assessment (n=9; 1%), and rules and routines (n=20; 3%). A total of 301 (51%) adaptations were refinements, and 308 (49%) were modifications. Examining the proportion of modifications and refinements per core practice, results show that the majority of adaptations to content development were modifications (77%). Conclusion During their school placement, PSTs made most adaptations in their lesson plans for the core practices of content development and management. For content development, most adaptations were modifications which indicates that the content PSTs taught still needed major changes to align with the students' needs. Future work should investigate how adaptations to lesson plans serve to improve enacted teaching and in turn student learning. There is also a need for PETE programs to invest in preparing PSTs to adapt their teaching to different contexts.

Keywords: Core Practices, Lesson Plans, Reflection-on-action, Teacher Education

ID 180 The emergence of traditional games in the 21st century's school

Manuel Jacob Sierra-Díaz (Universidad de Oviedo) & **Sixto González-Víllora** (Universidad de Castilla-La Mancha)

Background Traditional games are one of the central axes of the curriculum of Physical Education (PE) in the majorities of countries. This kind of games contribute to the development of physical literacy, whereas they have an important historical and cultural value. In a more technological, globalised and digitalised world; traditional games have given way to other forms of entertainment changing the way of interacting with others, exploring the world and playing in a different manner. **Objective & hypothesis** The aim is to compare the degree of autonomous form of motivation between a rural and urban school during the implementation of traditional games and sports of Castilla-La Mancha (Spain). The initial hypothesis states that the set of traditional games will increase the students' autonomous form of motivation impacting on the way of spending leisure time actively. **Methods** A quasi-experimental design based on two groups (i.e. rural and urban school) was conceptualized. A total of 33 Primary Education students of 5th grade participated in the study. Specifically, 18 students were enrolled in a school in the city of Cuenca (urban) meanwhile 15 students come from the village of Huete (rural). Both groups participated in a week of traditional games in the region of Cuenca and Castilla-La Mancha during three sessions of 45 minutes at PE. In regard with instruments and variables, two Likert-type scales were used at pre-, post- and re-test. **Results** The means and SDs of the pre-, post- and re-tests per school showed significant differences in the most self-determined forms of motivation (i.e., intrinsic and identified) in contrast to external regulated and amotivated behaviours ($p < 0.50$). However, students from the urban setting showed greater differences of motivation from pre-test to post-test ($p < 0.050$) in contrast to students from rural school. **Discussion** This study partially confirmed the initial hypothesis that the collection of traditional games implemented into one week between the two kinds of settings can increase the level of autonomous forms of motivation. During the intervention, traditional games were adapted to the new pedagogical principles of active participation and integration of all the students. Both the traditional games and the creation of a learning environment could be relevant facts to support the three Basic Psychological Needs Specifically, it is observed significantly difference of autonomous forms of motivation among urban students in contrast to rural ones. This result suggests that in rural areas some traditional games are still known (and practice) by students. **Conclusions** In general, traditional games an important resource to foster self-determined forms of

motivation and to promote the intention of being physical active, meanwhile the contribution of cultural transmission can be effectively carried out in PE.

Keywords: Rural school, Urban school, Primary Education, Popular games, Culture transmission

ID 285 An exploration into online coach learning since 2017

James Bush (Liverpool John Moores University), **Colum Cronin** (Liverpool John Moores University), **Simon Roberts** (Liverpool John Moores University) & **Alex Twitchen** (The Open University)

Across the broad education field, online learning has become a well-researched topic in recent years. Online learning has reached a stage where we can now look at a micro level, by diving deeper into more niche domains of online learning. Sport coach learning is one of many areas of education which have adopted online learning in its practice. Despite this, to date, there has been limited analysis of online coach learning. This gap in the existing literature is problematic given the recent developments in technological competency, as well as the covid-19 pandemic, which prompted an increase uptake in online coach learning. Given the increasing prevalence of online coach learning, there is a need for researchers to both keep up with online coach learning practice, and to synthesize existing findings as a means of informing future online coach learning provision, and online coach learning research. Therefore, this presentation will report on a systematic review of the evidence exploring online coach learning since 2017. Supported by PRISMA guidelines, a comprehensive search was performed in ten electronic databases (WOS, MEDLINE, Scielo, SCOPUS, SportDiscus, ERIC, Education Research, CINAHL, PsycINFO and Google Scholar). All included literature has been assessed for quality, using the Mixed Methods Appraisal Tool, as well as a critical quality assessment undertaken by the author. Abductive content analysis informed by Blackstone, will be reported including a continual shift between inductive and deductive approaches. The presentation will provide an overview of the theoretical and methodological work undertaken to date. This is a significant contribution that can inform future research and practice. It is also necessary given the increased shift to online coach learning. Furthermore, the relevance of this systematic review could be larger than just the domain of online coach learning and can contribute towards wider areas of education.

Keywords: online, coach, education, learning, virtual

Wednesday 15th May, 10 a.m.

Physical education teacher education, professional development

ID 349 Developing Personal Vision in Physical Education Teacher Education (PETE): Where Diverse Pasts and Uncertain Futures Collide

Paul McMillan (The University of Edinburgh), **Nicola Carse** (University of Edinburgh), **Murray Craig** University of Edinburgh, **Mike Jess** (University of Edinburgh), **Jan McCall** (University of Edinburgh) & **Karen Munro** (University of Edinburgh)

Aims Personal vision is an image of what a teacher hopes to achieve in their classroom, school and community (Hammerness, 2006). Starting the vision-making journey with student teachers is a productive but challenging place to begin. We focus on the 'Vision and Voices' project: a longitudinal study tracking the enactment of personal vision across a 4-year undergraduate PETE programme. This extensive period of time in PETE, which has become less common recently, has enabled the teacher educator team to progressively thread vision-making through the different years of the programme. While our study of teacher educators is on-going, this presentation focuses on how student teachers are experiencing this progressive vision-making process. The main aim is to understand and improve student experiences in the future. Methods Research question: What are the benefits and challenges of engaging with personal vision during the PETE programme for student teachers? This study adopted a qualitative, interpretivist approach to investigate this question with student teachers. We invited five student teachers from each year group of the PETE programme to take part (20 participants). Data were gathered using two semi-structured, focus group interviews with the students in each year group (8 interviews). The data were analysed inductively to generate themes, summarising the data and addressing the research question. Results At the time of submitting this abstract, our analysis is on-going and we summarise in this section the main themes emerging from the data. A full analysis of the data will be complete ahead of AIESEP 2024. Initial analysis indicates that while students are generally positive about the experiences of vision-making in the PETE programme, a number of challenges remain. One challenge is that the visions of students in years 1 and 2 are aspirational, largely inspired and constrained by past experiences. Sharing these aspirations and finding commonalities with others are key considerations for students in the earlier years of the PETE programme. Another challenge is that as

students progress through PETE, uncertainty about the future demands of schools becomes increasingly evident. Opportunity to discuss their vision, and reflect on the challenging realities of schools, are key considerations for students in the later years of the PETE programme. Discussion/Implications The initial findings showed benefits and challenges for student teachers during the vision-making process. That is, understanding diversity and fostering the sharing of visions were considerations for students in the early years while uncertainties about the future were central in later years. Making connections to the past and future raises implications for how PETE programmes engage students in personal vision. References Hammerness, K. (2006) *Seeing through teachers' eyes: Professional ideals and classroom practices* (New York, NY, Teachers College Press).

Keywords: Personal Vision; Professional Development; Physical Education Teacher Education

ID 96 Planting seeds: Growing voice in primary school physical education

Tony Sweeney (Maynooth University), **Maura Coulter** (Dublin City University), **Deirdre N i Chroinin** (Mary Immaculate College, Limerick) & **Grace Cardiff** (Mary Immaculate College, Limerick)

This project aimed to promote student voice pedagogies in primary physical education by amplifying the experiences of teachers and children in primary physical education when student voice is used. The research was guided by the following question: How can teachers be supported to implement student voice pedagogies as part of their everyday practice of primary physical education? Twenty primary teachers from ten schools participated. The two teachers in each school collaborated to learn about, and enact, student voice pedagogies in primary physical education across a six-month period. They were supported in enacting student voice pedagogies through teacher webinars, sharing meetings and resources with student voice guidance. Data sources to answer the research question included teacher webinar feedback, data generated by children in webinars led by the research team, transcripts of teacher collective sharing meetings and the text of blog posts generated by the teachers and children. Preliminary findings indicate the value of teachers working collaboratively with school colleagues to grow their enactment of student voice pedagogies. Teachers appreciated the collegiality and support close at hand from their school colleagues as well as the resources and wider supports from the other participants and the research team. Children's responses to student voice

pedagogies were crucial in building momentum and commitment to teachers adopting student voice approaches in primary physical education. The approach adopted in this research provides direction on how to support teachers implement student voice pedagogies as part of their everyday practice of primary physical education.

Keywords: primary physical education, student voice, pedagogy

ID 264 Early Childhood Educators and Body Curriculum

Nicole Land (Toronto Metropolitan University)

This participatory educator-action research investigates how dominant and alternative discourses about children's bodies are integrated into physical education for toddler and preschool-aged children. A collaboration between early childhood educators and researchers, this study details how one program in Toronto, Canada is responding to an urgent call for critical physical education pedagogies (Fitzpatrick, 2019) by reconceptualizing the everyday language, practices, and materials that children encounter as they learn about bodies. As a theoretical framework, the "body curriculum" (Azzarito, 2019) uses a social justice approach that considers children as active creators of knowledge of their bodies. It proposes that educators must support children to re-story their bodies beyond Euro-Western logics that promote white, thin, able-bodied, cis, heterosexual, and masculine bodies as the image of normative, universalized conceptions of health (Azzarito, 2009). Using a pedagogical inquiry methodology (Pacini-Ketchabaw et al., 2015), documentation (photographs, video, artefacts, reflective writing, children's insights) is used to critically analyze and create pedagogical practices that allow educators to help children meaningfully story their bodies. This methodology emphasizes teacher education and professional development because educator co-researchers participate in ongoing reflection, learning, and invention, and it requires public data dissemination to spur collective dialogues to shift educators' practice across Canada. This presentation will share two results, framed as stories educators use to create alternative body curriculum with children: (1) stories of how growth is non-linear; (2) stories of "big" or "small" bodies. Story 1 proposes that bodies continually change, therefore interfering in dominant discourses of child development that teach children that their body will grow into adulthood and cease growing. Story 2 grapples with how bodies are described, asking how language might contend with unjust realities of how different bodies navigate space while resisting coded/metaphorical terms that silence or romanticize bodied differences. This research centers educators' approaches to

crafting inclusive, affirmative, and equitable body curriculum that responds to children's emerging relations with bodies. Azzarito, L. (2009). The panopticon of physical education: Pretty, active and ideally white. *Physical Education and Sport Pedagogy*, 14(1), 19-39. Azzarito, L. (2019). 'Look to the bottom': Re-writing the body curriculum through storylines. *Sport, Education and Society*, 24(6), 638-650. Fitzpatrick, K. (2019). What happened to critical pedagogy in physical education? An analysis of key critical work in the field. *European Physical Education Review*, 25(4), 1128-1145. Pacini-Ketchabaw, V. et al. (2015). *Journeys: Reconceptualizing early childhood practices through pedagogical narration*. University of Toronto Press.

Keywords: early childhood education, pedagogy, body curriculum, professional development

ID 388 Optimizing physical education secondary teachers' motivating style: a protocol study based on the circumplex model

Javier García-Cazorla (University of Zaragoza), **Ángel Abós** (University of Zaragoza), **Javier Sevil-Serrano** (University of Extremadura), **José Antonio Sayavera** (University of Extremadura) & **Luis García-González** (University of Zaragoza)

The circumplex model (Aelterman et al., 2019), based on the Self-Determination Theory (SDT; Ryan and Deci, 2020), highlights that teachers should develop autonomy-supportive and structure styles and avoid controlling and chaotic styles. Few training programs based on the circumplex model have examined its effects on SDT-related variables among both teachers and students (Reeve & Cheon, 2021). To fill this gap, a training programme protocol to enhance PE teachers' motivating style is described. Approximately 30 Spanish PE teachers (15 experimental and 15 control) and their students (n=1000) will participate in this study. A six-hour face-to-face training program in three two-hour sessions will be conducted. Initially, the SDT and the circumplex model will be introduced with examples and videos (Aelterman et al., 2016; Cheon et al., 2020). Further, teachers will learn strategies to support students' autonomy (Aelterman et al., 2016) and structure (Cheon et al., 2020) and to avoid controlling and chaotic styles. Finally, PE teachers will use different motivating strategies through microteaching and role-playing. Post-training, individualized mentoring will address concerns. The experimental group will implement learned strategies over 4 months in PE lessons. Outcomes for both teachers and students will be assessed before and one-month and half after the intervention as well as four-months post-training, measuring perceptions of (de-)motivating teaching style, need

satisfaction and frustration, and other positive and negative outcomes. Post-implementation, we expect that the experimental group teachers and students would show significant improvements in perceptions of (de-)motivating teaching style, in need satisfaction and frustration, and in other related outcomes versus their baseline values and control group. The aim of the programme is to enhance the PE teachers' motivating style, improving the motivational processes and the results for students and teachers themselves.

Keywords: Basic psychological needs, motivation, PE teachers, teaching behaviours.

ID 111 (Wo)monster meets Monster: The landscape of PETE in England, a critical autoethnographic reflection

Shrehan Lynch (University of East London)

The landscape of Physical Education Teacher Education (PETE) in England is one of precarity. We are in a national teaching shortage and consequently the recruitment and retention of trainee teachers is challenging. Teacher educators also teach intensively and have to balance teaching with school visits to students on practicum. As a consequence, excessive workload is a notable and highly reported issue with many teacher educators becoming burnt out. The turbulence of the governmental Market Review in 2022 and the need for providers to gain reaccreditation have increased pressures, enjoyment and job security for many across the teacher education sector and PETE has not been exempt from this impact. Under the guise of the government Market Review many providers were questioned about the quality, quantity, and type of provision they offer to trainee teachers with a looming cull of teacher education providers. As a result, the landscape has been bleak and harsh, something akin to a monster, sharing monstrous ideas. This presentation will discuss the monstrous landscape and how the monster tames its pets [teacher educators and trainee teachers] through policy. Drawing upon data from a five-year critical autoethnography framed and analysed through the lens of feminist poststructuralism, I, a teacher educator in PETE, position myself as a (wo)monster, a woman navigating several co-constructed identities while searching for spaces of agency and empowerment (Shelton et al., 2019). I draw upon several critical moments throughout the five-year critical autoethnography where I deconstruct several intra-related critical incidents that will be shared with the audience. As an example, teaching on the 'Intensive Training and Practice' curriculum week, a new development for the PETE course since the market review process. The monitoring of consistency and

surveillance surrounding this week became a space where the (wo)monster appeared. From this position I identified that teacher education is very much the monster, and I am very much the monster's pet. However, the monster's pet doesn't always have to do what the monster dictates. Insights derived from the experience of being a (wo)monster are shared throughout the presentation around imagining new ways of being and wreaking havoc. Attendees may gain an insight into the workings of PETE in England, from a (wo)monster! Furthermore, in the circumstances where monstrous landscapes continue to be created some predictions for the future are shared if monstrous landscapes continue in PETE programmes. References: Shelton, S. A., Guyotte, K. W., & Flint, M. A. (2019). (Wo) monstrous suturing: Woman doctoral students cutting together/apart. *Reconceptualizing educational research methodology*, 10(2-3), 112-146.

Keywords: physical education teacher education autoethnography

ID 112 Body dissatisfaction within physical education teacher students - An explorative questionnaire study

Elke Grimminger-Seidensticker (Paderborn University) & **Johanna Korte** (Zentrum für Brückenangebote ZBA BL)

Introduction Body dissatisfaction - as a negative evaluation of one's own body - is a widespread phenomenon in childhood and adolescence, which is associated with psychosocial development risks such as subclinical and clinical eating disorders, depression, or substance use. Since sports plays an ambivalent role in the context of body dissatisfaction, and physical education (PE) classes are negatively experienced by body dissatisfied children and adolescents or they even consciously avoid them, PE teachers play an important role both in the prevention of body dissatisfaction and in the design of body-sensitive PE classes. However, it can be assumed that prevention work is influenced by the PE teacher's own body image. A lack of critical and reflective examination of one's own possible negative body image can lead to unintentional transfer to the students in the sense of model learning. Thus, the present study will focus on body dissatisfaction and associated risk behaviors among PE teacher students. Methods: To date, N = 145 PE teacher students have completed an online questionnaire. The sample consists of 76 men, 68 women and one diverse person, who are on average 22.34 years old and 91% are Bachelor students. In addition to personal data, the questionnaire includes the following scales: Negative body evaluation (FKB-20; $\alpha = .84$), body dissatisfaction and drive for thinness

(EDI-2, $\alpha = .86$ or $\alpha = .90$), drive for size/muscularity (MDDI; $\alpha = .82$), and orthorectic eating behavior (DOS; $\alpha = .87$). Results: T-tests show that female students are significantly more likely to be dissatisfied with their bodies (t (df: 142) = -2.68; $p < .01$; Cohen's $d = 0.88$), significantly drive more for thinness (t (df: 142) = -3.50; $p < .001$; Cohen's $d = 0.98$), and drive significantly less for size/muscularity (t (df: 142) = 5.75; $p < .001$; Cohen's $d = 0.88$) than male students. Descriptive analysis show that 54.4% of the female students and 32.9% of the male students are dissatisfied with their body. 36,8% of the female students show subclinical disordered eating to reduce weight. Discussion: The initial results show that the forms of body dissatisfaction among PE teacher students are just as gender stereotypical as in childhood and adolescence. Accordingly, female students want to be thinner and therefore pursue eating behaviors focused on weight loss, while male students want to get more muscles. The prevalence of body dissatisfaction or subclinical disordered eating behavior is as high as in childhood and adolescence. This could be a reason to address the topic of body dissatisfaction already in teacher education at universities to stimulate a critical and reflective examination of one's own body image and thus prevent possible transfer processes to students.

Keywords: Body Dissatisfaction, Physical Education Teacher Education, Professional Development, Questionnaire, Health

Health teacher education, professional development

ID 311 Sustainable development in physical and health education: students', teachers', and professors' perceptions

Marie-Christine Morin (University of Sherbrooke) & **Félix Berrigan** (University of Sherbrooke)

United Nations presented 17 sustainable development goals (SDG), in response to world challenges. Physical education (PE) has a role in reaching specific SDG, such as SDG 3 (health and wellbeing) (Baena-Morales et al., 2021). However, the place of SD in PE is currently little studied. This study aims to assess university students, teachers, and professors' perceptions about the role of PE and university training

and their sense of self efficacy towards SD. The Physical Education for Sustainable Development questionnaire (8-level Likert scale) (Baena-Morales et al., 2023), was used to observe the major trends and gaps of different SD targets. It underwent a rigorous translation process and was adapted in 3 versions (the role of PE for SD, of university training in PE for SD and the sense of self-efficacy for SD). The Five Facets of Mindfulness questionnaire (5-level Likert scale) (Heeren et al., 2011) and the Connectedness to nature scale (5-level Likert scale) (Mayer et al., 2004) (French-validated versions), were used to assess relationships between the SD in PE, mindfulness, and connection to nature. Questionnaires were sent to students and teaching staff in the bachelor's degree program in PE at 3 Quebec universities. Data collection takes place between September 1, 2023 and March 1, 2024. The data will be analyzed after collection to be ready to present the results at the congress. Descriptive analysis will show the most and least considered SD targets. Comparative analysis of the 2 groups and between the 3 targeted universities will reveal the coherence and oppositions between perceptions. Regression analysis will allow to observe the nature of the relationships between SD in PE, mindfulness, and connection to nature. This research is relevant to the challenges of climate, health, and education. The definition of the role of SD in PE supports actions, to contribute to SD.

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Heeren, A., Douilliez, C., Peschard, V., Debrauwere, L., Philippot, P. (2011). Cross-cultural validity of the Five Facets Mindfulness Questionnaire: Adaptation and validation in a French-speaking sample. *European Review of Applied Psychology*, 61(3), 147-151.

Keywords: sustainable development; health and physical education; mindfulness; connection to nature

ID 551 Advanced Concepts and Implications of International Early Childhood Physical Activity Protection - Reflections on Countries at the Beginning Stage of Early Childhood Physical Activity Protection

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As early childhood education focuses more and more on physical activity and training for young children, it is important that we pay equal attention to the injuries that these physical activities bring to young children and examine how to protect them from harm. In this paper, we begin by using the literature approach, and in the text analysis section, we first examine the latest current international research and practice on the protection of young children's physical activity. We found that more and more countries and organizations have begun to pay attention to the potential risks that may exist in early childhood physical activity, including physical injury, psychological stress, etc. We summarized the content focus and focus points of existing policies, such as: child rights-centered protection concept, comprehensive safety standards, Concerned about sexual harassment, and multi-stakeholder cooperation, etc., which can provide a framework for drafting documents for those countries and regions that lack policy documents. Next, we interviewed prominent Chinese scholars in the field of early childhood sports to explore how to reduce the occurrence of injuries in early childhood sports activities in the absence of laws, regulations, and policy support under the conditions of policy gaps. Examples include: relying on the power of community education, establishing community cooperation mechanisms, and setting up accident records and feedback mechanisms. The significance of this paper is: to provide scientific basis for the protection of early childhood physical activity, to promote the establishment of social awareness of early childhood physical activity protection in society, and to build social consensus.

Keywords: Child Safeguarding, Early childhood physical education, Health policy

ID 391 '5 years on; same, same, but different?': Physical education teachers' realities of curriculum policy development and enacting examinable physical education

Brendan O'Keeffe (University of Limerick, Ireland), **Dylan Scanlon** (Deakin University, Australia) & **Jenna Lorusso** (University of Limerick, Ireland)

Introduction There has been increased international interest in the development of examinable physical education. Leaving Certificate Physical Education (LCPE) is a high-stakes exam in the final two-years of post-primary schooling in Ireland. LCPE was first introduced in post-primary schools on a phased basis in September 2018, whereby a number of schools enacted LCPE over a two-year period before the opportunity was opened to all schools. The National Council for Curriculum and Assessment (NCCA) conducted an early enactment review in 2023 through a survey data collection method. While the NCCA are engaging in a level of deliberative policy-making processes, we believe further qualitative depth needs to be added by centralizing teacher voice in these processes (specifically, the teachers who enacted the curriculum in phase one). As such, this research aimed to explore the realities of LCPE development and enactment since its introduction in 2018, and construct policy suggestions and recommendations for future reviews of the LCPE curriculum.

Methods Policy processes, and in particular, deliberative policy analysis, acted as the conceptual framework for this research. Phase one teachers (N = 10) were interviewed in individual and focus group interviews on their development, enactment, and advocacy of and for LCPE. Thematic analysis was used to analyse the data.

Results The findings were captured in three categories: (i) Teacher voice continues to be missing from the policy development process; (ii) The contentious role of assessment in LCPE enactment; and (iii) A repositioning of teachers as experts in deliberative policy analysis. While we forefront these findings by explicitly stating how this is one voice (i.e., teacher) among multiple stakeholder voices in deliberate policy analysis, we strongly believe teacher voice should be central within policy development process.

Conclusion This research pinpoints the realities of policy slippage and provides considerations for policy makers on (alternative) approaches to centralising teacher voice in deliberative policy analysis. It also advocates for teacher education to prepare pre-service teachers to be policy actors and engage in policy advocacy.

Keywords: Examinable Physical Education; Assessment; Curriculum Enactment

ID 374 Physical Education teachers benefits of self-determination theory training program: a systematic review.

José Antonio Sayavera Cidoncha (University of Extremadura), **Francisco Miguel Leo** (University of Extremadura), **Juan José Pulido** (University of Extremadura), **Luis García-González** (University of Zaragoza), **Ángel Abós** (University of Zaragoza), **Miguel Ángel Tapia-Serrano** (University of Zaragoza), **Miguel Ángel López-Gajardo**

(University of Extremadura), **Javier García-Cazorla** (University of Zaragoza) & **Javier Sevil-Serrano** (University of Extremadura)

Background: Benefits of Self-Determination Theory (SDT)-training programs on students' motivational outcomes have been well documented in physical education (PE) lessons (Vasconcellos et al., 2020). However, there are no well-designed systematic reviews that have examined whether these benefits extend to PE teachers as well (Reeve & Cheon, 2021). **Objective:** This systematic review aims to synthesize the evidence regarding the effects of SDT-training programs on PE teachers' self-perceptions of their antecedents, (de-)motivating teaching style, motivational variables, and affective, behavioural, and cognitive outcomes. **Method:** The systematic review was registered in PROSPERO (CRD42023404923). A systematic search for qualitative and quantitative studies was conducted up to April 2023 in Web of Science, Medline, Scopus, and Eric databases following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Guidelines (PRISMA). The risk of bias and the quality of the studies were also examined. **Results:** Of the 6,339 references identified, 14 studies comprising 795 PE teachers from five countries were included. Most of the programs were conducted in Korea (n=7). Most of the SDT-training programs were face-to-face and examined effects on teachers' related-variables through a quantitative methodology. The length of the SDT-training programs ranged from three to 12 hours. It is highlighted that, in most of the SDT-based interventions, positive results were found on teachers' self-perceptions of antecedents (e.g., beliefs, goals orientation, etc.), autonomy and structure support, motivational variables (basic psychological needs), and affective, behavioral, and cognitive outcomes (e.g., job satisfaction, stress, etc.). Likewise, although it was not the main objective, in most of the studies that also examined the possible effects of such training programs on students, improvements were also seen in most of the variables examined. **Conclusion:** It appears that PE teachers who participate in SDT-training programs not only perceive improvements in their antecedents and teaching behaviours, but also in a set of motivational variables and adaptive outcomes. These SDT-training programs for teachers also seem to increase students motivation and different outcomes. Therefore, given all the associated benefits, it seems necessary to implement these SDT-training programs in both pre-service and in-service PE teachers.

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systematic review and meta-analysis. *Journal of Educational Psychology*, 112(7), 1444–1469.

Keywords: Physical Education, teaching behaviours, programmes, motivating style, teacher training.

ID 440 Becoming-Trans*: Examining how a trans* teacher finds her way in physical education

Angelica Maria Saenz Macana (University of Valencia) & **Dillon Landi** (University of Queensland)

LGBTQIA+ research in physical education (PE) is a growing field. One stream of this research has been exploring LGBTQIA+ teachers' experiences (Landi et al., 2023). In the only accessible paper on a non-binary PE teacher, Bancroft & Greenspan (2023) examined the barriers faced by this teacher inclusion such as the name change, pronoun use, and identity expression. In the case of the present study, the purpose is to explore the teaching experiences of PE of Andrea (pseudonym), an intersex and transwoman physical educator. The research specifically explored how her teaching practices were affected by her transition. Using Ahmed's (2006) queer phenomenology, this study combines phenomenology and queer studies as a way to examine the socio-spatial affects of being a trans* teacher in PE. The design was a qualitative study using conversational inquiry (Leavy, 2017) that aligns critical, queer and phenomenological nature of the paper. Data were generated through a pre-interview questionnaire and a semi-structured interview. Through Ahmed's (2006) concepts of orientation, bracketing, background and affect, data were analysed in the following non-linear steps: (1) a dialectical mode; (2) versus coding; (3) analytic memos; and (4) deductive process. The results suggest Andrea's pedagogical changes occurred as a consequence of her gender transition. Prior to started her transition, Andrea reinforced stereotypical views of being a 'male' PE teacher through clothing, behaviours and communication. During her pre-transition period, Andrea was focused on 'behaviour management' and controlling classroom discipline. She also had 'distant' relationships with students and used 'masculine' behaviours to avoid suspicion as being labelled 'queer' or 'gay'. Andrea often avoided LGBTQIA+ topics and responses but chose to support students privately. When she started her gender transition, Andrea felt she could live authentically and expressed herself in diverse gendered ways. She also focused less on classroom management and more on building personal relationships with students. Lastly, Andrea became an advocate for

LGBTQIA+ issues in class and her school. Andrea's story reveals how trans* teachers still are struggling to 'fit in' to PE and school spaces. Yet, there are some powerful pedagogical benefits when trans* teachers can live authentically in PE. Moreover, PE teachers need to learn how to embody a queer and critical orientation that makes PE more inclusive for all students. References: Ahmed, S. (2006). *Queer phenomenology: Orientations, objects, others*. Duke University Press. Bancroft, K., & Green-span, S. (2023). Facilitators and barriers of inclusion: A critical incident technique analysis of one non-binary Physical Education teacher's workplace experiences. *Sport, Education and Society*, 28(7). <https://doi.org/10.1080/13573322.2022.2034143> Landi, D., Flory, S., & Storr, R. (2023). LGBTQIA+ topics in physical education: An introduction. *Sport, Education and Society*, 28(9), 1011-1020. <https://doi.org/10.1080/13573322.2023.2254670> Leavy, P. (2017). *Research Design*. The Guilford Press.

Keywords: Trans* teacher, experience, physical education, gender identity, queer phenomenology

ID 512 What does Wayapa, Planetary Health and the Gay Games have in common? Affordances of knowledge from the margins for use in health and physical education.

li lisahunter (Monash University)

This paper reports on three practices that can be employed in health and physical education (HPE) and related teacher education to introduce the affordances of subjugated knowledgepractice. The three knowledgepractices are Wayapa, Planetary Health and the Gay Games. I draw on Indigenous and queer scholars to show the audience how we might analyse each practice to do the same with what they might include in their own health and physical education practices. I will argue that they act as ontological disruptions that open possibilities for decolonising HPE and concomitantly working towards inclusion and diversity AS equity. The practices and their analysis illustrate how the past folds in on future, how current mainstream knowledge is political and encourages separation, and how movement can aid learning that reassembles or reveals interconnectedness, complexity and an often-missing dimension of health/movement-spirituality. I conclude with cautions and curiosities that may inform those wanting to trial any or all in their own context and continue discussions about the affordances of knowledge from the margins.

Keywords: wayapa, planetary health, gay games, ontology, interconnectedness

Coach education, professional development

ID 410 Athletes' Experiences of Violence, Perceived Coaching Quality, Motivation, Well-Being, and Stress in Youth Elite Sports

Kathrin Kohake (University of Muenster)

In recent years, reports of violence in elite sports have raised awareness that, even thirty years after the introduction of the UN Convention on the Rights of the Child, the realization of the right to a violence-free upbringing is by no means guaranteed. Maintaining a high pedagogical quality in sports, therefore, requires regular monitoring that provides easy access to athletes' experiences of violence, allowing for timely corrective measures. In this project, questionnaires for children (ages 8-13) were developed to address this issue. In addition to experiences of violence, important indicators such as perceived coaching quality, motivation, well-being, and stress are assessed. According to Self-Determination Theory, autonomous types of motivation and resulting positive outcomes such as effort and well-being are more likely when athletes perceive the social context as supportive of the satisfaction of their basic needs. In contrast, need-thwarting contexts have been shown to predict negative outcomes such as burnout, depression, and stress. Following Lazarus, stress is understood as the result when an individual perceives an imbalance between the demands and their capacity to cope with them. Chronic stress results from prolonged or frequently recurring everyday stressors. Sources can include workload, social pressure, social tensions, or time pressures, among others. In this study, stress scales adapted to the lives of children in elite sports from Richartz et al. (2009) are employed. In contrast, children's well-being is assessed using the KID-SCREEN instrument. Furthermore, age-appropriate scales for the perceived support and thwart of basic needs for autonomy, competence, and relatedness have been (further) developed based on SDT. Scales for psychological violence, physical violence, sexual violence, and neglect have been adapted for children based on international studies in sports. The final 63-item questionnaire underwent iterative testing and modification in individual interviews using the Cognitive Pretesting method to uncover possible misunderstandings and uncertainties in the targeted age group.

The item pool is now being used for a larger sample of children in elite gymnastics. The presentation will show scale reliabilities and descriptive results, marking the beginning of a multi-year longitudinal study. Additionally, correlations between constructs will be presented. The results will be compared with existing data from previous youth elite sports projects (e.g., Richartz et al., 2009; Lefever et al., 2023). Richartz, A., Hoffmann, K., & Sallen, J. (2009). *Kinder im Leistungssport. Chronische Belastungen und protektive Ressourcen*. Hofmann. Lefever, E., Laureys, F., Schyvinck, C., Vertommen, T., & Haerens, L. (2023). *Controlling Coaching and Psychological Athlete Harassment and Abuse: Towards Cross-fertilization Between Both Fields of Research*. 8th International Self-Determination Theory Conference. Orlando, Florida, USA.

Keywords: Youth Elite Sports, Self-Determination Theory, Interpersonal Violence, Chronic Stress, Monitoring

ID 124 360° videos in sports and physical education – more than just digital gimmicks? A narrative review

Philipp Rosendahl (Karlsruhe Institute of Technology, Institute for School Pedagogy and Didactics), **Aden Kittel** (Institute for Health & Sport, Victoria University), **Riki Lindsay** (Institute of Education, Arts and Community, Federation University Australia), **Ian Cunningham** (School of Applied Sciences, Edinburgh Napier University), **Lionel Roche** (Département des Sciences de l'Activité Physique, Université du Québec à Montréal) & **Ingo Wagner** (Institute for School Pedagogy and Didactics, Karlsruhe Institute of Technology)

Introduction Video feedback is a standard part of any instructor's toolkit, facilitating the improvement of perceptual-cognitive, sport-specific and decision-making skills. Moving beyond commonly utilised 2D videos, 360° videos are an emerging technology that expand the possibilities of video-based feedback through a multi-perspective, all-round view and immersion (Kittel et al., 2023; Lindsay et al., 2023). 360° videos are described as a link between traditional video technology and virtual reality (VR) (Rosendahl & Wagner, 2023). Yet, unlike VR, 360° videos can be easily designed without programming effort and the possibilities to create one's own content in this manner is useful for teachers and coaches in physical education and sports (Rosendahl & Wagner, 2023). However, the use of 360° videos is still emerging and understanding of how such technology can be applied to sport and physical education requires further investigation. Therefore, the purpose of this narrative review

is to provide clarity for teachers and coaches on the evidence for 360° videos and how they can be applied in sport and physical education. **Methods** In the first part, we will focus on reviewing pertinent literature on 360 videos to establish its effectiveness in four key domains: (1) motor learning, (2) perceptual-cognitive skill development, (3) motivation, and (4) reflective skill development. Drawing on the reviewed evidence, recommendations will be discussed on the creation and handling process of 360 videos, whereby we present different learning scenarios (e.g. observation of movements with added interactive learning tasks or for learning predefined movement sequences). **Discussion** Finally, we will discuss the potential applications of 360 videos in the four different training domains. Additionally, future application possibilities in sports and physical education as well as existing research gaps will be presented. **Literature** Kittel, A., Spittle, M., Larkin, P., & Spittle, S. (2023). 360° VR: Application for exercise and sport science education. *Frontiers in Sports and Active Living*, 5, 977075. <https://doi.org/10.3389/fspor.2023.977075> Lindsay, R., Spittle, S., & Spittle, M. (2023). Skill adaption in sport and movement: Practice design considerations for 360° VR. *Frontiers in Psychology*, 14, 1124530. <https://doi.org/10.3389/fpsyg.2023.1124530> Rosendahl, P., & Wagner, I. (2023). 360° videos in education – A systematic literature review on application areas and future potentials. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-022-11549-9>

Keywords: 360° video, immersive video, VR video, spherical video, digital training

ID 152 Assessing the Effectiveness of Formal Coach Education on Capabilities and Behavior Using COM-B Framework

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The aim of the study was to examine the perceived effectiveness of formal coach education in the development of capabilities and behaviour change within the Finnish Vocational Coach Education Program (vCEP). The purpose was also to identify barriers and enablers influencing behaviour change, using COM-B theory as a framework. According to the theory, behaviour is based on three root causes: capability, opportunity, and motivation (Michie et al., 2011). The study was conducted as an online survey during 2022 and 2023 among coaches who had completed the vCEP

(n=65). Participation in the study was voluntary, and it was ensured that there was no need for ethical pre-assessment before data collection. The survey was divided into three main sections: participant's background information, assessment of perceived change in capabilities and behaviour related to goals of vCEP and an overall assessment of the program, including open-ended questions. The vCEP was generally perceived as effective in terms of capability development and behaviour change. However, the development of capabilities was perceived to have changed more than behaviour. Regarding behaviour change, the greatest perceived impact was in the coach's intrapersonal skills and athlete-centred coaching style. Among the behaviour root causes based on the COM-B theory, the greatest enabler for change was the development of capabilities, i.e., increased knowledge and skills. Conversely, the greatest barrier to unchanged behaviour was seen as challenges in finding motivation for change, i.e., own actions are perceived as already in line with the goal, or the change is not seen as important. Our recommendation for enhancing the effectiveness of the vCEP in areas where behaviour change was perceived to be less prominent is a critical review of objectives and implementation of the education from the perspective of motivation. The need for change should be aroused by creating interventions aimed at it (i.e., choosing appropriate challenge levels, demonstrating the importance of the objectives). Also, the implementation of education focusing on community building, as well as a participatory and discussion-oriented approach are recommended, since those were identified as the most significant aspects of the vCEP by coaches in the open-ended questions of this study. Michie, S., van Stralen, Maartje, & West, Robert. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science: IS*, 6(1), 42-42. <https://doi.org/10.1186/1748-5908-6-42>

Keywords: Coach Education, Coach Development, Behaviour Change, Capabilities, COM-B

ID 213 Referees vs Parents: Perceptions of the game

KC Diedrich (Elmhurst University)

Abstract: Parents, coaches, referees, teammates all play a crucial role in the youth sport experience. It is a common occurrence to walk by a soccer field or be in a gym and hear spectators from the sidelines who are mostly parents yelling at the referees. Referees role at sporting events are to facilitate the game by ensuring players and teams abide by the rules of play, and by determine when a penalty, foul or infraction

has occurred. Referees should be trained in the rules of the game, how to manage a game and how to do so without bias. In competitive youth sport, parents have likely invested a significant amount of time and money in their child's sport. This investment leads to parents having high expectations during the game environment. The purpose of this study was to compare the perceptions of parents and referees engaged in the same game. This study surveyed parents and referees at local competitive youth sport events. Parents and referees were surveyed immediately after the game to assess their perception of the game. Interviews with parents and referees were also conducted along with game observations. Results of the surveys and interviews will be analyzed, shared, and discussed.

Keywords: parents, referees, perceptions, youth sport

ID 345 School Sport for All: An Inclusive Developmental Framework to Improve Participation

Lauren Sulz (University of Alberta), **Douglas Gleddie** (University of Alberta) & **Jonathon Mauro** (University of Alberta)

Participation in school sport has been associated with many education and health benefits. Scholars have called for the creation of inclusive school sport programs focused on quality, development, and well-being within the context of educational and personal growth. Recognizing the contributions that school sport can make to the education community and the holistic success of students, this research presents a 're-imagined' school sport framework - School Sport for All (SS4A). The goal of SS4A is to increase opportunities and improve experiences within school sport for all school-community members. SS4A is an evidence-based framework that features Essential Elements (quality, development, and inclusion), which are at the heart of every change to the school sport system and Essential Conditions (contextual autonomy, diverse populations, and supportive systems), that are needed to develop and implement quality, inclusive school sport programs. At the centre of the framework is the whole child, the student-athlete, meeting the intent of the framework of supporting healthy, holistic child development. The end point is access to school sport for all students who desire to play. The framework fully integrates and promotes key aspects from comprehensive school health, whole-child education, and long-term athlete development throughout all its features. As a whole, SS4A aims to ensure the benefits of sport can be experienced by all, within a school system where teaching and learning are prioritized in the classroom and in the school sport

community. The SS4A framework has the potential to provide a platform for students to develop important competencies for their wellbeing and success, with school sport programs focusing on education, holistic development, and inclusion. We are conducting case study research on the framework in an urban, Canadian middle school to determine effectiveness and adaptability in the field. Data collection includes focus groups, observations, field notes and interviews with all key stakeholders (student-athletes, teacher-coaches, athletic directors, administration, and parents). The findings have the potential to positively impact school sport by demonstrating the efficacy of the framework in assisting stakeholders to design programs where all students have the opportunity to participate and benefit.

Keywords: school sport, teacher-coach, inclusion, whole-child education, long-term athlete development

ID 554 Critical application of TGfU in Sports Coaching

Jose Castro (Cardiff Metropolitan University)

The innovative nature of the 'Teaching Games for Understanding' (TGfU) approach (Thorpe, Bunker & Almond, 1986) has led to considerable interest from researchers and practitioners. Consequently, many variations of TGfU have come to the fore (e.g., Griffin, Mitchell & Oslin, 1997). Despite the considerable interest from physical education related researchers, those in sports coaching have been slower to embrace the TGfU approach. Therefore, the aim of the study was to improve my practice as a coach and players' subsequent game understanding through the TGfU framework. An Action Research (AR) methodology involving progressive circles of practice was employed with a volleyball female team over the course of a full eight-month season, with data being drawn from reflective field notes and focus group discussions. Results indicated the development of my ability (as a coach) to reflect in and on the process, emphasising the importance of reflecting on personal reflections. Such practice reinforced the benefit of being exposed to reflective frameworks, and highlighted the role that emotions can play within coaching practice. From this, it became evident that the implementation of an emancipatory AR had a positive impact on my learning as a coach. Nevertheless, findings also highlighted the loneliness of such a process, suggesting the need for critical friends in the field. Such reflection led to challenge the rigidity of the 6-step model, suggesting that the approach should be adjusted to the context critically rather than safely. As a coach, they also reinforced the need for control, thus contradicting the player-centred

standpoint that sustains the TGfU approach, whilst suggesting a reconceptualization of emphasis from being 'player-centred' to that of 'interaction-centred' as being crucial to effective practice. Also, the current study demonstrated an improvement in the players' ability to reflect, progressing from on-action to in-action as well, in particular from moments of less temporal pressure to more temporal pressure. Lastly, despite not linearly, the players' game understanding and overall performance improved throughout the season. Griffin, L., Mitchell, S. & Oslin, J. (1997). *Teaching Sports Concepts and Skills: A tactical game approach*. Champaign, IL: Human Kinetics. Thorpe, R., Bunker, D. & Almond, L. (1986). *Rethinking games teaching*. Loughborough: University of Technology.

Keywords: Teaching Games for Understanding (TGfU); Players' learning; Coach's learning; Reflection; Interaction

Physical activity in children's and adolescents' life

ID 146 Worrying trends in children's health-related behaviors? Screen time, outdoor play, and sports club membership between 2016 and 2022 and Covid-19 related changes.

Anne de Bruijn (Hanzehogeschool Groningen/Vrije Universiteit Amsterdam), **Remo Mombarg** (Hanzehogeschool Groningen) & **Sanne te Wierike** (Hanzehogeschool Groningen)

Children's motor skills and physical fitness are declining, a negative development that has been attributed to children spending less time on health-related behaviors. Instead of being physical active and playing outdoors, they spend more time behind a screen.¹ Covid-19 seems to have strengthened these negative trends, due to home schooling and fewer opportunities to be physically active.² It is not clear how these trends have developed after Covid-19. Therefore, this study examined trends in children's screen time, outdoor play and sports club membership between 2016 and 2022, specifically focusing on pre-, mid- and post-Covid-19 differences. Also, we examined predictors of children's engagement in health-related behaviors: gender, age, and active school commute. Data was collected via yearly questionnaires to Dutch primary school children (10.14±1.25 years, grade 3-6, 50.8% girls). A total of 6351 questionnaires over 5 cohorts (2016-2022) was included. Yearly trends of

children's screen time, outdoor play, and sports club membership were explored in multilevel structural equation models in Mplus, comparing pre- (2016-2020), mid- (2020-2021) and post- (2021-2022) Covid-19 cohorts. Predictors of health-related behaviors were examined using data of all cohorts. Children in more recent samples had more screen time per day, played outdoors fewer days a week and were less often sports club member compared to earlier samples. During Covid-19, children had significantly more screen time, played outdoor less frequently, and were less often sports club member compared to pre- and post-Covid. In the post-Covid year, screen time was still higher and sports club membership lower compared to pre-Covid years. Gender, age, and active commuting were significant predictors of engagement in health-related behaviors. Concluding, our study shows negative trends in children's health-related behaviors, with children having more screen time, spending less time playing outdoors and being less often member of a sports club. These negative trends peaked during Covid-19. Although children still have higher screen times and are less often sports club member than pre-Covid, trends seem to be slowly reverting back, with children already playing outdoors at similar levels as before Covid-19. Age, gender and active commuting were important predicting factors of children's engagement in health-related behaviors. Our results underline the importance of intervention, especially for boys, older children and non-active commuters, to ensure that all children engage in a sufficient amount of health-related behaviors.

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2. Kharel, M., Sakamoto, J. L., Carandang, R. R., Ulambayar, S., Shibanuma, A., et al. (2022). Impact of COVID-19 pandemic lockdown on movement behaviours of children and adolescents: a systematic review. *BMJ Global Health*,7(1).

Keywords: Physical activity; outdoor play; preadolescents; screen time; Covid-19

ID 159 Physical education teachers' (de)motivating style, student motivation, and student physical activity: a longitudinal study using the circumplex model

Nele Van Doren (Ghent University), **Sofie Compennolle** (Ghent University), **Leen Haerens** (Ghent University), **Arne Bouten** (Ghent University), **Maarten Slembrouck** (Ghent University) & **Katrien De Cocker** (Ghent University)

Despite the benefits of an active lifestyle during adolescence, most secondary school students do not meet the global recommended daily amount of physical

activity. Self-Determination Theory studies suggest that physical education (PE) teachers can influence students' physical activity during PE through their (de)motivating style and the impact of their style on students' motivation. Yet, there is room for improvement in this body of literature. While most prior research relied on a cross-sectional design and focused on one or two (de)motivating styles, this study employs a longitudinal design and relies on the novel circumplex approach which distinguishes eight refined dimensions of PE teachers' (de)motivating style. Hence, the aim was to examine how PE teachers' motivating dimensions, i.e., participative, attuning, guiding, and clarifying, and demotivating dimensions, i.e., demanding, domineering, abandoning, and awaiting, related to student motivation and physical activity during PE. A sample of 339 secondary school students aged between 12 and 20 ($M = 15.24$, $SD = 1.60$) completed questionnaires assessing their perceptions of their PE teachers' (de)motivating dimensions (i.e., Situation-in-School Physical Education Questionnaire) and their motivation toward PE (i.e., Behavioral Regulations in Physical Education Questionnaire). Students also wore ActiGraph GT3X accelerometers during the PE lesson to quantify their light, moderate, and vigorous physical activity and sedentary behavior. After two months, the same data were collected again. Preliminary results based on linear regressions on the data of the first time-point indicated that students who perceived their teacher as more attuning (i.e., the PE teacher focuses on nurturing students' interests), displayed more introjected, identified, and intrinsic motivation and less amotivation, and were more moderately active during the PE lesson. Students who perceived their teacher as more guiding (i.e., the PE teacher focuses on students' progress), displayed more intrinsic motivation and less extrinsic motivation and amotivation. In contrast, students who perceived their teacher as more abandoning (i.e., the PE teacher has given up on providing students with information or help they need), displayed more extrinsic motivation and amotivation, and less light and moderate-to-vigorous activity during the PE lesson. These preliminary results suggest that PE teachers' (de)motivating dimensions have a significant impact on students' motivation and to a lesser extent on students' physical activity during PE. More specifically, it is important that PE teachers rely on an attuning and guiding style, while minimizing their abandoning style. The final results of the cross-lagged analyses will be discussed at the AIESEP 2024 Congress.

Keywords: Self-Determination Theory, cross-lagged analyses, accelerometer

ID 162 Implementation Challenges and Strategies for Promoting Physical Activity Among Children and Youth: Insights from a national case study on School-Based Interventions in Denmark

Thomas Skovgaard (University of Southern Denmark), **Sofie Koch** (University of Southern Denmark) & **Jonas Vestergaard Nielsen** (University of Southern Denmark)

Over the past decades, numerous models and frameworks have emerged to study implementation processes, both in their entirety and specific aspects, significantly contributing to our understanding of implementation processes, determinants, and evaluation - enabling systematic analysis of the factors influencing the implementation of e.g. physical activity interventions for health promotion. Despite the value such models and frameworks offer, challenges persist in effectively implementing measures and achieving desired practice changes in many health promotion initiatives. This is also the case when focusing on PA-programs. Building upon insights such as these, this presentation takes a close look at a national initiative to promote physical activity through schools. The basic reason for focusing on the school setting is that children and youth from across populations are in school for many hours, and schools supply important infrastructures for physical activity. At the same time, whole-of-school approaches are specified as one of the more effective bids to promote physical activity among all children and young people. Applying the Consolidated Framework for Implementation Research (CFIR), interview and document materials, collected as part of previous implementation studies, are reanalyzed. The overall aim is to assess and describe the impact of various categories or levels of factors on the implementation of school-based physical activity initiatives. The necessity of considering a comprehensive range of factors to enhance the likelihood of successful implementation of nationwide physical activity policies in real-world school settings is established. Moreover, said factors appear to be interconnected, emphasizing the importance of considering the relationships between them to effectively promote full implementation. Addressing implementation drivers requires the capacity to work with various factors, including the characteristics of proposed innovations (e.g., new physical education programs, updated training equipment, or state policies on physical activity), capacities of implementers and organizations, delivery strategies, and broader contextual factors.

Keywords: Implementation research; School-based physical activity

ID 179 Generation Healthy Kids: Forging a Holistic Path to Sustainable Physical Activity through Implementation Perspectives

Jonas Vestergaard Nielsen (University of Southern Denmark), **Sofie Koch** (University of Southern Denmark) & **Thomas Skovgaard** (University of Southern Denmark)

Childhood obesity poses major threats to children's overall well-being and long-term physical health. In Denmark, the prevalence of overweight and obesity increases from early childhood through elementary school, eventually reaching worrying levels in adults. This underscores the urgent need for early prevention and comprehensive strategies to address the multifaceted factors contributing to childhood obesity. Enter "Generation Healthy Kids" (GHK) – a holistic intervention program aimed at promoting healthy weight development in Danish children aged 6–11. GHK engages 24 schools across diverse regions, enrolling students in 1st–2nd grade. GHK adopts a multifaceted approach, targeting a range of settings, including households, schools, after-school clubs, and local communities. Furthermore, GHK places significant emphasis on fostering local engagement and building capacity. This approach involves national and local stakeholders in the development and implementation of the intervention, promoting child health and overall well-being. GHK addresses dietary habits, screen time, sleep routines, and physical activity. Specifically, this study focuses organizational and leadership aspects that is hypothesized to support sufficient implementation of physical activity in relation to GHK. The success of GHK hinges, among other things, on comprehensive organizational efforts, which this study explores through various in-depth analysis. Our evaluation efforts expand to encompass understanding the causal mechanisms and contextual factors that shape GHK's outcomes, assessing the potential for long-term sustainability and scalability. We draw upon key concepts from the Consolidated Framework of Implementation Research (CFIR) to illuminate the intricate dynamics and challenges involved in this holistic intervention. Our research includes surveys and semi-structured interviews with the main and department leaders as well as teaching staff at the participating schools to gain insights into their schools' organizational capacity for successful implementation. We explore their knowledge, structures, attitudes, willingness, and personnel, all influencing the effective deployment of GHK. Interviews are conducted at critical junctures over the two-year span of the project. Specifically, we explore school leader perspectives as they commence planning, implementing, and upholding the intervention. As the GHK project is still in its early stages, results are forthcoming. Yet by examining these facets within GHK's organizational context, we aim to contribute to knowledge supporting strategies for physical activity in the lives of children and adolescents. The goal is to guide more effective and sustainable

health interventions, forging a rounded path toward a healthier future for the younger generation.

Keywords: Organizational capacity; Physical activity; Implementation research; Health interventions

ID 182 Preconditions for Physical Activity in the Life of Children: Influence of Individual Needs on Participation

Tim Bindel (University of Mainz), **Julia Grob** (University of Mainz), **Leonie Schauer** (University of Mainz), **Fabienne Spies** (University of Mainz), **Larissa Heger** (University of Mainz) & **Mark Pfeiffer** (University of Mainz)

The most significant conflict in sport for children and adolescents today is to balance traditions on the one hand and individual needs on the other (Bindel, 2021). It is necessary to consider the individual interest in the offered sport culture in order to enhance a long-term sport participation, either to detect talents or to let pedagogical work be effective. The main aim of the study we present was to investigate preconditions necessary for the development of interest, which in turn leads to participation of children in physical activity. We created an empirically validated model, which depicts relevant factors influencing the relationship of children and the sport culture in Germany. Therefore, a qualitative research design has been applied. 52 partly structured interviews with previously designed question are the foundation of the empirical study, which has been conducted within the framework of the research project InterTalent operated by the University of Mainz, Germany (Spies et al., 2022 & 2023). The provided impressions and opinions helped to elaborate how sports seem to be currently embedded in the life of children. Individual needs seem to be partly influenced by several fundamental changes in society, which are irreversibly responsible for the daily lives in families and subsequently shape the meaning attributed to sports. Central topics addressed are amongst others digitalization, mediatization or a strong awareness for health issues (in certain families). Parental engagement and conveyed attitudes towards physical activity seem to further impact interest in sports. The qualitative data highlighted a diversity of interests amongst children ranging from competitive sports to simply spending time with other children, self-expression or a focus on being active. Concluding, the decision for an engagement in a physical activity seems to depend on its alignment with individual needs and interests, which are further shaped by several factors, like changes in society or parental influences. An awareness of the diverse needs as well as current changes in society can help to design an adequate sport offering for every

child in future. References: Bindel, T. (2021). Youth On-Demand Culture. A Boost for Informal Sports. *Playground@Landscape*. 5/2021, 24-37. Spies, F., Heger, L., Bindel, T. & Pfeiffer, M. (2023). Interest as a supplementary criterion in the detection of talent. The identification of differing types of children at primary school age. *International Journal of Sports Science & Coaching*. (submitted) Spies, F., Schauer, L., Bindel, T. & Pfeiffer, M. (2022). Talent detection – importance of the will and the ability when starting a sport activity. *German Journal of Exercise and Sport Research*. DOI.org/10.1007/s12662-022-00796-0.

Keywords: physical activity, youth sport, needs, participation, interest, social change

ID 509 Exploring marginalized perspectives: Participatory Research in Physical Education with Blind and Visually Impaired Students

Stefan Meier (University of Vienna, Centre for Sport Science and University Sports) & **Brigitta Höger** (University of Vienna, University of Education Upper Austria)

In recent years, a transformative shift has occurred in the approach to research in the field of Physical Education (PE) and disability. The ratification of the UN-CRPD (2006) with its powerful claim "Nothing about us without us" has propelled efforts to move from "researching on to researching with young people" to advance more "inclusive, participatory, and empowering research endeavors" (Fitzgerald et al., 2021 p. 422f). Experiences of blind and visually impaired (BVI) students on PE and sport have long been reconstructed through the lens of sighted fellow students, teachers and parents, and have only begun to be considered recently (Haegele & Zhu, 2017). Hence, their perspectives have been marginalized as students vis-à-vis teachers and other professionals, whose knowledge tends to be prioritized within pedagogical institutions, and as disabled individuals opposite to able-bodied peers. In this respect, Coates and Vickerman (2013) argue that participatory methods may be particularly suitable for research that involves children with disabilities in order to amplify their voices and foster genuine representation within research discourses. Our study aims to address the application of participatory research methods in order to reconstruct the lived and embodied experiences of BVI students in the context of PE. We reconstruct how BVI students (N = 19; 12f, 7m; 13-19a) in a specialized school in Austria perceive barriers and opportunities to participation in PE and how they imagine possible solutions in a digitized future adopting Clark's Mosaic Approach (i.e., group interviews, student-led school tours, photographs, field notes) in conjunction with Interpretative Phenomenological Analysis. Alongside presenting

exemplary results, we discuss the opportunities, challenges and limitations in navigating questions of power and positionality during the research process. The methods used allowed more specific inquiries of lived and embodied experiences and revealed more faceted insights (e.g., kinesthetics, haptics, smell) which would otherwise have been obscured or concealed for sighted individuals. In doing so, we emphasize the significance of amplifying the voices of marginalized groups, such as BVI students in shaping the future of PE. References Coates, J. & Vickerman, P. (2013). A review of methodological strategies for consulting children with special educational needs in physical education. *Eur. J. Spec. Needs Educ.*, 28(3), 333–347. Fitzgerald, H., et al. (2021). Messy methods: Making sense of participatory research with young people in PE and sport. *EPER*, 27(3), 421–435. Haegele, J. & Zhu, X. (2017). Experiences of Individuals With Visual Impairments in Integrated Physical Education: A Retrospective Study. *Res Q Exerc Sport*, 88(4), 425–435. UN (2006). Convention on the Rights of Persons with Disabilities and Optional Protocol. <http://www.un.org/disabilities/documents/convention/convoptprot-e.pdf>

Keywords: visual impairment, Physical Education, inclusion, participatory research

Physical activity interventions

ID 484 Examining the relationship between physical activity and body consciousness in first-year Hungarian university students

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Introduction: Understanding the well-being and lifestyle choices of university students is of great importance in today's fast-paced academic environment. Two key tools, the Body Awareness Questionnaire and the Physical Activity Questionnaire, play a pivotal role in gaining insight into students' overall health and fitness behaviours. The Body Awareness Questionnaire is a valuable instrument designed to assess the degree of self-awareness university students have about their own bodies. This questionnaire explores elements such as body image, self-esteem, and awareness of physical sensations. It provides a nuanced understanding of how students perceive and relate to their bodies, which can be crucial for identifying potential

areas of concern and implementing interventions to enhance self-esteem and overall well-being. On the other hand, the Physical Activity Questionnaire focuses on gathering information about students' exercise habits and activity patterns. It examines the frequency, intensity, duration, and types of physical activities in which university students engage. This questionnaire is indispensable for evaluating students' physical fitness levels and tailoring exercise programs and interventions that promote a healthy and active lifestyle among the academic community. Purpose: The aim of the study is to find out whether there is a relationship between physical activity and body awareness in first-year university students. Sample: A total of 347 Hungarian university students participated in the study, all of whom are first-year students of the Eszterházy Károly Catholic University. Among them 268 participants (163 women, 105 men,) study non-sports majors, while 79 students (27 women, 52 men) study sports major. The mean age of the participants were 20,38 years (std 2,83 yrs). Methods: The study employed a cross-sectional design. Data were collected in 2023 September, using the Body Awareness Questionnaire (BAQ) and Hungarian version of International Physical Activity Questionnaire /Short Form/ (IPAQ-SF). Results: There is a clear difference between physical activity among sports and non-sports students. In IPAQ-SF scores, 40.5% of participants for non-athletic students had low activity levels, compared to 5.4% for sports majors. It was found that students' attitude toward body awareness is significantly affected by physical activity ($F = 8.9, p < 0.001$), and there is correlation between IPAQ-SF scores and BAQ scores ($r < 0.2$). In terms of physical activity, there was an obvious difference between boys and girls in non-sports students. Conclusion: It can be argued that physical activity plays an important role in connection with body awareness. According to the evidence of our study, it is worth examining the significance of physical activity with other methods

Keywords: BAQ, university students, IPAQ, physical activity, body awareness

ID 414 Implementing Ball-based Play in Preschools – an in-service teacher education perspective

Trine Top Klein-Wengel (University of Southern Denmark), **Jonas Vestergaard Nielsen** (University of Southern Denmark), **Lisbeth Runge Larsen** (University College Lillebaelt) & **Lars Breum Skov Christiansen** (University of Southern Denmark)

Preschool teachers play a crucial role in children's development of motor skills and their active participation in physical activities. However, many preschool teachers

express a lack of competence in this area. At the same time, many children experience difficulties with motor skills as they reach school age. Consequently, there is a growing need to enhance the emphasis on motor skills for preschool children, ensuring better opportunities for an active childhood. The Ball-based Play in Preschools (BPiP) intervention is a multi-component intervention focusing on ball-based activities aimed at improving motor skill competence and the enjoyment of movement among preschool-aged children (3-5 years old). It offers a holistic approach to the use of ball-based activities, considering cognitive, social, and motivational aspects and encompassing all areas of movement in children's lives: preschool, home, and leisure activities. The emphasis is on inclusive activities involving balls, with a focus on enhancing motor skills, social interactions, and cognitive development for all children. The intervention includes a competence development program comprising a face-to-face workshop, three subsequent visits to the preschools, and three online meetings. BPiP is being evaluated in a feasibility study with a strong emphasis on implementation and sustainability. Preschool teachers are key to successful implementation, and the current PhD study will focus on feasibility and adoption from a preschool teacher's perspective. Factors influencing the effective implementation of BPiP will be explored, including compatibility, knowledge, opportunities, capability, attitudes, and motivation. Two frameworks are used to guide the evaluation. The Medical Research Council (MRC) framework and the Consolidated Framework of Implementation Research (CFIR) serve as the underlying structure for the feasibility study, emphasizing the importance of addressing the complexity and context of the intervention. Prioritizing contextual factors and the practical execution of the interventions is crucial, and the evaluation seeks to thoroughly understand the mechanisms that impact the implementation of BPiP and, as a result, the intervention's effectiveness. Surveys, semi-structured interviews with educational staff, and on-site observations in the preschools will be applied to gain an in-depth understanding of the mechanisms and contextual factors influencing the implementation. Data collection will take place between January 2024 and January 2025. While the study is still in its initial stages, our aim is to enhance our understanding of how to empower in-service preschool teachers and promote competence and motivation in utilizing ball-based activities in preschools. This understanding can be applied in other educational settings to promote holistic movement strategies and enhance movement skills and physical activity experiences for preschoolers, thereby ensuring a more active and fulfilling childhood.

Keywords: Preschool, intervention, motor skills, feasibility, adoption

ID 517 Developing life skills in high school physical and health education (PHE): PHE teachers' perceptions of their role

Karolane Girard (Université de Sherbrooke), **Sylvie Beaudoin** (Université de Sherbrooke) & **Sylvain Turcotte** (Université de Sherbrooke)

To cope with the demands and challenges of daily life, human beings need to develop life skills (LS) that will enable them to adapt to a constantly evolving society. School is an opportune environment for the development of LS, as it reaches all adolescents and is rich in social interaction. In the province of Québec, Canada, the Québec Education Program (QEP) includes Physical and Health Education (PHE) as a subject to develop motor proficiency and LS. Considering its interactive nature, PHE is an ideal setting for the development and transfer of LS, with the potential to encourage young people to put them into practice. The PHE teacher plays a key role in the development of students' LS. For students to learn and apply LS, the teacher must plan for and create opportunities to practice LS. At present, most research on LS has been carried out in extracurricular contexts using programs specifically targeting LS. Only a few studies have documented the development and transfer of LS in PHE contexts. The aim of this study was to describe PHE teachers' perceptions of strategies for developing and transferring LS of students aged 12 to 16. Semi-structured interviews (n = 12) were conducted with PHE teachers from secondary schools in Québec, Canada. A mixed content analysis was performed to classify data using a theoretical model adapted from the intervention model (Mosston and Ashworth, 2006) and the TARE (Wright and Craig, 2011). The results showed that most PHE teachers use simple and implicit strategies to develop and transfer LS, such as being good leaders and role models. At the same time, teachers noted that they did not explicitly integrate these learnings into the planning, implementation, and/or evaluation of their PHE classes due to a lack of time, tools, and resources available to support them. This study highlights/emphasizes that while there is great potential for teaching LS within PHE, students may find it difficult to be aware of this learning and transfer LS beyond their PHE classes. There seems to be a gap between what teachers perceive themselves as doing to develop and transfer the LS of adolescents and the expectations outlined in the QEP. It is imperative to provide training opportunities for PHE teachers to actualize this learning, so that they can take advantage of the full potential of PHE in the holistic development of secondary school students.

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<https://doi.org/10.1080/1091367X.2011.590084>
<https://doi.org/10.1080/1091367X.2011.590084>

Keywords: life skills, PHE teachers' interventions, youth development

ID 534 The co-production and feasibility of a gamified motor skill intervention in primary physical education to improve motor competence and emotional intelligence.

Jenna Rice (Liverpool John Moores University), **Katie Fitton-Davies** (Liverpool John Moores University), **Jonathan Foulkes** (Liverpool John Moores University), **Ceriann Magill** (Liverpool John Moores University), **David Stodden** (University of South Carolina), **An De Meester** (University of South Carolina) & **Matthieu Lenior** (Ghent University)

Intervention using gamification in PE and targeting emotional intelligence (EI) are scarce. Children with good EI competencies (personal, social and emotional) may buffer the chances of experiences prolonged internalising behaviours, for example loneliness, depression and anxiety. The aim of this study was to co-produce and trial the feasibility of a physical education intervention aimed at improving EI and motor competence (MC) among children aged 9-10 years old using gamification as a pedagogical approach. **Methods.** Children (n=91) and four teachers from three primary schools situated in the north-west of England were invited to participate in the co-production process and a 10-week feasibility trial. Feasibility outcomes assessed the acceptability, implementation, adaptation and practicality of the gamified intervention through fidelity observations (n=2 with each school) semi-structured interviews (teachers) and focus groups (children). The feasibility of the outcome measures of, The Körperkoordinationstest für Kinder (KTK3), The motor competence assessment (MCA), The Schutte self-report emotional intelligence scale (SSEIT), The Basic Psychological Need Satisfaction and Frustration Scale (BPSNSNF) and The Behavioural Regulation in Exercise Questionnaire were also examined in baseline and post-test data collection. **Results** Key stakeholders participated in eight co-production workshops. Stakeholder groups included children, classroom teachers, academic experts and the principal researcher. Co-production workshops took place in each primary school (n=3). Three different gamified PE interventions were co-produced: 1) Treasure island, 2) A quest through time, and 3) American dream. One school reported

successfully implementing all 10 lessons, another reported implementing 8 out of 10 due to sports day, school trips, and teacher strikes. The implementation of the intervention in the third school is unclear as there was a discrepancy between the children and the teacher on the dose delivered. Teachers reported the PE intervention to increase social skills through teamwork, be inclusive to all children in the class, and identified that the intervention developed specific motor skills, for example throwing and catching. A barrier noted by all teachers was the substantial amount of equipment. The children reported the PE intervention to be fun and something they had not done before, additionally they noted that they enjoyed having a range of equipment to use. For the feasibility of outcome measures, 63 out of the 91 children (69.3%) from the three schools participated at baseline and then at follow up. One child did not complete the measure for MC at follow up due to absence. Conclusion. This study provides a workable framework for researchers wanting to use gamification, and co-produce interventions with school stakeholders. For the pilot, changes to the outcomes measures for EI, and adaptation to the PE intervention are required.

Keywords: Gamification, School, PE, Intervention, Emotional intelligence

ID 474 Collaborative Project between the Physical Education Teacher program and pupils with Autism Spectrum Disorder

Ylva Berglund (Umeå University) & **Carola Fahlén** (Umeå University)

Collaborative Project between the Physical Education Teacher Program and pupils with Autism Spectrum Disorder Today's pupils are expected to process large amounts of information, work at a fast pace, and collaborate with others. A group facing challenges in meeting these expectations includes pupils diagnosed with Neurodevelopmental Disorders (NPD). In a review conducted by the Swedish Schools Inspectorate on the educational situation of pupils with disabilities in elementary school, it was noted that these pupils do not always have equal opportunities to participate in Physical Education (PE) (Skolinspektionen, 2009). At the same time, pupils with disabilities have the right to receive tailored instruction to develop skills and achieve goals in every subject. This presentation draws on a collaboration project between a secondary school and the Physical Education Teacher program at Umeå University, focusing on adaptation and promotion of successful inclusion of pupils with NPD in PE. The specific school in the project hosts a class for pupils with diagnoses in Autism Spectrum Disorder (AST). The class serves as a practice group

for our PETE students, where they are given the opportunity to interact with AST pupils and make necessary adjustments to accommodate the pupils specific needs. The AST pupils also gain the opportunity to adapt and succeed in various contexts, not just in their own classroom. The Swedish Education Act emphasizes the need for education to address individual needs and The Swedish Schools Inspectorate has called for increased knowledge of pupils' disabilities to enable tailored instruction. Therefore, it is essential that PETE students practice creating an inclusive learning environment in PE, providing equal opportunities for pupils with social interaction difficulties. Understanding NPD and practicing adaptations equips teacher students with a better understanding and skills for creating adaptable learning environments in the future. This project holds significant value for both the PETE program and the school, offering an excellent opportunity for these groups to collaborate. This project will deepen the knowledge and enhance the competencies of the PETE students, and pupils in the AST class. For the PETE students, preparing for socially interactive teaching in real-life settings is challenging. However, this project provides opportunities to create equal conditions for student participation in physical education and health. It also allows AST pupils to practice independence and social interaction outside their regular classroom. References: Skolinspektionen (2009). Skolsituationen för elever med funktionsnedsättning i grundskolan. Stockholm: Skolinspektionen

Keywords: Collaboration project inclusion NPD in PE

ID 333 Knowing ones character strengths to cultivate mental health: the case of Quebec teachers and specificities in health and physical education

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Knowing character strengths to cultivate positive mental health: the case of Quebec teachers and specificities in physical education Teachers' mental health seems fragile (Doudin, et al., 2000), causing teacher burnout (Dubois, 2015). Between exhaustion and dropping out, the ripple effect is a teacher shortage in Quebec that is likely to persist (Sirois and Dembélé, 2023). To counteract this situation, several studies demonstrate the value of knowing one's character strengths to build a positive professional identity, and thus cultivate positive mental health (Gay-des-Combes and Bressoud, 2018; Goyette, 2014; Lavy, 2020). Accordingly, the objectives of this research are to identify the predominant character strengths of Quebec teachers, and

to discern the specificities of physical education teachers (PE). To this end, a questionnaire was made available online, using the Via-Inventory of Strengths (VIA-IS; Peterson & Seligman, 2004). It focuses on the 24 character strengths and the six virtues that underpin them. In total, 428 teachers from all disciplines completed it (309 PE and 119 other), working in preschool, primary, secondary or college. At the end of the survey, each respondent automatically received an individual report on his or her character strengths. The results highlight predominant character strengths. Focusing on PE teachers, the most valued strengths were honesty (50.16%) and kindness (46.93%), followed by fairness (45.63%), humor (39.48%), and perseverance (28.16%). Teachers from other subjects showed a prevalence for fairness (49.58%), honesty (44.54%), kindness (42.02%), appreciation of beauty (34.45%), and humor (33.61%). Furthermore, regression analyses revealed nuanced relationships between character strengths, subject taught, and gender. For instance, PE teachers, predominantly male, were found to score lower in appreciation of beauty, love, fairness, love of learning, and judgment but higher in self-regulation. These differences could partially be attributed to the correlation between being a PE teacher and being male. Significant effects from the regression models highlighted that female teachers tended to score higher than men in appreciation of beauty, gratitude, kindness, teamwork, prudence, and love of learning. Also, PE teachers scored lower than other disciplines in appreciation of beauty, love, fairness, love of learning, and judgment but higher in self-regulation. The aim is to gain a better understanding of the character strengths at play, and to propose courses of action for positive mental health at work

Keywords: mental health, teacher, character strengths, physical education

Pedagogy and didactics in physical education

ID 142 Assessment practices in physical education and health: the interpretation

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Among the set of tasks specific to the teaching profession in Physical Education and Health (PEH), quality assessment is considered essential to foster optimal student

learning. Despite numerous definitions, findings shared by different authors and guidelines in official documents, assessment remains one of the main challenges faced by PEH teachers. Teachers particularly struggle with justifying the grades given to students, particularly because of an assessment process they perceive to be highly subjective. To our knowledge, few studies have focused on the interpretation step: the process by which PEH teachers move from observations to a grade. The purpose of this paper is to describe the assessment practices of PEH teachers with respect to the interpretation step. An exploratory sequential mixed-method design was conducted with PEH teachers in Quebec (Canada) and the results presented come from interviews ($n=16$) and questionnaires ($n=164$). Our results show that participants use different strategies to interpret what they observe from students: 1) they use rubrics to take marks; 2) they use official documents to validate their observations and 3) they rely on their experience. Those who find ministerial expectations for PEH assessment imprecise have difficulty giving a precise value to what they observe ($\text{Chi}^2 = 71.361$, $df = 20$, $p = .000$ /Tau-B Kendall = .345, $p = .000$) and perceive that the lack of guidelines for PEH assessment makes it very subjective ($\text{Chi}^2 = 153.800$, $df = 25$, $p = .000$ /Tau-B Kendall = .400, $p = .000$). Participants who take marks more often say that the assessment of the entire competency development process can get cumbersome ($\text{Chi}^2 = 177.615$, $df = 20$, $p = .000$ /Tau-B Kendall = .134, $p = .048$) Teachers for whom assessment in PEH is difficult because of the large number of students they teach each week more often report relying primarily on their experience to value what they observe ($\text{Chi}^2 = 46.377$, $df = 25$, $p = .006$ /Tau-B Kendall = .189, $p = .004$). Finally, PEH teachers who work in multiple schools ($\text{Chi}^2 = 23.317$, $df = 12$, $p = .025$ /Tau-B Kendall = .157, $p = .025$) or who do not hold a permanent position ($\text{Chi}^2 = 11.252$, $df = 5$, $p = .047$ /Tau-B Kendall = .169, $p = .020$) more often mention having difficulty giving a precise value to what they observe. The main finding of this study is consistent with the scientific literature: the interpretation step is highly subjective in PEH. Consequently, assessment practices vary from one teacher to the other, and from one school to the other. Beliefs and passed experiences seem to explain some of this subjectivity. Also, it appears that PE teachers do not clearly understand the assessment framework and that this framework also lacks clear guidelines, which leads to these discrepancies.

Keywords: Assessment practices, Physical Education and Health, Interpretation, Quebec

ID 150 A PE teacher's tale

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As part of a longitudinal research project on the transition from physical education teacher education (PETE) to school physical education (PE) in Sweden, and exploring whether and how PETE matters, this paper 'represents' a PE teacher's professional journey from PETE to the induction phase of PE teaching. The study focuses on the PE teacher's use of, and reflections on, assessment for learning (AfL) (William, 2011) at different stages of the journey. The purpose of the study is to contribute knowledge about how positive experiences of AfL during PETE can enable the use of AfL in school PE for a newly qualified teacher. Using narrative inquiry (Casey, et al., 2018), supported by occupational socialisation theory (Lawson, 1983), this study focuses on one male PE teacher's professional journey from PETE to the induction phase of PE teaching. The PE teacher's tale is represented in first person, as if it were told by 'the traveller' on the journey. The underlying data consists of recordings of a campus-based PETE seminar, a stimulated recall interview with the participant during his school placement and two interviews with him in his role as a newly qualified PE teacher at two different schools. Through the PE teacher's tale, we show how the course on assessment for and of learning in PETE and the student teacher's positive experience of using AfL during his practicum seem to have inspired him in his later positions. On his professional journey, the traveller encounters barriers such as his colleagues' contrasting beliefs, dominating PE teaching traditions, and pupils' resistance. Still, AfL is not washed out from his teaching practice. The key strategies of AfL, such as sharing learning intentions, providing feedback, and activating pupils as learning resources for one another, are rather used to create conditions for progression. In the discussion, we suggest that PETE can make a difference for student teachers who have gained positive experiences of AfL in authentic teaching situations and are able to navigate between the barriers to the use of AfL in the induction phase of PE teaching. The usefulness of this study is its potential to inspire teacher educators to implement AfL in different learning tasks during PETE and student teachers to practice AfL during their school placements. If this would occur more regularly, a content such as AfL would have a better chance of "surviving" the transition from PETE to school PE. Casey, A., Fletcher, T., Schaefer, L., & Gleddie, D. (2018). *Conducting practitioner research in physical education and youth sport. Reflecting on practice*. London and New York: Routledge. Lawson, H.

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Keywords: Assessment for learning, narrative inquiry, occupational socialisation, PETE, transitions

ID 151 Implementing a Models-based Practice Approach to Physical Education in a Secondary School in the UK

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This study provides the first empirical investigation of a Models-based Practice (MbP) approach to physical education (PE). More specifically the aim of the study is to understand how one secondary school implemented a MbP approach across their year 7 (11-12 years olds) PE curriculum. Five PE teachers and a member of the senior leadership team were involved in the implementation of six pedagogical models across the entirety of the year 7 PE curriculum. The school is a non-selective secondary school in central England (11-18). Full ethical approval was received from the Human Participant Ethics Review Sub-Committee. There were three stages of data gathering. Stage 1 involved online semi-structured interviews (OSSI) with the teachers and senior leader. These took place in July 2021 prior to the start of MbP implementation with year 7. Stages 2 and 3 involved OSSI with the teachers and senior leader, the observation of two lessons and two face-to-face semi-structured focus group interviews with nine year 7 pupils. These interviews (all transcribed verbatim) and observations took place in the 2021-2022 school year. Thematic analysis occurred in three phases: initial analysis was conducted to identify key patterns, trends, and notable points within the data. Subsequently, a secondary analysis of the patterns and trend and initial themes were developed to allow for the creation of deeper insights and relationships (e.g., Hopes and Aspirations; the newness of MbP). Finally, the analysis of the themes helped to discern recurring themes and concepts, ultimately providing a comprehensive and insightful understanding of the data under scrutiny. This multi-step approach generated four themes: 1. Hopes and Challenges of New Pedagogical Beginnings: This theme encapsulates staff's aspirations for MbP and emphasises the importance of being open-minded despite obstacles. 2. Learning about and Supporting MbP: The second theme explores how teachers embraced collegial learning, experimenting with new teaching methods and the

impact it had on pupils. 3. Retrospection: The first minor theme reflects teachers' concerns about potential losses incurred through MbP and the realization that it might not be as new as initially thought. 4. New Sayings and Doings but Old Relations: The second minor theme acknowledges that while pupils exhibited new behaviours and language in MbP, the core focus of physical education continued to revolve around traditional activities. To conclude, these initial findings extend existing knowledge of MbP and offer us an empirical understanding of the impact and consequences of implementing a MbP approach. The findings mirror some of what we already know from research on the use of single pedagogical models whilst allowing us to see further and ask questions about MbP as a potential PE future.

Keywords: pedagogical models, Models-Based Practice, Model-Based Practice

ID 155 The purpose and value of physical education in alternative provision schools in England

Anthony Maher (Leeds Beckett University), **Thomas Quarmby** (Leeds Beckett University) & **Oliver Hooper** (Loughborough University)

'Alternative education settings' is the term used internationally to describe schools or programmes that serve young people who are deemed to not 'fit' in 'traditional' school environments. Those attending alternative provision, as it is called in England, have likely experienced trauma, teenage parenthood, abuse and neglect, family conflict, and/or criminality. Hence, these young people are likely to be among the most vulnerable in society. While the purpose of alternative provision is not always clearly articulated nor understood, most seek to reengage pupils with learning, as well as promote social and emotional development, with the aim of reintegrating pupils into mainstream education. It is against this discursive backcloth that our presentation explores the purpose and value of physical education in the wider cultural landscapes of schooling generally and alternative provision education specifically. In doing so, we consider what physical education in alternative provision is endeavouring to achieve and how it may, if at all, contribute towards the learning and development of young people in that education setting. It is here where the novelty of our research lies because, at present, our research community know very little about physical education in alternative provision. For our research, data were generated via 15 online individual interviews with those who have experience delivering physical education in alternative provision schools. The audio of all online interviews was recorded, transcribed verbatim, and subjected to reflexive thematic analysis. Our

presentation uses the concepts of culture, ideology, power, and embodiment as sense making tools to construct meaning about the following themes: (1) physical education to develop life skills, (2) physical education to improve mental health, (3) physical education to improve physical health, and (4) physical education to support young people to engage in sport and physical activity outside of school. We consider the research and evidence base supporting (or not) ideological commitments to these areas of priority before ending with recommendations for future policy, practice and research relating to the purpose and value of physical education in alternative provision settings that, we argue, resonate beyond the artificial confines of these settings.

Keywords: Alternative provision, purpose of physical education, physical and mental health, life skills development, lifelong participation in sport and physical activity

ID 173 A case study of a Black non-binary physical education pre-service teacher's student teaching experience

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Despite calls to diversify, U.S. PE teachers are overwhelmingly white, and tend to uphold traditional gendered discourse, pedagogically. Examining the experiences of PE teachers from multiple marginalized identities (i.e., race & gender) can mobilize the field towards creating equitable PE spaces. The aim was to highlight the student teaching experiences of a Black, non-binary pre-service teacher (PST), focusing on embodied identity and pedagogical praxis. Intersectionality, theorizing multiple marginalized identities at both individual and institutional levels, provided a theoretical framework. We used embodied identity theory, where social interactions are understood as self-conceptualizing through language and material practices (Wright, 2000). The theory presents the embodiment of social discourses as representation of the self against specific contexts, along with the aim of destabilizing hegemonies that constrict self-understanding framed by social norms (Azzarito et al., 2016). The research question was: How did race & gender inform a Black, non-binary PST's embodiment during their student teaching? The case study focused on Mia (she/her), a student teacher at two diverse school sites. Mia kept a reflective journal (100+ pages) during their semester in the schools, to which the researchers read and responded weekly. For data triangulation, Mia and two researchers conducted four

interviews together across 16 weeks. Data were analyzed following the guide to collaborative qualitative data analysis (Richards & Hemphill, 2018), including thematic analysis, constant comparative method, and open, axial coding. As a Black student teacher in diverse schools, Mia connected with Students of Color, focusing on “drawing them in.” Mia sought to be a mentor, and foster relationships with students from marginalized groups, demonstrating a key tenet of culturally responsive pedagogy. Mia’s experiences with gendered identity were less straightforward, navigating notable confusion from students in the elementary school (e.g., “Are you a boy or a girl?”) and uncertainty about how to present her gender. The student teaching experiences, PETE coursework, and journal reflections helped Mia come to new and empowered self-awareness about non-binary gendered identity. Mia’s comfort with and connection to Students of Color emphasizes the need for racial diversity within the PE teacher workforce. Mia’s experience also demonstrates the identity negotiations that often accompany a marginalized position. While Mia took the continuous questions about gendered identity in stride, constant identity work can carry emotional weight for teachers. Mia’s story upholds the call for continued emphasis on culturally relevant pedagogy in PE and the need for “gender discussion” as part of PE curricula. Finally, the results highlight how teachers’ embodied identities may develop and come to light during student teaching experiences.

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Keywords: PETE, Race, Gender, Physical Education

ID 348 Teachers’ expanding roles and tasks: Teaching physical education and Finnish language within culturally diverse contexts

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The need to develop linguistically and culturally aware physical education and language teaching is important in Finland as it is increasingly diverse. Physical education

with its emphasis on social and embodied interaction has great potential in fostering language learning and promoting equality and social justice. In the Finnish national core curriculum for education (2014) language awareness and multilingualism are significant values. At school every adult is a linguistic model, and at the same time the teacher of the language of the subject (s)he teaches. This presentation focuses on how physical education students' views on their future profession may expand to include tasks related to language learning. In addition, we will explore how Finnish as second language teachers view their roles and tasks and especially, how they may apply embodied learning in their language classes. The research questions are as follows: 1) What kind of conceptions and experiences do PE students have regarding their role as language teacher? 2) What kind of conceptions do Finnish as second language teachers have regarding the significance of embodiment and movement in teaching language? As bodily interaction is especially valuable in culturally diverse contexts the notion of embodied learning frames this research. Embodied learning engages the human being as a whole and connects the learning process to the learner's social and material surroundings. (Anttila, 2015; Johnson, 2008). The theoretical framework also draws from literature on transformative learning, interculturality, intercultural competence, and critical multicultural education. The data for this particular study have been collected in the context of a mandatory equality course in a PE teacher programme in a Finnish university during spring 2023. The data consist of open ended surveys by 33 students. The data also include interviews of two experienced teachers of Finnish as a second language. The analysis will be based on an interpretive approach and draws from phenomenological research tradition (Wasser & Bresler, 1996). The authors will approach the data through a critical lens in an attempt to reveal structural bias in participants' verbal accounts and in researchers' own interpretations.

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Keywords: Embodied learning, intercultural competence, language awareness, PE teacher training

Physical activity supporting children's and adolescents' overall development

ID 425 EU4Health Icehearts Europe: Co-designing online training for mentors and their organisations to improve the mental health and wellbeing of disadvantaged children and young people through sport

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Introduction Led by the International Sport and Culture Association, the multi-million-euro EU4Health funded Icehearts Europe is a trisectoral, multistakeholder, multi-country project which aims to improve mental health and well-being of disadvantaged children and youth in Europe through a pan-European initiative. Icehearts Europe is inspired by the Finnish Icehearts model, which has been designated as a model of best practice by the European Commission (2016, 2021). For over 25 years, the Icehearts Finland has successfully targeted disadvantaged children and youth across Europe who suffer from poor mental health. This has been achieved through support and counselling facilitated by trained Icehearts' mentors using sport/physical activity as a powerful medium in schools and communities. The strategic objectives of Icehearts Europe are fourfold: to build a model and tools for European implementation of Icehearts; to build capacity in partner and stakeholder organisations to deploy Icehearts; to pilot and implement the developed Icehearts model in five European countries; and to enhance European awareness about Icehearts and engage more countries and organisations in deployment and scale-out. Method In Icehearts Europe, there are five pilot implementation countries (DGI in Denmark, SPIN in Estonia, Fútbol Más Espana in Spain, UISP (Italian Sport for All Association) in Italy and SUS (Sport Union of Slovenia) in Slovenia). Informed by (a) a detailed Situational Analysis and Needs Analysis (SANA) of the five pilot countries and the organisations (2023) and (b) a study visit to Icehearts Finland (2023), the UCC team used a range of design thinking pedagogies (including LEGO® SERIOUS PLAY®) to co-design and prototype: (i) an online Icehearts mentor training programme (2024) (in five languages – Danish, English, Italian, Slovenian and Spanish) and (ii) an onboarding training tool for organisations (2024) in the same five

languages. Online training course development employed the ADDIE model to ensure a robust course design. The courses were further underpinned by connectivist (Siemens, 2005) and constructivist (Vygotsky) approaches to scaffold learning. Results The five pilot country organisations iterated and helped to finetune both the Icehearts mentor training and, organisation onboarding through a series of site visits. There were a number of key design disruptors, which were tackled through the use of the universal design for learning model. Conclusions Mentor training and organisation onboarding must be bespoke to the organisation and the context (local and national) in which it is enacted. A one-size fits all approach is not ideal. It will be important to take these insights into account when the project is scaled to the fourteen Associate partners (Bulgaria, Croatia, Czech Republic, France, Germany, Iceland, Latvia, Lithuania, Malta, Norway, Poland, Portugal, Romania and The Netherlands).

Keywords: trisector, schools, communities, design thinking, LEGO® SERIOUS PLAY®

ID 469 The hobby horse project: Integrating teacher students' professional development and contemporary alternative activities in physical education

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The Hobby Horse Project (HHP) is affiliated with a university course and an interdisciplinary research initiative conducted at a Norwegian university. The research targets the professional development of physical education and sports teacher education (LUPE) students within the context of the HHP. We employ aesthetic and playful learning approaches (Madsen et al., 2023) to support the teacher students' professional development. Alternative activities, such as lifestyle sports, hold the potential to augment the meaningfulness of physical education (PE) experiences (Wintle, 2022). Hobby horsing blends elements of play, hobbies, and sports, and is particularly popular among young girls (Heljakka, 2023). Drawing upon an activist approach (Oliver & Kirk, 2015), founded on student-centeredness, and pedagogical principles aimed to create meaningful experiences in PE (Fletcher & Ní Chróinín, 2022), the HHP aims to foster inclusive and motivating learning environments within school PE by incorporating contemporary alternative activities. Drawing on the twofold dimension of the HHP, the study is guided by the following research questions: How do LUPE students perceive and experience the HHP, and how can the students' perceptions and experiences inform the inclusion of contemporary

alternative activities in PE? 60 LUPE students are asked to participate in the research. Multimodal data, comprising pictures, student reflective logs, and student discussions, are generated January through March 2024. We present and discuss preliminary results.

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Keywords: physical education; teacher education; hobby horse; alternative activities; professional development

ID 483 Primary school students' perception of an interdisciplinary programme of classroom-based physical activity and life skills

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Children's development is influenced by many environmental factors, with the learning environment being one of the most significant in affecting their holistic development. Studies suggest that the integration of two or more subjects could contribute to students acquiring more meaningful learning within different learning environments. Therefore, the primary purpose of this presentation is to understand the students' perceptions after receiving an interdisciplinary educational programme based on the integration of physical activity and personal and social responsibility in

the classroom within various curricular subjects. The participants consisted of 217 students from two schools in the Region of Murcia (Spain) between the ages of 5 and 13 years. A qualitative methodology with a phenomenological design was used in the study. The intervention programme consisted of incorporating classroom-based physical activity (CB-PA) and the Teaching Personal and Social Responsibility model (TPSR) by classroom teachers in classes across the curriculum (e.g., Math, Natural Sciences). The length of the programme was 8 months. Drawings and focus groups were the instruments used to evaluate the students' experiences. Data analysis was carried out using constant comparison and thematic analysis. The results showed that students had positive perceptions of the intervention programme. Students reported that the interdisciplinary programme was more motivating and interesting compared to conventional lessons. Students recognized improvements in classroom behaviour, responsibility, and social climate. In addition, students expressed that the programme contributed to learning healthy and active habits such as exercising, being physically active and thinking about their health. One of the most relevant findings was the transfer of learning, as children reported that they were more responsible and physically active outside of the classroom and school after participating in the programme. The students also mentioned that the teachers helped them to improve their behaviour and to acquire healthy habits and life skills. It was concluded that this interdisciplinary educational programme was accepted by the students and provided them with benefits such as improved health-related behaviors and personal and social development in different areas of their lives. These results are in line with previous studies on the CB-PA and the TPSR model in which students' perceived greater academic motivation and enjoyment, health-related benefits, life skills and behavioral improvements both inside and outside the classroom and school context. Future studies should assess the families' perceptions to examine the transfer of students' behaviours and learning outside the school context.

Keywords: classroom movement breaks, physically active learning, teaching personal and social responsibility, elementary education

ID 218 Empowering Vulnerable Youth (Aged 7-11) to Overcome Health Inequities Through School-Based Physical Activities and Sports

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The objective is to develop and compare two intervention programs in primary schools for children aged 7 to 11 from disadvantaged backgrounds to promote sustained engagement in physical activities (PA). This approach assesses their influence on motor skills, physical fitness, motivation, and the sense of competence. This presentation outlines the protocol and the initial results of the measurements while discussing the contributions of these interventions. An exploratory survey helped characterize the PA, measure the physical fitness of the subjects (N1 = 1598), and identify two schools where PA levels and physical fitness are significantly lower than the average of our target sample (N2 = 135): these two sites serve as intervention locations. Our programs are built around various dimensions of the socio-ecological model (Sallis, J.F., Owen, N., & Fisher, E.B., 2008) adjusted to the target audience. We draw on social psychology to act at the intra-individual level and modify children's relationship with PA (motivation theories, socio-cognitive theories). We use physiology to assess levels of physical fitness (Eurofit Battery) and motor skills (TGMD-2, Ulrich (2000)), and accelerometers to assess children's PA. Finally, to act on and evaluate the inter-individual and organizational levels, sociology is mobilized to examine the roles of parents, teachers, and the environment. The goal is to consider multiple aspects of the environment, identify relevant factors, and their impact on PA practice. Two protocols are implemented. The first uses single-lever strategies to develop students' physical skills, focusing on individual and inter-individual aspects. It includes interventions in physical education aimed at developing physical literacy through innovative practices, reflective feedback on their practice, and the development of intrinsic motivation (1 school - 2 classes). The second offers a similar physical education program but is enriched with in-class interventions, including active breaks over 12 weeks, as well as a family component over another 12 weeks (1 school - 2 classes). These programs aim to teach children skills that promote and sustain regular PA through the development of autonomy, setting personal goals, etc. (the control group, in the meantime, follows regular school physical education programs). Results: Few significant effects are expected between the baseline (T0) and the follow-up (T1) regarding physical fitness and PA practice outside of school. We hope to observe modest effects regarding the practice and motor skills compared to the control group. Our interventions have a short time frame, which prompts us to take a step back on their measurements. Results may take time to manifest. Additionally, identifying the source of behaviors is complex due to

numerous environmental factors. Despite these challenges, we remain committed to measuring the effects in specific contexts, hoping to observe positive changes over time

Keywords: Intervention Programs, Disadvantaged Backgrounds, Physical Activities (PA), Motor Skills, Physical Fitness

ID 227 Design and Use of the Full Motion Game to Understand the Concept of Physical Literacy in University Students. Results of a Pilot Study.

Nuria Ortega Benavent (Department of Teaching of Physical Education, Arts and Music, University of Valencia), **Xavier García-Massó** (University of Valencia), **Sergio Montalt-García** (University of Valencia), **Cristina Menescardi** (University of Valencia), **Jorge Romero-Martínez** (University of Valencia & Isaac Estevan (University of Valencia)

Introduction: The pedagogical concept of physical literacy (PL) is becoming increasingly important within the field of Physical Education (PE). PL is defined 'as the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life' (Whitehead, 2019). Applying this precept during the preservice teaching-learning process in PE implies knowing the dimensions of PL and the factors included in it in order to be able to act holistically during student development. The aim of this work was to create and test a card game called Full Motion for university students through which they could learn about the structure (dimensions and constituent elements) of the PL. Method: A total of 42 university students participated in this study. The group had a session in which the functioning and rules of the Full Motion game were shown. Once the game was understood and all doubts were solved, participants were asked to play the game. A pre-test and post-test were carried out using an ad hoc questionnaire on PL (31 participants responded). Furthermore, participants completed the situational interest questionnaire (SIS) (Sun et al., 2008) which assessed five dimensions (i.e., novelty, challenge, enjoyment, attention and exploration) (Deci, 1992). Results: A Wilcoxon signed-rank test was applied in order to compare the correct answers between pre- and post-test on the PL questionnaire. Results showed significant learning ($W = 436$; $p < 0.001$; $r = 0.87$) with higher scores obtained in the post-test than in the pre-test. Values ranged from a mean of 3.6 to 3.9 out of 5 for the novelty, attention, enjoyment, and exploration items, being the

challenge variable the only one showing a slightly lower mean ($M = 2.7$). Conclusions: The game Full Motion has proven to be an effective and valid tool to enhance university students' knowledge about PL as well as it was perceived by them as novel, attractive and enjoyed experience. These results underline its potential to promote PL and interest in PE in higher education contexts, encouraging a holistic perspective on this construct and all of its dimensions. Deci, E. L. (1992). The relation of interest to the motivation of behavior: A self-determination theory perspective. En *The role of interest in learning and development* (pp. 43-70). Lawrence Erlbaum Associates, Inc. Sun, H., Chen, A., Ennis, C., Martin, R., & Shen, B. (2008). An Examination of the Multidimensionality of Situational Interest in Elementary School Physical Education. *Research quarterly for exercise and sport*, 79(1), 62-70. <https://doi.org/10.1080/02701367.2008.10599461> Whitehead, M. (2019). *Overview and recent developments in physical literacy*. Routledge.

Keywords: Physical Education, teaching-learning, motor competence, card game, holistic education

ID 93 Relationship between the level of physical literacy and physical activity in adolescents in the Maule Region, Chile

Marcelo Castillo-Retamal (Universidad Católica del Maule), **Katherine Contreras-Zapata** (Universidad Católica del Maule), **Nadia Cruz-Hidalgo** (Universidad Católica del Maule), **Oscar Sepúlveda-Lagos** (Universidad Católica del Maule), **Nicole Paiva-Bruna** (Universidad Católica del Maule) & **Kevin Arellano-Águila** (Universidad Católica del Maule)

After the confinement phase due to the SARS-COV-2 pandemic, there has been a decrease in physical activity among schoolchildren. This has resulted in a decrease in physical abilities and the development of motor skills - both basic and complex. In this study, we aim to analyze the physical literacy (AFi) level in a sample of secondary school students from the Maule Region in Chile. The sample size consisted of 368 students (175 female and 193 male), aged between 12 and 18 years (14.5 ± 1.8). We measured AFi through the Perceived Physical Literacy Instrument (PPLI) and self-reported level of physical activity (NAF) with the Physical Activity Questionnaire - Adolescents (PAQ-A). The average AFi level was 3.70 ± 0.8 (in men 3.8 ± 0.8 ; women 3.7 ± 0.8), and the NAF was 2.8 ± 0.8 (men 2.8 ± 0.8 ; women 2.8 ± 0.8), both on a scale of 1 to 5 points. The dimensions of PPLI were Knowledge and Understanding (4.1 ± 1.1), Self-confidence and communication with others (3.4 ± 1.3),

followed by Sense of self and Self-confidence (3.4 ± 1.2). The most recurrent physical activities were walking (3.3 ± 1.5), cycling (3.0 ± 1.4), running and soccer (2.7 ± 1.4), which mostly occurred between Wednesday and Friday. Surprisingly, no significant relationship was found between the level of AFi and NAF ($r = 0.170$). In conclusion, the level of physical literacy achieved is high on average, while the level of physical activity is below the expected average for age. However, we did not find a direct relationship between both indicators.

Keywords: Physical Literacy; level of physical activity; motivation; confidence; PPLI

Wednesday 15th May, 5 p.m.

Physical education teacher education, professional development

ID 235 Content Development and Task Performance Following Specialized Content Knowledge in Elementary School

Anke Mous (Physical Activity, Sports, and Health Research Group. KU Leuven, Belgium), **Charlotte Vandendindenloof** (Physical Activity, Sports, and Health Research Group. KU Leuven, Belgium), **Kian Vanluyten** (Physical Activity, Sports, and Health Research Group. KU Leuven, Belgium) & **Peter Iserbyt** (Physical Activity, Sports, and Health Research Group. KU Leuven, Belgium)

Introduction: What children learn is mostly determined by the tasks they receive. These tasks are selected, sequenced, and adapted by teachers and reflect their specialized content knowledge (SCK). Specialized content knowledge (SCK) consists of knowledge about common errors and how to correct these, and knowledge of instructional task progressions (i.e., content development). Research has demonstrated that teachers often have low levels of SCK as reflected through SCK indices below 3.0. Low levels of SCK have been associated with poor student performance (e.g., Iserbyt et al., 2015). Therefore, the goal of this study was to investigate the effect of a SCK workshop on teacher's content development and children's correct task performance in elementary school swimming. Methods: One male elementary school teacher (38 years) with 17 years of teaching experience taught two six-lesson units in front crawl to two comparison classes (n= 31) and two experimental classes (n= 31). All children were in 5th grade. After teaching the comparison classes, the teacher received a content knowledge workshop with a focus on SCK. The teacher's task selection, allocated time per task, task adaptations, and children's correct task performance for each task was collected. All data was collected live by three trained coders. Interobserver agreement was 100% based on the full data set. Results: The teacher taught 48 tasks in the comparison and 61 tasks in the experimental group, reflecting an average increase from 4 to 5 tasks per lesson. The teacher's SCK index was 1.3 in the comparison and 4.0 in the experimental group. This caused a decrease of 28% in informing tasks and an increase of refining (10%), extending (9%) and applying tasks (11%). Time children spent in informing tasks decreased from 45% to 35%. The proportion of tasks performed correctly by the majority of children (range 50%-80%) increased from 54% in the comparison to 82% in the experimental group.

Teacher's task adaptations increased from 123 to 211. A higher proportion of adaptations led to correct task performance in the experimental group (33% vs 53%). Discussion/Conclusion: The SCK-workshop substantially impacted the teacher's content development, which in turn improved children's task performance. Following the SCK workshop, the teacher's instructional repertoire increased, which was reflected in the increased number of tasks taught and task adaptations provided, and the SCK index that exceeded the benchmark of 3.0. The teacher also provided a larger proportion of tasks in which children achieved correct performance, which is an indicator of their learning in physical education. References Iserbyt, P., Ward, P., & Li, W. (2015). Effects of improved content knowledge on pedagogical content knowledge and student performance in physical education. *Physical Education and Sport Pedagogy*, 22(1), 71–88. <https://doi.org/10.1080/17408989.2015.1095868>

Keywords: Content development; Specialized Content Knowledge; Instructional Tasks; Task Performance; Task Adaptations

ID 114 PE teachers' reasoning on exclusion situations in PE – Do they have a professional vision and handling with it?

Laura Becher (University Paderborn)

Due to open learning processes, peers are enabled to work on their relationships and boundaries in physical education (PE) (Evans & Roberts, 1987). In this context, a variety of studies empirically prove the effects of exclusion experiences and which outcome they have for the physical and psychological health (Baumeister & Leary, 1995). In a systematical data triangulation, different PE contexts could be identified where pupils often convey exclusion behaviour by using different strategies (Grimminger, 2014). Therefore, PE teachers have a particular pedagogical responsibility to notice the way PE contexts are used. With this in mind a “professional vision” (Goodwin, 1994; PE related: Reuker, 2017), including the abilities of selective attention, reasoning and the deciding how to respond to the noticed events is important for a professional handling of potential exclusion processes in PE. The aim of the study is to find out whether and how PE teachers perceive and interpret exclusion situations in PE and how they reason their own decision to act. In guided interviews, PE teachers (N= 18) were asked to describe and interpret PE situations, and explain their idea of action alternatives. A video-vignette was used to present the different PE exclusion contexts. The situations were obtained through video recordings in different PE classes as well from the data of Grimminger. The statements will be

transcribed and analysed using qualitative content analysis (Kuckartz, 2018). The study is on-going, first results will be presented in May 2024. References Baumeister, R. F. & Leary, M. R. (1995). The need to belong: desire for Interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117 (3), 497-529. Evans, J. & Roberts, G. C. (1987). Physical competence and the development of children's peer relations. *Quest*, 39 (1), 23-35. Goodwin, C. (1994). Professional Vision. *American Anthropologist*, 96 (3), 606-633. Grimminger, E. (2014). Getting into teams or pairs in physical education and exclusion processes among students – a mixed-method study. *Pedagogies: An International Journal*, 9 (2), 155-171. Kuckartz, U. (2018). *Qualitative Inhaltsanalyse. Methoden, Praxis, Computerunterstützung*. Beltz. Reuker, S. (2017). The noticing of physical education teachers: a comparison of groups with different expertise. *Physical Education and Sport Pedagogy*, 22 (2), 150-170.

Keywords: professional vision, PE teachers, exclusion, PE, interview

ID 497 Friluftsliv in Physical Education Teacher education practice – challenges, conflicting meanings and negotiations.

Karin Sjödin (Örebro Universitet), **Mikael Quennerstedt** (The Swedish School of Sport and Health Sciences) & **Johan Öhman** (Örebro Universitet)

Friluftsliv in Physical Education Teacher education practice – challenges, conflicting meanings and negotiations. Karin Sjödin, Mikael Quennerstedt & Johan Öhman

In this presentation we explore the content of friluftsliv in physical education teacher education (PETE). Friluftsliv is a quite unique cultural tradition with a long and deeply rooted history in the Scandinavian countries, characterised by informal living outdoors with 'nature as home'. At the same time, a more institutionalised form of friluftsliv occurs as a subject content in schools and an explicit key learning area in physical education (PE) as in for example Norway or Sweden much in the same way that outdoor education is in several other countries. In sum, the unique characteristics of friluftsliv as a cultural tradition entails specific educational challenges when incorporated into school PE. Here, PETE plays an important part in preparing future teachers to educate in matters pertaining to friluftsliv. Hence, the purpose of the study is to contribute with knowledge on educational challenges with the use of friluftsliv in PETE practice. In the study, we focus on events where meanings of friluftsliv in PETE are in conflict. The empirical material consists of diverse materials from activities in friluftsliv in PETE programmes: study guides, field trip

plans, students' vlogs from overnight stays outdoors, video recordings from two longer field trips, audio recordings from evening seminars during one field trip, and students' written reflections afterwards. First, we identified situations where meanings of friluftsliv are at stake. In the analyses we identified and described educational challenges using a transactional approach. In the results we have provided additional evidence that friluftsliv in PETE is a practice where different meanings are put into play. These meanings are often conflicting. These conflicts, in turn, creates significant educational challenges for teacher educators, but also for the students in PETE. Illustrative examples from two general challenges will be presented, where meanings of friluftsliv are put into play; (i) Participant in friluftsliv or future teacher, and (ii) What is 'real' friluftsliv in PETE. The examples illustrate the diversity of situations in PETE practice in which meanings are in conflict and provide knowledge about the educational processes related to the content of friluftsliv. In the second part using a zoomed-in perspective, we present an in-depth example to illustrate how conflicting meanings regarding friluftsliv are negotiated by students in the practice of PETE. Further the potential of these negotiations will be discussed and how transforming experiences of friluftsliv in PETE to teaching friluftsliv in PE can be further developed.

Keywords: PETE, Friluftsliv, education, Meaning making

ID 248 Implementing student-centred pedagogies to foster students' social development: A yearlong Physical Education investigation of students' fulfilment of Basic Psychological Needs, accomplishment of Social Goals and development of Class Cohesion

Eugénio Ribeiro (University of Porto, Faculty of Sports), **Isabel Mesquita** (University of Porto, Faculty of Sports) & **Cláudio Farias** (University of Porto, Faculty of Sports)

The United Nations highlighted social development as a milestone of a more democratic and quality education. Indeed, the nature of social interactions between students heavily influences the quality of the teaching-learning process and students' integral development (1). The successive COVID-19 social confinements particularly disrupted the natural process of social development of many young people at critical developmental stages. This added a potential source of less meaningful social development experiences for students who sometimes are discriminated against in opportunities to participate in physical education (PE), based on their gender or social status. Particularly in school settings still predominantly ruled by traditional teacher-centred teaching practices, girls and less dominant students continue to be

marginalized and perceived as 'less important' stakeholders (2). However, the implementation of student-centred pedagogies in PE may be a well-tailored site to promote students' social development by providing them with authentic, positive, and cooperative social interactions (1). The preliminary results of a social development-oriented doctoral project funded by the Foundation for Science and Technology in Portugal will be presented. The goal was to examine students' evolving social development [Basic Pedagogical Needs (BPN), Social Goals (SG) and Class Cohesion (CC)], throughout a yearlong implementation of a student-centred PE curriculum (PETE-developed) with an augmented interventional focus in students' social development. A potential predictive relationship between CC, SG, and students' BPN was examined. Questionnaires captured students' perceptions of social development. Repeated measures, multivariate analysis, and ANOVAs were employed. Gender comparisons were performed, and linear regression was conducted to develop a predictive model. A significant progression of student's social development was registered [PillaiV=.611; $F(26.000)=2.36$; $p<.05$], especially concerning BPN (competence, and autonomy) and CC; significant gender differences were registered. Both CC (stronger predictor) and SG were shown to be good predictors of BPN [$R=744$; $F(2)=38.426$; $p<.01$]. A positive outcome of the learner-oriented PE curriculum in the mediation of students' social development is suggested. At odds with major findings of prior research, a higher impact of the program amongst boys was registered. Pedagogical endeavors concerned with caring for students' fulfillment of BPN may benefit from applying strategies aimed at increasing students' sense of affiliation and cohesion whilst decreasing the need for social validation.

1. Farias C, Mesquita I. *Learner-Oriented Teaching and Assessment in Youth Sport*: Taylor & Francis; 2022.

2. Evans J, Penney D. Levels on the playing field: The social construction of physical 'ability' in the physical education curriculum. *Physical Education and Sport Pedagogy*. 2008;13(1):31-47.

Keywords: Physical Education Teacher Education; Positive Social Development; Quality Education; Democratic Physical Education

ID 127 Practical examinations for physical education students – a qualitative longitudinal study on self-regulated learning from a gender perspective

Andre Magner (University of Münster) & **Nils Neuber** (University of Münster)

Examinations play a central role in higher education and serve several functions. For students, they frame the structure and rhythm of the learning process, and for

teachers they provide the basis for assessing student performance. In teacher training for physical education (PE), practical examinations have a particularly high subjective importance for students and are often referred to as the 'hidden curriculum'. It is required that practical examinations not only test motor skills in sport, but also scientific, didactic and pedagogical competencies. As a result, at many institutes in Germany subject-specific practical examinations consist of both athletic motor skills and theoretical knowledge, with the results then being combined into an overall score. Typically, the practical and theoretical parts each account for 50% of the total grade. In this context, self-regulated learning is conducive to successful exam preparation and to academic success in general (Dent & Koenka, 2016), with the examinee able to influence the key decisions of whether, what, when, how and where to learn. At the same time, gender differences in favor of women are evident, especially regarding metacognitive learning strategies. As there is a lack of empirical evidence on teacher training in PE, the aim of this study is to find out how PE students prepare for the individual examination elements of a practical examination and to what extent self-regulated learning takes place. In addition, possible gender differences will be investigated. Method. Based on the self-regulation process model of Schmitz and Wiese (2006), the exam preparation of PE students is investigated using a qualitative longitudinal design. Three interviews with students ($n = 10$) are conducted at the beginning of the winter semester 2023/2024, shortly before and after the exam, covering the three phases of the learning process according to the aforementioned model. The interviews are analyzed using content analysis. Results. Students focus much more on the practical part of the examination. Here they aim to acquire new (movement) skills and feel proud of their work whereas for the theoretical part they only care about the grade. In preparation for the practical parts, students use self- and peer-feedback as well as video recordings to regulate their learning. They also admit to higher motivation, concentration and better time management than when studying for the written exam, for which they only memorize facts in the short term. Gender analyses show that only male students regulate their learning for the theoretical parts by using repetition strategies, but only female students rate their time management positively. Regarding their learning environment, men consider changing it after passing the exam, while women are content with the status quo. Discussion. In addition to the need for a greater relevance of self-regulated learning skills, the study sheds light on the theory-practice relationship in teacher training for PE against the backdrop of practical examinations.

Keywords: PE teacher education; examinations; self-regulated learning

ID 87 Teachers' positioning toward Meaningful PE: Ownership, sensemaking, and agency

Tim Fletcher (Brock University) & **Stephanie Beni** (Norwegian School of Sport Sciences)

Background: Physical Education (PE) teachers can choose from a wide variety of pedagogical innovations to inform their practice, yet many typically do not engage in sustained adoption beyond an initial 'honeymoon' period (Goodyear & Casey, 2015). Some suggest this is because many innovations are mandated and do not align with their beliefs about teaching and learning. The aim of this research is to examine the experiences of two PE teachers who have engaged in voluntary and sustained adoption of Meaningful PE, an innovation that helps teachers prioritize the meaningfulness of students' experiences (Fletcher et al., 2021). Conceptual Framework: Ketelaar et al. (2012) highlight three related concepts that influence teachers' positioning toward educational innovations, including: ownership, sensemaking, and agency. These concepts help describe similarities and differences in teachers' positioning in relation to Meaningful PE. Methodology: Two teachers participated in this research, both of whom have used Meaningful PE for at least four years. Several forms of qualitative data were gathered, including individual semi-structured interviews, focus group interviews, audio recordings of meetings about Meaningful PE, and teaching observations. Data were analyzed deductively, with the concepts of ownership, sensemaking, and agency (Ketelaar et al., 2012) guiding coding and thematizing of the data. Results: Ownership, sensemaking and agency influenced how both teachers used Meaningful PE in various ways. In particular, both teachers explained how Meaningful PE provided them with a language to articulate their personal philosophies of PE that had remained previously out of reach. Meaningful PE aligned with their beliefs and ultimately provided actions to support their enactment of the type of PE they wanted students to experience. Significance: This research provides evidence about the influence that ownership, sensemaking and agency have on teachers' sustained adoption of innovations, which in this particular case applies to Meaningful PE. The outcomes of this research carry implications for how developers of other innovations might aim toward sustained implementation. Reference List Fletcher, T., Chróinín, D. N., Gleddie, D., & Beni, S. (Eds.). (2021). *Meaningful Physical Education: An approach for teaching and learning*. Abingdon, UK: Routledge. Goodyear, V. A., & Casey, A. (2015). Innovation with change: Developing a community of practice to help teachers move beyond the 'honeymoon' of pedagogical renovation. *Physical education and sport pedagogy*, 20(2), 186-203. Ketelaar, E., Beijaard, D., Boshuizen, H. P., & Den Brok, P. J. (2012). Teachers'

positioning towards an educational innovation in the light of ownership, sense-making and agency. *Teaching and teacher education*, 28(2), 273-282.

Keywords: pedagogical innovation; teacher learning; implementation; beliefs

ID 415 Socialisation into Physical Education Teaching: exploring how high school pupils' experience of acculturation is shaping their future teacher identities and teaching orientations

Dr Andrew Sprake (University of Central Lancashire), **Dr Alan Thomson** (University of Central Lancashire), & **Dr Jess Macbeth** (University of Central Lancashire)

Occupational socialisation is widely believed to influence teacher identities and teaching orientations during three key phases: acculturation, professional socialisation and organizational socialisation. Physical Education (PE) teachers often embody their own personal biographies of PE in practice, reverting to forms of teaching that reflect their own experiences as a pupil. In light of what Lortie (1975) described as the protracted apprenticeship of observation that pupils experience, it is unsurprising that the acculturation phase has been identified as the most influential phase of PE teachers' socialisation; and yet it has received the least scholarly attention. Little is known about the ideological commitments that pre-service and newly-qualified PE teachers bring to the profession. Furthermore, of the young people who openly aspire to become PE teachers in the future, there is a dearth of research exploring (1) their impressions of PE teaching as a career choice, (2) their anticipatory beliefs about the profession and (3) their beliefs about their future teacher identity and teaching orientations. This ongoing study, therefore, investigates the current acculturation experiences of aspiring PE teachers, focusing on the perspectives of pupils who have identified PE teaching as a likely career choice. The study explores pupils' impressions of PE teaching as a career choice, their beliefs about the role of the PE teacher, and how their current experience of PE is preparing them for a teaching role. Drawing on an interpretive qualitative methodology, this study has utilised focus groups (n=5) with high school pupils (n=35) in the Northwest of England. Pupils are in Years 10 and 11 (aged 15/16) and are studying GCSE PE. Discussion points revolved around pupils' individual biographies and lived experiences of PE, their motivations for aspiring to teach PE, and their anticipatory beliefs about their future experiences as a PE teacher. The initial findings of this research indicate that, whilst some pupils recognise and anticipate that university degrees and Initial Teacher Education (ITE) may influence their future practice – that is, they

acknowledge the inevitability of professional and organisational socialisation – most pupils convincingly declare that their future practices are somewhat fixed. Inspired by their current PE teachers, many pupils indicate that their future teacher identities and teaching orientations will be firmly rooted in their own experiences, highlighting the power of acculturation. The shaping of teacher identities and teaching orientations occurs well in advance of undergraduate degrees, ITE or early career teaching experiences. Consequently, if the evolution of PE practice is desirable, undergraduate programmes and ITE providers must ascertain and examine their students' past PE biographies to promote genuinely reflexive approaches to future pedagogical practices and recruitment processes.

Keywords: Physical Education; Occupational Socialisation; Acculturation

ID 417 Being aware of diversity – instructional development in PE as a participatory research process

Sebastian Ruin (University of Graz), **Jana Baumgärtner** (University of Graz), **Christoph Kreinbacher-Bekerle** (University of Graz) & **Bianca Sandbichler** (University of Graz)

Introduction With global demands for inclusion and acceptance of diversity (e.g., Appelbaum, 2002), pedagogical institutions and actors in physical education (PE) are also challenged to ensure an "intersubjective recognition" of each individual person in their unique life situation" (Prenzel, 2019, p. 56). Meeting this demand is an essential task of academics, school institutions and actors in the field of PE, sports and physical activity (Arora & Wolbring, 2022). However, research results show that body- and performance-related discourses and traditions (Giese & Ruin, 2018) as well as existing teaching practices (van Doodewaard, 2022) can lead to considerable exclusion within PE environments. Moreover, teachers often don't feel prepared to teach a diverse student body (Hutzler et al., 2019). **Method** In order to explore the question of how a sensitive and constructive approach to diversity in physical education can be initiated in these tense relationships, this article pursues a participatory research approach (Moser, 1995) in which teachers, students and university subject didacticians at 12 selected secondary schools develop, test and evaluate instructional development in PE which is aware of diversity. Based on guided interviews (evaluated using a qualitative text analysis, Kuckartz, 2014) at three project schools, perspectives on the challenges and opportunities are presented. **Results**

The results give insight in selected challenges such as the dominance of sport-related, able bodied body and performance perceptions, communication problems in multi-professional teams, or a lack of student involvement. Further, initial constructive approaches to solutions developed in the project are indicated. Discussion Building on this, it will be explained how further work on this topic is being carried out at nine other project schools. Further, it will be discussed how joint lesson development – neither seen as a purely academic nor a purely practical task – might be useful for the professionalization of teachers.

Keywords: diversity, instructional development, participatory research, teachers perspectives; students perspectives

ID 429 Normative Motor Assessments in Adapted Physical Education - considerations from an ableism-critical perspective

Martin Giese (Heidelberg University of Education), **Justin A. Haegele** (Old Dominion University), & **Anthony J. Maher** (Leeds Beckett University)

Throughout the brief history of Adapted Physical Education (APE), scholars have called for and engaged in critical conversations rooted in practical, philosophical, ethical, and theoretical issues in attempt to contribute to our thinking as a field. Nevertheless, there are many taken-for-granted beliefs, values and actions that are often promoted and assumed to be beneficial for disabled people that have not been problematized or philosophically or ethically debated yet. Without critical discussions about our hegemonic and often taken-for-granted assumptions, values, and actions as a field, we may be engaging in and promoting practices that are either ineffective, or worse, unintentionally and unknowingly harmful for disabled people. For example, Eales and Goodwin (2022) recently described how some taken-for-granted pedagogical practices (e.g., graduated instructional prompts) common in physical educators' toolboxes may be trauma-inducing for disabled students. Further, while scholars in our field continue to value and promote experiences in integrated contexts, research engaging with disabled persons about their schooling has demonstrated that experiences within these placements can be marginalizing and harmful (Giese et al., 2021; Haegele & Maher, 2022). In this line normative motor skill assessments occupy a privileged position in physical education scholarship and practice. So much so, in fact, they manifest as common-sense cultural arrangements in most movement contexts, including APE. The proliferation of such tools has

generally been uncontested, until now. In our presentation we argue that normative motor skill assessments have ableist underpinnings and consequently may do more to subordinate than empower disabled children. More specifically, we suggest that normative motor assessment tools and criteria, perhaps unintentionally, highlight what is perceived to be wrong, bad, and faulty about the ways disabled bodies look and move, thus reinforcing ableist norms and values relating to ability. We end by encouraging APE scholars and practitioners to critically reflect on ableist notions of ability, particularly as they relate to movement competence, and to work with disabled children because of their embodied experiences to co-design assessments that are more meaningful to disabled children. References Eales, L., & Goodwin, D.L. (2022). Addressing trauma in adaptive physical activity: A call to reflection and action. *Adapted Physical Activity Quarterly*, 39(2), 141–159. Giese, M., Ruin, S., Baumgartner, J., & Haegele, J.A. (2021). “and after that came me”. *International Journal of Environmental Research and Public Health*, 18(20), Article 10946. Haegele, J.A., & Maher, A.J. (2022). Male autistic youth experiences of belonging in integrated physical education. *Autism: International Journal of Research & Practice*, 26(1), 51–61.

Keywords: Inclusion; Disability; Test of gross motor development (TGMD); Empowerment; Ableism

ID 432 Getting Back to Business (As Usual)? Pandemic-Induced Changes to PE Curriculum and Practice Across the UK

Oliver Hooper (Loughborough University), **Rachel Sandford** (Loughborough University), **Shirley Gray** (University of Edinburgh), **Stephanie Hardley** (University of Edinburgh), **Julie Stirrup** (Loughborough University), **Anna Bryant** (Cardiff Metropolitan University) & **Nicola Carse** (University of Edinburgh)

Although Covid-19 was viewed primarily as a health crisis, it has also been described as a significant event that disrupted ‘social order’ (Teti et al., 2020). Certainly, the pandemic had a significant impact on day-to-day life and placed pressure on already stretched systems, including education (Hooper et al., 2020). This paper shares sharing findings from individual interviews conducted with physical education (PE) teachers as part of a broader research study focused on exploring PE curriculum and practice within and across the four home nations of the UK (see Gray et al., 2022, 2023). Specifically, it provides an overview of PE teachers’ responses to the challenges posed by the COVID-19 pandemic and the changes that they made to

their curricula and practice because of this. Findings suggest that significant disruption was encountered due to the pandemic at a whole school level, and that the effects of this were felt particularly strongly within PE due to its somewhat unique position within the curriculum. For example, teachers noted how they had to think creatively about how they taught PE in pandemic times, detailing a range of approaches and strategies that they employed when required to move PE lessons online. Moreover, when returning to in-person lessons, teachers also reported reorienting their curricula and practice to have a renewed focus on social and emotional learning - to counter the perceived detrimental impacts of the pandemic lockdowns on pupils. However, such changes were typically short-lived, with many participants documenting a return to more 'traditional' PE lessons (i.e., focused on skill acquisition and sport performance) following a full return to in-person delivery. In discussing the research findings, this paper considers how practitioners might be facilitated to think differently about curriculum and practice to move beyond 'business as usual' approaches.

Gray, S., Sandford, R., Aldous, D., Carse, N., Stirrup, J., Hardley, S., Hooper, O. & Bryant, A. (2022) A comparative analysis of discourses shaping physical education provision within and across the UK. *European Physical Education Review*, 28(3), 575–593.

Gray, S., Hardley, S., Bryant, A., Hooper, O., Sandford, R., Stirrup, J., Carse, N., & Aldous, D. (2023) Exploring PE teachers' conceptualisations of health and wellbeing discourse across the four nations of the UK: does curriculum (discourse) matter? *Curriculum Studies in Health and Physical Education*. DOI:10.1080/25742981.2023.2176242

Hooper, O., Sandford, R. & Quarmby, T. (2020) Piling on the pressure? Negotiating burden/benefit dynamics in social research during times of crisis. In H. Kara & S. Khoo (Eds.), *Researching in the Age of COVID-19 Vol 2: Volume II: Care and Resilience*. Bristol: Policy Press.

Teti, M., Schatz, E. & Liebenberg, L. (2020) Methods in the time of COVID-19: The vital role of qualitative inquiries, *International Journal of Qualitative Methods*. DOI:10.1177/1609406920920962.

Keywords: Physical education, pedagogy, Covid-19, social and emotional learning

ID 550 Prevention of interpersonal violence as a topic of inclusive school-development

Rosa Diketmüller (University of Vienna)

Current prevalence studies on interpersonal violence (IPV) in sport have shown that marginalized people are significantly more affected by IPV, and that 30 to 50% of

victims do not report their experiences of IPV to anyone. Only 5% of the victims in the CASES-project ask for help within the sport organization (Hartill et al. 2023). This might be similar for school settings as a case of late disclosure of a big number of former victims of an Austrian PE teacher indicates. Beside the question of why cases of IVP could remain undetected in schools for years, follow-up questions also arise about the expanded responsibility of schools in preventing IPV. While there is some data on prevalence and prevention for organized sports, empirical findings are lacking for PE. Wagner & Rulofs (2017) have derived initial considerations for school-sport-development based on prevention concepts for extracurricular children's and youth sports. It becomes clear that the development and implementation of safeguarding concepts is key for school organizational development. PE teachers play a significant role in identifying risks for IPV in the context of organization-specific risk analyzes and in implementing prevention measures in a culture of mindfulness (Eberhardt, 2020). Through focus-group-discussions the attitudes of PE teachers on implementing safeguarding principles within schools and PE regarding the resources- and risk-analyzes model (Eberhardt, 2020) were analyzed via grounded theory. Although PE teachers are convinced that prevention of IVP is an important task for schools, the results show for the organizational level, that PE teachers do neither see any risk in the specific confidence relationship to their students, nor do they reflect their uncertainty regarding closeness and distance or physical contact institutionally. They also fear that a culture of awareness could be interpreted as mistrust of colleagues. In addition, most of the teachers are not familiar with evidence-based data about groups at high risk. The data indicate that there is a need for both - further research on PE-specific issues and education of PE professionals dealing with the multiple challenges with regard to this topic. References Hartill, M., ..., Diketmüller, R. ... & Vertommen, T. 2023. Prevalence of interpersonal violence against children in sport in six European countries. *Child Abuse & Neglect*, 146. Eberhardt, B. 2020. Ressourcen- und Risikoanalyse auf Grundlage des Modells der Kulturebenen. In B. Eberhardt, & A. Naasner, eds., *Schutz vor sexualisierter Gewalt in Einrichtungen für Mädchen und Jungen mit Beeinträchtigungen*, p.131-136. DGfPI. Wagner, I. & Knoke, C. 2022. Sexual violence by teachers in physical education classes. A retrospective interview study. *GJESR*, 52(4), 539-549. Wagner, I. & Rulofs, B. 2017. Prävention sexualisierter Gewalt im außerschulischen Kinder- und Jugendsport als Modell für die Schulsportentwicklung. *Sportunterricht*, 66(9), 275-279.

Keywords: Interpersonal violence, Prevention, Physical Education, inclusive school-development

ID 419 Preservice Teachers' Content Development in Lesson Plans for Teaching Net/Wall vs Individual Sports During School Placements

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Introduction Selecting and sequencing (i.e., content development) appropriate instructional tasks to support student learning is an important skill for physical education teachers. Previous research has found that the informing task is the most used task in lesson plans. Usually, this task is dominant throughout the first third to half of an instructional unit, followed by a limited number of extending or refining tasks before moving to game play. It has been suggested that this type of poor content development is associated with teachers' depth of specialized content knowledge (SCK) as expressed by the SCK index, which is often below the 3.0 benchmark. While a growing body of research has investigated task selection and evolution for in-service teachers, only a limited number of studies have focused on preservice teachers (PSTs). This study investigated physical education PSTs' task selection, SCK index, and task patterns in lesson plans for teaching net/wall and individual sports in middle- and high school during their school placements. Methods A total of 81 units (i.e., 18 in net/wall and 63 in individual sports) consisting of 324 lesson plans from 81 PSTs (38 male, 43 female) from one physical education teacher education (PETE) program in Belgium were collected for data analysis. Units were developed for teaching net/wall sports such as volleyball (N=12), badminton (N=3), table tennis (N=2), and tennis (N=1); and individual sports such as gymnastics (N=34), judo (N=9), track and field (N=8), rope-skipping (N=8), swimming (N=2), and dance (N=2) in middle and high school. All units had a duration of four lessons. Task types and task patterns (i.e., the occurrence of different task types per lesson) in lesson plans were coded by trained coders. Data were analyzed descriptively and reported by means of proportions, totals, and means. Results A total of 364 tasks in net/wall sports and 1660 tasks in individual sports planned for the whole class in lesson plans were coded. The proportion of tasks PSTs planned per lesson decreased from lesson one to lesson four for both net/wall (30%-18%) and individual (28%-16%) sports. Extending tasks were planned most frequently (27% for net/wall and 36% for individual sports), while informing tasks reflected a proportion of 24% for net/wall and 19% for individual sports. 21% of tasks in net/wall and 29% of tasks in individual sports were planned more than once (i.e., repeated tasks). Mean SCK-indices were calculated and was 2.7 for both net/wall and individual sports. Conclusion. The planned content development of PSTs for teaching middle and high school students during school placement was similar between net/wall and individual sports. The short

duration of units (i.e., four lessons), the decrease of planned tasks per lesson throughout the units, the SCK index which was below 3.0, and the high proportion of repeated tasks highlight the need for PETE programs to support PSTs development of content knowledge.

Keywords: content knowledge (CK), physical education teacher education (PETE), instructional tasks, physical education

ID 354 Sixth-graders perceptions of swimming skills, and their participation in school and leisure-time swimming in Finland

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The Finnish national core curriculum for basic education includes objectives for pupils' swimming skills, and national surveys are implemented regularly to follow the changes in pupils' and citizens' aquatic skills. The aim of this study is to describe sixth-graders' perceptions of their swimming skills. In addition, this study examined their participation in school swimming lessons and reasons not to participate as well as leisure-time swimming, according to perceived swimming skills. The effects of the Corona pandemic are also investigated. Participants (N=1798) included 12-13-years-olds from 53 municipalities and 114 schools around Finland. The sample consisted of 856 girls (47.6%), 783 boys (43.5%) and 43 nonbinary genders (2.4%). The rest of the children (5.7%) did not want to reveal their gender. Data were obtained using self-report questionnaires. Swimming skills (according to the Nordic definition of at least 200 m, including 50 m on the back) were categorized as less than 10 meters, at least 10, at least 25, at least 50, and more than 200 meters. Differences between categories were examined using crosstabulation and Pearson's chi-square test, using the level of 0.05 for statistical significance. Approximately 55% of sixth-graders reported to be able to swim according to the Nordic definition. Moreover, the survey revealed gender differences showing that 60% of boys, 51% of girls, and 40% of nonbinary genders achieved the definition. The number of children able to swim according to the definition has clearly decreased from the previous survey: 16 percentage points in boys and 25 percentage points in girls. Children with better swimming skills participated more often in school swimming lessons than children with lower skills ($p < .001$). The most frequent reason not to participate was that

schools did not provide any swimming lessons (61%), mostly due to the Covid pandemic restrictions. However, lack of swimming skills, low desire or interest to swim, and feeling anxious about swimming or wearing a swimming suit were more often reported as reasons not to participate by children with poorest swimming skills ($p < .001$). Most skilled swimmers reported visiting swimming halls outside school lessons more frequently (at least once a month) compared to less skilled swimmers ($p < .001$). Least skilled swimmers reported more often ($p = .010$) that visits to swimming halls and spas had stopped completely due to the Covid pandemic restrictions. The results revealed a remarkable drop in sixth-graders' self-reported swimming skills. Children's perceptions of their swimming skills seem to affect their participation in school swimming lessons and leisure-time swimming. The Covid pandemic reduced both the amount of school swimming lessons and leisure-time swimming. Therefore, it can be assumed that a new generation of children with poor swimming skills is now growing. Actions to compensate the lack of swimming skills are needed to ensure water safety.

Keywords: Swimming, Aquatic skills, Children, Curriculum

ID 418 Cold water swimming: Teaching, Learning and Experiencing in Extreme Environments

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Background: The practice of cold-water swimming in natural environments is an increasingly popular activity, also amongst younger people. Whilst regular swimming does improve general fitness, anecdotal reports and academic research points to significant benefits in mental health and mental well-being, over and above those associated with fitness (Kelly & Bird, 2022; Massey et al., 2020) when swimming in cold water. However, sudden immersion in cold-water carries significant risks to health, such as hypertension, cardiac arrhythmia, cardiac arrest, and death! (Tipton et al., 2017). Therefore, the deliberate decision to face the very real risks from cold-water immersion, must be worth the benefits gained from the practice. Dealing with the risks of cold water swimming is now also increasingly the subject of sports teacher training at universities. **Aim:** In this study we want to explore the experiences, the risk management strategies and benefits gained from regular cold-water swimmers as well as students in "Extreme Environments" and P.E. Teacher training. **Method:** The study consists of two methodological parts: a) Following ethical approval, cold-water swimmers were recruited to the study. The 11 Participants of the

first part of the study swam year-round and were regularly exposed to sea or lake temperatures of 5 °C. To gain an insight into the lived experiences of the participants, unstructured interviews were completed. The data were analysed using the method described by Braun & Clark (2006); interviews were transcribed, coded, and themed in nVivo. b) Additionally, as a second part of this study, open field observations and personal descriptive reports from 9 students were collected in connection with ice swimming lessons in the study programme "Extreme Environments" at NORD university. Results: The participants of the first group were well aware of the potential risks to health from cold-water immersion but regarded the adventure experience in connection with the cold, but also the natural and visceral environments as manageable, giving a sense of mastery. Also, the "Extreme Environments" - students were eager to embrace the experiences and learning outcomes of the cold-water immersion. For some few of the students, the swimming experiences in cold water were more of a tool for improving their self-rescue skills, while others discovered the benefits also reported by the cold-water swimmers. They subsequently continued the cold-water swims on their own, if they haven't already practiced before. Conclusion: Cold water swimming carries with it significant risk to human health. However, cold-water swimmers have embraced that risk, and derive an emotional development characterised by mastery and fulfilment. The risks of cold-water swimming are mitigating to some extent, by a heightened awareness of how their bodies respond to the cold, and detailed management protocols for all stages of the immersion. References: Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101. Kelly, J. S., & Bird, E. (2022). Improved mood following a single immersion in cold water. *Lifestyle Medicine*, 3(1), e53.

Keywords: Cold -Water Swimming; Extreme Environments; P.E. and health teacher students; risk management

ID 405 Increasing competence and quality within education in water activities across the Nordic countries

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AIM FOR THE STUDY The Nordic Consortium for Education in Water Activity consists of representatives from all PETE in the Nordic countries (Norway, Sweden, Finland, Denmark, Iceland, and Faroe Islands). The aim of the study is to create consensus according to the operationalization of key concepts and measurement tools, as well as to provide insight into different cultural practices (education/training, leisure activities) within swimming education. There is a lack of research on aquatic skills within the literature on motor learning. Hence, there is no consensus on what is defined as to be able to swim and how to map swimming ability within and between different countries. The Nordic region has many similarities both within the school and education system, climate and culture. However, it seems that there are large differences in Nordic children's swimming ability and aquatic competence. However, existing reports have a number of methodological weaknesses as they are mainly based on self-reported swimming ability. The status is therefore that there is a lack of cross-cultural research of high quality that compare swimming competence in the Nordic countries.

METHODS 1. The Nordic PETE consortium will establish baseline data on the status of water competence and swimming ability in the Nordic countries; what do we know about Nordic school pupils' competence in water and factors that can influence this? This will result in the publication of a so-called Nordic Expert Consensus Statement which deals with an update on newer theoretical and methodological perspectives on learning and pedagogy within water activity training in primary school and teacher training. Empirical data will be based on analysis of curricula and framework plans (respectively within primary school and PETE training) and factors that can affect water competence and swimming ability (e.g., leisure activities related to indoor and outdoor swimming activities). 2. The Nordic PETE will conduct a cross-cultural pilot study to survey actual and perceived swimming ability among pupils in 4th-6th grade in Norway, Sweden, Finland, Iceland, Denmark and the Faroe Islands by the use of The Swimming Competence Assessment Scale (SCAS) (Sundan, Lorås & Haga, 2023). Such a pilot study will include assessment and translation of assessment tools (SCAS), training in test protocols, application for ethical approval across participating countries, etc.

SUMMARY OF RESULTS/KONKLUSJON By bringing together knowledge communities from all the Nordic countries, the project can contribute to consensus regarding the operationalization of key concepts and measurement tools as well as provide insight into various cultural and educational practices that promote or hinder the development of certain types of aquatic competence.

Keywords: Aquatic competence, swimming and lifesaving, PE teacher education, cross-cultural, expert consensus

ID 580 Validation of a Test of Common Content Knowledge in Front Crawl Swimming

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Introduction Swimming is a high stakes content area in physical education because of the risk of drowning. Therefore, swimming is included in the physical education curriculums of many countries. In the United States, standard 1.a of the National Standards for Initial Physical Education Teacher Education (SHAPE America, 2017) states that 'Candidates will describe and apply common content knowledge for teaching preK-12 physical education.' Common content knowledge (CCK) consists of knowledge about rules and etiquette, and knowledge about techniques and where relevant, tactics. CCK is a core knowledge domain that informs effective instruction in physical education and helps to guide curricular decisions in physical education teacher education (PETE) programs. To date, few instruments are validated and published that assess teachers' CCK in the domain of swimming. The purpose of this study was to develop a front crawl CCK test for preservice teachers and swim coaches of children under 13 years and to evaluate the validity and reliability of this test using Rasch modelling. Methods The study was conducted in Flanders, Belgium. Four content experts developed the CCK multiple-choice test consisting of 37 questions. There were 24 questions regarding technique and 13 regarding rules and etiquette. Four content experts, two physical education teachers and two youth sport coaches, reviewed the CCK test to establish content validity. Pilot testing occurred with a sample of 34 preservice teachers. The front crawl CCK test was administered to a sample of 196 preservice teachers coming from four physical education teacher education programs and youth swimming coaches. Rasch analysis was used to analyze the data. Results Overall results of infit and outfit statistics supported a good fit as well as unidimensional structure of the CCK test. The item difficulty of the items ranged from 2.15 (harder items) to 1.47 (easier items). The Wright map indicated that the difficulty of the items and person abilities were well distributed. The item separation index score was 5.24, which means that the test is sensitive enough to make a distinction between different levels of expertise. The person separation index score was 1.76 and person reliability score was .75. These

scores demonstrated that the sample that was selected to conduct this study was good. Conclusion The results indicated that the front crawl CCK test is a reliable and valid tool that can be implemented in PETE programs as well as for the training of youth sport coaches. The front crawl CCK test adds to the literature on improving teachers' and coaches' instructional effectiveness by defining a body of critical knowledge that can be taught and assessed. References SHAPE America. (2017). National Standards For Initial Physical Education Teacher Education. Reston, VA: Author.

Keywords: physical education; instruction; teaching; teacher education

ID 575 From critical thinking to critical doing: Pedagogic principles of critical digital health pedagogies in physical education

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Digital technologies play a significant role in how young people learn about health and physical activity and are increasingly used in the teaching of Physical Education (PE). Whilst recent research and education programmes advocate for critical approaches to these technologies, many of them remain framed by traditional socio-critical approaches focused on discourses and power relations. Although useful, they remain as a “critical thinking” that is disembodied, and reproductive, rather than productive of new learning opportunities through the moving body. This proposal examines the pedagogical possibilities of using new materialism to encourage more-than-human approaches to digital health learning that support alternatives ways of being and doing critical within PE. To do so, we present findings from the Digi-HealthPE study which aims to explore and pilot strategies co-created with PE teachers through professional learning workshops. We acknowledge that despite the growing body of work on new materialism and PE, an ongoing challenge remains on how to work with this theory in practice and with PE teachers. Thus, we will present a set of pedagogical principles which could guide how these pedagogies might look like. The process of designing the principles was a rhizomatic, complex experience of collaborative knowledge production which took us back and forth between PE practice, digital technologies, new materialist concepts, and our own knowledges,

experiences and affects. Specifically, we designed the following principles: 1) Learning with digital health technologies: the human-digital assemblage; 2) The affective intensities and capacities of learning with technology; 3) Criticality as an affective capacity; 4) Focus on opening possibilities through diffractive thinking; 5) The co-creation of knowledge through creative participatory methodologies. These principles act as entry points into the more-than-human knowing (Thorpe et al., 2021), functioning as “lines of flight” to new patterns of inquiry with transformative potential to destabilize the discursive-material conditions that shape normative understandings about digital health and open up opportunities for more generative approaches. To illustrate the application of these principles, we will also present PE practical activities developed in the workshops. This contribution is particularly relevant since little is known about how new materialist thinking opens opportunities to develop critical digital health pedagogies in different (embodied, affective, relational) ways. Furthermore, this is the first attempt to develop principles and activities to support physical educators to teach young people about digital health in this critical way. We will conclude with some reflections around the complexities, tensions and new exciting possibilities that emerge both for PE practice and research.

Keywords: Digital health, critical pedagogies, new materialism, embodiment

Physical literacy, Health literacy

ID 228 The Contribution of Youth Hockey on Children’s Physical Literacy: An Overview of U9 Hockey Players in Canada

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Introduction: Since 2019, the implementation of half-ice hockey for U9 hockey in Canada brought a shift of paradigm in the world of hockey’s largest federation. Despite such changes, which place enjoyment and physical literacy postulates at the forefront of Hockey Canada’s initiation programs, past research suggest that some coaches and parents still have some doubts in regard with the potential outcomes of such change. Objectives: This two-phase study aims to provide an overview of

youth hockey players in regard to 4 components of physical literacy: 1) enjoyment, 2) confidence, 3) skills and 4) physical active behaviors. The second objective is to compare player's physical literacy profile according to their level of play (recreational versus more competitive divisions). Methods: In phase 1, 53 players (95 % boys, Mage = 7.6 ± 0.6 years) took part to a test battery that assessed 4 components of physical literacy: 1) enjoyment, 2) self-confidence, 3) fundamental and hockey-specific motor skills, 4) physical active behaviours. Phase 2 consists of 322 players (7-9 years old across two levels of play) who completed a questionnaire during a jamboree tournament. The questionnaire measured enjoyment, self-confidence and physical active behaviors. Descriptive statistics and group comparisons were conducted. Results: In phase 1, enjoyment and self-confidence were similar in both groups. Hockey-specific skills ($d > 0.90$; $p < 0.001$) and fundamental motor skills ($d = 0.50$; $p < 0.50$) tend to be higher among players who evolve in more competitive divisions. Despite being involved in organized hockey, only 45% of participants attained the physical activity guidelines. In this regard players evolving in more competitive divisions tend to be more active (55 % versus 32%; $Z = 1.660$, $p = 0.097$). In phase 2, similar profiles in terms of enjoyment and self-confidence were observed. However, players from competitive divisions displayed lower scores in regard with parental support (90% versus 80%: $Z = 1.957$; $p = 0,032$), whereas recreational players reported having less confidence in their hockey skills (91 % versus 84 % : $Z = 1.816$; $p = 0,067$). In line with phase 1, physical activity behaviors were similar across both groups. The only significant difference was observed in the investment in deliberate practice, which was higher among for players evolving in more competitive divisions (58% versus 34%; $Z = 4.301$, $p < 0.001$). Conclusions: This study showed that enjoyment and self-confidence resulting from the U9 half-ice hockey experience is positive. Despite showing similarities in terms of socio affective and behavioural outcomes, this study suggests practical applications for stakeholders who put attention in improving the youth hockey experience.

Keywords: Ice hockey, Enjoyment, Confidence, Physical activity, Organized sport

ID 229 Much the Same or Radical Change? The Case for a Multi-Sectoral Approach to Quality Physical Education

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The overall aim of this qualitative research is to investigate the collaboration, relationships, leadership and network alliances of stakeholders who deliberately choose a multisectoral approach to the promotion and development of physical literacy (PL) and physical activity (PA) in schools. It should be noted that too often, these stakeholders typically work in isolation from one another (siloed) which means that the overall outcome of their efforts are shortlived and ineffective. Recently, a group of national (Canada) and provincial (British Columbia) healthy schools, physical education (PE), and PL champions, teachers, and expert stakeholders came together in 2019 for three and half years, to adopt a multisectoral approach to guide, advise, develop, and deliver a school-based health promotion prototype for British Columbia (BC) elementary K-7 teachers in schools, hereafter called the School PA and PL project or SPA-PL. The overarching research question that guides the study is: How are multisectoral partnerships developed, implemented, and sustained in the promotion and development of physical literacy (PL) and physical activity (PA) within schools? This research explores the SPA-PL stakeholders' perceptions of how successful or otherwise the SPA-PL project is as a multisectoral collaboration in supporting K-7 teachers in promoting and developing PL and PA within schools. Further, this research analyzes this multisectoral initiative with the goal of addressing gaps in the PA/PL literature: providing key insights into the elements required for a successful multisectoral approach in the promotion and development of PL and PA in schools. Data collection involved four stakeholders over a period of four years and includes individual interviews and document collection (e.g. interim tracking reports). Thematic analysis will be used to analyze the qualitative, open-ended stakeholder data collected which will be broken down into discrete incidents and/or units and coded into categories/themes for further analysis. This oral presentation will provide an overview of the current progress of the research including the results of a systematic and iterative synthesis of the existing literature on this topic (i.e., a scoping review), explanation and summary of data collection, initial data analysis, and tentative conclusions. The outcome of the scoping review reveals the following features: trust, leadership, collaboration and a whole of school approach to the promotion of health, PA and PL. The analysis of the data collected to date reveals four central themes that speak to the affordances and challenges of a multisectoral approach to the promotion and development of PA and PL in schools, specifically: (1) strong leadership and backbone organization, (2) establishing Technical Communities of Practice (TCOPs), (3) relationship building with partners and in community and (4) challenges and perceived barriers.

Keywords: multi-sectoral partnerships; physical literacy; Quality Physical Education; whole of school; collaboration

ID 237 An ongoing teacher professional development program to enhance critical health literacy pedagogies and assessment

Louisa Peralta (The University of Sydney), **Louisa Peralta** (The University of Sydney), **Claire Marvell** (The University of Sydney), **Claire Otten** (The University of Tasmania), **Kellie Burns** (The University of Sydney) & **James Barkell** (The University of Sydney)

Health literacy is an important asset for adolescents to develop through engagement in schooling and curriculum. The few studies that have focused on teachers, health literacy pedagogies and assessment, show that teachers find it difficult to enhance students' critical health literacy levels and to measure students' health literacy knowledge and capabilities using valid models. The aim of this study was to develop a longer-term PD program for secondary school teachers to enhance their ability to plan for critical health literacy learning and to co-design with teachers a curricular model for assessing health literacy. Two face-to-face (F2F) PD sessions and two online PD sessions were scheduled with three participating specialist Health and Physical Education (HPE) teachers, seven HPE programmes were deductively analysed using Nutbeam's health literacy hierarchy and the Australian Curriculum: HPE outcomes and content, with this analysis showing that interactive learning activities were dominant (64%), compared with functional (4%) and critical learning activities (4%). The co-designed curriculum model for measuring student health literacy was also developed for use in Australian schools. The resultant rubric is informed by Nutbeam's (2000; 2008) model, Broder et al.'s (2019) definition, and Bloom's (2001) taxonomy. To our knowledge, this is the first ongoing teacher PD program that has embedded co-design processes for teachers and researchers to design a curricular health literacy assessment model for Australian and international HPE programs. Practical considerations for implementing the rubric are discussed.

Keywords: health literacy, adolescent, health education, school, measurement

ID 242 Physical literacy and central concepts of German sport pedagogy - Past meets future?!

Michael Braksiek (University of Vechta) & **Petra Wolters** (University of Vechta)

Physical literacy is currently a subject of intense international discussion and has already made its way into educational policy documents. In Germany, the concept of physical literacy is also gaining increasing attention. However, on a theoretical and conceptual level, the construct does not appear to be clearly defined. In the discourse on the theoretical foundation and pedagogical legitimation (Whitehead, 2001), one can identify references to (philosophical) theories that have a long tradition in the German sport pedagogical discourse (e.g., phenomenology and holism) (Grupe, 1969). In comparison, Whitehead's concept and its interpretations exhibit unresolved issues that could benefit from ideas of German sport pedagogy. This hermeneutic study takes note of this observation and seeks to enrich physical literacy with two established and central concepts in German sport pedagogy: (Movement-)Bildung and multiperspectivity (Mehrperspektivität). The aim is to identify points of connection and commonalities with physical literacy and subsequently provide clarifications and differentiations for the discussion about physical literacy. From a bildung-theoretical perspective, movement-Bildung is considered a central goal of physical education in Germany (Prohl, 2010). Based on a phenomenological and aesthetic-theoretical examination of movement, as well as an analytical distinction between Leib (embodied self) and Körper (physical body) in the concept of movement-Bildung, the intrinsic value of movement, which is central to physical literacy, can be described in a differentiated manner. The concept of multiperspectivity, which is integral to all German PE curricula, is grounded in the presumption that individuals are driven by diverse motivations for engaging in sports, serving as a fundamental foundation for the subjective experience of meaning in sports (Kurz, 1977). Following this concept, access to sports(-culture) from various theoretically derived perspectives (e.g., impression, expression, performance) is shown and made experienceable with the aim of a holistic promotion of the students during PE. It becomes evident that German sport pedagogy, drawing from central concepts, can provide constructive input to the discourse on physical literacy. However, it must be noted, that German sport pedagogy has not yet managed to make its ideas visible internationally. But due to the common theoretical and philosophical orientations, Physical literacy represents a good opportunity for a constructive connection between well-established ideas from German sport pedagogy and the international discourse.

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Keywords: Physical literacy, Bildung, sports pedagogy, multiperspectivity

ID 239 A teacher professional development programme to enhance students' critical health literacy through school-based health and physical education programmes

Louisa Peralta (The University of Sydney), **Renata Cinelli** (Australian Catholic University), **Claire Marvell** (The University of Sydney) & **Rosie Nash** (The University of Tasmania)

Health literacy is a critical asset for adolescents to develop given its positive impact on health outcomes. The few studies that have targeted teacher knowledge and attitudes show that teachers themselves find it difficult to: navigate the multi-modal nature of health information; critically evaluate the different modes and texts; and apply health-related information in a variety of contexts. This research study aimed to address this issue through developing and implementing a teacher professional development (PD) programme for three Australian secondary schools and nine Health and Physical Education (HPE) teachers to improve health literacy, particularly critical health literacy, content and pedagogies embedded in current HPE programmes. Fifteen HPE programmes were analysed using Nutbeam's health literacy hierarchy and the Australian Curriculum: HPE outcomes and content, with this analysis informing a personalized PD programme. To evaluate how teachers experienced the personalized PD programme, interviews conducted at the completion of the PD programme were analysed using Braun and Clarke's thematic approach. According to the teachers, the PD had improved their knowledge and understanding of the three levels of HL, including how to implement it into their practice. The personalized nature was a key strength of the PD programme as it allowed for changes to be made in a time-efficient manner, a known challenge for teachers. Teachers recommended the provision of additional resources that foster students' critical health literacy levels and an additional session to ensure sustainable changes in planning and teaching practices.

Keywords: health literacy, adolescent, health education, school, prevention

ID 245 Health Promotion in Physical Education with Digital Media: Experiences and Assessments from the Perspective of School Students

Carolin Knoke (Karlsruhe Institute of Technology, KIT), **Alexander Woll** (Karlsruhe Institute of Technology, KIT) & **Ingo Wagner** (Karlsruhe Institute of Technology, KIT)

Since physical education, which in the past was characterized by movement and a move away from digitality, can benefit from the use of digital media by supporting and optimizing teaching and learning processes in the future (Gómez-García et al., 2016), the aim of this interview study was to find out whether and in what way digital media are used by physical education teachers in physical education from the students' perspective. To answer the research questions on pupils' assessments and experiences of health promotion with digital media in PE lessons, N=15 guided online interviews were conducted with pupils from different types of schools and analysed using MAXQDA with qualitative content analysis. The key questions related to the use of digital media in physical education by teachers, the thematization of health and health promotion with digital media in physical education. The technology acceptance model according to Davis (1986) served as the basis. The results show that students' experiences of using digital media to promote health in PE lessons are most frequently associated with videos, e.g. via tablets. Positive results were reported by the students for video feedback and also for online video workouts. However, with regard to the use of digital media in PE lessons, around half of the students surveyed stated that they had not used digital media in PE lessons at all. Expected or experienced difficulties were mentioned in connection with the unsafe use of technical media by the PE teacher. With regard to the TAM model, there is a lack of perceived user-friendliness and intention to use. To date, it is noticeable that PE teachers have hardly used digital media in PE lessons, and if they do, then only one-sidedly, and the topic of health promotion also plays a minor role in PE lessons. Digital media types such as apps, tablets and smartphones are particularly popular (Knoke et al., 2024). Data protection and image rights are problems when using digital media in PE lessons that can only be avoided through considered use in advance. The present study has the limitation that a comparatively small number of pupils were surveyed. In order to be able to use the advantages of digital applications with the aim of promoting health in PE lessons in the future, further research is needed to provide teachers with empirically tested tips for implementation. Davis, F. D. (1986). A technology acceptance model for empirically testing new end-user information systems: Theory and results. Massachusetts Institute of Technology. Gómez-García, G., Marín-Marín, J.A., Romero-Rodríguez, J.-M., Ramos Navas-Parejo, M. & Rodríguez Jiménez, C. (2020). Effect of flipped classroom and

gamification methods in the development of a didactic unit on healthy habits and nutrition in primary education. *Nutrients*, 12(8), 2210. Knoke, C., Woll, A. & Wagner, I. Health promotion in physical education through digital media: a systematic literature review. *Ger J Exerc Sport Res* (2024).

Keywords: Physical Education, Health Promotion, Digital Media, School Students, Physical Education Teachers

Physical activity in children's and adolescents' life

ID 230 Examining the mediating role of perceived motor competence and physical self-concept on children's motor competence and physical activity participation.

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INTRODUCTION Physical activity (PA) levels during childhood are increasingly lower and decline during adolescence, leading to adverse health effects. For this reason, it is important to understand the factors that influence the sustained practice of PA throughout the lifespan. The conceptual model of motor development places motor competence (MC) as one of the main mechanisms for promoting the practice of PA and vice versa. Furthermore, it proposes that perception of MC and health related to fitness act as mediating factors of this relationship in both senses. For this reason, the purpose of this study was twofold: (1) to analyze the direct relationship between MC and PA practice in both directions and, (2) to examine the mediating role of the perceived MC and physical self-concept (PSC) in this bidirectional relationship. **METHOD** A sample of 695 students (343, 49.4% girls) aged between 8 and 12 ages (9.49 ± 1.05) participated voluntarily. The participants completed three questionnaires on PA levels (PAQ-A), perceived MC (PMSC), and PSC (P-PSC-C); subsequently, they performed a MC test (CAMSA). A Mediation Analysis using Hayes Macro in SPSS was used to test the model with direct and mediational relationships (Model 4). Statistical analyses were controlled by gender and age. **RESULTS** The results revealed a full mediation, i.e., indirect positive relationship

between MC and PA bidirectionally. Regarding the first model, which represents the association MC-PA, no direct effect was found between these variables while the mediating variables showed a positive and significant effect, explaining 27% of the variance of the changes in the AF. In this sense, a direct effect was found between MC and the mediating variables (perceived MC: $\beta = .28$; PSC: $\beta = .23$, $p < .001$) as well as between those and PA (perceived MC: $\beta = .22$; PSC: $\beta = .33$, $p < .001$). Furthermore, the total indirect effect of MC on PA showed a positive relationship, supporting a total mediation through the perceived MC and PSC variables. Regarding the second model, that represents the impact of PA on MC, similar results were obtained. PA had no effects on MC in isolation. Only perceived MC showed a positive and significant effect with both PA and MC ($\beta = .41$ and $.15$, $p < .001$, respectively), explaining 30% of the variance of MC, but not PSC that only had a positive relationship with PA ($\beta = .46$, $p < .001$). Along these lines, the total effect of PA on MC showed a positive relationship, supporting a total mediation only through the perceived MC. **CONCLUSIONS** Self-concept seems to impact the bidirectional association between MC and PA, with perceived MC as the most impactful factor in this regard. Future interventions aiming to promote PA engagement might focus on fostering children's self-perception, specifically perceived MC.

Keywords: motor competence, self-perception, movement behaviour, adolescence.

ID 702 Adolescents reporting physical activity daily in surveys

Kwok Ng (University of Turku)

The World Health Organization updated the physical activity (PA) guidelines for children and adolescents to an average of 60 minutes of moderate-to-vigorous physical activity (MVPA) per day across the week. This update has created some challenges in measuring the rates of adolescents who meet or do not meet the guidelines. Furthermore, it makes it challenging to identify how much school sports and physical education can contribute towards the guidelines as time is averaged over the week. This study aimed to investigate how recalling the previous week's physical activities for each day compares to responding to a single item across the week and the association between a school week and a total week. In Spring 2023, students were recruited from a Finnish high school to complete a survey about physical activity behaviours. Students were asked to complete how much physical activity they did for each day of the last week, using a fixed response scale of 'none', 'less than 30min', '30-59min', '60-89min', '90-119min', '120-179min', '180-219min', and

'220min +'. They also were asked the number of days in the previous, and usual week where they participated in over 60 minutes per day. The time and days were recoded so that we could compute meeting the MVPA guidelines across the week. Pearson's correlations were used between the two measures. Chi-square tests were between a school week (Monday to Friday) to a total week. Analyses were stratified by gender. A total of 286 responses were collected (36% male). Based on these new measures, approximately half the males (47%), and fewer females (35%) met the guidelines of an average of 60 minutes/day of MVPA in a week. This is higher than the rates of daily 60-minute MVPA (males = 36%, females = 16%). As a scale from 0 to 7 days, the correlations between the two measures were stronger for females ($r = .72$) than males ($r = .63$). More males (89%) with an average of 60min of MVPA in a school week continued to have an average of at least 60min across the week, than females (79%). Asking survey respondents to recall the amount of time they participated in physical activity for each day in the last week requires a good recall ability. This method makes it possible to separate an average week into the school week and a full week. The correlations with the single-item question, which is used in many international surveillance studies, were strong for females and moderate for males. Moreover, participation during the school week was highly associated with an average for the total week. More testing on suitable survey items is needed. Although this evidence is helpful to understand the perceived levels and time of physical activity across a week. It is also a cost-effective ways to collect data against benchmarks, such as the WHO guidelines.

Keywords: measurement; surveillance; guidelines; benchmark

ID 240 Understanding the differences in boys' and girls' involvement in PE in French High school context: a bio-ecological approach.

Ornella Goldstein (Université de Strasbourg), **Christophe Schnitzler** (Université de Strasbourg) & **Lisa Lefèvre** (Université de Strasbourg)

The WHO recommends for adolescents 60 minutes per day of moderate to vigorous physical activity throughout the week, but most adolescents are insufficiently active. These rates were higher for girls (92%) compared to boys (82%). Physical education seems to contribute to these inequalities, as girls are less successful in physical education, have less interaction with the teacher, and experience activities that are often far from their somatic culture. The aim of this study is to outline the potential differences in engagement in physical activity during physical education lessons, and

to determine the extent to which these differences are influenced by the socio-cultural environment of the students concerned. We used Bauman's ecological model, as a theoretical framework. The study is based on a mixed methodology, combining quantitative measures (accelerometers, questionnaires) and qualitative measures (focus groups). The aim is to collect data from a large cohort in different settings: urban and rural, more advantaged, and less advantaged secondary schools, and different physical activities. Accelerometers were used to quantify girls' and boys' MVPA during a two-hour mandatory PE class, while a focus group served to hear girls' voices on what makes girls engage or disengage from PE. The target population for this study is French secondary school students aged 11 to 15. An initial data collection was conducted with 161 students (70 girls and 91 boys). This preliminary result allowed to find a significant gender effect ($p = 0.0019$) with girls having a lower percentage of total engagement in MVPA than boys. Also, our result showed that there was significant in CA 4 ($p < 0.05$), and a trend was outlined in CA 3 and CA1 ($p < 0.1$). The engagement in physical activity was higher in the most affluent areas, but detailed results showed that it was only the case for boy. Girls are also less involved in team sports compared to other activities. Surprisingly, the gap in PA was only significant in affluent areas. Whether this is a gender, or a CA effect remains unclear. Our focus group included only two groups of girls in affluent rural areas, characterized by good infrastructure, relationships between boys and girls, and where girls and boys had harmonious relationships and a good working atmosphere. Also, that when only one parameter changes -that is, the physical activity in affluent areas- this gap change increases significantly, which reveals the non-linear nature of those constraints on girls' engagement. These preliminary results confirm the existence of a gender gap in physical activity in PE, but also that this gap tends to disappear when the interactions between environment, physical activity task and interpersonal communication are favorable. However, more data needs to be collected to confirm these findings.

Keywords: engagement, physical education, gender inequalities

ID 256 The role of healthy lifestyle technologies in young adults' healthy active lifestyles

Jike Yang (Loughborough University), **Ashley Casey** (Loughborough University), & **Lorraine Cale** (Loughborough University)

Healthy lifestyle technologies (HLT) are widely used by young people but the long-term effect of these technologies on their physical activity (PA) participation and health learning is unclear. The aims of this study, therefore, were twofold. Firstly, to explore the perceived impact of HLT on young adults' PA participation and health learning, and secondly, to understand young adults' experiences of HLT use with regards their PA participation and health knowledge. The study adopted focus groups and individual interviews to generate rich, in-depth and detailed insights into young adults' HLT user experiences. The research was undertaken with university students, all of whom were from the UK and aged between 18-20 years. Two rounds of data collection were conducted between December 2022 - September 2023, with 23 participants taking part in the focus groups (mean age 19.6) and 11 taking part in the individual interviews (mean age 19.2). Eight participants were involved in both the individual interviews and focus groups. Data analysis was grounded in the guiding aims. An inductive thematic analysis approach was employed to analyse the data and the descriptions of the young adults' HLT user experiences. Three analytical themes, initially identified in the focus groups and then confirmed through the individual interviews, were conceptualised as: (1) Facilitators to HLT use: this theme explores how HLT served as a pedagogical tool to promote a healthy active lifestyle amongst young adults, and particularly in motivating and encouraging young adults' PA participation and health learning. (2) Barriers and concerns to HLT use: this theme represents the challenges and concerns that young adults had encountered when using HLT to support their PA participation and health learning. (3) Digital health strategies: this theme encompasses the strategies employed by young adults as they acted as critical users of HLT. The findings of this research indicate that the young adults regarded HLT as a pedagogical tool which supported their PA participation and health learning. They used HLT to 1) assist with and/or provide goal setting and feedback, and 2) enhance their health-related knowledge and 3) enhance their participation in a healthy active lifestyle. Although young adults had encountered various challenges in using HLT, they had persisted in employing digital health strategies and generally felt they had become critical HLT users. The strategies the young adults drew on were varied and were greatly influenced by their digital health literacy. The findings of this research emphasize the need to explore the role of physical education in developing young people's digital health literacy and in supporting them to become critical HLT users.

Keywords: Digital technologies; physical activity; health

ID 243 How is daily movement in schools (im)possible? A socio-material perspective

Håkan Larsson (The Swedish School of Sport and Health Sciences, Sweden), **Britta Thedin Jakobsson** (The Swedish School of Sport and Health Sciences, Sweden) & **Carolina Lunde** (University of Gothenburg, Sweden)

Swedish schools should offer students daily movement. However, this has proven to be challenging, especially at the secondary level. Sometimes, special efforts, so-called school-based physical activity interventions, are made to get students to move more. These primarily aim to change the students, not the schools. Evaluations of such interventions point to moderate to no changes in student behaviour. At the same time, there is a lack of knowledge about the socio-material conditions in schools that affect efforts to implement daily movement. Consequently, the purpose of this case study is to explore the socio-materiality conditioning possibilities for daily movement in schools. Data was collected at a strategically selected elementary school in Region Stockholm, Sweden. The school, in a sense, included "two schools in one", that is, one school profile with students from the whole region (which we call "visitors"), and one general profile with students from the local municipality (which we call "villagers"). Data consists of socio-demographic information from the municipality; field notes from six weeks' visits to the school; interviews with 18 students in year 7 (13-14 year-olds), and 14 staff; school schedule for grade 7 and; a map of the school. Life in the school is characterised in different ways by intentional and unintentional movement, and non-movement. Non-movement is mostly the norm, except in connection with so-called practical-aesthetic subjects (e.g., PE). Non-movement also occurs during recess, when students sit and talk to each other or play with mobile devices. Movement occurring outside of class time can be both unintentional, such as walking from classrooms, via student lockers, to new classrooms (necessary non-intentional movement), and intentional, such as playing ping-pong or basketball during recess. There are strong perceptions among students and staff that movement is healthy. However, opinions are divided about whether students are offered opportunities for daily movement. "Coolness" is among the students clearly associated with non-movement, especially among the villagers. The visitors, on the other hand, appear to be more positively disposed to participate in intentional movement (organised, adult-led movement). The study shows that the materiality of the school as well as the students' and staff's perception of daily movement varies and both favours and prevents daily movement. At this school, it seems as if it would be easier to work with daily movement in the form of unintentional movement, which few students have opinions about and which most devote

themselves to. Intentional movement, on the other hand, is something many students have opinions about, often in a negative sense, especially if it is organised and adult-led. This tendency seems to be stronger among the villagers compared to the visitors. Thus, educators must carefully consider meaning components when arranging intentional movement activities.

Keywords: Daily physical activity, secondary school, socio-materiality

Pedagogy and didactics in physical education

ID 177 Practising in physical education: A phenomenologically grounded study of student experiences.

Carl-Emil Marstrander Askildsen (Oslo Metropolitan University) & **Kenneth Aggerholm** (Norwegian School of Sport Sciences)

The study we will report on investigates 10th-grade students' experiences with physical education (PE) units informed by a pedagogical model called the practising model (PM) (Aggerholm et al., 2018). We apply a theoretical framework that integrates core concepts from phenomenology with empirical investigation of experience by focusing on structures of human existence, such as embodiment, intentionality, intersubjectivity, affectivity, and temporality (Køster & Fernandez, 2023). Based on qualitative data from observations of 21 PE sessions, 22 student interviews, and the students' diaries, we conducted a thematic analysis that produced three key findings: First, we look into the relational aspect of practising and discuss how three levels of intersubjectivity - primary, secondary, and narrative - affect students' experiences. Second, we investigate the bodily aspect of practising by discussing how a dialectic orientation between deliberation, conscious reflections, and embodied actions led to a creative and awakened goal-directedness that nurtured future-oriented and meaningful repetitions. This supported the development of new movement capabilities and helped students discover new ways of experiencing meaning in movement landscapes. Lastly, we address the emotional aspects of practising, where we found that affective modes such as excitement, joy, and uncertainty worked as affordances that provided direction and meaning. Uncertainty turned out to be the essential mode to handle for both students and the teacher. Agency, just right challenges, in-depth reflections, creativity, problem-solving strategies, felt

progress, and active repetitions over time emerged as crucial components for keeping uncertainty within the productive span. In short, the findings from this study qualify our knowledge of the experience of practising and throw new light on the process in which educative and meaningful experiences can grow from the practising of capabilities. References: Aggerholm, K., Standal, Ø. F., Barker, D. M., & Larsson, H. (2018). On practising in physical education: Outline for a pedagogical model. *Physical Education and Sport Pedagogy*, 23(2), 197-208. <https://doi.org/10.1080/17408989.2017.1372408> Køster, A., & Fernandez, A. V. (2023). Investigating modes of being in the world: an introduction to Phenomenologically grounded qualitative research. *Phenomenology and the Cognitive Sciences*, 22(1), 149-169. <https://doi.org/10.1007/s11097-020-09723-w>

Keywords: Physical education, practising, pedagogical models, phenomenology, meaning

ID 186 Sportfolio: design research for digital portfolios in secondary school physical education

Lars Borghouts (Fontys University of Applied Sciences), **Menno Slingerland** (Fontys University of Applied Sciences) & **Gwen Weeldenburg** (Fontys University of Applied Sciences)

The aim of the “Sportfolio-study” is to develop design principles and user guidelines for a digital portfolio to be used effectively in secondary school PE. Within this still ongoing research-project we use a participatory design approach including co-design methods, carried out in four phases: need identification, idea generation, development, and testing. It involves current users of a digital PE-portfolio, secondary school PE teachers who participate in co-design sessions and testing, experts in digital assessment technology and researchers who are experts in PE assessment. This abstract presents data from the need identification phase only. Forty current users of an existing digital portfolio smartphone app and 37 former users responded to an online questionnaire aimed at gaining a deeper understanding of teachers’ experiences with digital portfolios. Average PE teaching experience was 15 ± 2 yrs. The questionnaire included categorical, open ended and five-point Likert-scale answering options. Additionally, two focus groups interviews were conducted, aimed at formulating requirements and needs regarding a new digital PE portfolio. Ten secondary school PE teachers with an average teaching experience of 11 ± 3 years participated in these focus groups. Interviews were audio recorded, outcomes agreed

upon by the participants were written down. Questionnaire results show that the existing portfolio app is used in some, but not most lessons and mainly for summative assessment purposes. Current users mainly assess movement skills with the portfolio (98%), other goals include organizational skills (40%) and social skills (55%). The main drawbacks identified were: loss of physically active lesson time, smartphone distractions, time investment for teachers, and students not acknowledging the added value. According to the focus groups, prominent needs of PE teachers regarding the development of a new digital portfolio include: being able to monitor a variety of outcomes of PE (physical literacy), supporting pedagogy instead of being a goal on its own, replacing instead of adding to current assessment practices, documenting student growth over time, ownership for the student, containing rewards (gamification), factoring in student differences, not impeding personal contact. In addition, participants in both questionnaire and focus groups identified several needs for practical and technical use, such as adhering to privacy laws, being independent of internet connectivity, adaptability to specific student groups, time- and place independency, and the ability to use existing digital systems within the school. In conclusion, we have identified needs and requirements for digital portfolios for secondary school PE. Together with design principles from the existing literature on assessment and digital portfolios, this will allow us to co-construct prototype portfolios that will be tested in PE practice during the remainder of this research project.

Keywords: Assessment; portfolio; physical education; secondary education; digital

ID 192 To what extent can educational resources travel across different cultures? Teaching Games for Understanding model across the Atlantic Ocean, the case of Chile.

Carmen Barquero Ruiz (Physical Education and Sport Sciences Department, University of Limerick), **Alberto Moreno-Doña** (Escuela de Educación Parvularia, Facultad de Medicina, Universidad de Valparaíso) & **David Kirk** (Strathclyde Institute of Education, University of Strathclyde, Scotland)

All pedagogical innovations emerge from political and social contexts that strongly influence them. In the case of Teaching Games for Understanding (TGfU), the where was England, the when was the 1980s and the who were two Physical Educator Teacher Educators (PETEs) from Loughborough University. From the analysis of this context, we can sum up three issues that aided the development of TGfU that: (a)

there is a strong games tradition in England, (b) games are an important part of the school curriculum, and (c) physical educators worry about the pedagogical approach to teach games. The analysis of the Chilean context paints a different picture. Chilean Physical Education has historically been used as a medium to teach obedience, and games only became part of the curriculum as a further resource for promoting health and skilful players after Pinochet's dictatorship and the back to democracy in 1990. As result of this, the approach to teaching games has not been a topic of special interest in Chile. However, from the emphasis placed on expanding educational offerings, there are emerging discourses towards greater concern for quality physical education, focusing on the need to encourage student autonomy, problem-solving, critical thinking, and teamwork; abilities that the research literature amply associates with TGfU. Consequently, we aimed to explore to what extent could TGfU be a useful resource in the contemporary Chilean context. To do that, we developed three procedures. First, we studied Chilean PE curriculum and first and second authors developed five online meetings to further understanding and reflect on this curriculum. Second, first author was involved during one month in several face-to-face informal meetings (coffee breaks, lunches, guided visits, and dinners), formal meetings (department talks, teaching-learning development committee's meetings or course director final meetings) and organised events (seminar sessions and workshops) with Chilean physical educators. Finally, authors had three more online meetings to discuss the data collected and reflections made. After that, we developed a related content analysis of the data created from the notes made by authors/critical friends, transcriptions, and reflections made during the process. As a result, three key elements that influences the use of TGfU as an educational resource in Chilean physical education were identified: (a) Knowledge about these perspectives, (b) acceptance among the educational community and (c) applicability of TGfU in their day-to-day work. Reflecting on the subthemes included in each element and linking with theory we concluded that educational resources can travel between communities and forward innovation and good practices. However, it is necessary that the receiving community (in this case Chile) share the philosophy informing TGfU in the original context and that research and resources developed facilitate its adaptation in this very different context.

Keywords: TGfU, GBAs, Physical Education, Curriculum, Curriculum models, Teaching-learning

ID 193 Teachers' Perceptions of using pedagogical model(s) and Models-based Practice: A Systematic Mixed Study Review

Ashley Casey (Loughborough University) & **Lars Bjørke** (Inland Norway University of Applied Sciences)

This research aims to understand how teachers perceive key learning outcomes and challenges that arise from implementing pedagogical models and/or Models-based Practice (henceforth models) in physical education and to ascertain the perceived impact of these factors on their teaching experiences. We conducted a systematic mixed study review to identify, assess, and synthesise qualitative, quantitative, and mixed methods studies investigating teachers' perceptions of using models. Initially, 2298 studies were identified through ERIC, SPORTDiscus, Web of Science, and Scopus. After screening, 754 studies were assessed for eligibility, of which 92 papers were included. A descriptive analysis of the papers revealed that the most extensively researched models were game-centred approaches (23), cooperative learning (21), sport education (14), and teaching personal and social responsibility (12). The research encompassed a total of 4019 students, 2688 teachers, 23 teacher-researchers, and 11 boundary-spanners, with most studies conducted in a single school (N=53). Additionally, the research spanned primary (20), secondary (38), and both primary and secondary (15) education levels in 15 different countries, with Spain (24), the UK (18), and the US (9) being the most frequent contexts. In further analysing the papers, we used an inductive convergent synthesis strategy in which all extracted data were collectively synthesised using a thematic approach. This process led to the development of four analytical themes, three of which relate to teachers' subjective experiences of teaching through models, while one relates to their perceptions of students' key learning outcomes. (1) Practising democracy and pedagogical growth through models considers how teachers reported using model(s) to support their personal pedagogical growth which prompted them to create more democratic classrooms. (2) Aligning the models to the national and local curricula demonstrates the learning and challenges teachers perceived in contextualising models into both their local and national settings. (3) Challenging the current state through models delineates how teachers observed that the use of models enabled them to develop new practices that moved beyond their traditional way of practising PE. (4) Broadening student learning beyond the physical domain shows how teachers perceived a broadening of students learning beyond the physical domain when using models, particularly in the social and affective domains. To conclude, our findings extend previous systematic reviews on pedagogical models and Models-based Practice, offering a comprehensive view of how teachers

perceive models in physical education by emphasising changes in teaching and learning in different contexts. The findings challenge the established idea of the status quo in pedagogy and didactics in physical education and help us to see that change in practice is evident.

Keywords: models-based practice, pedagogical model, curriculum model, instructional model, models

ID 503 The lived experience of a primary physical education teacher educator engaging in action research: cycling into change

Suzy Macken (Marino Institute of Education), **Ann MacPhail** (University of Limerick) & **Antonio Calderón** (University of Limerick)

Introduction: This paper presents the lived experience of a practitioner researcher working as a teacher educator engaging in action research with primary pre-service teachers (PSTs) teaching physical education. Aligning with the work of Cook (2009) we argue that embracing and acknowledging the chaos and messiness of the process is essential to initiating change. Therefore, in making visible the often invisible actions and discomfort experienced this paper hoped to contribute as a catalyst for greater articulation of mess across research. **Objective:** to make visible the decisions and reflections that occurred during the multiple cycles of action research that were significant in the transformations that occurred throughout the study and subsequently the teacher educator's delivery of a primary physical education module. **Methods:** Employing a seven-phase longitudinal action research approach, this paper draws on data from the practitioner researcher's reflective journal maintained throughout the research and field notes based on participant observation. Data were analysed using thematic data analysis (Braun and Clarke 2006) **Results:** The challenges, complexities, and benefits of action research are discussed including the impact on the research study and the practitioner researcher's practice as a teacher educator in primary physical education. Making visible the challenges of being comfortable in the uncomfortable elements of data collection, in accessing the PSTs, and the multiple roles of the researcher throughout the research are discussed. **Conclusion:** This study is significant in highlighting the rigour and validity of action researchers and the depth of reflection that is engaged in throughout the process of facilitating change and transformation in practice. Furthermore, making transparent, and indeed visible, the reflections, actions taken, decision made, and the challenges practice-based researchers can experience as part of engaging in research forces us

to consider how our values and beliefs regarding PST programme delivery can be altered or enhanced through practitioner research

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Cook, T. 2009. "The Purpose of Mess in Action Research: Building Rigour Through a Messy Turn." *Educational Action Research* 17 (2): 277–291.

Keywords: Action research; practitioner research; complex; messy

ID 278 Adaptation, Systematisation, Justification – Teaching Practice in Skateboarding

Benjamin Büscher (TU Dortmund)

Theory Skateboarding genuinely provides an informal learning environment, where stereotypically adolescent, male and sportive practitioners acquire the competences of movement, spatial appropriation and style among themselves, or from scene-specific media (Borden). However, in the course of a rising differentiation of gender- and age-relations, as well as "sportisation" (Kilberth & Schwier 11), the original subculture has recently taken the shape of an Olympic sport, the subject of PE classes, or privatised offers such as "clinics, lessons, [or] academies" (Atencio et al. 228). Out of a pedagogical interest, the latter, less formalised, settings have been researched with regard to their spatial, temporal and social regulation, yet rarely in connection to the practice of teaching and learning.

Method In the course of an ethnographic field study, 45 visits to a weekly reoccurring setting, where experienced peer-teamers (n=6) teach a heterogeneous group of beginners (n=70), were made. A participant observation initially consisted of Skateboarding with the group, as well as the gradual immersion in its organizational and social patterns, which finally led to the opportunity of in-depth field interviews as familiarity among the participants increased. Following the grounded theory, a data set of 250 pp. observation protocols and 150 pp. interview transcripts was iteratively conducted and evaluated in a three step coding process (Corbin & Strauss).

Results Learning content from the original subculture has been openly coded as standardised tricks, established slang, or behavioural patterns, which all undergo a frequent adaptation with regard to the varying needs of the heterogeneous group of participants. On the background of the participants' omnipresent demand for Skateboarding, an ongoing practice of referential justification in the selection of culturally-specific content has been categorised from the perspective of a teamer. Open codes of reoccurring teaching methods

add up to the field specific practice of a methodical systematisation, that stands out in contrast to the genuinely informal learning mode. Discussion The axial categories are considered to be work in progress and need to be discussed with regard to their abduction and wording. The results so far point out an increasingly praxeological perspective that yet has to be combined with a re-contextualisation of the original reference culture – Skateboarding. Additionally, the field practices offer connections to more established pedagogical settings and practices (Kemmis). Sources Atencio, Matthew, et al. *Moving Borders*. University of Arkansas Press, 2018. Borden, Iain. *Skateboarding and the City*. Bloomsbury, 2019. Corbin, Juliet M., and Anselm L. Strauss. *Basics of Qualitative Research*. 3. ed. SAGE, 2008. Kilberth, Veith, and Jürgen Schwier. *Skateboarding Between Subculture and the Olympics*. Transcript, 2019. Kemmis, Stephen. *Transforming Practices*. Springer, 2022.

Keywords: Skateboarding Teaching Setting Praxeology Ethnography

Thursday 16th May, 2.30 p.m.

Physical education teacher education, professional development

ID 591 Conducting School-Based Research in Physical Education

Peter Iserbyt (KU Leuven), **Peter Hastie** (Auburn University), **Pamela Kulinna** (Arizona State University), **Jackie Lund** (Georgia State University) & **Hans van der Mars** (Arizona State University)

Just like K-12 teaching professionals, higher education faculty are expected to engage in continuous professional development. This symposium is intended to serve as an essential professional development opportunity for session attendees. It is our intention to discuss critical aspects of conducting school-based research in physical education for sport pedagogy researchers and PETE program faculty. By school-based research, we mean observational work or interventions that are conducted with teachers and/or students in schools (i.e., research on teaching). Prior to starting research in schools, researchers should outline the added value of the collaboration for principals, physical education teachers, and their students. Combining one's personal research agenda with meeting specific needs that schools or teachers have requires careful planning and discussion. Next, researchers should prepare the implementation of their research in schools and consider critical aspects related to ecological validity (i.e., does this research reflect a real-world setting?), internal validity (i.e., is the change in the dependent variable solely the result of the independent variable?), and social validity (i.e., how did the teachers and students 'like' the intervention?). All three types of validity can significantly impact the value and impact of school-based research. Regarding ecological validity, researchers could decide whether an intervention will be conducted by themselves, or whether they will partner with schools in professional development of teachers for the implementation. In terms of internal validity, some level of control over the independent variable should be demonstrated, which impacts the design of the study. Regarding social validity, researchers should recognize that if/when teachers or students do not like or see the value of the intervention, or find it feasible, the work will most likely stop once researchers leave the school. Finally, it is mandatory to get the approval from

the Institutional Review Board prior to starting the research and to consider ethical principles for school-based research (e.g., voluntary participation, the right to withdraw from the study). During school-based research, procedures should be put in place ensuring reliable data collected from teachers and students. These procedures can include live data collection (e.g., using systematic observation), audio- and videorecording, or both. Depending on the types of data collection, researchers need to make several critical decisions in terms of how, how much, and which observation instruments will be used. Finally, in addition to producing conference presentations and publish research papers, the results of the school-based research should be communicated to all parties involved and strategies should be put in place ensuring school support in the partnerships as well as a sustainable relationship with the schools.

Keywords: research on teaching; field-based research; Physical Education Teacher Education (PETE)

ID 292 (L)earning to Teach: Financial inequities facing trainee physical education teachers in England

Shrehan Lynch (University of East London), **Ashley Casey** (Loughborough University) & **David Maidment** (Loughborough University)

The aim of this research was to better understand whether the funding system for Postgraduate Certificate of Education (PGCE) Physical education (PE) trainees would have unforeseen and unintended consequences on their working practices. Specifically, if the lack of a government scholarship or bursary would necessitate students to take on additional employment (and therefore earn) whilst learning to be a PE teacher. An online survey that included both closed- (quantitative) and open-ended questions (qualitative) were employed. Participants were recruited through convenience sampling and the total number of respondents was 439 of which 82 (18.7%) were PE trainees. For quantitative data, all questions had categorical answers, with most requiring either a “yes” or “no” response. Using IBM SPSS Statistics version 28, crosstabs were performed to examine whether the frequency distributions differed between PE trainees and UK government subject clusters (e.g., English, mathematics/statistics, science) in relation to whether they were undertaking additional paid work during their PGCE course and/or were not in receipt of funding (e.g., tuition or maintenance fee loan, support from other sources [e.g., state benefits, friends, family]). Second, differences in relation to sample characteristics for PE

trainees who reported undertaking additional paid work during their course were examined. All differences were assessed using Chi-square tests (i.e., categorical data). Findings show that, compared to all other subject clusters, a significantly higher proportion of respondents training to teach PE (primary and secondary) reported working during their PGCE course, as well as accessed a tuition fee and/or a maintenance loan to pay for their studies ($p < .001$). Of those training to teach PE who reported undertaking additional paid work, a significantly higher proportion worked during holiday- and term-time weekends, mostly working between 1-9 or 10-19 hours per week ($p \leq .004$). At the end of the survey three free text questions allowed participants to provide written answers. Miles and Huberman's (1994) analytic actions were used to code the data inductively and deductively. Overall, it was found that many PGCE PE students "struggle[d] to survive" as the financial support available to them was not sufficient. For some, this meant living at home and drawing financial support from family and partners. For others, it meant "work[ing] alongside my degree and ...really struggle[ing] with the workload and working part time to pay for the necessities." Taken together, the findings suggest that many aspiring PE teachers are balancing learning with earning to "cover the cost of rent, bills and travel." This means they have had to make hard choices about which version of work to undertake at a given time which "for some people means working 7 days a week." As teacher educators we need to be mindful of the new demands on students and plan programmes accordingly.

Keywords: Funding, finance, preservice teachers, teacher education

ID 298 Antecedents of physical education teachers' motivational strategies in Central Europe

Agnes Csordás-Makszin (Hungarian University of Sport Sciences), **Christopher Spray** (Loughborough University), **Tamas Berki** (Hungarian University of Sport Sciences), **Pal Hamar** (Hungarian University of Sport Sciences) & **Istvan Soós** (Hungarian University of Sport Sciences)

Based on self-determination theory, the purpose of this study was to identify the antecedents of physical education teachers' use of motivational strategies that facilitate the satisfaction of students' psychological needs in PE. A multi-section questionnaire was administered to 376 primary and secondary school PE teachers, based in four countries in central Europe: Hungary, Romania, Slovakia and Serbia. Participants answered a series of questions measuring: 1. perceived job pressures, 2.

opportunities for professional development, 3. perceptions of student self-determination in PE, 4. teachers' psychological need satisfaction in their job, 5. teachers' self-determination at work, and 6. provision of autonomy supportive, structure, and involvement teaching strategies. Responses were made on 7-point Likert scales, which were analyzed using the Jamovi statistical software for structural equation modeling, path analysis method. The fit indices for the hypothesized model did not meet the criteria for acceptance. Theoretically justifiable post hoc modifications resulted in a good fitting model: CFI=0.929; RMSEA=0.086; SRMR 0.058. Teachers' perceptions of student motivation had both direct and indirect positive effects on their reported motivation at work, which in turn predicted their use of all three motivational strategies. Teachers' opportunities for professional development significantly predicted their need satisfaction at work which was positively linked with their motivation to teach PE. Contrary to expectations, negative correlations were found between involvement as a teaching strategy with autonomy supportive and structure behaviors. These results provide support for the theoretical tenets of SDT and underscore the importance of students' motivation in PE for teachers' own motivation at work. Findings also reiterate the importance of teachers' own motivation for their adoption of motivational strategies that are more likely to satisfy students' needs and enhance the quality of their motivation in PE. Similarities, but also some differences, were observed between the findings of the current study and previous research in western Europe and elsewhere.

Keywords: physical education, teacher motivation, Central Europe

ID 303 The puzzling nature of Physical Education Teacher Education

Declan Hamblin (Institute of Education - University College London) & **Alex Beckey** (St. Mary's University London)

This oral presentation will share findings from our study on the use of models and metaphors as two pedagogies of physical education (PE) Teacher Education and their impact on helping pre-service PE Teachers to think and act like a PE Teacher. Learning to teach is a complex undertaking, complicated by being a profession where the novice has already accumulated thousands of hours of experience before they begin. This acculturation contributes to the confusion, plus does not provide a sound understanding as to why teaching might look and feel the way it does (Kennedy, 2009). This is an ongoing piece of research where data is being collected throughout the course where student teachers create their own jigsaw puzzle -

revisiting them three times, plus record an interview regarding the choices within their jigsaw puzzle at the end of their programme. In supporting our student teachers to navigate this confusion, we use the metaphor of a jigsaw puzzle. We developed this tool in 2019-20 and continue to refine it. Lakoff and Johnson (1980) state that metaphors are the way in which we conceptualise and understand our experiences, allowing us to share them with others. They can be used in teacher education to help student teachers make sense of the messiness that is inherent in learning to teach PE. Assembling and aligning one's beliefs, thoughts and actions in the coherent manner that is needed for effective teaching is a persistent and challenging task, and the metaphor of the jigsaw puzzle can assist that process. In addition, we utilise modelling as a strategy to exemplify practice to novices, so that they can imitate it and use it in their own practice. We provide model jigsaw puzzles as a means of scaffolding critique and interrogation of practice, within both university and school placement (Loughran, 2013). References: Kennedy M (2009) *Inside teaching*. Cambridge, MA: Harvard University Press. Lakoff G and Johnson M (2008) *Metaphors we live by*. Chicago, IL: University of Chicago Press. Loughran J (2013) *Developing a pedagogy of teacher education: Understanding teaching & learning about teaching*. Abingdon: Oxon: Routledge.

Keywords: models, modelling, metaphors, jigsaw puzzle

ID 309 Pre-Service Teacher Perceptions of Teacher-Educational Assistant Collaboration in Physical Education

Hayley Morrison (University of Alberta) & **Jennie Burton** (University of Alberta)

The purpose of this research is to understand pre-service teachers' perceptions of the teacher-educational assistant (EA) relationship, in physical education (PE). With increased diversity in today's classrooms, EAs are quickly becoming a fundamental part of the educational team. The teacher-EA relationship is critical to improving student learning and establishing an inclusive classroom. To better prepare students for the practicalities of building collaborative relationships with EAs, we aim to uncover the knowledge, skills, and experiences of pre-service teachers. This on-going interpretive inquiry will fill the research gap and expand our understanding of how pre-service teacher education programs approach the development of teacher-EA collaboration. To date, 16 pre-service teachers participated in one-on-one semi-structured interviews, 6 of whom have previous experience working as an EA. To understand their unique position, 5 participants have volunteered to participate in a

focus group to delve deeper into their experiences and perspectives. The qualitative data collected (interview transcripts) have been analysed to develop themes. Early findings suggest pre-service teachers believe: (a) EAs have an essential role in the classroom to support management, (b) EA personalities can enhance or hinder both teacher and student relationships, (c) kindness and respect are central to collaboration, and (d) PE experiences with EAs are unknown and underrepresented. This presentation will: (a) suggest content for teacher education and PE programs and (b) identify scenarios to deliberate dilemmas and complexities that exist for teacher-EA collaboration to strengthen teachings and professional development in PE.

Keywords: pre-service teachers, teacher-educational assistant collaboration

ID 362 Co-creating a framework of inclusion in PE with Primary School Children

Sheryl Mansfield (University of Birmingham) & **Kyriaki Makopoulou** (University of Birmingham)

Inclusion in education is a global education priority (UNESCO, 2015). Research evidence suggests that whilst Physical Education (PE) teachers display a clear and consistent philosophical support for the idea of inclusion; attitudes towards the inclusion of students are mixed (Rekaa et al., 2019). Teachers also report lack of resources and appropriate professional development to support diverse learners effectively (Makopoulo et al., 2022). With inconsistencies about the meaning of inclusion at the level of research and practice, current research fundamentally excludes the voices of those who have the potential to inform teachers practices – the children. This presentation will outline the findings from a PhD research project which used student voice as the tool for teacher professional development. Drawing upon Messiou et al. (2016) work on Inclusive Inquiry, seven primary-aged children (aged 10 years old) from one school in England worked in partnership with their teacher and a researcher-as-facilitator to design an inclusive PE session. The children co-created a definition of inclusion and designed a framework to support inclusion within a PE session. This approach enabled the children to take ownership of the different aspects of the research cycle and implement their ideas. This presentation will outline how a framework of inclusion was designed and implemented in addition to the evaluations of the PE teacher and children involved in the designed PE session. References Messiou, K., Ainscow, M., Echeita, G., Goldrick, S., Hope, M., Paes, I., Sandoval, M., Simon, C & Vitorino, T. (2016) Learning from differences:

a strategy for teacher development in respect to student diversity. *School Effectiveness and School Improvement*, 27(1), 45-61. DOI: 10.1080/09243453.2014.966726 Makopoulou, K., Penney, D., Neville, R & Thomas, G. (2022) What sort of 'inclusion' is Continuing Professional Development promoting? An investigation of a national CPD programme for inclusive physical education, *International Journal of Inclusive Education*, 26:3, 245-262, DOI: 10.1080/13603116.2019.1647297 Rekaa, H., Hanisch, H. & Borgunn Ytterhus, B. (2019) Inclusion in Physical Education: Teacher Attitudes and Student Experiences. A Systematic Review, *International Journal of Disability, Development and Education*, 66:1, 36-55, DOI: 10.1080/1034912X.2018.1435852 UNESCO (2015) *Quality Physical Education Guidelines for Policy-Makers*. Paris: UNESCO

Keywords: Primary Physical Education; Inclusion; Professional Development; Student Voice

ID 443 To Build a Better Boomerang: Project-Based Learning in Physical Education Teacher Preparation

Paul Brawdy (St. Bonaventure University)

This presentation explores the use of project-based learning in a teacher preparation program to promote the essential skills and habits of mind required for evidence-based decision-making. Within the context of a biomechanics course focused on the needs of Physical Education and Sport Studies majors, this presentation recounts the systematic use of empirical methods by future teachers and sport professionals to conceptualize, develop and refine boomerang prototypes that demonstrate applications of the Bernoulli Principle using a common foil. Using simple t-statistics and thoughtful comparisons of differences in surface area over time, teacher candidates were challenged to answer two basic questions through their research: a) At what point does the difference between the surface area on the top of the foil and the bottom of the foil become significant in the boomerang's flight? And, b) at what point do the differences in surface area (between the foil's top and bottom) yield performances with diminishing returns? Instructional and empirical methods will be shared with the audience along with three years of observations by the instructor supported by limited examples of student work. The presentation is not an empirical study, but rather an example of an integrative instructional approach to develop the skills and habits of mind required for empirical study in Physical Education. The presentation will discuss project objectives, materials, timelines

and assessments used to measure performance outcomes as well as small group dynamics via peer assessment.

Keywords: Project-Based Learning, Physical Education Teacher Preparation,

ID 523 The impact of physical education teacher education on ball games teaching in Swedish physical education

Jan Mustell (Örebro University)

Research on physical education teacher education (PETE) has shown that the impact on future teaching in general has been limited. Suggested reasons why physical education (PE) teachers might not be able to specifically use their PETE ball games knowledge in practice include: (1) their general socialization as pupils in schools, which prevents them from using their PETE knowledge; (2) their socialization in sports clubs, which prevents them from using innovative pedagogies such as game-based approaches; (3) school contexts vary from PETE contexts, which makes transfer difficult. However, scholars propose that a better alignment between PETE and PE practice can improve the transition. This paper focuses on the reproduction of PETE knowledge in school physical education. The specific aim of the study is to examine beginning teachers' reflections on the reproduction of ball games knowledge in Swedish PE. Basil Bernstein's concepts of pedagogic device and re-contextualisation comprise the theoretical framework. Semi-structured interviews were conducted with 12 beginning teachers. The participants had graduated from two PETE institutions which provided slightly different ball games education. The teachers had between one and three years' teaching experience. The findings reveal that the teachers could reproduce some knowledge from PETE in practice relatively easily. Specifically, they claimed that they could work with: (1) different perspectives on ball games in PE to achieve different purposes and goals; (2) adaptation strategies to include all pupils and justify why these were important; and (3) a model for technical progressions of skills. The teachers stated that they could to some extent reproduce PETE knowledge on: (1) the use of several features of game-based approaches; and (2) the national curriculum in relation to aims and assessment. They suggested that they had difficulties reproducing PETE knowledge on: (1) socio-critical perspectives such as gender, intersectionality and ethnicity; and (2) learning theories. The teachers also claimed that PETE largely failed to provide sufficient knowledge on: (1) pedagogic planning of a work unit and teaching year; (2) preparation for realistic conditions regarding groups of pupils and facilities. The findings

illustrate how PETE has an impact on beginning teachers' teaching practices in ball games. The findings have implications for ball games education in PETE and how theory can be connected with practice. Finally, the findings suggest that teachers' socialization impacts their understandings of practice but in quite different ways.

Keywords: Physical education teacher education, ball games, Bernstein, transitions

ID 466 A critical discourse analysis of teacher negligence in physical education

Lise Porsanger (Oslo Metropolitan University), **Andre Horgen** (University of South-Eastern Norway) & **Petter Erik Leirhaug** (Norwegian School of Sport Sciences)

This study delves into the realm of court decisions, specifically focusing on tort law and the negligence of physical education (PE) teachers. Amidst ongoing debates surrounding the purpose and practice of school PE, this study explores how six selected court decisions from Norway construct teacher negligence. In PE literature internationally, court decisions serve as guides, offering recommendations to educational institutions and teachers to mitigate potential legal liabilities. This guidance encompasses various aspects, including risk management, planning, and the teaching of PE. This implies that court rulings might shape understanding and practice in PE. While courts are often perceived as impartial entities with the mandate to ascertain right from wrong, it is important to recognize that laws and case law inherently convey values and ideas, thereby shaping and legitimizing practices (Cheng & Machin, 2023). Furthermore, it is worth noting that tort law, primarily built upon case law, relies on the discretionary judgments of the courts (Kjelland, 2019). The exercise of discretion by the courts represents a crucial facet of their power. This study is a document analysis (Bowen, 2009) and strategically selects six Norwegian court decisions relevant to PE. The critical discourse analysis (CDA), as formulated by Norman Fairclough (2013), is applied to analyze these decisions. In alignment with our research question and chosen methodology, we conclude the presentation by discussing potential implications and how the CDA may open for critique of the courts. The CDA uncovers four discourses that construe negligence in PE. Within the discourse legal genre, institutions and identities are shaped, revealing the foundation of case law on teacher negligence. This discourse is interwoven with discourses of PE, risk, and norms of action. Collectively, the court decisions' construction of teacher negligence, compel educators to adopt a deductive approach with a primary focus on risk management and student instruction. The results give reason to consider the court

decisions in the light of the broader PE curriculum, also from an international perspective. Rather than assuming the court decisions as neutral and unassailable, the CDA offers an approach that can shed a critical light on the courts' use of language and potential unfortunate implications for PE. References Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative research journal*, 9(2), 27-40. <https://doi.org/10.3316/QRJ0902027> Cheng, L., & Machin, D. (2023). The law and critical discourse studies. *Critical Discourse Studies*, 20(3), 243-255. <https://doi.org/10.1080/17405904.2022.2102520> Fairclough, N. (2013). *Critical discourse analysis: The critical study of language* (2 ed.). Routledge. Kjelland, M. (2019). *Erstatningsrett – en lærebok [Tort law – a textbook]*. Universitetsforlaget.

Keywords: physical education; school; tort law; negligence; critical discourse analysis

ID 468 Closing the gap? Rethinking Physical Education Teacher Education (PETE) School Practicum

Tonje Langnes (Oslo Metropolitan University), **Jolanta Kilanowsak** (Oslo Metropolitan University), **Siv Lund** (Oslo Metropolitan University) & **Marc Esser-Noethlichs** (Oslo Metropolitan University)

This combined teaching and research project has the long-term goal of improving students learning outcome of school practicum in PETE. Previous research highlights the importance of coherence in teacher education, and that school practicum is essential for developing teacher's professional identity. The pedagogical value of school practicum is determined by its structure and content, and how students are prepared. Research highlights a 'gap' between the university and school practicum. While students often have unrealistic expectations and are in a vulnerable position during school practicum. In Norway, there are limited research about school practicum in PETE. Langnes(2023) highlights that students are insufficiently prepared and that the responsibility of what students experience are handed over to mentor teachers. PETE educators are often absent from school practicum, and the gap between the university and school practicum are maintained. We acknowledge that additional efforts are needed to support students' professional development as PE teachers. Drawing on a student-centered approach to teaching in PETE (OliverOesterreich2013), we argue for school practicums untapped potential to develop students' professional identities. The overreaching research question guiding this project is: How can student-centered teaching support students' professional

development during school practicum? The project has been designed to close the 'gap' and create coherence in PETE. This involves re-thinking how to support students' professional development before, during and after their three weeks of school practicum, spring 2024. The students are in their fourth semester of a five-year general teacher education program for the secondary level and have chosen PE as one of their three specialization subjects. As a combined teaching and research project, all 40 students will attend the same preparation and university-based teachings, however research participation is voluntary without any consequences. A qualitative approach drawing on student-centeredness using students' and PETE educators' reflections has been chosen. The PETE educators will work closely with students as they prepare for school practicum, provide debriefing sessions during school practicum, and engage them in written reflections about their own development as future teachers. Our research (Langnes2023) provided a deeper understanding of how PETE educators can facilitate students' motivation, learning and interest in school practicum. Our goal is to prompt further debate and discussion about how the PETE program support students' experiences of school practicum and how a student-centered approach in PETE can contribute to developing students' professional identity. Langnes(2023) Opening our eyes to student-centered practice: Learning from preservice teachers' experiences. Routledge Handbook. Oliver,Oesterreich (2013)Student-centred inquiry as curriculum as a model for field-based teacher education

Keywords: professional identity, student-centered, school practicum, physical education, PETE

ID 407 An examination of pre-service Physical Education teachers perceived and assessed levels of common content knowledge.

Brendan O'Keeffe (University of Limerick)

Background: Physical Education (PE) is now formally examined in Ireland as part of the Leaving Certificate. To the authors knowledge, no research has examined pre-service PE teachers common content knowledge (CCK) of the new Leaving Certificate Physical Education (LCPE) specification. Purpose: The primary aim of this study was to examine the relationship between pre-service PE teachers perceived competence (PC) and assessed levels of CCK. Secondary aims included examining the influence of demographic variables on perceived and assessed content knowledge

levels and exploring pre-service PE teachers' perceptions regarding their experience of LCPE pre-service teacher training. **Methods:** A mixed-methods approach including quantitative and qualitative methodologies was utilised. Participants were recruited from one PE teacher education institute in Ireland, and completed a perceived competence scale followed by an assessment of content knowledge of all 10 topics on the LCPE specification. Descriptive statistical analyses and inductive thematic analyses were used to analyse quantitative and qualitative data respectively. **Results:** In total, 30 pre-service teachers completed the assessment (female, 73%; undergraduate, $n = 15$; postgraduate, $n = 15$). Despite having higher levels of PC ($M = 60.1\%$, $SD = 11.2$), pre-service teachers demonstrated deficiencies in CCK, with a mean score of 24.1% ($SD = 7.7$). The highest CCK score was 51.3% . In total, 16 participants (53.3%) did not achieve a pass grade in the CCK assessment. Male teachers PC rating (63.3 , $SD = \pm 6.88$) was slightly higher than females' (52.8 , $SD \pm 11.20$). However, female teachers' CK examination score was marginally higher (31.0 , $SD \pm 8.8$) than males (27.7 , $SD = \pm 11.3$; $p = 0.41$). Postgraduate students' PC rating (58.46 , $SD \pm 10.27$) and CCK assessment score (33.08 , $SD \pm 9.24$) were marginally higher than undergraduates PC rating (52.72 , $SD \pm 11.41$) and CCK score (27.08 , $SD \pm 9.12$). ($p = 0.18$). Three major themes emerged from the thematic analysis of responses to open ended questions on participants experience of LCPE in their PETE programme: lack of familiarity with LCPE; need for a focus on CCK over pedagogical content knowledge. **Conclusion:** The findings of the current study demonstrated deficiencies in pre-service PE teachers CCK, despite higher levels of PC. There was little variation in both PC and CCK across key demographic variables including level of study and gender. More emphasis needs to be placed on CCK in pre-service teacher training programs.

Keywords: common content knowledge; Perceived competence; Pre-service Physical Education

ID 187 Physical Education teacher's attrition and experiences as novices

Magnus Ferry (Department of Education, Umeå School of Sport Sciences, Umeå University) & **Runa Westerlund** (Department of Education, Umeå School of Sport Sciences, Umeå University)

In similarity to many other European countries, Sweden has a severe problem with teacher shortage, also within Physical Education (PE). The shortage is due to a combination of high retirement rates, low recruitment levels to teacher education (TE),

high dropout rates from TE, and high attrition rates - especially among new teachers. Predictions from the Swedish National Agency for Education shows that 55 % of all secondary and 62 % of all upper-secondary PE teachers must be replaced before 2035. And given that only approximately 400 students enrol in PETE and only about 250 graduate every year, there will be a severe shortage of PE teachers in Sweden the upcoming years. In order to maintain high quality PE in Sweden, it thus becomes of utmost importance that the few teachers who graduate each year stay in the profession. Drawing on data from a larger longitudinal project investigating students enrolled at, and graduating from a Swedish PETE programme, the aim of this presentation is to provide insight into a group of PE teachers experiences during their first years in the profession. With a mixed method approach, this presentation draws on a combination of questionnaires (15 women, 23 men) and in-depth interviews (4 women, 5 men) answered by former students at least three years after graduation from PETE. The preliminary results show low attrition, with 89% of the respondents still working within the education sector, however, only 67% as PE teachers. Those still in school but not working with PE had mainly transferred to teaching another subject or received other assignments at the school (e.g., principal). Furthermore, the result show that they, in general, were satisfied with their initial career choice, were satisfied with the education during PETE, enjoyed working with pupils, and appreciated teaching PE. At the same time, most of them experienced the first period after graduation as challenging in several ways. Previously shown aspects among novice PE teachers such as reality shock, marginalisation, and isolation where all present. And how these challenges were met, experienced, and managed, largely depended on their previous experiences and the local conditions at their school. A couple of years into the profession, some of the teachers still experienced challenges such as isolation and marginalisation. Depending on the challenges novice teachers encounter, there is a risk that disengagement from the profession will occur prematurely and considering the severe problem with teacher shortage in Sweden we cannot afford to lose anyone. Thus, PETE have an important role in preparing preservice teachers for the realities of teaching and we argue that one purpose of PETE is to educate teachers who have the stamina to persevere in the profession.

Keywords: attrition, challenges, novice teachers

Coach education, professional development

ID 250 Promoting Executive Functions in Youth Soccer – An Empirical Study of the Effects of a Soccer-Based Intervention on the Executive Functions in Players aged 10 to 13

Malte Stoffers (University of Münster)

Executive Functions (EF) – including inhibition, cognitive flexibility, and updating – regulate our thoughts and actions, especially in situations that cannot be handled routinely. EF are related to various aspects of (everyday) life, such as success in school and at work, mental and physical health, and even addiction, crime, and violence (Diamond, 2013). Latest research on the relevance of EF in soccer suggests a link between EF performance and success, game intelligence, assists, and goal scoring (Vestberg et al., 2020). The project underlying this study aims to target the resulting synergy between conducting performance-oriented soccer training while also enhancing children's overall development by implementing a soccer-specific EF training into the regular training program. The EF training program was developed theory-based, reviewed by expert ratings, and tested in a pilot study. The study assesses the effects of the intervention program on the children's EF performance. A single-blind randomized controlled intervention study is conducted with children ($n = 308$) aged 10 to 13 years from 24 regional soccer teams in Germany. Half of these teams is allocated to the intervention group, implementing the cognitive training twice a week. The other half maintains their regular training program, i.e., functions as a control group. Prior to (pre) and after (post) the intervention program, the children's EF, their motivation, and their soccer-specific skills are assessed. Testing procedures include computer-based tasks (EF), questionnaires (demographics, motivation), and practical exercises (soccer-specific skills). Linear mixed models are used for statistical analyses. The pilot study shows a positive development of EF performance within the intervention group from pre to post. Players' scores on cognitive flexibility and updating tests show stronger increase than inhibition test scores. Further results are presented including statistical comparisons between intervention and control groups as well as the influence of baseline effects. The stronger increase in cognitive flexibility could result from many game forms in soccer involving cognitive flexibility, which, combined with the intervention, may lead to a comparatively higher training time. Low increase in inhibition performance may result from intervention's game forms basing upon cancelling action routines, whereas the used test

primarily assesses the suppression of interfering stimuli. Ecological validity, test limitations, and transfer possibilities will be discussed. Diamond, A. (2013). Executive functions. *Annual review of psychology*, 64, 135–168. <https://doi.org/10.1146/annurev-psych-113011-143750> Vestberg, T., Jafari, R., Almeida, R., Maurex, L., Ingvar, M., & Petrovic, P. (2020). Level of play and coach-rated game intelligence are related to performance on design fluency in elite soccer players. *Scientific reports*, 10(1), 9852. <https://doi.org/10.1038/s41598-020-66180-w>

Keywords: Executive Functions, Soccer, Intervention Study

ID 420 DigiFit: Supporting grassroots sports clubs to be Fit for the Digital Age

Fiona Chambers (University College Cork), **Briony Supple** (University College Cork, Ireland), **Laura-Maria Lehiste** (International Sport and Culture Association), **Jakob Breddam** (DGI, Denmark) & **Carole Ponchon** (International Sport and Culture Association)

Introduction Led by the International Sport and Culture Association, the Erasmus+ funded 'Fit for the Digital Age' (DigiFit) (2023 – 2025) examines how digital transformation and innovation are harnessed to build resilience and capacity in the grassroots sport and physical activity sector to make it #DigiFit. The five partner countries, Belgium, Denmark, France, Ireland, and Portugal, addressed Erasmus+ priorities of digital transformation through development of digital readiness, resilience, and capacity and to promote skills development of sport staff. The three objectives were: To tackle grassroots sport organisations' challenges in embracing digital innovation by identifying key issues, macro trends, and connecting the network with innovation and business sectors to share and confront ideas and develop new practices and methods; to unlock the sector's potential to champion digital innovation by developing capacity, skills, enhancing digital literacy and competences among sport staff and providing materials and adoptable tools; and, to strengthen international multi-sectoral collaboration by matchmaking grassroots sport organisations with digital solution providers, boosting internationalisation through peer-learning, international networking, and political advocacy. Method There are three iterative stages of data collection and analysis: An online survey (2023) to investigate the digital fitness of grassroots clubs, followed by a design thinking bootcamp and incubation programme (2024). The online survey was curated and distributed in four languages (Danish, English, French and Portuguese) to grassroots sports clubs in four countries across Europe (Denmark, France, Ireland and Portugal). Online survey

results were analysed using descriptive statistics. Results Analysis of the survey revealed five areas of focus: 1: Infrastructure management: 2: Flexible memberships 3: Recruiting new members and/or volunteers: 4: Digital gadgets use in sports activity 5: Servicing members. Following this, ten grassroots sports clubs in ten European countries self-selected to participate in a multistakeholder design thinking bootcamp (in January 2024) to develop a digital solution to a chosen problem from the five areas of focus. Teams then entered an incubation programme (March – September, 2024), matched with a sports technology solution provider and each under the guidance of an expert sports-technology mentor to test and scale their digital solutions. Conclusions The demographic of volunteer-led grassroots sports points to an aging population with many uncomfortable with digital solutions. It is key to empower volunteers and to co-design workable digital solutions for their context. In addition the grassroots sport sector faces a decrease in participation and decreases in long term volunteer engagement. Being digitally fit in these areas could help build the resilience of the sector which includes afterschool clubs.

Keywords: design thinking; incubation; volunteers; sport technology

ID 548 Views of sports talent development: the voice of participants in short track speed skating

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Successful youth development program is the product of a systematic process and it is constructed on a long-term development framework. Instead of win at all cost at early ages, it emphasizes the process of cooperation, planning and preparation (Way et al., 2007). Effective talent development programs require an environment that supports both the athletes' sport and personal development (Henriksen & Stambulova, 2023). It is a major concern to build a strong relationship among athletes, parents, and coaches. The purpose of this study was to explore the main issues of talent development of Short Track Speed Skating Federation's (STSF) documents and to compare the beliefs of coaches, athletes, and parents on the characteristics of a talented athlete. In the course of the research, there was a document analysis of the STSF strategies, long-term plans, regulations, and educational guides (n=5).

The data collection also included questionnaires (Likert scale 1-4) aiming to find out the beliefs and experiences of all members of the STSF community, including certified coaches (n=26), athletes (n=69), and their parents (n=69). The document analysis involved qualitative content and thematic analysis. For the questionnaires descriptive statistics, ANOVA, Fisher LSD Post-hoc test, and discriminant analysis were applied. According to the results, the STSF documents include only general information on talent development and management. Furthermore, little focus was directed on the specificities, the role of the environment and athletes' personal development. Participants believe that success in adulthood is the most important goal ($3,68 \pm 0,48$), it frustrates talented competitors if they do not perform as they expected ($3,63 \pm 0,70$), and talented competitors strive to live up to their coach's expectation ($3,51 \pm 0,75$). According to discriminant analysis, there were differences among coaches, athletes, and parents in the following variables: talented competitor strives to live up to his coach, the successes achieved during the youth ages are the most important, and talented competitors strive to live up to their training partners ($p < 0,05$). Hence, STSF documents do not serve the purpose of supporting talent development management in a meaningful way. There are major differences among the participants in regard to their beliefs on the characteristics of talent. It would be important to strengthen the educational and future-oriented tasks in all documents and give more emphasis on formal and non-formal education, cooperation, communication, and common goal-setting practices for all members of STSF community. Henriksen K and Stambulova N (2023). The social environment of talent development in youth sport. *Front. Sports Act. Living* 5:1127151 Way, R., Balyi, I., Higgs, C., Bluechardt, M., Cardinal, Ch., Higgs, C., Norris S., & Grove J. (2007). A sport parent's guide: In: *Canadian sport for life: Long-term athlete development*, Canadian sport centres, Ottawa

Keywords: talent management, beliefs, education, short track

ID 571 Factors Influencing Talent Development of Junior Soccer Players in Sport Academies: Focus on Coaches and Parents

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Soccer academies are responsible for the comprehensive development of young athletes including schooling, boarding, and preparation for tournaments. The development of junior soccer players in sport academies is a multifaceted process that involves numerous factors, with the roles of coaches and parents being central to the players' progress. Henriksen et al. (2010) emphasize a holistic ecological approach to talent development that focuses on the broader developmental context. The Athlete Talent Development Environment (ATDE) is a framework for describing a particular athletic environment and for clarifying the roles and functions of the different components and relations within the environment in the talent development process. Based on ATDE, this study aimed to discover the coaches' and parents' perspectives on the key internal and external factors that influence the development of young soccer talents. Questionnaire data were collected from 79 coaches and 326 parents of U-15 through U-19 soccer players across eight soccer academies located across four Central-Eastern European countries (Hungary, Romania, Slovakia, Serbia). Questionnaires presented 33 Likert-scale type questions organized around four dimensions to include internal, professional/sport, family/school. Results indicate that both coaches and parents emphasized the importance of internal, professional/sport, and other external factors in soccer talent development. Coaches ranked cognitive, psychological, pedagogical, and moral role modeling factors higher than parents ($t=2.450$; $p=0.015$). Parents gave higher priorities to the importance of the team's results in the championship, school results, and financial support from the family ($t=-4.827$; $p=0.000$). Overall, coaches' beliefs lay upon professional conduct, expectations of the profession and the academy, while parents focus on supporting their children's school and sport successes. An ongoing cooperation between parents and coaches is critical to bring positive changes in the development. The results of the present study indicate that both coaches and parents emphasized the importance of internal, professional/sport, and other external factors in soccer talent development. Coaches' knowledge, pedagogical and psychological aspects were also highlighted, but team's result was not. Moral and psychological support from family was considered an essential part of the talent development process, while school results, financial support and cultural background of family were not factors perceived as highly valued. As related to other external factors, lifestyle, supportive club and facilities, and equipment were greatly emphasized, but luck, role of manager, and professional contract had low scores from both coaches and parents. Henriksen, K., Stambulova, N., & Roessler, K. K. (2010). Holistic approach to athletic talent development environments: A successful sailing milieu. *Psychology of Sport and Exercise*, 11(3), 212–222.

Keywords: soccer, youth talent management, soccer club, academies

ID 456 Coaches' perceptions of using a pictorial questionnaire to assess physical literacy in First-Nation Australian children in regional and rural areas

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& **Lisa M Barnett** (Institute for Physical Activity and Nutrition, Deakin University)

Background: Physical literacy is critical to children's overall development. It encompasses the physical, psychological, social, and cognitive skills relating to physical activity participation. The Physical Literacy in Children Questionnaire (PL-C Quest) is the only valid and reliable pictorial tool aligned with the Australian Physical Literacy Framework (APLF) designed to measure children's physical literacy. The present study aimed to explore the perceptions of football coaches working in regional and rural Australia regarding the perceived feasibility, practicality, and utility of using the PL-C Quest in their practice. Methods: The PL-C Quest depicts an orange bunny-like cartoon character performing various activities in 30 scenarios with accompanying statements. Each scenario matches one element of the APLF and includes one image showing a proficient execution of the activity and another showing a developing execution. For each scenario, children are asked to indicate the images that are more like. In collaboration with the Moriarty Foundation – John Moriarty Football (JMF), we recruited nine football coaches (n = 5 females; 56%) involved in the administration and/or delivery of after-school JMF sessions in a regional town and a rural area. Coaches' perception of the PL-C Quest was collected between March and October 2022 through qualitative semi-structured focus group discussions. Discussions were audio recorded, transcribed verbatim, and thematically analysed using NVivo 14. Results: Coaches found the tool to be generally useful to assess children's own perceptions beyond the physical domain. They showed interest in using the PL-C Quest to understand how children view on their own psychological skills (e.g., confidence and self-regulation), social skills (e.g., ethics/sportsmanship and collaboration) and cognitive skills (e.g., tactics). All coaches preferred the online administration of the PL-C Quest (via iPad) over the paper version, because of practicality and potential appeal to children. Coaches also identified further benefits in using the PL-C Quest to assess the impact of their program and to identify areas in which children appear to be lacking, which can be useful to inform future planning. Conclusion: This study findings suggest that the PL-C Quest could be useful to evaluate the impact of coaching programs. Coaches may use this tool to identify areas where

children need improvement, which may inform program planning for better outcomes. Future studies will need to investigate the actual use of the PL-C Quest in practice. Conflict of Interest Statement The authors declare no relevant conflict of interest in relation to this work. We acknowledge the time from Mr. Jamie Morriss and Mr. Raihan Anwar from the Moriarty Foundation in supporting this project. The Moriarty Foundation operates the JMF program and is Australia's longest-running and most successful Indigenous football initiative for 2–18-year-olds.

Keywords: coach; tailored programs; pictorial scale; Indigenous; self-report

ID 110 Beginning teachers' need satisfaction and need frustration: a qualitative study to optimize teacher induction

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The transition from education to teaching in schools is highly challenging for beginning teachers, as they may struggle with classroom management, extensive paperwork, getting acquainted with the school culture, and becoming part of the school team. This can lead to teachers' early dropout which is a major societal concern. Therefore, teacher induction, a formal or informal teacher's professional development during the early years of their career, is crucial (Keese et al., 2023). A recent meta-analysis revealed that teacher induction increases beginning teachers' job satisfaction and leads to better performance (Keese et al., 2023). Also the collegial support network (the supporting relationship between the beginning teachers and mentor, subject colleagues, school leaders, pedagogical supervisors, and peers matter; Thomas et al., 2019). However, less is known about how teacher induction and its collegial support network, can support beginning teachers in the most effective way. In the present study, we examine beginning teachers' experiences using the Self-Determination Theory (SDT; Ryan & Deci, 2000), hereby providing insights into teachers' need-based experiences with teacher induction. Indeed, SDT (Ryan & Deci, 2000) can be helpful, as it stresses the importance of experiencing basic psychological need satisfaction for personal growth and development. Hence, the main aim of this qualitative study is to examine whether beginning teachers' teacher induction and the collegial support network may support or frustrate the need for autonomy, relatedness and competence. To answer this research question, 40 semi-structured

interviews were conducted with beginning teachers (28 in Physical education). Within a sample of 40 beginning teachers, we found that beginning teachers receive the most autonomy, relatedness and competence support from their mentor by receiving feedback and class visits. Also support from their subject colleagues and peers in terms of exchanging teaching materials. The school leader seems to frustrate autonomy and relatedness when creates job insecurity and is less accessible. The mentor can sometimes frustrate the need for competence when he is not teaching the same subject. In addition, this study shows that future research should focus more on developing tailored teacher induction. Further implications will be discussed. Keese, J., et al. (2023). "A Worthwhile Endeavor? A meta-analysis of research on formalized novice teacher induction programs." *Educational Research Review* 38: 100505. Ryan, R. M., & Deci, E.L. (2000). Self-Determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. <https://doi.org/10.1037/0003-066X.55.1.68>. Thomas, L., Tuytens, M., Moolenaar, N., Devos, G., Kelchtermans, G., & Vanderlinde, R. (2019). Teachers' first year in the profession: the power of high-quality support. *Teachers and Teaching: Theory and Practice*.

Keywords: novice teachers, teacher induction, mentoring, need satisfaction and frustration, Self-Determination theory

Physical literacy, Health literacy

ID 546 Developing physical literacy awareness of pre-service physical education teachers

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Although studies on physical literacy have been going on for years, there is still a lack of clarity about this concept. It is also found that teachers with little or no background in physical literacy may find it challenging to develop and assess students' physical literacy. In teacher education programmes developed for the preparation of future educators, research must be conducted to cultivate concepts, feelings, perspectives, and beliefs that support the notion of physical literacy. The aim of this

study was to investigate the awareness of the students of the physical education teacher education programme during their participation in the physical literacy programme. The participants of this action research study consisted of 33 physical education teacher education students (maximum variation sampling), one student researcher as a peer mentor, and an academic advisor. During the 14-week programme, data were collected through students' retrospective physical literacy stories, digital diaries, interaction records between participants (via Discord and Instagram), and individual interviews. All data were analysed by constant comparison and content analysis. It was revealed that physical education teacher education students started to question their perceptions of physical competence, started to value being physically active by diversifying physical activities in their lives through physical literacy, and started to take an active role in the mobility of their social environment (siblings, family, friends, etc.). Since this study was carried out during the distance education process, the students had difficulties especially in maintaining the physical competence dimensions and motivation dimensions. In this process, online mentoring strategy was applied with the participant researcher. As a result, this study provides evidence that physical education teacher education students begin to value being physically active as they gain a physical literacy perspective and that the physical literacy approach effectively directs other individuals to be active while preparing for the teaching profession.

Keywords: physical education teacher education programme, physical literacy, physical literacy awareness, pre-service physical education teachers

ID 178 Physical literacy interventions: a research program from the design, reporting, and effectiveness to their implementation in Europe

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The fields of physical education, physical activity, and sport aim at empowering individuals for engagement in physical activities. The concept of physical literacy (PL) adopts a holistic understanding of active lifestyles by integrating (at least) physical, cognitive, and affective requirements for lifelong physical activity. The goal of this sequential research program was to specifically address gaps in the PL literature with respect to the design, reporting, effectiveness, and implementation of interventions across the globe (and Europe, in particular). Study 1: In an initial systematic

review guided by the PRISMA guidelines (PROSPERO CRD42020188926), we examined PL interventions (n=46) in regard to their delivery and provided content. The analyses of intervention content revealed an imbalance in the consideration of the physical (87.2%), cognitive (59.0%), and affective domains (43.6%), thus highlighting an insufficient transfer from the holistic assumptions of PL. Study 2: To counteract this lack in quality, we developed a PL interventions reporting template (PLIRT) based on the guidance for the development of reporting guidelines. The Delphi exercise yielded a total of 14 items (categories: title, background/definition, assessment, design/content, evaluation) to inform future PL studies for better reporting. Study 3: Moreover, we performed meta-analyses with all controlled interventions (n=24) to examine their effect on relevant outcomes. Despite the theoretical quality, PL interventions entailed significant effects on all extracted outcome categories, including the physical domain (g=0.90), aggregate PL scores (g=0.61), the cognitive domain (g=0.54), physical activity levels (g=0.39), and the affective domain (g=0.30). Study 4: A subsequent mixed-methods study (document analysis, quantitative survey) with experts from 25 European countries analyzed the implementation of PL in research, practice, and policy. We ascertained that physical education curricula frequently list PL elements but rarely mention the concept explicitly. While practical initiatives increasingly identify a potential in PL, the concept has merely been found in national health documents. Study 5: As Germany also scored low in implementation of PL, I next led a multi-phase intervention study (two pilot cycles plus, one controlled main phase) to gather first insights into the practical use of the concept in Germany. I deliberately chose the more flexible extracurricular times at primary schools (grades 3-4) for initial testing. The pilot cycles uncovered multiple challenges with the school setting and for the concept itself but underlined the value of an auto-ethnographic approach from the main deliverer's perspective. Study 6 and Discussion: In a mapping study, we finally identified important "blank spots" in the literature. From a meta-perspective, future analyses should identify moderating mechanisms in the effectiveness of and adherence to PL interventions.

Keywords: Physical education, physical activity, health, physical literacy, intervention

ID 276 Enhancing Physical Literacy in Specialized Institutions: Navigating Challenges and Embracing Opportunities

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The introduction of physical activity and the extension of 30 minutes of daily physical activity for the 110,000 children and adolescents in specialized institutions in France is a very recent development. Although physical activity has already found its way into programs in various forms, its sustainability and implementation remain fragile, as evidenced by the IGAS report N°2022-088R on the implementation of daily physical activity in institutions for disabled children in France. To date, very little work has been done on physical activity for young people with disabilities in specialized settings, even though the benefits of PA are considered essential for the development and well-being of young people. The last decade has been marked by emerging work in physical literacy and inclusive education (Agiovlasitis et al., 2018). Yet recent research has shown that understanding of PL (Whitehead, 2019) reflects the normative standards of those without disabilities. This perspective leads to practices that validate ableism (Pushkarenko et al., 2023) and reduce young people's perspectives of choice and singularity. We still need to understand how directors of specialized establishments conceive and facilitate the implementation of sports and artistic practices within their institution. We seek to identify facilitators and challenges. The ability of everyone to embark on their own physical literacy journey is one of the key tenets of physical literacy. However, it can be a daunting task for educators and leaders of institutions who still have a responsibility to create universally accessible physical literacy opportunities to develop or adapt a program to be disability inclusive. In this presentation, in order to paint a picture of the situation and to understand how PA is viewed through the socio-ecological framework (Bauman, 2012), we try to present an initial exploratory study conducted with different directors of specialized institutions in France.

Agiovlasitis, S., Yun, J., Jin, J., McCubbin, J. A., & Motl, R. W. (2018). Physical activity promotion for persons experiencing disability: The importance of interdisciplinary research and practice. *Adapted physical activity quarterly*, 35(4), 437-457.

Bauman, A. E., Reis, R. S., Sallis, J. F., Wells, J. C., Loos, R. J., & Martin, B. W. (2012). Correlates of physical activity: why are some people physically active and others not? *The Lancet*, 380(9838), 258–271. [https://doi.org/10.1016/s0140-6736\(12\)60735-1](https://doi.org/10.1016/s0140-6736(12)60735-1)

Pushkarenko, K., Causgrove Dunn, J., & Goodwin, D. (2023). The Meaning of Physical Literacy for Instructors of Children Experiencing Disability, from an Ecological Systems Perspective. *Children*, 10(7), 1185.

Whitehead, M. (2019) Definition of physical literacy—Development and issues. In *Physical Literacy across the World*; Whitehead, M., Ed.; Routledge: Abingdon-on-Thames, 8–18.

Keywords: Physical activities, specialized establishments, disabilities, physical literacy

ID 319 Children and adolescents' perceptions of physical literacy

Elaine Murtagh (University of Limerick), **Sinead Connolly** (Ulster University), **Hannah Goss** (Dublin City University), **Orlagh Farmer** (University College Cork), **Sarahjane Belton** (Dublin City University), **Marie Murphy** (Ulster University), **Kyle Ferguson** (Ulster University) & Wesley O'Brien (University College Cork)

Background: In recent years, physical literacy for children and adolescents has become increasingly relevant to physical education, physical activity, and sports promotion. However, children's voices are often underrepresented in research and practice relating to physical literacy. The purpose of this study was to explore what children and adolescents in Ireland convey, using their own voices, about physical literacy, sport, physical education and physical activity experiences. **Methods:** A narrative scoping review was conducted using a 5-stage framework, described by Arksey and O'Malley (2005). The search strategy included qualitative studies published from 2010 to 2020, conducted on the island of Ireland with 3–18-year-olds that provided their voices/attitudes towards sport, physical activity and physical education. Data was synthesised using thematic analysis. **Results:** Twenty-six studies met the inclusion criteria. Five themes were identified: 1) Influence of social support on physical activity motivation and behaviour, including peer influence and the influence of significant others; 2) Fun and enjoyment; 3) Variety, autonomy of choice, and personally relevant activity content; 4) Competition, appropriate challenge and recognition of effort; 5) Barriers/discouraging factors to participation, including time constraints, cost, self-confidence and motor competence. **Conclusions:** Based on the insights gained from this study, specific physical literacy promotion strategies which are meaningful to children and adolescents from Ireland and Northern Ireland are proposed, with the aim of supporting and increasing their commitment to developing physical literacy and sustaining their long-term engagement in physical activity. These recommendations provide a useful framework to guide planning and delivery of physical education and sport experiences by teachers and coaches interested in promoting meaningful engagement and supporting young people on their physical literacy journey.

Keywords: Physical literacy, youth, physical education, physical activity, sport

ID 324 Motivational profiles and students' achievement emotions in fitness testing.

Naomi Harte (Loughborough University), **Lorraine Cale** (Loughborough University), **Laura Alfrey** (Monash University) & **Christopher, M. Spray** (Loughborough University)

Grounded in self-determination theory (SDT), the first aim of the study was to identify latent profiles representing differences in secondary school students' quality of motivation for engaging in a fitness testing (FT) lesson. The second aim was to determine how the resulting profiles were associated with students' emotional experiences as the lesson unfolded. 342 students aged 11-16, from 7 schools in England took part in a typical FT lesson. Students completed The Achievement Emotion Questionnaire (AEQ) on three occasions, pre, during and post the lesson. The AEQ measures eight emotions: enjoyment, hope, pride, relief, anger, anxiety, shame and hopelessness. Students also completed The Situational Motivation Scale (SIMS) on one occasion toward the end of the lesson. The SIMS measures four distinct types of motivation: intrinsic, identified, and external motivation, as well as amotivation. Latent profile analysis (LPA) was conducted to identify the students' motivational profiles (MP). Subsequently, a 3x3 MANOVA was undertaken to examine the main and interactive effects of MP and time on the emotions. Three distinct MP were identified among the students: 'low quality motivation' (high external motivation and amotivation and low levels of intrinsic and identified motivation), 'high quality motivation' (high levels of intrinsic and identified motivation and low levels of external and amotivation) and 'mixed motivation' (average levels across all motivation types). The three MP significantly differed in students' emotional responses across the FT lesson overall but not in how they rated each emotion at each time point (i.e., there was no significant interaction). However, main effects showed that students who reported 'high-quality' motivation exhibited significantly higher scores in all positive emotions compared to the 'mixed motivation' and 'low-quality' MP (with the exception of hope). Conversely, students who reported 'low-quality' motivation reported significantly higher scores for anger compared to the mixed-motivational and high-quality profiles. This is the first study to examine MP, using LPA, and their association with emotional outcomes in secondary school FT. Two of the three MP clearly aligned with high and low quality of motivation, as depicted within SDT. The high quality MP reflected an autonomous behavioural regulation, whereas the low quality MP, represented controlled regulation. Regarding the second study aim, it can be surmised that the high-quality MP was associated with more positive emotions throughout the lesson, in comparison to the mixed-motivated and low-quality

profiles. With this in mind, PE teachers should attempt to foster a “high quality” motivational climate in FT lessons, as defined within SDT, to optimise positive experiences for all students.

Keywords: Fitness testing, Motivation, Emotion, Self-determination theory, Latent profile analysis

ID 344 Exploring physical literacy in chronic disease participants: development and effects of a pilot intervention

Alexandre Mouton (University of Liege), **Antoine Dael** (University of Liège) & **Jean-Pierre Weerts** (University of Liege)

Aim of the study: Our study aimed to develop and assess the effect of a physical literacy intervention led by a physical educator, in medical center-setting, addressed to chronic disease participants. **Methods:** This mixed-method study was composed of a qualitative and a quantitative part. The qualitative arm explored the feasibility of the intervention, by conducting 20 semi-structured interviews with chronic disease participants (10), health-care professionals (8) and external stakeholders (2). Sub-themes were highlighted and grouped into meaning units before qualitative analysis. The quantitative arm explored the effect of the physical literacy intervention (PL). Participants were referred to the program by doctors or physiotherapists of the medical center. The intervention consisted in an assessment and counselling session with a physical educator. Each session followed a motivational interviewing technique and consisted of (1) an anamnesis (2) a 40-item questionnaire PL assessment divided into the psychological, social and cognitive domain of PL; (3) 4 physical tests to assess the physical domain of PL; (4) a patient-centered discussion including feedback of the results and the setting of SMART individual goals. **Results:** Analysis of the interviews highlighted the enthusiasm and conviction of the participants regarding the PL intervention, but also the importance of communication between PL stakeholders, medical center professionals and community members to promote PL in a broader perspective. A total of 108 patients with at least one chronic disease (71% female, 56±15 years) underwent one PL session with the physical educator, with 46 patients (74% female, 61±13 years) completing two sessions (46 days later on average). Significant improvements were demonstrated for the overall PL score ($p<0,001$) as well as the cognitive ($p=0,001$) and physical domains ($p=0,032$). No significant changes were found for the psychological and social domain. Additionally, no significant difference in changes were found based on age, sex or nature of the

chronic disease. Conclusion: The study indicates that physical literacy interventions, facilitated by a physical educator in a medical center setting, are both feasible and effective for chronic disease participants. These promising results suggest the potential for such interventions to positively impact health outcomes by expanding and promoting the role of physical educators in health-settings.

Keywords: Physical literacy, chronic disease, medical center, physical educator, health-care

Pedagogy and didactics in physical education

ID 556 Learning strategies in psychomotor domain

Zuleyha Avsar (Bursa Uludag University)

Background and purpose: Learning strategies can be defined as the behaviors of a learner intended to influence how they process information. Much has been written and discussed about learning strategies in cognitive domain but there is limited literature on learning strategies in the psychomotor domain. Therefore, there is a need to explore learning strategies in physical activities or psychomotor settings. This paper aims to investigate the learning strategies of individuals during a dance workshop, with special focus on psychomotor aspects. Methods: Direct observation qualitative method was used for collecting data. The researcher participated in 8-week Argentine tango workshop, made unstructured observations, and coded the observed and recorded data. Other participants were informed about the study, and permission was obtained for study participation and voice recordings. The participants consisted of learners enrolled in the beginner class of an Argentine Tango School. Non-probability purposive sampling was used to identify participants and directly engage with appropriate individuals in the psychomotor learning environment. Results: Upon coding, learning strategies in a psychomotor setting were categorized under three headings: (1) motivational strategies, (2) mental/cognitive strategies, and (3) affective strategies. Examples of motivational strategies include appropriate attire and group participation. Examples of mental/cognitive strategies include recalling prior learning experiences, observing others, and using analogies. Examples of affective strategies involve dealing with obstacles and resisting factors

that may impair concentration. **Conclusions and Implications:** Identifying and sharing the learning strategies employed by individuals in psychomotor settings will enable teachers to consider how such practices can enhance or complement the quality of their current teaching methods and their understanding of their students.

Keywords: Learning strategies, psychomotor domain

ID 563 The lived experiences of four doctoral students' transitioning in their researcher identity as members of a learning community

Claire Walsh (University of Limerick), **Suzy Macken** (Marino Institute of Education), **Dylan Scanlon** (Deakin University, Australia) & **Cassandra Iannucci** (Deakin University, Australia)

Learning to be a researcher and developing a researcher identity is a journey that encompasses a range of emotional and social experiences, while at the same time developing one's intellectual knowledge as a PhD researcher. As doctoral students a number of transitions are considered to occur not just in the researcher journey but also one as a professional and the impact the doctoral process has on that (Austin, 2002). One of the main challenges doctoral students face is multiple identities and roles they hold in academic environment, all dependant on their personal and professional narrative on entering the programme (Jazvac-Martek, 2009). Baker and Pifer (2011) recognise the impact of peers in the process of academic progress and identity. This study presents the experiences of doctoral students in their individual journeys and as members of a learning community and the impact of the learning community on their researcher identity **Objective:** To present the lived experiences of PhD students presenting with varying professional identities in a community of learning. **Methods:** This study presents four individual narrative accounts of four doctoral students experiences of being engaged in full and part-time doctoral programmes. Each student presented a different professional identity at the start of their studies and this study focuses on the transitions that occurred for each person including the impact of the learning community on their researcher identity. **Data** were generated using an initial personal narrative and data generated from a focus group interview. **Results:** The discussions present open, honest accounts about the challenges of being a part time off campus student, the full-time to part-time conflicts experienced, and the impact of peers on each person's researcher identity. Issues such as imposter syndrome, timing of entry to the learning community, the professional versus the personal roadblocks presented are presented to act as a

stimulus to the narrative presented. Conclusion: Being a PhD student is far from linear but laden with complexities that are presented through pre-existing professional identities, and professional and personal commitments. Communities of learning can be powerful through the supportive elements but can trigger other significant responses that may not advance some elements of researcher identity. References Austin, A. E. (2002). Preparing the next generation of faculty: Graduate school as socialisation to the academic career. *The Journal of Higher Education*, 73(1), 94-122. Baker, V. L., & Pifer, M. J. (2011). The role of relationships in the transition from doctoral student to independent scholar. *Studies in Continuing Education*, 33(1), 5-17 Jazvac-Martek, M. (2009). Oscillating role identities: the academic experiences of education doctoral students. *Innovations in Education and Teaching Inter*

Keywords: community; PhD; imposter; self-efficacy; learning

ID 572 How (de-)motivational teaching behaviours affect students' cognitive and affective predisposition for Physical Education?

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The interpersonal style of the physical education (PE) teacher can positively or negatively encourage students to attend their lessons. Grounded on Self-Determination Theory (SDT; Deci & Ryan, 2020) and the Circumplex Approach (Aelterman et al., 2019), the aim of this study is to analyse the extent to which (de-)motivational teaching behaviors predict predisposition for PE. 345 Spanish PE students participated ($M = 14.81$; $SD = 1.35$; 50.43% boys). (De-)motivational teaching behaviors were measured in the eyes of students by the SIS-PE (Situations in School-Physical Education questionnaire, Spanish version; Burgueño et al., 2023), and predisposition for PE were measured by the PEPS (Physical Education Predisposition Scale, factors of cognitive and affective attitude; Hilland et al., 2009). A stepwise linear regression analysis were used to identify which (de-)motivating teaching behaviors (i.e., participative, attuning, guiding, clarifying, demanding, domineering, abandoning and awaiting) predict predisposition of the PE students. The results showed attuning approach (23.1% and 16.6%) positively predicted affective and cognitive attitude. Likewise, domineering approach (1.1%) predicted affective predisposition. The findings

reaffirm the Self-Determination Theory of the importance of supporting the three basic psychological needs. Especially, attuning approach, as a way for autonomy support, will promote a positive students' predisposition for PE. Training courses for improving teachers skills related to attuning behaviors are highly recommended. By this way, promoting a positive attitude and predisposition for PE would lead a positive experience for physical activity promotion.

Keywords: Compulsory Secondary Education, predisposition, autonomy support, interpersonal teaching styles.

ID 447 Student assessment and homeschooling in physical education during COVID-19

Petter E. Leirhaug (Norwegian School of Sport Sciences, NIH)

Beginning on 13 March 2020, schools in Norway, as in many countries around the world, closed their doors in order to limit the spread of COVID-19. Everyday life suddenly changed, and the changes effected a historically unique difference in physical education (PE). All education normally happening in Norwegian schools were replaced with remote learning and homeschooling. At many schools, the situation prompted what can be best described as extremely extraordinary frameworks for PE teaching. Against that background, the purpose of this study was to investigate how teachers experienced, practised, and reflected on assessment in PE while homeschooling during the pandemic. The study's empirical foundation is qualitative individual interviews with 15 PE teachers: 10 who taught in upper secondary school and 5 who taught and graded final-year students in lower secondary school, all during the 2020–2021 academic year. All were teachers at schools that for longer or shorter periods had door closed and instead homeschooled students. A semi-structured interview guide was used, and the main topic was introduced with the following question: "How have you worked with assessment during the pandemic?" Interview data were processed with reflexive thematic analysis (Braun & Clarke, 2021), utilising the theory of practice architectures developed by Stephen Kemmis (Mahon et al., 2017) as a theoretical framework for enlightening teachers' experiences, the changes and what enabled or constrained assessment practice in PE during the pandemic. All teachers showed good insights into policy documents, PE curriculum and the regulations for assessment. Several explained how they adjusted PE goals and prioritised to stimulate and create movement activity during homeschooling. Moreover, they chose tasks that were easy to give feedback on, which can be

theoretically interpreted as assessment and the challenges of digital documentation having influenced the choice of content. The findings suggest that when normal PE became homeschooling, the teachers experienced significant changes and constraints in the practice architectures surrounding PE. The most prominent changes are a felt impossibility of realising PE's full potential and the worsened conditions for "Assessment for learning". Furthermore, the basis for grading was unsatisfactory, and the PE teachers struggled to ensure fair assessment. At the same time, the pandemic-induced situation also contributed to increased awareness of the quality of assessment practice before the pandemic. In closing, the presentation will offer take-home messages to enable the teachers' experiences and practices with homeschooling to stimulate new ideas and knowledge as we move into the future of assessment in PE. The take-home messages include promotion of rich creative tasks, the importance of engaging students in each other's learning –also in documentation process– and what type of digital assessment seems to move learning forward.

Braun, V. & Clarke, V. (2021). *Thematic Analysis: A Practical Guide*. SAGE. Mahon, K., Francisco, S. & Kemmis, S. (2017). *Exploring Education and Professional Practice: Through the Lens of Practice Architectures*. Springer.

Keywords: Assessment, homeschooling, pandemic, physical education, AfL

ID 411 Sport Education: An approach to promote inclusion and participation in a Special School

Yessica Segovia (Universidad de Castilla-La Mancha), **Jorge Abellán** (Universidad de Castilla-La Mancha) & **Nieves M. Sáez-Gallego** (Universidad de Castilla-La Mancha)

This work was designed to examine how a co-design approach to use Sport Education could promote inclusion and participation in a Special School where only students with disabilities attend. All students (12 intellectual disability students; eight boys and seven girls from 14 to 23 years-old) enrolled in a Special School located in a region of central Spain and four teachers participated on the study. Additionally, two researchers participated with the purpose to co-design with the physical education teacher the Sport Education season. An integrated season was co-designed and applied with two cycles and a total of 15 sessions of 45 minutes grouped into a double weekly session, using motor tests as sports content. The data resources were season planning, interviews, focus group and field notes. Three themes emerged from the data analysis. The first one, there was an initial change in physical education teacher perception about the application of Sport Education to students with

high support needs. The physical education teacher overcame her initial prejudices and began to believe and value the abilities of all her students, especially those whose participation with guarantees of success generated more doubts due to the great challenge of applying a student-centered approach with students who a priori could have less autonomy. The second one, the importance of co-designing the season was found to achieve learning contexts where all students could achieve success. The co-design process between the physical education teacher and the two researchers in a participatory action research allowed the season to be adapted, achieving a learning context with the potential to respond to the assumptions of equity, participation, and social justice. And finally, teams were shown to be one of the essential elements of Sport Education that has allowed inclusion to be promoted. Affiliation favored team belonging and support among students. In conclusion, the co-design of the season has facilitated the implementation of Sport Education in a specific group of people with intellectual disabilities. Likewise, Sport Education has promoted the participation of all students in physical education lessons, highlighting affiliation as one of the essential elements that has favored the creation of an inclusive environment in the school.

Keywords: pedagogical models, student-centered approach, special education needs

ID 435 Social and Emotional Development in Sport Education Group Work

Sheri Brock (Auburn University) & **Nikki Hollett** (University of Wisconsin-White-water, USA)

Attending to all aspects of children's well-being is an essential and daily function of schooling. Teachers are tasked with motivating students by recognizing their sociological needs and creating the most beneficial learning environment. Increasing prosocial behaviors and decreasing antisocial behaviors aid in developing a school climate conducive to building self-esteem and strong peer relationships (Ruiz- Hernandez, et al., 2021). Moy, et al (2018) noted that instruction related to social-emotional learning must be intentional, modeled, continuously monitored, and immersive to produce productive peer relations and outcomes. Sport education focuses on building a sense of purpose within groups through roles and instruction intended to foster group cohesion and responsible participation (Siedentop, et al., 2011). The purpose of this study was to examine the effect of a sport education unit on students' social and emotional learning. The participants were 92 grade four students at a rural

K-4th grade elementary school in the southeastern United States. The first author taught a 20-lesson four-square unit. Four-square is a fast-paced game played on a square court with four equal quadrants numbered 1-4. One player is located in each quadrant and the goal is to advance incrementally to the highest square by striking a ball with one hand into any opponent's square without a return. In this unit, points were awarded by final square positioning and positive sporting behavior in a five-minute game. Lessons 1-7 included the establishment of team roles, game rules, lead-up challenges, and scrimmages. Lessons 8-20 followed a typical sport education season with a pre-season, regular season, and post-season championship, followed by an awards ceremony and parade. Each lesson included a brief socio-emotional learning component based on the Collaborative for Academic, Social, and Emotional Learning framework (CASEL, 2019) (e.g., responsible participation, encouraging teammates, making game decisions). Data collection included an analysis of daily video recordings and the Devereux Student Strengths Assessment-mini (DESSA-mini) (LeBuffe, et al., 2009). Two researchers deductively coded video segments for prosocial and antisocial verbal and non-verbal exchanges. Interrater reliability was established at 96%. Data indicated an increase in prosocial and a decrease in antisocial exchanges. Two physical education teachers completed pre-post assessments for all students utilizing the DESSA-mini. While findings established a consistent pattern for students achieving the 'typical' category of social-emotional competence in pre-post (76.1-77.2%), substantial pre-post differences were determined for the categories of 'need' (20.7-1.1%) and 'strength' (3.3-21.7%) respectively. Results indicated that social-emotional behavior can be influenced positively by brief yet intentionally modeled vignettes introduced during a sport education unit.

Keywords: peer relations, physical education, social competence, verbal exchanges, responsible participation

ID 105 Transformative agency and pedagogical possibilities for physical education: The past, the policy and the future

Laura Alfrey (Monash University)

Research suggests that, if adequate support and scaffolding is present, opportunities for young people to be actively involved in making decisions that impact their learning can be fruitful. With a few notable exceptions - such as. Enright and O'Sullivan (2010) Oliver and Oesterreich (2013), and O'Reilly et al. (2022) - limited research has explored how, why, and to what ends Physical Education teachers and students

work together to create or negotiate curriculum and/or pedagogy. As such, this paper traces the impact of an Australian longitudinal study that was informed by notions of 'expansive learning' and 'transformative agency'. The study sought to support and explore students and teachers in exploring curriculum and pedagogical possibilities in their school. More specifically, this presentation centers student and teacher voices to examine the process and impact of co-designing more inclusive and educative pedagogies related to fitness testing within Physical Education. Participants included one teacher and 48 students aged between 13-14 years old (54% identified as female, 46% identified as male). The teacher and their students were located in a secondary college on the boundary of Metropolitan Melbourne and rural Victoria, Australia. The college is located in an area of economic disadvantage. Data generated through embodied, arts-based focus group interviews with students and teachers suggest that an expansive learning approach can support the transformative agency of students and teachers, as well as expand pedagogical possibilities for PE.

Keywords: Pedagogy, Curriculum, Agency, Policy, Methods

ID 236 The meaning of feedback in PE and PETE

Gunn Nyberg (University of Agder Norway, Dalarna university, Sweden), **Erik Backman** (Dalarna University), **Mikael Quennerstedt** (The Swedish School of Sport and Health Sciences) & **Björn Tolgfors** (Örebro University)

Feedback is considered essential for student learning (Hattie & Timperley, 2007; Mulliner & Tucker, 2017). However, the meaning of feedback differs among teachers and students and consequently also how feedback is used and to what extent it provides opportunities for learning and positive experiences (Hattie & Timperley, 2007; Mulliner & Tucker, 2017). The aim of this study is to explore in what different ways newly examined physical education (PE) teachers experience the meaning of feedback through their actions in, and reflections on, their professional practice in school. This presentation reports a sub-study within a larger project with the aim of investigating the transition of Assessment for learning (AfL) as a content in physical education teacher education (PETE) and its transformation from university studies to professional practice. AfL, defined in the larger project, includes five key strategies, one of which is feedback. This study is zooming in on feedback. A phenomenographic approach provided possibilities to understand teachers' ways of experiencing feedback as similar to knowing feedback. Researchers use phenomenography to

investigate peoples' qualitatively different ways of experiencing phenomena in the world, and how someone experiences something can also be understood as a way of knowing something. The phenomenographic approach thus also provided possibilities to analyse qualitatively different ways of knowing feedback, as we did in this study. Data was generated through transcribed video-stimulated interviews with eight teachers, two transcribed focus group interviews with four teachers in each group and fieldnotes from nine observed lessons conducted by nine newly examined teachers. Preliminary results show different ways of knowing feedback as well as what aspects of feedback the newly examined teachers foreground in their teaching. The results will be discussed in relation to more or less complex ways of knowing feedback as well as in relation to how PETE can help students experience feedback in more complex ways and, through this, offer students in PE extended and positive learning experiences. References Hattie, J., & H. Timperley. (2007). "The Power of Feedback." *Review of Educational Research*, 77 (1): 81–112. Mulliner, E. & Tucker, M. (2017). Feedback on feedback practice: perceptions of students and academics. *Assessment & Evaluation in Higher Education*, 42 (2): 266–288, <http://dx.doi.org/10.1080/02602938.2015.1103365>

Keywords: Feedback, PETE, PE, Phenomenography

ID 247 Good intentions – a vague outcome: PETE educators and PE teachers' perceptions of the curriculum

Erik Aasland (University of Agder), **Lars Bjørke** (Inland Norway University of Applied Sciences) & **Kjersti Mordal Moen** (Inland Norway University of Applied Sciences)

In some countries, curriculum development processes can be described as top-down. In Norway, current Physical Education (PE) curriculum is developed in a democratic process involving teachers, teacher educators, and policy-makers, similar to curriculum development in other countries such as Sweden and Australia. In Norway, there has been a lot of debate surrounding the current curriculum. Concerns have been raised around academization of the subject, less emphasis on sports, and questions related to assessment. While there has been substantial attention regarding the implementation of PE curriculums, more knowledge is needed about how PE teachers, and particularly Physical Education Teacher Education (PETE) educators, perceive the formal curriculum. The research questions for this paper are: (i) how do PETE educators and PE teachers perceive the current PE curriculum in Norway? and (ii) what changes do they call for to make the curriculum a useful tool for teachers?

We produced data by using sticky notes and an online digital tool at a workshop held at a national PE conference in Norway, following the procedures as suggested in the future workshop method (Jungk & Müllert, 1987). The sample consisted of 43 participants. Our analysis followed the four principles of Eggebø's (2020) collective qualitative analysis. The initial analysis focused on teachers' and PETE educators' perceptions of the current curriculum, as well as their thoughts in regard to what they would change in the curriculum. Our preliminary analysis shows that both PETE educators and PE teachers appreciate that the curriculum strongly emphasizes inclusion and pupil diversity. Furthermore, teacher educators perceive the curriculum's focus on embodied learning and reflection as positive. However, both groups perceive the curriculum as unclear and diffuse. Hence, to make the curriculum a useful tool, teacher educators call for precise language, whereas PE teachers request concrete guidelines for teaching and assessment. In contrast to the teacher educators' positive views on reflection, PE teachers perceive the curriculum as too theoretical, and giving too much attention to reflection. PE teachers suggest that there should be more emphasis on practical competence or skills. Our findings suggest that questions raised in the aforementioned debates surrounding the PE curriculum still seem to be unresolved. Consequently, our findings indicate that, despite the good intentions of a democratic process when developing a new curriculum, the formal curriculum, as the result of a series of compromises, is perceived as "blurred" and thus as an inadequate tool for teachers. References Eggebø, H. (2020). Collective qualitative analysis (V. Szepessy, Trans.). *Norsk sosiologisk tidsskrift*, 4(2): 106-122. <http://doi.org/10.18261/issn.2535-2512-2020-02-03> Jungk, R. & Müllert, N. (1987). *Future workshops: how to create desirable futures*. Institute for social inventions.

Keywords: Curriculum, PETE educators, PE teachers, perceptions

ID 257 Beneficial Effects of Assessment for Learning in a Badminton Unit with a Game Sense Approach

Vanessa Lentillon-Kaestner (HEP Vaud, Lausanne, Switzerland), **Valérian Cece** (HEP VAUD, Lausanne, Switzerland), **Cédric Roure** (HEP Vaud, Lausanne, Switzerland) & **Patrick Fargier** (HEP Vaud, Lausanne, Switzerland)

It is generally admitted that physical education (PE) should develop competences that foster the desire to practice physical activity and help to become autonomous in this practice, which implies the implementation of proper PE units and consistent

assessment. This might be obtained using both a game-centred approach and Assessment for Learning (AfL) involving the students in the assessment process during PE lessons. However, despite institutional and theoretical requirements, the effects of the combination of these pedagogical approaches remained to be examined. Consequently, the present study aimed to (1) develop a badminton unit based on both game sense approach and AfL, and (2) test the effects of this unit on the students' interest, on the performance in game, and on the cognitive learning in badminton. A total of 360 lower secondary school students (177 girls and 183 boys) participated to the study (age range 12-17; Mean age = 13.70, SD = 1.15). In the framework of a pretest-posttest experimental design, a badminton unit based on game sense approach and AfL and the same unit without AfL have been taught respectively to 190 students (experimental group) and 170 students (control group). During pretests and posttests, the students fulfilled questionnaires to assess individual interest and situational interest (Roure, 2020; Roure et al., 2021), and performed knowledge tests. They were also videotaped in badminton matches and their game performance was estimated using the Game Performance Assessment Instrument (GPAI; Oslin et al., 1998). ANCOVAs were performed accordingly. Compared to the control group, students involved in the badminton unit with AfL were equally motivated but obtained higher scores of game performance and better cognitive knowledge on badminton. These results support the opportunity to develop PE units based on both game sense approach and AfL to maintain student interest and promote cognitive and motor learning in PE.

Keywords: assessment for learning, badminton, game sense approach, learning, interest

ID 263 'It was torture' Negative experiences in physical education

Pablo Saiz-González (University of Oviedo) & **Javier Fernandez-Rio** (University of Oviedo)

Unfortunately, physical education has been viewed, many times, as a secondary subject in the school curriculum. Among other issues, its nature and the pedagogical approach used generate debate. As a result, some students report negative experiences during their lessons. The aim of the two studies outlined in this presentation was to analyse the negative experiences of school-age children's parents (study 1) and prospective teachers (study 2). In both cases, a qualitative methodology based on open-ended questions was used, as well as 5-point scales to rate their experience

in primary and secondary education (separately). In addition, in study 1, a validated scale was used to assess the perceived importance that parents assign to physical education, to perform physical activity and to do it with their children. The results showed, for both cases, that the main reason to rate their past physical education experiences as negative was the use of health-focused approaches during the lessons (i.e. fitness tests, physical activity levels). On the other hand, these negative experiences were found to be associated with the perceived importance of physical education, performing physical activity and doing it with their children. Research warns that these issues are associated with physical activity practice in adulthood, and the direct influence that parents exert on their children's perceptions of physical education and physical activity practice. As a result, negative stereotypes that marginalize the subject could be perpetuated. A decade ago, Kirk (2013) argued that physical education was still being taught like in the 1950s. However, he also hoped that this trend would change in the short to medium term through the incorporation of new student-centred frameworks. The first of the two studies showed that 18% of parents of school-age students ($M=45.5$) rated their overall experience as negative. For prospective teachers (study 2), the percentage was reduced to 5% ($M=21.7$). The results seem to indicate that instructional frameworks are evolving to more inclusive approaches that produce higher satisfaction rates among students.

Keywords: pedagogical evolution; health-focused approaches; student-centred approaches

ID 507 Reconstruction of Pre-Service Teachers' Professional Practices through Transformative Learning Theory

Eslem Gökçek (Hacettepe University) & **Deniz Hünük** (Hacettepe University)

Transformative learning is a theory that encourages students to think critically about their beliefs and behaviours, construct meaningful knowledge in their existing contexts, and effectively supervise their learning processes. In particular, pre-service teachers' (PST) critical evaluation of their learning and teaching processes in teacher education contributes to their personal, social and professional transformation. This study investigates how the teaching practice course designed based on Mezirow's (1997) Transformative Learning Theory affects PSTs' learning and teaching processes. This study included eight PSTs ($n=5$ females, $n=3$ males) who participated in the teaching practice course in the final year of the physical education and sports teaching department. At the beginning of the study, the PSTs designed and

implemented a semester-long unit and lesson plans together using collaborative action research. In the first four weeks of the 14-week study, they defined the teaching environment needs of their classrooms based on their experiences and observations and designed their instruction collaboratively. The PSTs decided to apply the sport education model model for eight weeks. During the process, two-hour meetings were held weekly with the teacher educator. In these meetings, PSTs discussed ways to improve their teaching by giving their observations of their own and each other's practices. In the last two weeks of the study, semi-structured individual interviews were conducted with the PSTs. The data obtained from the individual interviews, PSTs' diaries and the researcher's field notes were analysed using content analysis. Three themes emerged from the data: (1) Collaborative transformation in the learning environment: "We were not alone", (2) Student-centered physical education lessons: "Students are not like robots anymore" and (3) Change in perception of teaching: "My view of my profession has changed". In line with the findings, it was seen that the PSTs constructed meaningful learning and teaching processes, focused on improving their teaching by rethinking their practices critically, improved their ability to transfer their knowledge to their practices, and were able to promote a more autonomous teaching environment by putting the student at the centre in their teaching. In conclusion, shaping PSTs' teaching practices in a collaborative setting with a critical approach enabled them to transform their practices and review their perspectives on the profession. It is crucial to qualify teachers who have the ability to construct meaningful knowledge by actively participating in their learning processes to continue their continuous professional development and thus meet changing teaching needs more effectively. References Mezirow, J. (1997). Transformative learning: Theory to practice. *New directions for adult and continuing education*, 1997(74), 5-12.

Keywords: Collaborative action research, teaching practice, transformative learning, physical education, professional learning

AIESEP Awards for 2024: Early career and developmental country researchers

ID 454 Promoting Motivation and Skill Development in Chinese Physical Education Teacher Education: A Hybrid Model Approach

Hairui Liu (University of North Dakota), **Wei Wang** (College of Physical Education/Hubei Normal University), **Peter Hastie** (School of Kinesiology/Auburn University) & **Zhi Li** (Department of Physical Education/Guangdong University of Technology)

Background: Chinese college students' motivation for physical education courses has traditionally been a challenge, despite numerous curriculum reforms. Motivation in physical education is influenced by a myriad of factors, including instructional methods, learning experiences, and teacher-student interactions. Model-based practices, such as the Sport Education Model, have shown effectiveness in promoting multidimensional development, while situational interest has gained prominence as a measure of motivation. This study aimed to investigate the impact of the Sport Education Model and a blended model, combining the Sport Education Model with Play Practice, on skill development, personal interest, and situational interest in Chinese pre-service physical education teachers during a semester of badminton instruction. Methods: A total of 62 pre-service teachers participating in a physical education teacher education (PETE) program at a university located in central China formed the study's participant cohort. Among these participants, 13 were female, and 49 were male, with an average age of 20.1 years (standard deviation = 0.79). The instructional component of the study was centered around a 16-week badminton course, encompassing 24 lessons, each with a duration of 90 minutes. The study design incorporated both a control/comparison group and an experimental group, with the implementation of pre- and post-tests to assess the impact of the intervention. In this investigation, the control group employed a singular instructional model, namely, the Sport Education (SE) model, which adhered to conventional teaching methods, involving distinct training and competition phases. In contrast, the intervention group employed a mixed model approach, combining Sport Education with Play Practice. During the training week, this intervention group introduced 30-35 minutes of game-based challenges, within which three distinct pedagogies within Play Practice, namely shaping, focusing, and enhancing, were integrated to bolster the situational interest (SI) of the badminton curriculum. To analyze group differences, repeated measures analyses of variance were conducted. Results: Both groups demonstrated significant improvements in skill development ($p < .01$), personal interest ($p < .01$), and situational interest after intervention ($p < .01$). Interaction effects were observed for five variables: skill ($F = 4.75$, $p = .03$, $\eta^2 = .073$), personal interest ($F = 4.85$, $p = .003$, $\eta^2 = .075$), triggered situational interest ($F =$

7.45, $p = .008$, $\eta^2 = .012$), sustained situational interest feeling ($F = 6.74$, $p = .012$, $\eta^2 = .101$), and sustained situational interest value ($F = 7.24$, $p = .009$, $\eta^2 = .108$). Conclusion: The combined approach of SE+PP significantly enhances the situational interest and skill development of pre-service physical education teachers when compared to the sole use of the SE model.

Keywords: Model-Based Instruction, Pre-service Teachers, Situational Interest

ID 605 Perceived motor competence in early childhood predicts perceived and actual motor competence in middle childhood

Donna Niemistö (University of Jyväskylä), **Lisa M. Barnett** (Deakin University), **Arto Laukkanen** (University of Jyväskylä), **Asko Tolvanen** (University of Jyväskylä) & **Arja Sääkslahti** (University of Jyväskylä)

Perceived motor competence (PMC) is important to health as it mediates the association between actual motor competence (AMC) and physical activity. We examined how PMC and AMC in the early years (T1) predicted PMC and AMC in middle childhood (T2). PMC-AMC profiles were identified in children separately at two timepoints three years apart. Also, we explored the transitions between the profiles from T1 to T2. PMC was assessed by the pictorial scale of Perceived Movement Skill Competence for young children (PMSC). At T1, AMC was measured with Test of Gross Motor Development-third version (TGMD-3) and at T2 with a shortened TGMD-3. All analyses were conducted with Mplus statistical package (Version 8.7) to identify profiles using latent profile analysis. There were 480 children (mean age 6.26 yrs., 51.9 % boys) at T1, 647 children (mean age 8.76 yrs., 48.8% boys) at T2 (some children were too young to have the PMC assessment at T1) and 292 at both timepoints. Three profiles were identified at each timepoint for each gender. Boys had two realistic profiles with medium and low levels of PMC-AMC, and an overestimation profile. Girls had a medium realistic profile, an over estimation, and an under-estimation profile. Overall, the findings supported earlier research by showing that children's PMC declines from early to middle childhood. Also, it showed that the profile in early childhood predicted the profile in middle childhood for both genders, especially if child had a low PMC level in early childhood. As a conclusion, children with low PMC in early childhood are at risk of low PMC and less AMC development in middle childhood. ***** FYI (not included in the abstract): This study includes in the symposium entitled: "Insights related to European and Latin-

American children's actual and perceived motor competence and its implications for overall development". Chair of the symposium: Isaac Estevan.

Keywords: perceived motor competence, actual motor competence, children, longitudinal study, childhood

ID 231 Stakeholder Recommendations for Physical Education Policy: A Multifaceted Approach

Xiaoping Fan (State University of New York at Cortland) & **Jaimie McMullen** (University of Hawai'i at Manoa)

Introduction: Stakeholder perceptions significantly influence the direction of physical education practice and policy. However, there is a lack of comprehensive investigation into the perceptions of multiple stakeholder groups regarding K-12 physical education programs within a single study, and this study attempted to fill this gap using a multifaceted approach. Therefore, the purpose of this study was to explore the recommendations of students, parents, classroom teachers, and administrators regarding physical education policies. The social ecological model served as the theoretical framework to guide this study. Method: This study utilized an interpretive qualitative research design to explore stakeholder recommendations on physical education policy. This study included 28 participants, consisting of students (n = 8), parents (n = 8), classroom teachers (n = 9), principals (n = 2) and one assistant principal. Participants were recruited from three schools located in one state in the Western United States. Focus group interviews were conducted with students, parents, and classroom teachers, while individual interviews were held with administrators. Participants' responses to interview questions were analyzed inductively using open and axial coding. Results: The results of this study are presented based on the perceptions of four groups of stakeholders. The perspectives gathered from students, parents, classroom teachers, and administrators provide a broad spectrum of recommendations for physical education policy. These recommendations encompass requirements, funding, curriculum, the integration of mental health, and substitution for physical education. Among these stakeholders, students expressed suggestions for physical education requirements, the need for increased funding, and the potential for activity substitution. Parents emphasized the integration of mental health, the connection of physical education to daily life, and the potential for substitution. Classroom teachers suggested physical education requirements, more funding, the prohibition of substitution, and policymakers' engagement with schools.

Finally, administrators advocated for physical education requirements and a focus on the quality of the physical education curriculum. Discussion/Conclusions: The perspectives gathered from students, parents, classroom teachers, and administrators highlight a range of recommendations for physical education policy. Given the diverse range of recommendations and perspectives from stakeholders, it is imperative for policymakers to critically evaluate these suggestions. While accommodating shared goals and viewpoints, it is essential to consider that not all recommendations may be suitable for implementation. In conclusion, the findings underscore the necessity for a comprehensive and judicious approach to utilizing stakeholders' recommendations in shaping physical education policy.

Keywords: stakeholder, recommendation, social ecological model, policy

ID 84 Physical Activity Behaviour Interventions and use of Manual Wheelchairs as Predictors of Health-Related Quality of Life among Kenyan Secondary Schools Learners with Physical Disabilities

Daniel Njenga (Kenyatta University), **Lucy-Joy Wachira** (Kenyatta University) & **Edna Thangu** (Kenyatta University)

Physical inactivity is ranked fourth global risk factor for mortality. Children and youth with disabilities are twice at risk of inactivity and sedentary lifestyles concomitant with related comorbidities. This necessitates evidence-based physical activity (PA) promotion strategies which can be implemented in schools where these individuals spend most of their time. This two-phased study aimed at assessing the PA behaviour and its correlates as well as the effectiveness of selected school-based PA promotion interventions among learners with physical disabilities in Kenyan special secondary schools. Phase 1 was a cross-sectional descriptive survey among 650 learners. Their PA behaviour, satisfaction with use of assistive mobility devices (AMDs) and the influence of PA on their health-related quality of life (HRQoL) was assessed using the Youth Activity Profile, the Assistive Device User Satisfaction tool and the Paediatric Quality of Life Inventory (PedsQLTM) respectively. Phase 2 of the study was a three-arm cluster randomised test among a purposive sample of 45 learners who used manual wheelchairs for mobility. It assessed the effectiveness of PA literacy, peer mentoring and adult mentoring in promoting PA and subsequently the HRQoL. Changes in PA were ascertained by assessing the arm strength and cardiovascular endurance of the participants. Data was collected using the handgrip dynamometer and the 10-m wheelchair ride test at $p \leq 0.05$. The effectiveness of

the interventions on PA and HRQoL was also assessed using focus group discussions which were analysed thematically. Results from phase 1 established that the learners' PA, which was higher during unstructured and unsupervised out-of school times compared to school-time, positively predicted their HRQoL ($p < 0.001$, $\eta^2 = 0.044$). Results of phase 2 showed that the intervention comprising of the treatments given improved the PA behaviour of learners who used manual wheelchairs for mobility. They also enhanced the independence and quality of life of the participants. Thus, the study concluded that HRQoL for children and youth with physical disabilities was likely to improve if they engaged in more PA at school, using appropriate AMDs. The study also concluded that their PA was likely to improve with interventions that target enabling, predisposing and reinforcing factors of PA behaviour. It thus recommends periodic monitoring of the learners' PA and implementation of strategies which increases engagement in PA during and out of school-time. It also recommends provision of user-fitting AMDs based on frequent assessment in addition to skill training and removal of built and environmental barriers to promote PA among learners who use AMDs for their daily living.

Keywords: physical activity literacy, quality of life, wheelchairs; school-based PA

Thursday 16th May, 4 p.m.

Physical education teacher education, professional development

ID 262 Teacher's and student's experiences of racism and anti-racist potential in sports and physical education: findings of a mixed method approach

Lucas Abel (German Sports University Cologne), **Marten Winkler** (University of Leipzig) & **Tobias Vogt** (German Sports University Cologne)

Racist structures and incidents are prevalent in all facets of sport, and these experiences are also encountered by children and youth. Physical Education (PE) has the capacity to be a platform for combating racism, yet it can also be an environment where racism is either perpetuated or revived. The perspective of teachers and students plays a pivotal role in educational research since they are the primary individuals engaged in the teaching and learning process. As the global phenomena of racism differ locally, the aim of this mixed method approach was to determine, which experiences of racism and anti-racism potential teachers and students encounter in PE and sports. First, an online survey was conducted with a total of 113 participants, consisting of 19 teachers (age $33,5 \pm 4,5$; 68% female) and 94 students (age $16,2 \pm 1,5$, 59% female). Subsequently, semi-structured interviews were conducted with 4 students and 4 teachers. Data was collected between October 2022 and March 2023 at schools located in Saxony, Eastern Germany. With this, the sample may not be considered representative, however, it includes different schools to capture a wider range of experiences. Accordingly, interview partners were chosen with the intention of maximizing diversity in terms of teachers, students, types of schools, urban and rural settings, gender, and their experiences with racism. At the time of abstract submission, questionnaires were (only) analyzed descriptively, while interviews were analyzed using thematic analysis, specifically employing a template analysis approach. Descriptive findings revealed that 11% of the teachers and 9% of the students had to experience racism personally in sports. In sports, racism had to be observed by 83% of the teachers and 47% of the students, whereas, in PE, by 61% of the teachers and 24% of the students. Incidents mainly involved derogatory remarks, name-calling, jokes, and, for students, exclusion as well. The qualitative analysis mirrored these findings especially summarized in the theme "Experiences".

Notably, 100% of the teachers and 99% of the students are "fully" or "more" willing to disagree with racist language or statements in everyday life. Furthermore, 63% of the teachers and 24% of the students have engaged in anti-racist actions. In the category of the thematic analysis "Way forward", diverse engagement activities were identified such as speaking out, taking part in workshops as well as demonstrations and self-reflection of privileges. The findings reveal, that racism is prevalent in both sports and PE among teachers and students, while also highlighting their anti-racist potential. Implications for institutional practice could be that specialized training should be universally accessible rather than relying on individual teachers' commitment. Furthermore, addressing racism should emphasize its structural rather than individual nature, especially within the school environment.

Keywords: Discrimination, Intersectionality, Education, School, Teaching

ID 89 Human Flourishing as The Aim of Physical Education?

Jamie Brunsdon (University of Memphis)

The profession of physical education is in flux. Many teachers and teacher educators are, and have been for quite some time now, dissatisfied with what the field is, what it stands for, what it aspires to do, and the kinds of future(s) it hopes to create for youth and emerging adults in the modern age. In response to such scepticism and disbelief, several communities of scholarly practice have emerged across the globe since the late 1980s and have sought to carve out a series of new philosophies, theories, methodologies, and pedagogies with which to guide the field toward becoming a more positive, impactful, and progressive discipline. Despite this, there would appear to be no communities of practice dedicated to studying the philosophy of human flourishing (e.g., the pursuit of a good life) in the field of physical education. Moreover, while the occasional scholar has begun using this phrase, as well as other flourishing-oriented terms, the nature of human flourishing, the ideal of the flourishing student (or virtuous mover), and its (inherent) relationship with movement, physical activity, and sport has yet to be appreciated or studied comprehensively by the movement community. Therefore, in an effort to study the unavoidably philosophical nature of the profession, the purpose of this presentation is to present human flourishing as the aim of physical education. To accomplish this feat, I start by reviewing, at length, the philosophy of human flourishing. Subsequently, I present a critique of prior interpretations linking forms of human flourishing to physical education and acknowledge some potential challenges and warning signs for the field

to consider as they begin to grapple with the theories of flourishing. Afterwards, I describe how physical education can contribute toward pupils' physical and mental health, happiness and life satisfaction, meaning and purpose, character and virtue, and close social relationships, which in essence, forms the notion of flourishing physical education. Thereafter, I articulate, to the best of my ability, a flourishing-oriented physical education program based on the ideal of the virtuous mover. Using this format, I hope to outline in philosophically and empirically accurate and authentic ways, the ideal of human flourishing and the flourishing student, and encourage those working with youth to promote this philosophy so that all people experience eudaimonia. Above all, the fundamental aim of this presentation is to articulate a philosophy that could, if interpreted and implemented correctly and conscientiously, be used to bring the field together and remove that barriers acting to keep students, teachers, and teacher educators from flourishing together.

Keywords: Applied virtue ethics, philosophy of education, sport pedagogy, teaching, teacher education

ID 161 Exploration of the Teacher Professional Development TARGET-tool for enhancing the Motivational Climate in secondary school Physical Education

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Given the complexity of teaching, continuing teacher professional development (CPD) is essential for maintaining and enhancing teaching effectiveness, and bridging the gap between ever-evolving theory and practice. Technological advancements have opened new opportunities for digital tools to support CPD. However, the successful integration of such digital tools into practice poses challenges. It requires adherence to CPD prerequisites and acknowledgment of the complexity of the professional development process. This study explored the applicability of the developed digital PE teacher professional development TARGET-tool in a secondary school PE context. We examined the perceived usability of this tool and gained insights into the process of teachers' professional development as a result of using

the tool. Ten PE teachers from different schools implemented the TARGET-tool within their PE context for a period of four to six weeks. Individual semi-structured interviews and the System Usability Scale provided insights into the perceived usability and the process of teacher professional development. The TARGET-tool demonstrated its potential as an effective tool for supporting teachers' professional development. Future tool improvements were identified to further optimize the perceived usability, such as simplifying complex features, providing additional support and resources, and improving (data) presentations. Using the Interconnected Model of Professional Growth as a theoretical basis, it was demonstrated how the use of the TARGET-tool engages teachers as active and reflective participants in their professional development and induces changes within the external domain, the domain of practice, the domain of consequences, and the personal domain.

Keywords: Teacher professional development; TARGET; IMPG; Educational technology; Physical education

ID 102 Teaching for Personal and Societal Flourishing: An Elective Course Case Study

Jamie Brunsdon (University of Memphis), **Brandon Hill** (University of Memphis Research Consortium) & **Kerrith Griffin** (University of Memphis Research Consortium)

To date, the philosophy of human flourishing and the ideal flourishing student has yet to be studied comprehensively by practitioners and scholars in the field of physical education and sport pedagogy. Therefore, the purpose of the study was to describe one teacher's flourishing-oriented pedagogies of affect, the extent to which their pedagogies impacted student learning and progress with two groups of students across two elective courses, as well as identify the factors influencing their ability to promote personal and societal flourishing in schools. By conducting this kind of research, the field might be better equipped to teach and serve modern youth. The primary participant was Thunder, a purposefully recruited teacher based in the Mid-South region of the United States. At the time, Thunder identified as male, Black, was 33 years old, and was responsible for teaching a character education-based intervention course to youth at Flourishville Middle School. Secondary participants, including two groups of middle school students involved in the elective course, were also invited to participate in the project. Specifically, Thunder taught 25, 7th and 8th grade students during two semester-long elective courses over one academic year. Subsequently, Thunder dedicated 50+ lessons to the intentional

teaching of personal and societal flourishing. Informed by a teaching experiment design, teacher data were collected with eight interpretive methods ([in]formal interviews, the supplementation of documents, artifacts, and teaching film, critical incident reports, teaching observations, and field notes of teaching observations and film), while student data were collected through one focus group interview and the evaluation of assessment data. All data were analysed through a five-stage thematic analysis. Findings revealed that Thunder's pedagogies were inspired, in part, by the work of Don Hellison and led to the creation of a sort of "Teaching for Personal and Societal Flourishing" (TPSF) model. Guided by a virtue ethical lens of moral development, as opposed to critical pedagogy perspective, Thunder introduced his students to nine virtues through covering non-traditional content (field hockey, rugby, and cricket). Additionally, Thunder employed a series of reflective, empowerment, and transfer-focused pedagogies and sought to evaluate its effectiveness through a "Levels of Flourishing" assessments. Assessment and evaluation data indicated that almost all students improved their sense of physical and virtue literacy. Finally, while minor challenges existed, Thunder's efforts at employed flourishing-oriented pedagogies of affect were largely positive. This investigation has theoretical, empirical, and practical implications for teachers and teacher educators.

Keywords: Applied virtue ethics, philosophy of education, sport pedagogy, teaching, teacher education

ID 472 'Failing successfully' - preservice-teachers and dance in physical education teacher education

Tonje Langnes (Oslo Metropolitan University) & **Hilde Rustad** (Kristiania University College)

Our presentation is based on a research project conducted at Oslo Metropolitan University. Pre-service teachers were learning and practicing break[danc]e movements and creating their own breaking series as homework. Data consists of post-it notes upon which pre-service teachers have written down their emotions connected to dancing, and their reflections about dance experience. We have used thematic analysis (Braun and Clarke, 2019) and draw upon symbolic interactionist understanding of emotions (Fields et al., 2006). Our intention is to introduce Nancy Stark Smith's concept of 'failing successfully' (Koteen & Smith 2008) as a possible analytical tool for teacher students who have feelings of discomfort connected with dancing - with the idea that Smith's concept will help them in their learning process

by transforming fear and being outside of their comfort zone into acknowledging that difficult feelings can have positive significance in their individual learning processes. Drawing upon Smith's concept of failing successfully and placing it in the context of the empirical material the project has a philosophical approach, as we argue for the perspective's transformative potential to other, new situations, and its positively contribution to pre-service teachers' professional development. Bibliography: Braun, V., Clarke, V.: Reflecting on reflexive thematic analysis. *Qual. Res. Sport Exerc. Health* 11(4), 589– 597 (2019). <https://doi.org/10.1080/2159676X.2019.1628806> Fields, J., Copp, M., & Kleinman, S. (2006). Symbolic Interactionism, Inequality, and Emotions. In *Handbook of the Sociology of Emotions* (pp. 155-178). Koteen, David, and Nancy Stark Smith. 2008. *Caught Falling : The Confluence of Contact Improvisation, Nancy Stark Smith, and Other Moving Ideas*. Northhampton, Mass: Contact Editions

Keywords: PETE, dance, professional development, failing successfully,

ID 584 Designing games based on cooperative behaviour towards fair play and enjoyment where all students learn

Luísa Estriga (Faculty of Sport, University of Porto, CIFI2D), **Guilherme Vieira** (Faculty of Sport, University of Porto), **Amândio Graça** (Faculty of Sport, University of Porto, CIFI2D, CIIE) & **Paula Batista** (Faculty of Sport, University of Porto, CIFI2D, CIIE)

Despite the growing popularity of Teaching Games for Understanding (TGfU) and an extended number of game-based approaches, it is still a challenge for teachers and pre-service teachers to create an inclusive, fair, and engaging game-play experience for all students. Aiming to generate knowledge and insight about the play opportunities that different handball game formats offer to students with different game skills and abilities, the effect of key-game rule changes was explored at the elementary school level. A set of 16 students (aged between 11 and 12 years), with five girls from a school in Porto, participated in this study. The data we collected during an inter-class tournament by the end of the didactic handball unit of 8 lessons (with 90 min. each). The class was divided into four mixed and balanced teams. Eight matches were analyzed in which key game features were changed, including the ratio between attackers and defenders (even and uneven play), defence type (full court marking or zonal), and action constraints or scoring system (e.g., the ball must pass through everyone before shooting). All matches were played with a softball

(size 2) that discourages bouncing. Two courts were available, allowing all teams to play simultaneously. Each game lasted 10 minutes with a 5-minute break between them. The teams remained the same throughout the tournament (and data collection). Two HD cameras (GoPro Hero 11) per court were used to record the matches. Experienced observers and experts in handball carried out a systematic structured game analysis. The Team Sports Performance Assessment Tool (TSAP) (Grehaigne & Godbout, 1997) was used to analyze the play context and actions (active passes, passive passes, bad passes, good receptions, poor receptions, non-goals, goals, and steals, among others). Other indexes were also calculated, such as game volume and the efficiency index for each student. It was found that game forms based on offensive numerical advantage and low defensive pressure conducted more game-play participation and flow. This work highlights that when teachers design their games and teach within a game-based approach, reduced game forms based on numerical advantage and without bouncing actions are key tools for inclusion and active participation. Project funded by the Foundation for Science and Technology with the reference: 2022.09013.PTDC: Empowering pre-service teachers as practitioner researchers toward PE-inclusive practices. Reference: Grehaigne, J.-F., & Godbout, P. (1997). Performance Assessment in Team Sports. *Journal of Teaching in Physical Education*, 16. <https://doi.org/10.1123/jtpe.16.4.500>

Keywords: Game balancing, Teacher Education, Handball

ID 317 Constructions of Minority Girls as "the Other" in Physical Education

Kristin Walseth (Oslo Metropolitan University), **Erik Aasland** (University of Agder) & **Ingfrid Thorjussen** (NLA University College)

BACKGROUND Previous research has shown how students with ethnic and/or religious minority backgrounds, especially girls, experience racialization and discrimination in school physical education. Despite this, researchers argue that there is a need for a shift in focus from the experiences of "the other" towards investigating how institutionalized (white) pedagogical practices contribute to the reproduction of stereotypes and discriminatory practices. Considering this, we have studied physical education teachers' narratives about minority students and ask: What discursive representations emerge in physical education teachers' narratives about minority girls and physical education? **METHOD** The material was generated by conducting individual semi-structured interviews with five physical education teachers who teach in high schools in Norway. In the analysis, we use critical whiteness

perspectives. **RESULTS** Preliminary findings show that physical education teachers' narratives largely construct girls with minority backgrounds as "the other" in physical education. For example, teachers express that the hijab pose a problem in physical education classes. Furthermore, teachers express that minority girls generally lack experience with physical activity and sports, often resulting in lower participation and effort in class, especially when team sports are the focus. Moreover, in the teachers' narratives, minority girls are portrayed as passive and uninterested in contributing; "they exclude themselves." However, we also find that teachers attempt to adjust and address these challenges but express a lack of competence regarding culture/religion and note that structural factors limit the potential for adapting the teaching. Overall, our findings indicate that teachers express specific norms, expectations, and understandings of how (Norwegian) physical education should be conducted. Such discursively constructed ways of thinking and understanding among physical education teachers contribute to constituting "the other" in stereotypical ways and as a problem. **CONCLUSION** The findings provide a basis for discussing how the profession can challenge/deconstruct discriminatory and racializing practices in physical education.

Keywords: Minority students, physical education teachers, whiteness, Othering, curriculum

ID 326 Understanding the use of Social Learning Strategies in HPE outdoor adventure programmes: investigating an innovative pedagogical approach

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To deepen the understanding of effective teaching and learning practices in outdoor education, research has been conducted around strategies based on socio-constructivist principles and student-centred learning that place the teacher in a facilitator role. This move aligns closely with the theoretical framework of Social Learning Strategies (Wenger, 1998). In Health and Physical Education (HPE) literature, considerable attention is paid to identifying the effectiveness of social learning strategies as a successful process for teacher learning, revealing the need to deepen the understanding of this learning process, particularly in contexts that promote socio-constructivism. This study aimed to explore if the context of HPE Outdoor Learning can promote specific conditions for successful teacher professional learning through

the development of social learning strategies. The aim was to analyse the HPE outdoor learning practices in an innovative programme, comprehend the use of social learning strategies both in the teacher staff and with the visiting teachers, and understand how these are transferable to school-based settings. This project was contextualised in an Outdoor and Environmental Learning programme based on the HPE Australian Curriculum developed through student-centred pedagogies. This study followed a longitudinal follow-up data collection and analysis throughout three distinct moments of the participant's interactions within the programme over one year to explore the progress before, during and after interaction with the programme (pre-programme, during programme activities, and post-programme). Data was gathered through the semi-structured interviews pre and post-engagement in the programme, participant-observations and informal conversations during the activities development, teacher-staff meetings, and the researchers's field diary, reflexive log. Data analysis was grounded in a multiphase approach of inductive and deductive analysis to challenge new interpretations and provide meaningful and practical application of the findings. The analysis resulted in an understanding of the main strategies developed to promote teachers' professional learning and experience sharing throughout their participation in the programme that promotes social learning strategies. Accordingly, findings explore the development of professional learning strategies in different levels of social interaction. Namely, how the teacher staff from the programme is cultivating a community of practice based on trust and value attribution. Also, the knowledge transfer based on a brokering system occurring between the internal community of practice and the visiting teachers promotes transformation and disruption of teaching and learning practice. Finally, how were these insights embedded in the visiting teachers' practices in a school-based setting after participating in the programme.

Keywords: Professional Learning, Teacher Education, Social Learning Strategies, Outdoor Adventure Learning, Student-centred Approaches

ID 674 Reaching global consensus on a health-related physical fitness test battery for school-based settings

Francisco B Ortega (University of Granada and Jyväskylä University), **Kai Zhang** (University of Ottawa) & **Justin J. Lang** (Public Health Agency of Canada)

Using common protocols and fitness tests worldwide will help generate reference values at the sub-national, national, regional, and international levels. Moreover, the

use of common fitness tests in relation to health outcomes will help inform more robust health-related fitness standards, which are test- and protocol-specific. At the educational level, improving the measurement and interpretation of physical fitness among youth is important because these measures are included in the physical education curriculum in many countries. To advance these important objectives, leading a global consensus on a physical fitness test battery for school-based settings is imperative. In fact, a previous Delphi study identified the top 10 international priorities for physical fitness research and surveillance among children and adolescents, and 3 out of these 10 priorities identified by the experts were directly related to the need for a common set of global fitness tests (Lang et al., 2023). Therefore, we have proposed an evidence-based fitness test battery and protocols that build on two previous projects: 1) ALPHA fitness test battery (2011), an EU project that identified a set of valid, reliable, feasible and safe field-based fitness tests to assess health-related fitness in youth to help support standardized public health monitoring within the European Union, which is based on 3 systematic reviews and methodological studies and a summary article (Ruiz et al., 2011); 2) Institute of Medicine (2012) (now the National Academy of Medicine, USA) report, that also did a systematic review of literature focused on longitudinal and experimental evidence that measured both fitness and health outcomes in healthy youth aged 5-18 years old in order to propose a fitness test battery. Therefore, the proposed physical fitness test battery is evidence-based, feasible, safe and aligns with the fitness tests recommended by both the ALPHA project and the Institute of Medicine report. The proposed fitness battery is comprised of four core tests, which include: Body-mass index to assess body composition, 20-meter shuttle run test to assess cardiorespiratory fitness, and handgrip strength and standing long jump tests to assess muscular fitness. Currently, we have developed the survey that we will use for the consensus study. We have also piloted the survey with four expert researchers from the Germany, Sweden, Spain, and Australia. The pilot phase led to important improvements to the final survey. In December 2023, we will send the consensus survey to 200+ researchers from all around the world with proven expertise in fitness testing among youth. The objective will be to obtain international agreement on the tests proposed and the protocols recommended to evaluate these fitness tests. If our abstract is accepted, by May 2024, I will be able to present the results of the Delphi study and the Global consensus on fitness testing in youth.

Keywords: physical fitness, testing, health, consensus

ID 342 Teacher emotions in the enactment of student voice pedagogies as innovative practice in primary physical education

Grace Cardiff (Mary Immaculate College, Limerick, Ireland) & **Stephanie Beni** (Norwegian School of Sport Sciences, Oslo, Norway)

While student voice has become increasingly prominent within physical education (PE) research, less is understood about the challenges faced by teachers in enacting student voice pedagogies in everyday practice. Teacher change literature points to the need to better understand teachers' emotional responses when implementing innovative approaches to provide insight into how to better support teachers in making changes to their practice. The aim of this research is to explore the emotions experienced by one classroom teacher in the enactment of student voice pedagogies in primary PE and offer insight into how emotions influence the implementation of innovations in practice. Author1, who is a generalist primary school teacher, adopted a self-study approach to explore her experience of enacting student voice pedagogies within her PE practice across two academic years. Data sources included: 1) Author1's weekly personal reflections after PE lessons (n = 42), 2) transcripts from monthly online critical friend meetings with Author2, and 3) Author2's written replies to Author1's reflections. A reflexive thematic approach was taken to analyse the data. Findings illustrate three primary factors that influenced Author1's emotional responses to the implementation of student voice pedagogies in PE. First, in enacting student voice within her PE practice, Author1 often felt frustrated and overwhelmed in seeking to align her practice with competing expectations including: her own, those of her students' and the expectations placed on her through the curriculum and the local school context. Second, Author1 experienced a broad range of emotions in navigating the non-linear process of enacting student voice pedagogies in her practice, ultimately learning through a 'trial-and-error' process which often challenged her perceptions of what student voice "should" look like in practice. Third, Author1 found it emotionally taxing to manage the many responsibilities placed on her as a classroom teacher, while also investing time and energy into the implementation of innovative PE pedagogies, feeling the need to compromise one in order to prioritize the other. While the process of enacting student voice pedagogies presented many challenges for Author1 and often led to intense emotional responses, engaging in critical reflection of her practice allowed her to navigate, come to terms with, and move past challenging emotions. The role of critical friendship was also key to helping Author1 to make sense of and reconsider emotionally charged experiences from an outsider's perspective. This research holds important implications for supporting teachers through collaborative, reflective approaches as they

navigate emotional challenges associated with implementation of innovative approaches in PE practice.

Keywords: student voice, elementary, physical education

ID 392 Professionalising future physical education teachers for the use of technology in inclusive physical education

Svenja Kehm (Leipzig University)

Digitalisation and inclusion are issues that currently pose new challenges for teacher education. In order to fully meet the diverse needs of students, it is necessary to use technology in a didactically and pedagogically sound way (Koekoek & van Hilvoorde, 2018). In this context, a digital-inclusive pedagogical competence of (physical education) teachers is crucial. In order to promote this, professionalisation processes need to take place with regard to linking the topics of digitalisation and inclusion in physical education teacher education. The aim of this project is to gain insight into how a course needs to be designed to enable future physical education teachers to use technology critically and constructively in inclusive physical education. To achieve this, teaching-learning scenarios were developed using a design-based research approach (Bakker, 2019) and piloted in the physical education didactics seminar 'Diversity and Inclusion II' at the University of Leipzig in the summer semester of 2021. In the summer term 2022, the further developed second prototype was applied and evaluated. For this evaluation, qualitative individual interviews were conducted with a total of 14 students, which were analysed using content-structuring qualitative content analysis according to Kuckartz (2018). The results show that the students are rather positive about the use of technology in inclusive physical education. Through the teaching-learning scenarios, the students feel better prepared for its use, but see the need for further practical experience. The evaluation identified various aspects of the teaching-learning scenarios that the students mentioned as promoting (e.g. getting to know the possibilities of use, reflection, own application) or hindering (e.g. uncertainty about future equipment, excessive demands due to unlimited possibilities) learning. In addition, several suggestions for change were derived, which are now being incorporated into the further development of the teaching-learning scenarios. The results also show that the didactic implementation of the teaching-learning scenarios and the role of the teacher play a decisive role. Therefore, these aspects must not be neglected when designing learning environments if the design is to be effective. Literature: Bakker, A. (Ed.). (2019).

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Keywords: Physical Education; Inclusion; Technology; Physical education teacher education; Professional development

ID 365 Noticing rhizomatics in paradoxes of inclusive teaching practices in physical education

Corina van Doodewaard (Hogeschool Windesheim, Zwolle)

Inclusion studies in education often frame the notion of practices of inclusion as the answer to ensuring equitable outcomes for all and as a moral obligation to diminish the current increase in social inequalities and precarity (Nabaskues-Lasheras, 2020). Physical education (PE) in Western countries, however, remains a site that is shaped by practices associated with competitive ableism, healthism, desirable masculinities, whiteness, and heteronormativity (Lynch et al. 2022). These discursive practices continue to label students as normal/adequate or as abnormal//inadequate. The standards to include students in the 'normal' category are ambiguous, however (Van Doodewaard. 2022). This ambiguity is a paradox of inclusive teaching (PIT). The purpose of this study was to explore ambiguity in PIT practices described by 28 PE teachers in secondary schools. I conducted semi-structured interviews and listened carefully to underlying reasonings that accompanied explanations of their attempts to be inclusive. By following Tsing (2015), I engaged in the art of noticing in order to discern rhizomatic patterns. I noticed my first impulse was to focus on discriminatory practices. However, a process of noticing using inductive and iterative analysis of the data revealed themes of doubting, wondering, and navigating that were embedded in the interviews. The art of noticing, therefore, offered me the opportunity to query PIT-practices and to look beyond these paradoxes. It pushed me to listen carefully to these teachers, to notice thoughts and feelings underlying exclusionary practices and to embrace the ambiguity and unpredictability of relational practices that are part of PIT. References Lynch, S., Walton-Fisette, J. L., & Luguetti, C. (2021). Pedagogies of social justice in physical education and youth sport. Routledge.

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Keywords: inclusion, paradoxes, ambiguity, teachers, noticing

Physical literacy, Health literacy

ID 555 Digitalized health promotion in schools through Participatory Action Research with young people.

Pablo Lope García (Universidad Complutense de Madrid), **María José Camacho-Miñano** (Universidad Complutense de Madrid) & **Ana Rey-Cao** (Universidade de Vigo)

DigitalHealthEdu project aims to co-develop with young people innovative and critical pedagogies concerning digital health in schools, drawing on practices, meanings, contexts, and involved factors. The research project adopts an innovative theoretical-ethical-methodological approach, applying the lens of new feminist materialisms to produce new knowledge about digital health. In the ongoing Participatory Action Research (PAR) phase, 17 participants (6 boys and 11 girls, aged 12-15, from a public secondary school in Spain) collaborated as co-researchers informing all the main research stages: questionnaire, digital diaries and workshops to co-create critical digital health pedagogies. Data were collected using both traditional techniques (e.g. participant observation), and creative participatory methodologies (e.g., collages). The 15 weekly sessions until June 2023 unfolded through a cyclical process which began with building the foundation and, through reflective planning, informed the research process (Oliver & Oesterreich, 2013). Preliminary analyses highlight the complex 'intra-actions' (Barad, 2007) between bodies, digital technologies, spaces, affects, and sensations. These intra-actions generate affective forces, offering fresh learning opportunities that also shape the project. Two significant outcomes of the PAR phase were the co-construction of a holistic 'digital health' concept and the co-creation of the digital diary as data collection instrument. This tool helps to explore

young people's ideas and experiences of using digital health technologies within the contexts of their material, sensory and social worlds. The co-investigators' voices were pivotal to design the digital diaries, influencing decisions ranging from platform choices to gamified elements, ensuring the diaries were not just functional, but engaging and reflective of their digital health experiences. The study also raises broader concerns about ethics, knowledge, and power dynamics (Bastian, 2017), emphasizing the need for inclusive and critical approaches in digital health research and pedagogy. Ultimately, the PAR phase exemplifies the power of co-construction, showing that giving young people a voice in research not only leads to innovative outcomes but also ensures deep alignment with their own aspirations and experiences. Barad, K. (2007). *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Duke University Press. Bastian, M. (2017). Towards a more than human participatory research. In M. Bastian, O. Jones, N. Moore & E. Roe (Eds.) *Participatory research in more-than human worlds* (pp. 19-37). Routledge. Oliver, K. L., & Oesterreich, H. A. (2013). Student-centred inquiry as curriculum as a model for field-based teacher education. *Journal of Curriculum Studies*, 45(3), 394–417. <https://doi.org/10.1080/00220272.2012.719550>

Keywords: Participatory Action Research, Digital Health, Co-construction, Student-centred Pedagogy, New feminist materialism.

ID 467 Interventions with a focus on cognitive activation in physical education: a systematic review with meta-analysis

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Introduction Conceptualizations such as Concept-based Physical Education or Teaching Games for Understanding (TGfU) highlight the importance of cognitive learning in PE. Cognitive activation is the in-depth mental engagement with sport and movement-related learning objects (Engelhardt et al., 2023). Five potential goals of cognitive activation in PE are suggested: (health-related) knowledge, motor skills, game performance and understanding, reflective ability and motivation (Engelhardt et al., 2023). We examined the effectiveness of such interventions for cognitively activating PE with respect to these goals. **Methods** A systematic review was conducted to analyse the current research situation in German- and English-speaking countries (Page et al., 2021). We searched in national and international databases

(e.g., SPORTDiscus, Scopus) in the period from 2000-2022, using a variety of search terms reflecting the idea of cognitive activation (e.g., reflection, cognitive engagement). Title, abstract and full-text screening as well as data extraction and risk-of-bias assessment were carried out by two independent reviewers. We conducted a meta-analysis (Review Manager 5.4) with all controlled studies to assess their effectiveness (including sub-group analyses). Results We incorporated a total of 3,173 hits into the screening process (Cohen's kappa: 0.74-0.93), resulting in 32 intervention studies being included in data extraction. The majority of the studies came from the USA and Spain. Half of the studies (n=14) followed a control group design. The majority of the intervention programmes were based on methodological approaches such as TGfU or 5-E-learning cycle. Empirical evidence of learning outcomes could be identified for (health-related) knowledge ($g=0.54$), motor skills ($g=0.56$), game performance and understanding ($g=0.48$), and motivation ($g=0.39$). Reflective ability was not empirically measured in any of the intervention studies. Discussion The systematic review demonstrated that cognitive activation in PE not only promotes knowledge-related outcomes, but also influences a variety of other outcome variables (e.g., motivation). However, there are limitations with regard to the scope of the data available. Due to the small number of studies with a control group design, further studies are needed to strengthen the robustness of the meta-analytical findings. References Engelhardt, S., Hapke, J. & Töpfer, C. (2023). Kognitive Aktivierung im Sportunterricht: ein Scoping Review zur Umsetzung methodisch-didaktischer Merkmale und zugrundeliegender konzeptioneller Grundannahmen. *Unterrichtswissenschaft*. <https://doi.org/10.1007/s42010-023-00178-x> Page, M. J., Mckenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>

Keywords: physical literacy, reflection, cognitive engagement, instructional support, teaching quality

ID 525 Students' emotional experiences of jumping tasks in physical education

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Background Sport pedagogical research demonstrates that emotions play an important role for how students experience and act in school physical education (PE),

with studies focussing on factors influencing the emotional experiences of students, on social integration, competence perception and motivation (Leisterer & Jekauc, 2019, Yoo, 2015). Following a social-constructivist perspective, emotional experiences (EE) are shaped by the perception of an emotion-evoking situation, subjective appraisal, and ensuing reactions/actions – a process that significantly depends on implicit orientation patterns (e.g., based on prior experiences) (Barrett, 2009). Research that investigates students' EE within the context of specific subject matter and focusses on implicit orientations of these EE is still lacking. Purpose Our qualitative study asks: How do students experience jumping as a subject matter in PE? (RQ1) Which implicit orientation patterns structure the students' EE of jumping tasks? (RQ2) Method We conducted a PE lesson in a sixth-grade Austrian secondary school class (N=18 students). The lesson featured a variety of open-ended tasks of jumping down and over different obstacles, with the aim of inspiring students to set self-referential goals and fostering their emotional engagement. After the lesson, n=12 qualitative episodic-narrative interviews were conducted and analysed using the documentary method of interpretation (Nohl, 2010). Results Students' emotional experiences of jumping tasks mainly relate situations of self-initiated competition and moments of individual decision making (RQ1). In both situations, their emotional experiences are shaped by social relations (RQ2). For example, potentially being evaluated by others or climbing the peer hierarchy serve as implicit orientations that shape the experience of a jumping task as being marked by feelings of shame, anxiety, or pride. Discussion Emotions in PE and particularly the importance of social relations for EE of the interviewed students warrant further attention in research (e.g., regarding different situations and subject matter in PE) and practice (e.g., teacher education, lesson planning). Literature Barrett, L.F. (2009). Variety is the spice of life: A psychological construction approach to understanding variability in emotion. *Cogn Emot.* 1, 23(7), 1284–1306. Leisterer, S. & Jekauc, D. (2019). Students' emotional experience in physical education. A qualitative study for new theoretical insights. *Sports*, 7(1), 10-25. Nohl, A.-M. (2010). Narrative Interview and Documentary Interpretation. In R. Bohnsack, N. Pfaff, & W. Weller (Eds.), *Qualitative analysis and documentary method in international educational research* (pp. 195-217). Budrichl. Yoo, J. (2015). Perceived autonomy support and behavioral engagement in pe: a conditional process model of positive emotion and autonomous motivation. *Perceptual & Motor Skills: Exercise & Sport*, 120(3), 731–746.

Keywords: emotional experience, subject matter, implicit orientations, documentary method, social relations

ID 445 Characteristics of children with an undesirable motor competence development during the transition from early to middle childhood: results of a longitudinal study

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Abstract The aim of the study was to see how variance in motor competence (MC) development in young children can be explained by weight status, enjoyment and perceived motor competence (PMC). Within the literature weight status (BMI) and PMC are well documented determinants within the concept of MC development, however enjoyment of physical activity is rather unknown. This longitudinal study analyses these potential determinants during the transition from early- to middle childhood and how this can explain variance in MC development. A total of 741 Dutch children (49% male) between 4 and 6 years old ($M = 5.58 \pm 0.62$ years) at baseline participated in this study. Data on anthropometrics and MC were collected at three subsequent time points one year apart, between January 2020 and May 2022. MC was measured with the Athletic Skills Track (AST) which includes a string of different fundamental movement skills to be completed as fast as possible. Subsequently, AST times were converted into Motor Quotient (MQ) scores. Data on PMC and enjoyment of physical activity were measured at T0 and T2. Data were analyzed using generalized linear mixed models with MQ scores at outcome and BMI, PMC and enjoyment as potential determinants. When a significant interaction of a determinant with time was found, analysis was stratified per time point. Sum scores of PMC and enjoyment were heavily skewed to the upper extremes at T0 but approached a rather normal distribution at T2. Preliminary results indicate a non-linear association of a high BMI with a low MQ score. Moreover, a high PMC was associated with a high MC for object control skills but not for locomotion skills. Both associations reached significance at T2 only, indicating a more prominent effect at middle childhood. Some concerning profiles were noticed of MC development when children transition from early- to middle childhood. More research is needed to get insight in parameters which could clarify these risk profiles of MC development.

Keywords: motor competence, early childhood, development, transition phase

ID 453 Examining physical literacy as a mediator in the relationship between motivation and physical activity levels during a university sport education season

Siu Ming Choi (The Chinese University of Hong Kong (until 2023) University of Macau (2024))

This study aimed to investigate whether physical literacy mediated the translation of university students' motivation during the sport education season into their daily physical activity levels. The physical education course included 90-minute, one-day-per-week lessons in badminton, basketball, handball, woodball, and volleyball over 10 weeks. During the season, students were divided into consistent teams and assigned specific roles and progressing responsibilities. A total of 188 participants (male $n = 132$, female $n = 70$; mean age: 18.53 years) were asked to complete a set of questionnaires at the beginning, at the end and after a five-week follow-up of the season. Demographic information, scores of intrinsic motivation and physical literacy, and minutes of physical activity levels were collected. Data were analysed using partial least squares structural equation modelling in SmartPLS version 4 (SmartPLS GmbH, Germany) to test the hypothesized mediation model. Results indicating that small and medium explanatory power in the relationships from intrinsic motivation to physical activity levels (β IM \rightarrow PA = 0.147, $t = 2.012$, $R^2 = 0.143$, $p < 0.05$) and physical literacy (β IM \rightarrow PL = .54, $t = 7.059$, $R^2 = 0.292$, $p < 0.001$) respectively. Additionally, results showed that physical literacy mediated the relationship between intrinsic motivation and physical activity levels (β IM \rightarrow PL \rightarrow PA = 0.151, $t = 3.695$, $p < .001$, 95 % confidence level: 0.078 - 0.241). This study added to the existing physical literacy literature by demonstrating how it works as a mediator influencing students' daily physical activity levels, suggesting intrinsically motivated behaviours are more likely to be maintained. Framing physical education within an authentic sport experience engaged students in nurturing physical literacy and supporting the translation of motivation into meaningful and lasting physical activity behaviour change. Therefore, the findings provide guidance for designing physical education pedagogy to develop physically literate students who remain active in the lifelong journey.

Keywords: Physical literacy, motivation, physical activity, sport education, mediation

ID 201 Post-pandemic effects on grading in PE secondary schools in the north of Sweden

Peter Åström (Department of Education Umeå University)

In many countries, the COVID-19 pandemic challenged the normalcy of teaching and learning in Physical Education (PE), with closed schools, acute remote teaching, online teaching, and outdoor classes as solutions. Following this, the blueprint for the assessment of PE in many ways also changed. After the pandemic, many sectors of society have quickly discovered that going back to what they have traditionally done will not work anymore. The educational sector seems to be more resistant to change, and the long-term effects of the pandemic on the teaching, learning, and assessment of PE in Sweden are not known. One possible local effect of this development is, however, that the proportion of pupils in compulsory school who do not reach the knowledge requirements in PE has increased in the north of Sweden, especially in one large municipality. This trend is not existing in other parts of the region or the rest of Sweden. This poses questions of certain interest: How have the teaching and learning in PE developed after the pandemic? What aspects have made certain schools more restrictive regarding grading and assessment and what are the possible explanations? And why have other schools not had the same development despite similar conditions? This presentation will illuminate possible reasons for this and suggest methods to ensure an equivalence of assessment, at least in a local context. The presentation draws on an analysis of national statistics on the development of the proportion of pupils who do not reach the knowledge requirements in PE in Sweden and data collected in collaboration with PE teachers at five selected compulsory schools in one municipality. Three teachers from schools that, according to the statistics, have a high proportion of pupils with passing grades in PE and two schools with a high proportion of pupils with failing grades in PE. Preliminary results indicate that the teaching in PE in the specific municipality has not changed a lot after the pandemic. At the same time, PE teachers indicate that the increased proportion of pupils with failing grades is directly linked to the pandemic when the possibilities for certain teaching elements (e.g., swimming) were limited. However, why not all schools were affected the same way during the pandemic and why the differences remain post-pandemic, is not clear. To highlight this, individual interviews and focus group discussions with the PE teachers will be conducted during the autumn of 2023 where the conditions for teaching PE and difficulties related to grading will be addressed. The starting points for the discussions will be the analysis of

grades in PE and current research on grading in PE. Through the project, the teachers and researchers involved will be given the possibility to discuss different difficulties related to teaching and grading in PE and reflect on possible solutions to the problems.

Keywords: Post pandemic, grading, assessment,

Physical activity in children's and adolescents' life

ID 347 Spatio-temporal and socio-cultural divergences in physical activity: a comparison study between France and New-Caledonia

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Participating Moderate and Vigorous Physical Activity (MVPA) is an effective way to maintain good health (Ekelund et al., 2019). However, major cross-cultural studies highlight the complexity of PA engagement between regions with different lifestyles (Lera-Lopez & Marco, 2018). In both Pacific (Galy et al., 2019) and Europe (Rodrigo-Sanjoaquin et al., 2022) regions, few educational initiatives have been successful. In line with the ecological framework of human development, these unsuccessful interventions can be explained by spatial (urban, rural, or tribal life), social (multiculturalism) and temporal dimensions (organization of the day according to customary rhythms and cultures). This study explores the MVPA of adolescents with similar educational backgrounds, but with different life ecosystems given socio-cultural,

spatial, and temporal dimensions. Methods. 270 adolescents (France: 160; New-Caledonia: 110; age mean: 17.52 ± 1.01 years old) participated in data collection for one week. MVPA data was collected by accelerometer ActiGraph GT3X. Temporal patterns were collected by logbook, as daily dairies, every evening according to a self-reported timetable reconstruction of twelve opportunities (Derigny et al., 2022). Results. The overall MVPA is significantly higher in France than in New Caledonia (6.6% vs 5.1%; culture effect), particularly in the opportunities of transport (13% vs 7%), recreation (12% vs 7%) and physical education (18% vs 8%; time effect). For space effects, further analyses will be conducted and presented at the conference. We hypothesized that MVPA patterns are oriented towards specific opportunities for those living in urban areas compared to those living in rural and tribal areas. Discussion. This study puts into perspective the use of a common MVPA promotion and education system, whereas MVPA is a complex phenomenon that depends on the interaction of spatial, temporal, and socio-cultural determinants. Derigny T, ... Potdevin F. (2022). Catch me if you can! How French adolescents seize social occasions and opportunities to be active. *BMC Public Health*, 22(1), 1332 Ekelund U, ... Lee IM. (2019). Dose-response associations between accelerometry measured physical activity and sedentary time and all cause mortality: Systematic review and harmonised meta-analysis. *BMJ*, l4570 Galy O, ... Caillaud C. (2019). Improving Pacific Adolescents' Physical Activity Toward International Recommendations: Exploratory Study of a Digital Education App Coupled With Activity Trackers. *JMIR Mhealth Uhealth* 2019;7(12):e14854 Lera-López F, Marco R. (2018). Sports participation, physical activity, and health in the European regions. *Journal of sports sciences*, 36(15), 1784–1791 Rodrigo-Sanjoaquin, J., ..., Bois, J. E. (2022). Effectiveness of school-based interventions targeting physical activity and sedentary time among children: a systematic review and meta-analysis of accelerometer-assessed controlled trials. *Public health*

Keywords: opportunities, accelerometers, adolescents, logbook, health

ID 147 Effect of Circuit Training on Maximum Oxygen Uptake (VO₂max) of Adolescents

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Aim of the Study: Circuit training, characterized by a series of exercises conducted, performed, and executed in quick succession, has gained popularity as an effective training method to improve overall fitness. However, its specific influence on VO₂ max, a crucial indicator of cardiovascular fitness, remains relatively unexplored in the adolescent population. This study aims to fill this knowledge gap by examining the effects of circuit training on the VO₂ max levels of adolescents. **Methods:** An experimental, pre/post-intervention study design was used. This particular study was conducted at the Government College of Management Sciences in Haripur Khyber Pakhtunkhwa, Pakistan. Twenty-four participants were randomly selected and divided into a circuit training group (n=12) and a control group (n=12). Before the intervention, a pre-test was conducted and then the experimental group was engaged for twelve (12) weeks of circuit training intervention whereas the control group received no training protocol. At the end of the intervention, a post-test was conducted. **Results:** Adolescents between the ages of 16 and 19 witnessed a significant difference in VO₂max between the experimental group with an improvement of (2.83±0.07) and the control group with an improvement of (0.45±1.07) in favor of the experimental group. **Conclusion:** Twelve weeks 12 Circuit training intervention is an effective protocol in increasing the VO₂ max of adolescents aged 16-19 years.

Keywords: Circuit Training, VO₂, 12-weeks, Adolescents

ID 381 Exploring adolescent girls' motor competence perception in a non-competitive after-school sport program

Félix Enrique Lobo de Diego (University of Valladolid)

Introduction Getting engaged in physical activity across the lifespan is one of the main purposes of physical education (PE) at schools and sport education. The body is situated at the centre of experiences and, therefore, schoolchildren are not exempt from suffering comparisons and negative judgments given the social context in which it is established. This is relevant in adolescence, a period in which participation rates in physical-sports activities declines. At this stage, Craft et al. (2003) identified that there is a strong relationship between athletic competence and physical appearance. Besides, people with higher perceived physical competence suffer less body dissatisfaction (Kerner et al., 2018), which can result in greater adherence to sports practice. Given this framework, the purpose of this paper is to examine the physical competence perception of the female gender during the period 2013-2018

in a non-competitive after-school sport program with educational approach, and explore if that perception is correlated to the program satisfaction which includes the program engagement. **Method** The participants of this study are 453 adolescent girls aged between 12-17 years old who participated in the after-school sports program in the period between 2013 and 2018. **Instruments** A questionnaire based on a five-point Likert-type scale from 0 (disagree) to 4 (strongly agree), designed for the annual evaluation of the Program, was applied. The dimensions studied in this paper have remained the five years studied. For this paper, 22 items have been selected to help us find out the type of perception of physical competence and satisfaction with the Program that adolescent girls have. The reliability of Cronbach's Alpha is 0.725, which allows us to ensure reliable measurements. **Results** The main results show a significant increase in the perceived physical competence during the five years. Means higher than 2'62 and significant correlations ($p < .01$) were found in the data obtained between perceived physical competence and satisfaction with the program. **Conclusion** The satisfaction with the after-school sports program among the participating girls leads to a greater engagement in the programme, which in turn has an impact on the positive perception of motor competence. **References** Craft, L.L., Pfeiffer, K.A., & Pivarnik, J.M. (2003). Predictors of physical competence in adolescent girls. *Journal of Youth and Adolescence*, 32(6), 431- 438. Kerner, C., Haerens, L., & Kirk, D. (2018). Body Dissatisfaction, Perceptions of Competence, and Lesson Content in Physical Education. *Journal of School Health*, 88(8), 576–582.

Keywords: motor competence, physical activity, non-competitive, after-school

ID 631 Changes in Finnish children's participation in sport, outdoor time, and motor competence during a 6-year follow-up period

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Age has a positive correlation to children's motor competence (MC; Barnett et al, 2016) and effect on the type and amount of sport participation (Cote et al. 2007). The aim was to find out how participation in sports, outdoor time, and MC changes from early childhood (T1) to middle (T2) and late childhood (T3). The participants

(n=384) were Finnish children, aged 3-7 years at T1 (mean 5.6 yrs.), 7-11 years at T2 (mean 8.8 yrs.), and 10-13 years at T3 (mean 12.0 yrs.). Rate of participation in sports and outdoor time were queried via parental questionnaire at T1-T3. MC was assessed using jumping sideways test of the Körperkoordinationstest Für Kinder (KTK) instrument (T1-T3). Different time points were compared using Paired-Samples T Test in SPSS. Participation rate in sports showed an increasing trend from T1 (62.8 %) to T2 (78.9 %), but a decreasing trend to T3 (77.6 %). However, sport participation times per week increased statistically significantly ($p < 0.001$) through the time points (T1: mean 1.6 times/wk.; T2: mean 2.5 times/wk.; T3: mean 3.0 times/wk.). Diversity of the sports participated increased from early (T1, 0.88) to middle childhood (T2, 1.24) and declined from middle (T2, 1.24) to late (T3, 1.04) childhood ($p < 0.001$). Outdoor time changed within childhood, being the highest at T2. MC increased with age; jumping sideways increased significantly through the time points T1-T3 ($p < 0.001$; T1: mean 36 jumps; T2: mean 52 jumps; T3: mean 73 jumps). Participation in diversified sport and sport overall starts to decrease but intensity of participation increases quite early. In addition, outdoor time didn't increase across childhood. In the future, it needs to be examined whether trends of participation in sport, outdoor time and motor development are associated, and what would be an optimal balance of sport participation and outdoor time for children's motor development. Barnett, L., Lai, S., Veldman, S., Hardy, L., Cliff, D., Morgan, P., Zask, A., et al. 2016. Correlates of gross motor competence in children and adolescents: A systematic review and meta-analysis. *Sports Medicine* 46 (11): 1663–88. Côté, J., Baker, J., & Abernethy, B. (2007). Practice and play in the development of sport expertise. In G. Tenenbaum & R. C. Ecklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 184-202). Hoboken, NJ: Wiley.

Keywords: Children, participation in sport, outdoor time, motor competence

ID 518 A Study of Kindergarten's Needs for Physical Activities and Sport in China

Jinxia Dong (Peking University), **Xiaoxiao Ma** (Quan Xiu Kindergarten), **Qiaowen Gu** (Quan Xiu Kindergarten) & **Tiantian Wang** (Quan Xiu Kindergarten)

To understand the kindergarten's needs for physical activities (PA) and sport in order to promote the scientific and healthy development of young children, this study surveyed more than 800 kindergarten principals and teachers of 70 cities in China. Based on the statistical analysis of the results, it is found that PA and sport is an

effective means to meet the needs of kindergarten brand building. Creating a PA-specialised kindergarten, teacher training, physical education program, and more funding for PA are the major needs of kindergartens. In specific, play and games are emphasised in kindergarten, and PA and PE programmes should be fun, safe, and scientific. Fitness, basketball, cheerleading, and soccer are the most favoured activities in Chinese kindergartens. In addition, most kindergartens wish to provide PA-related training to all staff and teachers. To meet the kindergarten's needs for PA and sport, the following strategies are recommended: stressing institutional cooperation and teacher training, developing game-oriented programmes, and designing children-friendly sports equipment and facilities.

Keywords: kindergarten, Needs, children, physical activities, sport

ID 561 Exploring Dual Career Construction Styles among Adolescent Athletes in Lower Secondary Education and Their Impact on Transition to Upper Secondary School

Joni Kuokkanen (Åbo Akademi University), **Milla Saarinen** (The Child and Youth Sport Research Centre, Norwegian School of Sport Sciences) & **Jan-Erik Romar** (Åbo Akademi University)

In the European discourse, talented student-athletes often pursue their dual career (DC; combining a sport career with education or employment) within specialized sport schools that provide a flexible curriculum and assistance with DC planning. There seems to be a critical gap in the literature, as in many European countries there is an emergent trend to develop DC programs for adolescents in compulsory lower secondary education. During early adolescence, spanning from 13 to 15 years of age, individuals need to harmonize their involvement in sports and academics as part of their daily routines while establishing future goals as they prepare for the transition to upper secondary education. The aim of this study was to examine DC construction styles among adolescent athletes during their lower secondary school years, and explore how these styles influence their transition to upper secondary education. We conducted two rounds of semi-structured interviews with 16 adolescent student-athletes (nine females, and seven males) from five Finnish lower secondary sport schools during Grades 8 and 9. The interviewees were 14.5 years old during the initial interview, and one year older during the subsequent follow-up interviews. The interviews were analyzed using reflexive thematic analysis. We reached out to the school study counsellors to obtain registry data on adolescents'

progression into upper secondary education. At the end of grade eight (T1), the majority (11/16) of adolescent athletes showed a contrapuntal career construction style, meaning that they attempted to balance their athletic and educational themes in daily life. Among the remaining interviewees, three boys displayed a dissonant style characterized by an imbalance in allocating their attention between school and sport. Conversely, two girls showed a monophonic approach, displaying strong dedication to their academic endeavors and well-established career aspirations, alongside comparatively less ambitions in sport. Eleven of the sixteen student-athletes sustained their dual career construction style from T1 to T2. Almost all adolescents in the contrapuntal group applied for a position in sports-oriented upper secondary schools, whereas adolescents with a monophonic or dissonant career construction style opted for general education programs. This study provides insights into the situational and rational factors that shape career construction among adolescent athletes in lower secondary school, expanding our understanding beyond previous research, which has mainly focused on the career construction of dual career athletes in upper secondary school. Given that a majority of adolescents transitioned into a general education program with limited support for maintaining a significant commitment to sport, we discuss whether sports-oriented lower secondary schools fulfill their national objective in preparing adolescents for the increasing demands of school and sport in the subsequent phase.

Keywords: Dual Career, Career Construction Styles, Adolescent Athletes, Transition

Pedagogy and didactics in physical education

ID 265 Another step in Meaningful PE. New features?

Pablo Saiz-González (University of Oviedo) & **Javier Fernandez-Rio** (University of Oviedo)

The meaningful PE approach's main idea and learning aspiration is 'to support students in coming to value PE through experiencing meaningfulness and recognizing ways participation enhances the quality of their lives' (Fletcher et al., 2021, p.4). Six critical features (Beni et al., 2017) have been identified: (1) social interaction: relationships in the teaching-learning context; (2) optimal challenge: task difficulty and

competition; (3) fun: effective vehicle and integral component; (4) motor competence: perceived ability; (5) personally relevant learning: connections with 'outside of school'; and (6) delight: intrinsic satisfaction. The present study aimed to analyse the reasons why prospective teachers rated their past experiences in physical education in secondary education as positive and whether the features of the meaningful approach could help understand them. During one of its university sessions, 783 Primary Education, Early Childhood Education or Pedagogy prospective teachers from two different universities in Spain agreed to participate and answered several open-ended questions on their past Physical Education experiences. This population was chosen because these students have just finished secondary education (their memories were "fresh"), but also because they had more pedagogical knowledge than the average college student (they should have the tools to identify the elements that made their experiences positive). After eliminating participants who rated their experience as negative and those whose answers were not deep enough to be analysed, 454 (299 females, 155 males, ages 18-44 years, $M=20.62$ years) were included in the study. The qualitative analyses of the participants' responses showed all the fundamental features of the meaningful PE approach, except delight. In addition, three new categories were found: novelty, teacher interpersonal style and rest/relief. The present study represents a step forward, since it provides empirical support to the meaningful PE approach among college students, while uncovering new features that require more study and debate.

Keywords: novelty; teacher interpersonal style; rest/relief

ID 270 Effects of the Jigsaw method on students' physical activity: the role of the habituation and the sex

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Based on the principle of cooperative learning, the Jigsaw method aims to engage all students through learning situations in order to maximize social and cognitive gains (Buchs & Butera, 2015). This method is demanding and requires time for students and teacher. Prior research on the impact of the Jigsaw method in education has yielded inconsistent results (Cochon Drouet al., 2023), and there is few studies

on its effects on student engagement. In physical education (PE), differences between girls and boys are well known, notably in regards with their engagement in physical activity. The aim of this study was to evaluate the effects of the Jigsaw method on students' moderate to vigorous physical activity (MVPA) in PE lessons in light of student sex and habituation (through one sequence and during several sequences). In all, 254 students (Mage = 14.11, SD = 1.24, 51% boys) were involved in this study: 156 in the Jigsaw condition and 98 in control condition. Students' MVPA was measured thanks to accelerometers during the 3rd and 6th lessons in three different teaching sequences. Linear mixed model analyses were performed while controlling for the type of activity taught in PE and the students' class. The results showed that the Jigsaw approach was associated with smaller sex differences in MVPA than for the control condition. Furthermore, the differences between the two conditions decreased through one sequence in favor of Jigsaw but not during three sequences. These results imply that Jigsaw may be effective to reduce MVPA disparities between sex in PE, and it seems better to develop longer Jigsaw sequences in a specific activity than to propose successive sequences in different activities. These elements help us to better understand the inconsistency of the Jigsaw effect and to improve Jigsaw implementation in PE.

Keywords: Jigsaw, MVPA, sex, habituation, cooperative learning

ID 281 Body experiences between physical and virtual reality

Helena Sträter (University of Wuppertal), **David Wiesche** (University of Duisburg-Essen) & **Caterina Schäfer** (University of Duisburg-Essen)

Introduction Pedagogy and didactics in physical education (PE) have long studied body experiences. Both research and didactic approaches have focused on the distinction between the neurophysiological body schema (e.g. kinesthetic perceptions) and the psychological-phenomenological body image (e.g. attitudes towards one's own body) (Bielefeld, 1991), or between functional-performing and affective-social interpretations (Funke-Wieneke, 2009). However, as digitalization creates digital spaces that render the entire body effective and thus experiential, research must also address body experiences in virtual reality (VR) (Radianti et al. 2020). Movements in hybrid virtual-physical spaces facilitate reflexive engagement with the body, but medical and educational questions remain (Southgate, 2018), including whether and how VR can innovate and expand PE. Methods This study investigates data collected from a university project, in which VR-unexperienced (PE) teachers

test learning via VR. Ten guideline interviews with PE teachers were analyzed via Qualitative Content Analysis (Kuckartz, 2018). From this, the study gleans initial findings on how PE teachers reflect on body experiences in VR, and on the conditions for the effective use and didactic possibilities of VR in teaching in general and PE in particular. Results Participants and interviewees describe both performance-related applications and opportunities for virtual body experiences, with some limitations and necessary organisational framework conditions (Wiesche et al., 2023). Our presentation unpacks this tension, discusses concepts of body experience to illustrate dimensions of VR use in PE, including expanding PE's remit to areas such as social learning.

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Keywords: physical education, virtual reality, body experience, pedagogy, innovation

ID 299 Slow Movement Practices (SMP) within the subject of Physical Education (PE) in upper secondary school

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There is a lack of didactic research that explores how PE teachers experience teaching Slow Movement Practices (SMP), here equated with yoga, mindfulness, meditation, and massage. Many degree projects show that there is a great interest in investigating what SMP can do when it is introduced within the school framework of

PE. These projects also indicate that PE teachers feel insecure about teaching such activities as they perceive that they lack sufficient training. The paper wants to highlight didactic considerations associated with SMP, partly as a contrast to the prevailing activity discourse within the subject of PE (Kirk 2018). The present study aims to explore teachers' and students' experiences of SMP in PE. What pedagogical considerations do teachers make in their teaching to stimulate pupils' insight into the meaning of SMP? The study is based on phenomenological theory, mainly on Merleau-Ponty's lifeworld concept (Dahlberg et al 2008). The lived body is our access to the world, and it (the body) can never be reduced to something purely subjective or objective. The participating teachers have received training in yoga-based practices (YBP)* or similar. The project was carried out at two upper secondary schools. Three PE teachers and eight school classes were involved. Eight lessons were filmed. Individual interviews were conducted with three teachers. Focus group interviews were conducted with eight student groups. The material has been transcribed and then analyzed based on an open phenomenological bridling attitude, i.e., not understanding and drawing conclusions too quickly (Dahlberg et al 2008). Preliminary results show that the teachers feel to varying degrees that they are stepping outside their comfort zone when teaching SMP. One teacher expresses, "It has been a journey for me, too, to put together this 'slow movement package.'" The students experience SMP as a rare element in PE, different and pleasant but also challenging in different ways, both physically and mentally. Above all, the students appreciate that there is no focus on the performing body. The intersubjectivity of the lived body is at the center for the teachers, i.e., the alternation between the experience of my body as an experiencing subject, the other's body as an expressive object, or my body as an expressive object for someone else. This also affects teachers' didactic choices, such as how they move their bodies in the room, where they stand, and how they use gestures to interact with the pupils. Dahlberg, K., Dahlberg, H., & Nyström, M. (2008). Reflective lifeworld research. Studentlitteratur. Kirk, D. (2018). Physical education-as-health promotion: Recent developments and future issues. *Education and Health*, 36(3), 70-75. *Rosén, A & Larsson, H (2023) Arriving in the body – students' experiences of yoga based practices (YBP) in physical education teacher education (PETE), *Sport, Education and Society*

Keywords: Physical Education, Slow Movement Practices, Didactics, Phenomenology, Lifeworld

ID 306 Tracking situational interest and student emotions through fitness-based Sport Education season phases

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Background. Methods used to teach fitness and how it influences student interest in fitness behaviors has received attention in the past decade. Findings from previous research has shown that pedagogical models such as Sport Education (SE) can elicit student enjoyment of physical activities (Wallhead et al., 2014). There remains limited understanding of the influence of the different phases of SE on student emotions and situational interest (SI) in fitness content. The purpose of this study was to track College students' situational interest and student emotions through fitness-based Sport education season phases. **Methods:** Chinese college students (N=83; 100% male; Mage= 21.05) completed surveys on their SI (triggered, feelings, and value) and emotions felt (enjoyment, boredom, pride, and shame) during each of three phases (teacher-centered, student-centered, formal competition) in the fitness content they participated in (Muscular Strength and Endurance; Cardiovascular Endurance). Repeated measures multivariate analysis of variance were utilized to explore potential changes in motivational factors across the season phases within each unit and in comparing units phase by phase across fitness content. **Results:** For the muscular strength unit, no significant differences were found in emotions across the three phases. Positive trends were identified in enjoyment and pride with decreases in boredom and shame. Significant increases for SI, were identified within muscular endurance specifically showing increases in triggered SI across the unit. Within the cardio unit, significant changes in emotions were found, specifically pride was significantly higher for competition phase as compared to teacher- and student-centered phase. Also, significant differences in SI were found in the cardio unit. Triggered SI and SI Feelings were higher in the competition phase than the teacher and student phases. SI Value was higher at teacher-centered and competition phase compared to student-centered phase. Comparison between phases by content showed that no differences were identified in emotions between phases 1 and 2 of the unit. However, in the competition phase, enjoyment was significantly higher in the muscular endurance unit compared to the cardio unit, and vice versa for pride showing higher reports in cardio unit compared to muscular strength unit. No differences phase by phase reported in SI between units. **Conclusions:** Findings

suggest that emotional experiences can shift significantly between SE season phases. In addition, SI may be promoted more in competition phases than teaching and practice phases. However, results did not align with notions that student-centered lessons would significantly impact emotions and SI as compared to teacher-centered phases. An interaction may exist between SE phase and the content being taught. More work is needed to understand where SE phased instruction falls short, particularly when led by students.

Keywords: Sport Education, situational interest, student emotions, fitness content, season phases

ID 526 IMPACT programme: PE teachers' motives to participate in the program and their perceptions of the structure and content of the webinars

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The purpose of the present study was to examine: (a) the motives of PE teachers to participate in the IMPACT program, (b) which aspects of the program attract their interest and (c) to what extent they find the provided information beneficial and new, (d) to what extent they learn new information. A qualitative methodology was adopted and semi-structured interviews were conducted. Fifteen French, Greek, and Turkish PE teachers (female = 5 and male = 10) were randomly selected to be interviewed. A reflexive thematic approach was adopted for data analysis. Data analysis revealed three broad themes. The first theme 'Intrinsic factors motivated PE teachers to participate in IMPACT' was related to PE teachers' motives to participate in the program and included the following subthemes a) Gaining knowledge to promote student participation in PA, b) Access to the PA of data related to their students' PA, c) the need for professional development. The second theme 'Aspects of the structure and content of the program attracted the attention of PE teachers' included the following subthemes a) collaboration and interaction, b) knowledge and c) Visual content. The last theme was PE teachers' awareness of seminars'

information and included “recall prior- knowledge and apply it” and b) gaining new knowledge. The findings of the present study confirmed that intrinsic motivation is a crucial factor in the participation of PE teachers in continuous professional development. Furthermore, the reports of PE teachers revealed that they were satisfied with the structure of the webinars. More specifically, they found it very useful that webinars offer opportunities for collaboration and interaction with colleagues. Similarly, they argued that the content included best practice examples that were applied to the PE context. They also stressed that the use of videos with examples in which the theory was converted into practice was beneficial to them. Finally, the reports of PE teachers revealed that they share contradictory beliefs about the awareness of the knowledge of the seminars. Some of them reported that they gained new important knowledge that helped them deliver effectively their PE lesson effectively. However, even those who reported that the webinars help them recall prior knowledge that was inactive, and webinars urge them to implement this knowledge in their PE lesson.

Keywords: Continuous professional development, motivation, perceptions

ID 482 Students as constructors of a PE curriculum for wellbeing: a participatory approach study from Malta

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In recent years there has been a shift in perceptions about students’ voices and the students’ functional role within different contexts, both in and outside school. This new sociology of childhood, empowers students themselves in defining what constitutes a student’s life with all the different experiences (Papadopoulou and Sidorenko, 2022). Within this new scenario, that tries to readdress power imbalances and encourage empowerment (ibid.), it is natural that the aim becomes that of reducing the reproduction of adult’s perspectives and make leeway to more students’ voices being heard when issues concerning students are being discussed and researched. The most valid approach in such a context is participatory research which allows for voices to be heard with participants assuming two roles, that of researchers and that of participants (Reason and Torbert, 2001). In this study a group of 15-year-old PE student-researchers in a secondary school in Malta, assumed both roles by first designing a research tool to explore the perceptions of other students about

wellbeing and subsequently, based on the data collected, constructed a set of PE sessions with the wellbeing of students as the outcome. Throughout this study, an inclusive inquiry approach was implemented with student-researchers who were involved throughout the whole planning, implementation and evaluation phases of the study. Apart from the usual importance of collecting reliable and relevant findings and outcomes, this balanced research process complemented the students' and the researcher's strengths, expertise, responsibilities and needs (Cargo and Mercer, 2008). Evidence from this study confirms that strengthening students' voices and engaging them in the whole pedagogical process contributes not only to their own wellbeing but also results in an effective inclusive PE experience. Implementing such a democratic, flexible and inclusive approach in a school environment had its challenges too due to ethical concerns and in being flexible to accommodate task, organizational and emotional issues (Purdy and Spears, 2020). Although conflicting moments were expected, the more the students found their place at the core of the research, the narrower the knowledge-to-action gap became. References: Cargo, M., & Mercer, S. L. (2008). The value and challenges of participatory research: strengthening its practice. *Annu. Rev. Public Health*, 29, 325-350. Papadopoulou, M., & Sidorenko, E. (2022). Whose 'voice' is it anyway? The paradoxes of the participatory narrative. *British Educational Research Journal*, 48(2), 354-370. Purdy, N., & Spears, B. (2020). Co-participatory approaches to research with children and young people. *Pastoral Care in Education*, 38(3), 187-190. Reason, P., & Torbert, W. (2001). The action turn: Toward a transformational social science. *Concepts and transformation*, 6(1), 1-37.

Keywords: participatory research - student voice - wellbeing

ID 489 Preservice Teachers' Improvement of Adaptive Competence in Lesson Plans Based on Reflections and Supervisor Feedback in Two School Placements

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Adaptive competence is an important skill that teachers must master to improve their planning and teaching and in turn student learning. Within practice-based teacher education (PBTE), preparing preservice teachers (PSTs) to adapt their teaching to meet students is a core element. Within PBTE, core practices have been

proposed as the central tasks of teaching that PSTs need to teach effectively. To date, research in physical education has mostly focused on improving PSTs adaptive competence during method classes with the support of physical education teacher education (PETE) faculty. In this study, we investigated PSTs adaptive competence during school placements under supervision of cooperating teachers. Cooperating teachers play a crucial role in developing PSTs' adaptive competence as they observe them throughout the entire school placement. We hypothesized that the core practices discussed by the cooperating teacher inform adaptations made to lesson plans (LPs). The LPs from seven PSTs in a PETE program in Belgium were analyzed during two school placements. The PSTs first taught a 3-lesson frisbee unit to one class during their first school placement and next taught the same unit to another class. All teachers taught middle school students in a vocational school. The cooperating teacher conducted a feedback session following each lesson that was taught. The cooperating teacher did not receive any specific training on core practices or on how to conduct a feedback session. The PSTs made adaptations to each LP after each feedback session. During school placement 2, three PSTs taught a 3-lesson frisbee unit in a middle school and four PSTs taught a 3-lesson team handball unit in elementary school. Feedback sessions guided by the cooperating teacher were analyzed through audio recordings. Data were collected by a trained observer and were analyzed descriptively. The core practices discussed during feedback sessions with the cooperating teachers (n=106) were related for 36% to content development, 27% to task presentation, 26% to management, 9% to rules and routines, 2% to active supervision and monitoring, and 0% to goals and assessment. In total, PSTs made 187 adaptations to lesson plans in school placement 1 and 134 during school placement 2. Of all adaptations, 46% were focused on content development, 26% on task presentation, 18% on management, 4% on rules and routines, 3% on goals and assessment, and 3% on active supervision and monitoring. This research shows what core practices cooperating teachers discuss with their PSTs. Although speculative, our data suggest alignment between what cooperating teachers discussed in a feedback session and the adaptations PSTs subsequently made to core practices in LPs. Future work could examine this alignment more closely. Also, investigating the effect of training cooperating teachers on their knowledge of core practices and how to conduct reflective meetings with PSTs.

Keywords: practice-based teacher education, core practices, cooperating teacher

ID 498 Promoting the Veridicality of Physical Self-Concept through Self-Assessment: An Intervention Study in Primary School Physical Education

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Promoting physical fitness (PF) and enhancing related self-assessments, such as physical self-concept (PSC), are key objectives in physical education (PE). Methods for achieving these goals have been extensively examined. However, less research has been conducted on promoting the accuracy of these self-assessments, specifically the congruence between PF and PSC, known as veridicality. Recent research suggests that an accurate veridicality has positive effects on physical activity and motivation (Henning et al., 2022). This intervention study investigates the impact of using learning journals as a form of self-assessment on the veridicality of PSC in PE. In this quasi-experimental study, 269 primary school students aged 7-11 years from 14 classes participated. The classes were taught by trained postgraduate students using a standardized curriculum over eight instructional sessions focused on track and field, using learning journals only in the intervention group. Pre- and post-tests measured PF in five dimensions and their related sub-dimensions of PSC. Values for the veridicality were calculated. Based on these values, groups of overestimators and underestimators were formed, and the data were analyzed using linear mixed models. Regarding the dimensions of PSC, an intervention effect was observed only for the coordination dimension ($b = -.14$). Flexibility deteriorated ($b = -1.8$), and strength improved ($b = 6.7$) in both groups, while coordination ($b = -1.1$) and speed ($b = 0.14$) only improved in the intervention group. Overestimators were able to provide more congruent self-assessments in the dimensions of endurance ($b = -0.1$), coordination ($b = -0.2$), and strength ($b = -0.2$) over time and showed increased congruence in the speed dimension in the intervention group ($b = 0.2$). The improvements in veridicality were solely attributed to enhanced PF, not to adjustments in PSC. The results suggest that – like promoting PSC (Schmidt et al., 2013) – promoting veridicality is content-specific, as coordination and speed are dimensions most closely associated with the track and field content. An approach for explaining the intervention effects on PF could be motivational effects of self-assessment, leading to increased engagement and improved motor learning among students (Andrade, 2019). These effects now require further investigation. Andrade, H. L. (2019) A critical review of research on student self-assessment. *Frontiers in Education*, 4(87). doi: 10.3389/feduc.2019.00087 Henning, L., Dreiskämper, D., & Tietjens, M. (2022). The interplay of actual and perceived physical fitness in children: Effects on motivation and physical activity. *Psychology of Sport and Exercise*, 58, 102055. Schmidt, M., Valkanover, S., Roebbers, C., & Conzelmann, A. (2013). Promoting a functional

physical self-concept in physical education: Evaluation of a 10-week intervention. *European Physical Education Review*, 19(2), 232-255.

Keywords: Self-Concept, Self-Assessment, Intervention Study, Veridicality

ID 500 Pedagogical recommendations for Meaningful Physical Education: Outcomes from an action research project

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Background: International studies have highlighted several challenges in Physical Education (PE) that may lead to less commitment to a lifelong motivation for physical activity. This has led several scholars to turn to the concept of meaningfulness to seek ways to promote PE's value and motivate participation (Beni, Fletcher & Ni-Chroinin, 2017; Fletcher et al., 2021). However, early primary school pupils (ages 5–9) have had only scant attention in research on meaningful PE. The present study addressed this gap by asking what characterizes and supports meaningful experiences for pupils in Early Primary Schools in Denmark? **Method:** The study had its starting point in the exiting international literature concerned with meaningful PE, as well as theories of embodiment and sense-making (Gallagher, 2017). It applied action research (Kemmis, 2009) involving practitioners' experiences and visions to develop new pedagogical principles for meaningful PE and change practices in early primary schools. The empirical basis consisted of fieldnotes from 21 workshops and observations of 70 PE classes as well as 4 focus-group interviews with children aged 5-9 years. The data analysis of the field notes was inspired by a thematic analysis. **Findings:** The findings comprised six pedagogical principles that supported the pupils' experiences of meaningfulness in PE: (i) PE content modifications, (ii) the body as a teaching resource, (iii) narratives, (iv) experimental approaches, (v) recognizability, and (vi) just right challenges. This oral presentation unfolds the six principles and highlight the nuanced insights obtained from the interviews with pupils. **Conclusion:** These pedagogical principles signify a shift towards more inductive teaching principles that support freedom, curiosity, creativity, and a desire to experiment that can support meaningfulness in early primary school pupils. Thus, these pedagogical principles may also be seen as alternatives to more sportive or health-oriented approaches to PE. This oral presentation will discuss the consequences and challenges of this approach for PE-teachers. **Acknowledgements:** This project was supported by grants from the A.P. Moeller and Chastine Mc-Kinney Moeller Foundation. The

data-collection and analysis in this project was conducted in collaboration with Kasper Lasthein Madsen (VIA University College), Torben Hansen (Danish School Sports Association), Esben Stillund Volshøj (VIA University College), Anne Wolff Jakobsen (University of Southern Denmark), Kirstine Lillelund (VIA University College) and Mikael Hansen (Danish School Sports Association). References: Beni, S., Fletcher, T. & Chróinín, N. D. (2017). Meaningful Experiences in Physical Education and Youth Sport: A Review of the Literature, *Quest*, 69:3, 291-312. Biesta, G. (2015). Teaching, Teacher Education, and the Humanities: Reconsidering Education as a Geisteswissenschaft. *Educational Theory*, 65(6), 665–679 Fletcher, T., Ní Chróinín, D., Gleddie, D., & Beni, S. (2021). *Meaningful Physical Education - An Approach for Teaching and Learning*. Routledge. Gallagher, S. (2017). *Enactivist interventions - Rethinking the mind*. Oxford University Press. Kemmis, S. (2009). Action research as a practice - based practice. *Educational Action Research*, 17:3, 463–474.

Keywords: Meaningfull PE, pedagogical principles, action research

ID 501 Children's perspectives on the use of an Integrated Teaching Model in Mathematics and Physical Education in the Primary School

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Introduction: Research indicated that embedding physical education movement-based learning into academic instruction can enhance children’s motivation and learning performance (Mavilidi et al., 2018). Pesce (2012) suggests that goal-directed cognitively challenging PA, such as that found during PE classes, can stimulate the same neurons in the brain that control complex cognitive processes. In the past ten years there has been an increased drive in the prioritisation of literacy and numeracy, however with an overloaded curriculum this has resulted in curricular subject hierarchy with PE becoming more marginalised (Ni Chronin, ní Mhurchu & O Caeallagh, 2016). Integrated learning experiences are endorsed in the literature for providing more accessible and connected learning experiences for children (Fogarty and Stoehr 2008). Objective: To investigate the experiences of children in engaging in an integrated model approach to learning primary mathematics and physical education. Methods: Through the adoption of a qualitative approach, findings from focus group discussions with three class groups in primary school settings aged 9-12 years are presented. Data were analysed via a thematic data analysis process (Braun & Clarke, 2013). Five key themes were identified, three of which will be

discussed. Results: Findings indicated how children enjoyed being physically active when learning across the two curricular subjects of Mathematics and PE with collaborative learning increasing motivation to learn an appreciation and positive attitude toward mathematics. Children acknowledged more contextualised learning experiences, leading them to value meaningful experiences more than classroom-based measurement exercises. Conclusion: An integrated model is effective, leading to enhanced learning and enjoyment but findings suggest that content knowledge within both subjects does require discrete curriculum specific instruction at times in order to facilitate optimum learning. References Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. London, UK: SAGE
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Keywords: integration, primary physical education, mathematics

ID 502 Teachers' Perspectives on Quality Physical Education (QPE): Insights from the UNESCO Global QPE Survey

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UNESCO (2015) developed a series of Quality Physical Education (QPE) guidelines, which sought to inform physical education (PE) practice globally. In this work, QPE is defined as “the planned, progressive, inclusive learning experience that forms part of the curriculum in early years, primary and secondary education” (p. 9). Underpinned by a rights perspective, QPE is supported by the identification of specific indicators which detail core characteristics of PE that are seen to support quality provision. This paper presents findings from a secondary analysis of data collated as

part of UNESCO's 4th Global QPE Survey. Two versions of the survey were created: i) a Ministerial-level survey (to capture policy level data from UNESCO Member States) and ii) a School-level survey (to collect data from teachers about PE provision/practice). The secondary analysis employed both qualitative and quantitative methods to draw out key messages from the surveys relating to three core areas: i) challenges to PE within the respondents' context; ii) perceived needs for delivering QPE within the respondents' contexts; and iii) examples of good practice relating to QPE in the respondents' context. This paper will focus predominantly on the qualitative findings drawn from a thematic analysis (Braun & Clarke, 2006) of open-ended responses to the School-level survey. In total, 2101 PE teachers responded to the survey, with all UNESCO regions represented (i.e., Africa, Arab States, Europe and North America, Latin America and the Caribbean, and Asia Pacific). The analysis of data highlighted several themes, each reflecting different aspects of PE practice. Some themes were focused on practical or functional matters (e.g., 'facilities and resources', 'workforce'), whereas others were concerned with the broader policy landscape (e.g., 'curriculum', 'policy matters', 'status of PE') or contextual issues (e.g., 'culture, community and context', 'equity and inclusion', 'public health'). An additional theme of 'climate' was also identified as being specific to the school-level survey, which reflected the perceived challenges for practice caused by extreme and/or unpredictable weather. Teachers' voices will be amplified within the presentation to help illustrate key aspects of the thematic analysis and articulate both examples of perceived 'good practice' as well as limiting factors. Specifically, the presentation will seek to show that while there are some ongoing challenges, there is significant belief in the potential of PE to support pupils' holistic development and examples abound around the globe of schools and teachers working to deliver meaningful, inclusive and equitable PE practices.

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Keywords: Quality Physical Education, pedagogy, schools, teachers, global perspectives

AIESEP Awards for 2024: Early career and developmental country researchers

ID 89 Human Flourishing as The Aim of Physical Education?

Jamie Brunsdon (University of Memphis)

The profession of physical education is in flux. Many teachers and teacher educators are, and have been for quite some time now, dissatisfied with what the field is, what it stands for, what it aspires to do, and the kinds of future(s) it hopes to create for youth and emerging adults in the modern age. In response to such scepticism and disbelief, several communities of scholarly practice have emerged across the globe since the late 1980s and have sought to carve out a series of new philosophies, theories, methodologies, and pedagogies with which to guide the field toward becoming a more positive, impactful, and progressive discipline. Despite this, there would appear to be no communities of practice dedicated to studying the philosophy of human flourishing (e.g., the pursuit of a good life) in the field of physical education. Moreover, while the occasional scholar has begun using this phrase, as well as other flourishing-oriented terms, the nature of human flourishing, the ideal of the flourishing student (or virtuous mover), and its (inherent) relationship with movement, physical activity, and sport has yet to be appreciated or studied comprehensively by the movement community. Therefore, in an effort to study the unavoidably philosophical nature of the profession, the purpose of this presentation is to present human flourishing as the aim of physical education. To accomplish this feat, I start by reviewing, at length, the philosophy of human flourishing. Subsequently, I present a critique of prior interpretations linking forms of human flourishing to physical education and acknowledge some potential challenges and warning signs for the field to consider as they begin to grapple with the theories of flourishing. Afterwards, I describe how physical education can contribute toward pupils' physical and mental health, happiness and life satisfaction, meaning and purpose, character and virtue, and close social relationships, which in essence, forms the notion of flourishing physical education. Thereafter, I articulate, to the best of my ability, a flourishing-oriented physical education program based on the ideal of the virtuous mover. Using this format, I hope to outline in philosophically and empirically accurate and authentic ways, the ideal of human flourishing and the flourishing student, and encourage those working with youth to promote this philosophy so that all people experience eudaimonia. Above all, the fundamental aim of this presentation is to articulate a philosophy that could, if interpreted and implemented correctly and conscientiously, be used to bring the field together and remove that barriers acting to keep students, teachers, and teacher educators from flourishing together.

Keywords: Applied virtue ethics, philosophy of education, sport pedagogy, teaching, teacher education

ID 172 Teacher Education - the Core and Future of School Physical Education

Dan Jones (Teesside University) & **Kristy Howells** (Canterbury Christ Church University)

Physical Education (PE) is a key part of the UK school curriculum, it builds on the foundations of Physical Development (PD) established in early years and continues into the primary phase. PE is a subject that provides children with opportunities to develop their skills, express themselves, and enjoy being physically active. PD and PE have similar benefits in children's physical learning, allowing time for children to develop fundamental movement skills. They also aid the development of other domains of learning: cognitive, social, and emotional learning, which can improve school readiness in early years (Jones et al., 2021), self-esteem, confidence (Bowdrey & Howells, 2023) and academic achievement throughout school (Stadler et al., 2016). PE and PD also promote being physically active, which has numerous health benefits in both the short and long term. From a public health perspective, it is important to establish healthy behaviours as habits in childhood for them to be maintained throughout the life course. Nonetheless, certain obstacles hinder the delivery of high-quality PE sessions for children. One such barrier is the self-efficacy of teachers in teaching PE. Randall & Griggs (2021) have indicated that many primary school teachers possess low confidence and inadequate knowledge when it comes to teaching PE. This issue can be partly attributed to the limited time dedicated to PE during the Initial Teacher Education (ITE) phase. This is further exacerbated in the UK by the outsourcing of the delivery of PE, which has unintentionally deprived both in-service teachers and ITE students of opportunities to gain hands-on experience in teaching PE. Consequently, questions arise regarding the quantity and quality of PE instruction provided as part of teacher training. Limited research has explored what is delivered as part of teacher training in the UK, and the variability between institutions. Our pilot paper (2021) revealed that only 20% of 160 courses reviewed offered at least one module focussing on PE and only 4% offered a compulsory PE module every year. In March 2023, the UK government pledged £60 million to boost equal opportunities in PE and deliver a minimum of 2 hours of curriculum PE a week. This paper builds on our pilot study, examining whether the UK Government's pledge has resulted in changes to the way primary education is taught. We are currently conducting a content analysis of all UK University courses that

offer primary education with qualified teacher status. All course curriculums are being examined for PE, PD and similar terms within the course structure. We will share the differences between what is offered by universities within the four nations of the UK, how this aligns with their physical education policies, and what has changed since 2021. This study will contribute evidence for the further development of PE within teacher training.

Keywords: Physical Education, Teacher Education

ID 130 Teaching AirBadminton in low-income communities: Promotion of well-being, health and preventing children's play at shore

Ernest Yeboah Acheampong (University of Education, Winneba) & **Ralph Frimpong** (University of Education, Winneba)

The neglect and limited opportunities available to people living in low-income communities, particularly children, are disturbing. Eguaboano, a community predominately fisherfolks is considered less endowed according to the Winneba Municipality definition. In addressing some of their social issues, this study adopts AirBadminton activities as a mechanism to promote well-being and healthier status, unearth talents and prospects while preventing children from frequently visiting the shore to play. Engaging children in AirBadminton activities provides them with fun and helps their bodies become physically active for life. The literature on traditional badminton and other relevant sources contribute to understanding children's active participation and raising awareness of the sport in the community and beyond. Relying on a mixed-method approach with respondents (children and parents) assists in understanding the game's positive impact in the locality. Results show that apart from promoting the game as a healthy outdoor activity, and well-being, it offers the chance to identify and unearth potential and talent for further development. Remarkably, through the active participation of the children and awareness creation, the sport has drastically minimised their regular visits to the shore, improved attendance at schools and concurrently confined them to the playing venue. In conclusion, the study provides essential data for policymakers including Ghana Education Service, local authorities, the Badminton Association of Ghana, NGOs, etc. to realise how Airbadminton can effectively complement their efforts to enhance the social, political and economic situations of their deprivations.

Keywords: Badminton, confinement, healthy outdoor activity, policymakers, surge in school attendance

Friday 17th May, 8.15 a.m.

Physical education teacher education, professional development

ID 396 Effects of data-based decision making professional development program on secondary school physical education teachers and students learning

Serap Sarikaya (Pamukkale University) & **M. Levent Ince** (Middle East Technical University)

Data-based decision-making (DBDM) refers to the systematic collection and use of many forms of data from various sources to improve student performance. In the literature, many studies emphasize the importance of teachers using data effectively and developing data use knowledge and skills to improve their teaching practices. This study aimed to examine the impact of the DBDM professional development program through the professional learning community (PLC) for secondary school physical education teachers on teachers' data use, instructional practices, and their students' learning. A mixed method with a pretest-posttest experimental design was used in this study. The participants consist of 12 physical education teachers (6 in the experimental group, 6 in the control group) teaching in different secondary schools in Ankara and 331 seventh grade students (167 in the experimental group, 164 in the control group) of these teachers. The purposive sampling method was applied to include participants in the study. The teachers in the experimental group participated in the six-week PLC meetings and they were expected to design and implement their lessons based on data for six weeks after this intervention. The control group was informed about the study however it had no intervention. Qualitative data were gathered through semi-structured interviews with teachers, observations, field notes, and video-recorded PLC meetings. Quantitative data were collected via the "Health Related Fitness (HRF) Knowledge Test for Middle School Students" and "The Physical Activity Questionnaire for Older Children". Content analysis was used in qualitative data. In qualitative findings, the categories of increasing participation in physical activity, knowledge transfer, and cooperation for DBDM teacher practices; the categories of creating awareness related to data use for instruction, and professional knowledge and skill development for DBDM teacher learning have emerged. Quantitative data were analyzed with mixed between-within subject

ANOVA and results showed that the HRF knowledge and physical activity levels of the students in the experimental group increased significantly as compared to students in the control group ($p < .05$). Findings revealed that the data use knowledge and skills of the teachers participating in the professional development program improved and this improvement was effective in the learning of the students. It is recommended to disseminate DBDM professional development programs for teachers.

Keywords: Data-Based Decision-Making, Professional Development Program, Professional Learning Community

ID 174 Online video-annotation tool to improve (de)motivating teaching: effectiveness in pre-service physical education teachers

Katrien De Cocker (Ghent University), **Arne Bouten** (Ghent University) & **Leen Haerens** (Ghent University)

Ample research grounded in Self-Determination Theory (SDT) stresses the important role of teachers' motivating and demotivating styles. Motivating teaching is associated with positive outcomes, such as need satisfaction in students and greater teaching efficacy. In contrast, demotivating teaching is related to negative outcomes, including students' need frustration and disengagement. To help pre-service teachers to be(come) more motivating and less demotivating, an online video-annotation tool was developed. The tool comprises four main components. First, teachers get personal feedback via a graphical representation of their level of autonomy-support, structure, control and chaos. Second, teachers freely select a specific strategy to improve their motivating teaching (e.g., providing choice) which is further explained via brief knowledge clips and textual summaries. Third, teachers annotate their own styles in an uploaded video of one of their classes. Finally, teachers write a short action plan to facilitate their behavioural change. A previous study provided support for the acceptability and feasibility of the tool in pre-service PE teachers. The aim of this study was to examine the effects of using the tool during initial teacher education on pre-service PE teachers' (de)motivating styles. In two university colleges, 69 pre-service PE teachers (66.7% male, mean age: 21.15 ± 1.43 years) were randomly assigned to an intervention group ($n=33$) and control group ($n=36$). Everyone completed the Situation-in-School PE questionnaire to assess (de)motivating teaching (on a 7-point Likert scale). Afterwards, the intervention group received a lesson on SDT-principles, including topics as students' basic psychological needs, the types of

motivation, and the role of (de)motivating teaching, and teachers used the online video-annotation tool with a recording of one of their internship classes. In the control group, teachers only got the lesson on SDT-principles, without using the video-annotation tool. After 3 months, all participants completed the Situation-in-School PE questionnaire for a second time. To examine the intervention effects on the level of autonomy-support, structure, control and chaos, a Repeated Measures Manova test (time * condition) was conducted. No significant time by condition interaction effects emerged for autonomy support, structure, or control (all p's > .05). However, for chaos, a significant interaction effect was found ($p = .05$), with the intervention group showing a decrease from pre-test (2.81 ± 0.12) to post-test (2.57 ± 0.13), while the control group showed an increase from pre-test (2.89 ± 0.11) to post-test (3.01 ± 0.13). These findings suggest that an online video-annotation tool may be a promising approach to reduce chaotic teaching behaviours in pre-service PE teachers, but further research is needed to enhance its impact on other (de)motivating styles.

Keywords: Initial teacher education, self-determination, intervention study

ID 181 Exploring Practice-Based Professional Development Program on Primary School Teachers' Knowledge of Teaching Fundamental Motor Skills

Hakan Taş (Middle East Technical University), **Irmak Hürmeriç Altunsöz** (Middle East Technical University, Türkiye), (A. C.), **Anneke Timmermans** (University of Groningen, The Netherlands) & **Esther Hartman** (University of Groningen, The Netherlands)

Introduction: Physical education (PE) has many health benefits and development for students. However, the quality of teaching PE in primary school has been discussed by researchers (Griggs, 2007). For instance, primary school teachers have a lack of knowledge about the curriculum (Decorby et al., 2005). Additionally, PE literature is dominated by research about secondary school teachers (Parker et al., 2022). Objective: The aim of the study was to understand (1) how the practice-based professional development program (PBPD) develops primary school teachers' (a) knowledge about fundamental movement skills (FMS), (b) changes attitudes while teaching FMS, (2) to analyze how the facilitator's involvement in PBPD is associated with teachers' FMS knowledge, implementation in physical education and games class in a practice-based professional development program?" Methods: A ten-week PBPD program was applied with the participation of 16 primary school teachers

selected by means of convenience sampling. The first five weeks consisted of meetings regarding FMS theory and practice. The second five weeks were to support all teachers one by one in their physical education lessons. The data was gathered by using semi-structured interviews with all teachers at the end of the program. Results: A thematic analysis showed two themes which are 1) “the role of facilitator” and 2) “empowering teachers” with two sub-themes from teachers’ perspective. Based on the first theme, teachers learned in the PBPD how to teach FMS, they increased the literacy of the curriculum and material used in PE. Teachers changed their attitudes positively toward PE classes and they integrated the learned skills into PE lessons. Based on the second theme, the facilitator played a significant role in the program by providing feedback, scaffolding teachers in the practice, and helping teachers to make all these theories apply to the practice. Conclusion: The qualitative results showed that 10-week PBPD developed primary school teachers’ self-reported FMS knowledge and their attitudes. In addition, teachers learned how to connect the curriculum, material, and FMS. Moreover, the facilitator had a positive impact while supporting teachers during the program on and off-site. This research contributes to the understanding of how program design for the quality of teaching PE for primary school teachers. This study was supported by the Scientific and Technological Research Council of Türkiye. References: Decorby, K., Halas, J., Dixon, S., Wintrup, L., & Janzen, H. (2005). Classroom Teachers and the Challenges of Delivering Quality Physical Education. *Journal of Educational Research*, 984, 208–221. Griggs, G. (2007). Physical Education: primary matters, secondary importance. *Education 3-13*, 351, 59–69. Parker, M., Patton, K., Gonçalves, L., Luguetti, C., & Lee, O. (2022). Learning communities and physical education professional development: A scoping review. *European Physical Education Review*, 28(2), 500-518.

Keywords: professional development, movement development, elementary school teachers, ongoing support

ID 272 From what to how in ‘formative’ assessment – tracing how physical education teacher education comes to matter for physical education practice.

Erik Robert Backman (School of Health and Welfare, Dalarna University, Falun, Sweden), **Mikael Quennerstedt** (The Swedish School of Sport and Health Sciences), **Björn Tolgfors** (Örebro University) & **Gunn Nyberg** (Dalarna University)

Formative assessment strategies are often conceived as central within teacher education (Cañadas 2023). These strategies are to be learned as content during teacher education and then transformed into methods when newly graduated teachers (NQT) enter their occupational practice. The aim of this presentation is to contribute to knowledge of how content discourses in physical education teacher education (PETE) matter for physical education (PE) practice. We will do this by answering two research questions: 1. What components of formative assessment are made visible in PE by NQTs? 2. What components of the formative assessment discourse can be traced back to PETE? This study is part of a larger project investigating transitions of content discourses from PETE to school PE. Data was collected from participants when they were engaged in two different educational contexts: in PETE as preservice teachers (PST) and in PE as NQTs. In the PETE context, a total of 26 PSTs studying at two different Swedish PETE institutions (15 from A and 11 from B) participated. In the PE context, a total of 13 PE teachers (from the group of 26 PSTs), having graduated from the two Swedish PETE institutions (9 from A and 4 from B), participated. Data collection methods from the two contexts were video-recorded and visual observations, group interviews, individual interviews, Stimulated Recall (SR)-interviews and text analysis of course handbooks. In the study we use the concept pedagogic discourse (Bernstein 1990) to describe how content is constructed, recontextualised and realised through text, talk and practice. The way in which the NQTs in this study talk about formative assessment thus illustrate what constitutes this discourse in school PE. In the preliminary analysis, four components (sharing learning objectives, feedback, using students as resources, and grading) have been discerned as dominating. Inspired by Foucault's (1991) genealogical approach, we will also search for traces of dominating and marginalized components of the formative assessment discourse in the PETE context, and the PSTs talk about formative assessment. We will draw on research on didactics in PE (Quennerstedt & Larsson, 2015) to analyse what components the formative assessment discourse in PE and PETE is built of, how and why formative assessment is conducted in a certain way, and who the producers of the components building the formative assessment discourse in PE and PETE are.

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ID 94 The challenges of interculturality in the training of physical education teachers

Marcelo Castillo-Retamal (Universidad Católica del Maule), **Gerardo Sánchez Sánchez** (Universidad Católica del Maule), **Marcelo Castillo-Retamal** (Universidad Católica del Maule) & **Valeria Sumonte Rojas** (Universidad Católica del Maule)

Migration is a long-standing phenomenon within the human species. In recent years, it has been intensified due to demographic, economic, and political changes, resulting in social challenges in various areas, including education. As people from different cultural backgrounds converge in society, it is essential to reflect on how teachers are prepared to handle and coexist with this cultural diversity in the classroom. To investigate the Physical Education faculty's understanding of interculturality, a descriptive/interpretative study was conducted to inquire about their comprehension of interculturality and its determinants while training future teachers. Eight faculty members from a university in the south-central part of Chile, which has been training Physical Education teachers for over 50 years, were subjected to a semi-structured interview. It is clear that the teacher training process must take into account individual and relational intercultural competencies, where other cultures are recognized in an interaction between cultures, requiring paradigmatic renewal, recognition, and appreciation of diversity under certain conditions of implementation. The implementation of these processes necessitates cultural adaptation beyond mere folkloric and culinary demonstrations. Determinants are recognized along social, normative, formative, and paradigmatic lines. In conclusion, the Physical Education faculty acknowledges the potential of interculturality and the need to incorporate it into training. However, they are not yet prepared for its implementation.

Keywords: interculturality; physical education; faculty; pre-service teacher training; migration

ID 269 Developing a stakeholder engagement framework to promote the adoption of green practices in Zimbabwe tertiary sports

Chipanga Trust (Belvedere Technical Teacher's College, Harare, Zimbabwe)

INTRODUCTION Tertiary sports' environmental effect has been highlighted as one of the world's producers of carbon footprints in the twenty-first century. Earlier research on collegiate sporting events has revealed that these events are now a substantial source of environmental degradation and unforeseen expenditures (Sassen,

& Azizi, 2017; Kellison et al., 2017; Triantafyllidis et al., 2018). Some of the environmental issues observed in tertiary sports include spectator transportation, which is a large source of carbon emissions (Kellison et al. 2017), and indoor facilities, which demand more power (Triantafyllidis et al. 2018). The emergence of green initiatives in first-world tertiary sports demonstrates the consequences of climate change. There is little indication that Zimbabwe's tertiary sports are working under a comprehensive strategy or framework with clear implementation instructions for establishing a green environment. This demonstrates the national absence of a sound tertiary sports ecological framework, as well as a lack of professional research in the sector to guide practice. The lack of greening frameworks and gaps in related literature has motivated the researcher to investigate the phenomenon. **OBJECTIVES:** To develop an adapted stakeholder engagement framework that promotes the adoption of green practices in Zimbabwean tertiary sports. **METHODOLOGY** This study will depend on the mixed concurrent research design as the guiding model for data collection, analysis, and interpretation. This study, drawn from the pragmatic school of thought, will allow the researcher to triangulate numerous methodologies without interfering with other schools of thought's epistemology. The major data-collecting approach is the qualitative strand, with semi-structured interviews serving as the data collection instrument. In order to confirm the accuracy of interview data, the positivist approach informed questionnaires were utilized. The population will comprise all stakeholders involved in Zimbabwean tertiary sports and environmental management in the country. These include officials from the Ministry of Sports officials from Sport and Recreation, officials from environmental agencies, tertiary sport journalists, tertiary sports sponsors and officials, athletes and fans from the Zimbabwe Tertiary Sport Union. The researcher will use stratified purposive sampling with nuances of theoretical sampling approaches to select participants from the qualitative strands and random sampling procedures to select participants in the quantitative strand. Chi-square will be used to determine the sample size for quantitative strands. The software tools NVivo version 12 will be used to organize qualitative data into themes and Statistical Package for Social Scientists (SPSS) version 27 will be used for parametric tests and descriptive statistical analysis. **RESULTS** The study expects to establish approaches being used in Zimbabwean tertiary sports and uncover obstacles related to environmental management. The findings will also demonstrate the connection between tertiary sports groups and environmental authorities. **CONCLUSION** The conclusions allow for developing an engagement framework to assist Zimbabwe's Tertiary sports in environmental management. **REFERENCES** Kellison, T. B. & Casper, J. M. (2017). The environmental legacy of mega sports events. In *Legacies and mega events: Fact or fairy tales*; Brittain, I.,

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Keywords: Engagement, Environmental Stewardship, Green practice, Sustainability

ID 527 Development of deportigualízate: an intersectional critical feminist curriculum

Marina Castro-García (Department of Physical Education and Sport, University of Limerick, Limerick, IRE), **Dillon Landi** (School of Human Movement, University of Queensland, Brisbane, AUS) & **David Kirk** (School of Education, University of Strathclyde, Glasgow, UK)

Physical education has a historical role in reproducing inequities (Flory and Landi, 2020), especially in relation to gender (Flintoff & Scraton, 2006; Oliver & Kirk, 2015). Physical education, however, it is also a place where young people can engage with, and challenge, inequities through embodied learning. The purpose of this paper is to present the developmental process of feminist intersectional curriculum unit that was developed for Spanish K-12 and adapted for tertiary settings. The unit has been called deportigualízate which is a play on words in Spanish that combines 'deporte' [sport] with 'igualdad' [equality]. The curriculum unit teaches about social inequities that persist in sport and health specifically related to gender, race, social class, and sexuality. The design of deportigualízate was a multi-stage process informed using a critical intersectional feminist pedagogical lens (e.g., Crabtree et al., 2009; Freire, 1970, hooks, 1994). The first stage ('pre-plan') included a literature review of critical and feminist research in physical education. This was combined with survey data from 644 young people and 90 physical education teachers inquiring about gender issues in physical education. Based on the findings, the second stage was developing an initial curriculum plan based on the data and sending it consultants and stakeholders. We shared and discussed a draft with young people, physical education teacher education (PETE) students and faculty, physical educators, as well as experts in equity and diversity. Based on this feedback, curricular changes were made and we resulted with a more realistic curriculum. The third phase of the curriculum

development was piloting the curriculum. The curriculum unit was enacted with different stakeholders (i.e., 60 PETE students and 11 secondary school students) and data were collected on the enactment and feedback from students. Based on these curricular studies, four critical elements of deportigualízate were identified: (a) embedded transformative praxis, (b) embodied transformation, (c) emplaced criticality, (d) empowering relationships. After defining the four critical elements of the curriculum, further revisions were made based on the feedback and alignment to the theoretical perspective. As a result of this year-long process, a 'final product' was developed and includes 6 lessons, with in-class and out-of-the-class activities (an individual workbook). We also created an Instagram profile and a Microsoft form that permits the open and flexible curriculum, in constant reflection and construction, that we will share. This presentation adds to the literature on physical education curriculum development (Jewett et al., 1985; Kirk, 1990) by exploring the process of developing curriculum as well as presenting a new unit that addresses social justice issues (Walton-Fisette et al., 2018) in physical education.

Keywords: Curriculum development, physical education, pedagogy, social justice

ID 167 Metaphors as visual (re)presentations of discourse about the body in Physical Education and Sport

Aspasia Dania (National and Kapodistrian University of Athens) & **Laura Lorenz** (Brandeis University, Waltham, Massachusetts, USA)

Within physical education teacher education (PETE), students learn that an athletic-looking body relates to discourses about capability, health, and well-being. As they get engaged in these discourses, they (may) embody and uncritically (re)present stereotypical meanings that lead to the legitimization of normalized action and thinking. Thus, the aim of the present study was to examine the assumptions that PETE students make when they talk about the body in physical education and sport contexts. Participants were seven third-year students with background as athletes in sport, attending a four-year program in Physical Education and Sport Science at the University of Athens, Greece. Following a qualitative methodology, participants selected photos, wrote captions for them, and discussed their photos during one-to-one interviews. Data were analyzed thematically going from a 'semantic level' to a 'latent level' (Braun & Clarke, 2006). As such we drew from Foucauldian notions of discipline and surveillance, our intention was to understand how themes produced during the analysis related to dominant discourses about the body in physical

education and sport contexts. Two main themes were produced by our analysis: bodyfulness and bodylessness. Both themes were evident in metaphors that participants used when talking about the body in PE and sport contexts. Bodyfulness included metaphors of self-fulfilment and capability though and within body movement, which were linked to balance and resilience to challenges. Bodylessness included metaphors of a sustained fight between internal and external power forces that spelled out experiences of the body being used or at risk. Half of the metaphors shown by participants focused on the body's anatomy and physiology as directly connected to hierarchically valued ways that bodies live up to norms that safeguard (or put at risk) their functionality in each context. This practice hierarchy was represented as a kind of 'dividing practice' (Foucault, 1972) that indicated how notions of body (in)capability may be loaded with meanings and behaviors related to discipline and self-surveillance. Our findings raise questions concerning the way that bodies are represented as spaces of agency and domination (Foucault, 1972) by PETE students and illustrate how future professionals may use discourse that perpetuates privileged forms of thinking. The results can be used by teacher educator programs to raise undergraduates' awareness about the way that the uncritical reproduction of discourse may normalize body subjectivities/identities within physical education and sport. References Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. Foucault, M. (1972). *The archaeology of knowledge and the discourse on language*. Pantheon Books, New York.

Keywords: physical education teacher education, qualitative research, biopolitics, disciplined bodies

ID 315 Unlocking Human Potential: The Significance of a Whole Physical Education

Alejandro Ramón Reboloso (Universidad Internacional de la Rioja (UNIR))

In today's dynamic and evolving world, the conventional approach to education has come under scrutiny, necessitating a shift towards a more comprehensive and holistic educational framework which has risen to multiple theories, each with a distinct name—such as character education, moral education and positive education. Despite their distinct terminologies, these diverse educational paradigms all share a common core: the recognition of the profound significance of nurturing the complete well-being of a child. This Whole Child Education concept, at its core, seeks

to foster the harmonious growth of students by addressing not only their academic needs but also their emotional, personal, social, and physical well-being (Miller, 2010). The pursuit of this holistic approach in education is not merely desirable; it is an essential facet of the fundamental human rights framework and a specific right of every child (CRC). According to Lund, Physical Education (PE), as well as music and arts, are essential in order to broaden the concept of education to a global understanding (2010). They are disciplines that can develop the whole person intellectually, ethically, social and emotionally (Opstoel, et al., 2020). Therefore, the objective of this study is to examine the contributions within the broader context of the Whole Education paradigm and to shed light on the role of PE in facilitating this global and significant education. This study employs a method of comprehensive analysis and bibliographic review. To clarify the role of PE within the context of Whole Child Education, we conducted an extensive examination of academic literature, research papers, and educational frameworks from the relevant academic databases WOS, Scopus and Google Scholar. The results of our research will explore if Whole Education is really feasible. Furthermore, we will examine whether PE should expand beyond the traditional focus on teaching motor and sports skills, or instead, prioritize developing the overall well-being of students. Finally, we will reveal the numerous benefits of a Whole Physical Education approach identifying some aspects which make PE a whole education enhancer. In conclusion, our research advocates for a paradigm shift in education. We urge stakeholders to prioritize Whole Education approaches and recognize the pivotal role of PE. This transformation is essential for nurturing a new generation who can meet the challenges of the modern world. Lund, J. (2010). Educating the whole child. *Journal of Physical Education, Recreation & Dance*, 81(5), 3-10. Miller, J. P. (2010). *Whole child education*. University of Toronto Press. Opstoel, K., Chapelle, L., Prins, F. J., De Meester, A., Haerens, L., van Tartwijk, J., & De Martelaer, K. (2020). Personal and social development in physical education and sports: A review study. *European Physical Education Review*, 26(4), 797-813.

Keywords: Whole Education, Physical Education (PE), Child Well-being, Holistic development

ID 558 Challenging future PE teachers to embrace students' diversity in teaching team games and fitness

Paula Batista (Faculty of Sport, University of Porto), **Luísa Estriga** (Faculty of Sport, University of Porto, CIFI2D) & **Amândio Graça** (Faculty of Sport, University of Porto, CIFI2D, CIIE)

Having as background the UNESCO (2015) guidelines for Quality Physical Education and the challenge of preparing future PE teachers to answer to the students' diversity, this study aims to analyse the challenges PE pre-service teachers (PSTs) face to address students' diversity when they teach team games and fitness supported by a research project on inclusive PE. The study took place in a school placement context of the academic school year 2022/23. It involved twelve PST of a PETE programme (master's degree) of a University in North Portugal, scaffolded by teacher educators from the school and the university. Data collection comprised PSTs' board diary, class observation followed by meetings, and focus groups (one with the PST and the other with the teacher educators from school). The preliminary data analysis revealed that the main challenges PSTs faced in dealing with students' diversity in team games were answers to their learning needs, optimising access, participation and inclusion of students with different performance levels. They reveal difficulties in adapting game rules and action boundaries to accommodate gender and physical characteristics, which impact play interaction. PTS pointed out the lack of knowledge and the difficulty in observing and detecting gameplay problems as the main difficulties. In the fitness area, the PSTs revealed fewer difficulties, and the main challenge was to empower the students with low performances with confidence, competence, knowledge and motivation to practice. Supporting PST on embracing student diversity as an opportunity, not a difficulty, can drive a more inclusive PE. Project funded by the Foundation for Science and Technology with the reference: 2022.09013.PTDC: Empowering pre-service teachers as practitioner researchers toward PE-inclusive practices. Reference UNESCO. (2015). Quality Physical Education Guidelines for Policy-makers. Paris: UNESCO

Keywords: Physical Education; Teacher Education, Practitioner Researcher, Inclusion.

ID 406 Infusing Indigenous content and Treaty Education within physical education teacher education (PETE): A collaborative self-study of teacher education practice (S-STEP)

Daniel Robinson (St. Francis Xavier University) & **William Walters** (St. Francis Xavier University)

Within the past number of years, many have been calling for the decolonization and indigenization of education and higher education spaces and institutions within Canada. Across Canada it has been those within Faculties of Education who have taken on leading roles with respect to decolonization and indigenization at many universities. Within the physical education (PE) and physical education teacher education (PETE) sub-disciplines, some Canadian scholars have also begun to do the same important work. It is in this milieu that we have recognized our responsibility to attend to decolonization and indigenization within our own university's PETE program. Accordingly, we recently engaged in a collaborative self-study of our own teaching practice so that we might be better able to appropriately infuse Indigenous content and Treaty Education within our own university's PETE program. We identified this goal—infusing Indigenous content and Treaty Education—as one that would support us on our own reconciliatory journeys as we aim to decolonize and indigenize our PETE spaces in authentic, genuine, and meaningful ways. Data collection activities included large group meetings, reflective journaling and dialogic reflective journaling responses, lessons/lesson observations and pre- and post-lesson observation meetings, and artifact considerations and collections. Our collaborative self-study yielded findings related to our PETE practice, framed herein as six themes. Four of these themes relate to the tensions observed and felt (i.e., pushing past performative fears, inviting imposter syndrome, honouring the local Indigenous context/peoples, and critical friend[ships] as key) and two of the themes relate to our perceived positive outcomes and additional potential happenings (knowing better, doing better and possibilities beyond 'simply' infusing Indigenous content and Treaty Education). A discussion of these findings is offered and would be especially insightful to others who are interested in or engaged with self-study, indigenization and decolonization, and/or PE and/or PETE.

Keywords: self-study, physical education teacher education, Indigenous, indigenize, decolonize

ID 424 Early-career physical education teacher socialization: Exploring the tensions and realities of teaching for social justice

Lee Schaefer (University of Saskatchewan) & **Vanessa Dafonte** (McGill University)

A critical orientation to teacher education programming guided by the principles of critical pedagogies has emerged in response to the call to better prepare 21st century teachers for addressing inequities in schools and fostering social justice (Philpot, 2019). Physical health education teacher education (PHETE) programs have emphasized teaching for social justice in a discipline that has long been described as exclusionary and dominated by masculine discourses. Advocacy for critical pedagogies in PHETE is strengthened by research that suggests recruits enter teacher education programs with deeply held beliefs that privilege some PE students while marginalizing others for their sexuality, gender, ethnicity, race, body type, or motor ability (Tinning, 2016). This lack of exposure to diverse experiences limits pre-service teachers' capacity to respond to students' needs in PE. Critical theories have informed how pre-service teachers engage with social justice issues; however, this approach produces little change in their values and beliefs. This study drew on Occupational Socialization Theory (OST) (Lawson, 1983a, 1983b) in order to better understand the preparation of PETE students and early career teachers in regards to teaching for social justice. Lawson describes OST as a model of teacher socialization that includes "all the kinds of socialization that initially influence persons to enter the field of PE and are responsible for their perceptions and actions as teacher educators and teachers" (Lawson, 1986, p. 107). Through semi-structured interviews, this study utilized OST alongside reflexive thematic analysis (Braun & Clarke, 2006) to better understand the tensions that arose when 4 early career PE teachers (years 1-5) were caught between innovative pedagogical practices learned in their respective PHETE programs and the realities of teaching for social justice in PE settings. A thematic map was developed to organize themes that both fostered and hindered teaching for social Justice: 1) support from the school and system 2) social positioning in schools and 3) lack of pre-requisite knowledge. While support in the school and system seemed to help promote socially just teaching practices, early career teachers positioning in schools and lack of pre-requisite knowledge left them with little option other than to display internalized adjustment and strategic compliance (Richards, et al. 2014), that is, to conform to the status quo of schools that was not focused around socially just pedagogies. This presentation will provide PHETE educators with insight into how early-career teachers apply their learning into practice and whether shifts in PHETE are necessary to prepare pre-service teachers to participate in socially just and culturally responsive teaching.

Keywords: PHETE, Social Justice, Teacher Socialization

ID 404 Spanning Boundaries in Curriculum Reform; The Evolving Role of a Physical Education Teacher Educator in Ireland

Claire Walsh (University of Limerick), **Ann MacPhail** (University of Limerick), **Deborah Tannehill** (University of Limerick) & **Orla McCormack** (University of Limerick)

The process of educational change is inherently complex, requiring efforts from all levels of the education system, including schools, professional teaching levels, and individual teachers (Lynch 2014). Initial teacher education (ITE) and continuing professional development (CPD) equip teachers with the knowledge and skills required for implementing a new curriculum, for example, developing adequate capacity to select, develop and adapt the curriculum. Engaging these stakeholders throughout the change process can reduce resistance to curriculum reform. However, the challenge lies in identifying strategies by which these stakeholders can be involved to support the successful implementation of these changes (Gouédard et al. 2020).

This presentation explores the role of a 'boundary spanner' during a period of curriculum reform in physical education in Ireland. Spanning four years, the lead presenter occupied four roles: a physical education teacher, a physical education teacher educator (PETEd) in ITE, a professional development provider and a PhD researcher. The term 'boundary spanner' conceptualises this work across different spaces, roles, and/or settings. Through autoethnographic methods, this study examines the diverse experiences of the presenter to highlight how and the extent to which boundary spanning occurred throughout this time of curriculum reform. Data was collected over four years through researcher diary entries, voice recordings, field notes, and reflections. Data were analysed using a three-phased coding approach (Charmaz 2014). Analysis of the data produced six categories: (1) Awareness of stakeholder relationships in curriculum reform, (2) Considering the role of leadership, (3) Being recognised by colleagues, (4) Appreciating the benefits of occupying multiple roles, (5) Learning about the role of research, and (6) Appreciating the realities of implementation. This research highlights the importance and benefits of expanding the roles of PETEds beyond their traditional confines within ITE. Particularly during times of reform, it is important that PETEds are aware of curriculum developments and begin to reflect these changes in their respective programmes and teaching practices. Exploring opportunities to collaborate with other stakeholders in physical education could pave the way for mutually beneficial

relationships. These engagements could not only enhance the professional development of PETEds but also provide stakeholders with the advantage of the specialised expertise and unique perspectives that PETEds offer, stemming from their background in ITE. Reference List Gouëdard, P., Pont, B., Hyttinen, S. and Huang, P. (2020) 'Curriculum reform: A literature review to support effective implementation'. Paris: OECD Publishing. Lynch, T. (2014) 'Australian curriculum reform II: Health and physical education', *European Physical Education Review*, 20(4), 508-524, available: <http://dx.doi.org/10.1177/1356336x14535166>.

Keywords: curriculum reform, boundary spanner, physical education teacher education, collaboration, autoethnography

ID 288 Biographical experiences as an implicit mental barrier for professional development of PE teachers – a case-based study

Vera Volkmann (Leibniz Universität Hannover)

The importance of previous biographical experiences for teachers' professional actions and interpretations can nowadays be seen as undisputed in terms of their relevance for professionalization. How they relate to each other and how they could be constructively addressed as part of the professionalization process, however, requires further empirical but also conceptual clarification. This presentation will show by an example of a case-based study, how these experiences can produce mental barriers regarding the professional development of PE teachers. Previous biographical experiences and the resulting subject-related beliefs are particularly important for PE teachers due to the special biographical embedding of sports-related experiences, which often have their origin in primary socialization and play a major role in the biographies (cf. Volkmann 2008, Ernst 2018). It is a well-known fact, that pre-teaching biographical experiences with sports in particular but also with education in general influence the pedagogical and didactical acting of PE teachers (Volkmann 2008). From a point of view of a good professional development, this fact is not always conducive and must be taken into account PE teacher training at university level. The intensive biographical experiences in and with sport that (prospective) PE teachers have offer a useful resource for solving problems that arise in a contingent professional practice. However, these solutions often do not necessarily correspond to what seems desirable from a didactic and scientific perspective. In addition, due to the constant pressure to act and a lack of opportunities for reflection, they can also become barriers in the professionalization process (Volkmann 2018). The case-

based study shows how the biographical experience of a PE teacher can obstruct professional development. In conclusion it is important to take these results into consideration in relation to the education and training of PE teachers.

Keywords: pre-teaching experiences, professionalization, beliefs, biographical research

ID 530 Primary School teachers' understanding of Physical Education, Physical Activity, School Sports, and Physical Literacy.

Jessica Mangione (Edge Hill University) & **Sarah Hunt** (Edge Hill University)

External provision and outsourcing have brought the introduction of new people involved in the delivery of primary school Physical Education (PE) (Macdonald, 2011). These new people are often sports coaches, athletes, or volunteers with sports knowledge who deliver sports activities under the name of PE. Consequently, there has been a proliferation of cases when physical activity and sports services have been sold to primary schools and teachers as synonymous with PE, causing confusion about the terminology used by teachers (Mangione et al, 2022). Despite often being considered two faces of the same coin, PE and physical activity refer to different elements that are equally relevant in the lives of individuals. It is important that teachers are aware of the differences to make PE not lose the pedagogical and educative part associated with it. In addition, primary school teachers' lack of preparation and confidence in teaching PE (Lynch & Soukup, 2017) has caused a lot of confusion on what the subject is, looks like, and the needs associated with it. The scenario becomes more complicated when considering PE and physical activity are not the only two terms involved in the PE context. Terms such as school sport, and physical literacy have become everyday terms in the field of PE. However, for academia, the differences between these terms are clear, and boundaries are created to highlight the differences; in school settings, the differences seem to be less clear, and these terms are sometimes used interchangeably. The aim of this project is to investigate primary school teachers' understanding of Physical Education, Physical Activity, School Sports, and Physical Literacy, as well as the differences between these terms. Method: Data sources consisted of one-to-one semi-structured interviews with four primary school teachers based in England. Interviews will be transcribed verbatim, and data will be inductively and deductively analysed using thematic analysis. Results: The data analysis of this project has not started yet, as the research team plans to start the data collection in January 2024. In conclusion, we

will share key aspects related to the primary PE settings and teachers' understanding of the different terminology used in this context, as this could be one of the clarifications needed to keep the high status needed for PE to be recognised at the same level as other school subjects. Reference list Macdonald, D. (2011). "Like a fish in water: Physical Education Policy and Practice in the Era of Neoliberal Globalization", *Quest*, 63, 36–45. Lynch, T. and Soukup, G.J. (2017). "Primary physical education (PE): School leader perceptions about classroom teacher quality implementation", *Cogent Education*, 4:1. Mangione, J., Parker, M., & O'Sullivan, M. (2022). "The dynamics of external provision in physical education", *European Physical Education Review*, 28(3), 668–685.

Keywords: Primary Physical Education; Primary school teachers; Physical activity; School Sport; Physical Literacy

ID 234 Exploring the Transition from PE Teacher to PE Teacher-Educator

Cameron Van der Smee (Deakin University) & **Carla Valerio** (Southern Cross University)

When hiring teacher education faculty, universities place great stock on recruiting academics who have prior teaching experience in the K-12 context. However, this transition from teacher to teacher educator is a significant one, as teaching students and teaching teachers are two similar but distinct practices. Beginning teacher educators are typically dropped into teaching at the tertiary level, with little professional preparation, induction or professional development to be able to teach in this new context. Despite a growing body of research on the transition from teacher to teacher-educator, little is known about how Physical Education (PE) teachers transition to becoming Physical Education Teacher Education (PETE) faculty members (van der Mars, 2011). This transition from PE teacher to PETE educator is particularly significant, because of the difference between the 'one-size-fits-all' sporting approach that is typically utilized in schools and the alternative and more inclusive approaches that are championed by scholars in PETE education. This autoethnographic project explored this process from the perspective of a PETE educator trying to navigate this tension. The project focused on the teaching of two third-year practical PE units and reflected on how I navigated the embodiment of both my academic and teaching habitus on a moment-by-moment basis. Reflections were collected through reflective field notes and audio summaries and were explored through ongoing discussions with a critical friend. Ultimately, this project provided a unique

insight into how PE teachers can transition from teacher to teacher-educator and re-think and re-contextualise many of the practices they embodied as teachers. We conclude by highlighting the need to further examine this transitional process and to provide more resources to help teachers with this transition.

Keywords: Teacher education, PETE, autoethnography, Bourdieu, Academia

ID 238 Agents of change? Exploring relations among school staff connected to daily physical activity promotion in a Swedish secondary school from a social network perspective

Sara Hoy (The Swedish School of Sport and Health Sciences GIH), **Håkan Larsson** (The Swedish School of Sport and Health Sciences GIH), **Åsa Norman** (Karolinska Institute, Department of Clinical Neurosciences & **Kayla de la Haye** (University of Southern California, Dep. of Population and Public Health Sciences)

Earlier research proposes that a school's social environment among staff functions as an important facilitator for physical activity policy/curriculum dissemination, such as support among colleagues, physical activity ideas shared between teachers, as well as having individuals as 'agents of change'. It is often proclaimed that physical education teachers inhabit these 'agentic' roles concerning physical activity and health promotion targeting youth during the school day. Despite this, little seems to have been researched concerning the agentic roles of physical educators and other school staff and their social networks within the school organization. Consequently, this study aims to explore relations among school staff regarding daily physical activity promotion in a Swedish secondary school from a social network perspective. This case study applied a convergent mixed method design with an emergent approach, where the qualitative ethnographic data and quantitative survey data were collected around the same time. Data was collected during one full school year from school staff at one secondary school (students aged 12-16 years, grades 7-9) in a larger urban area in Sweden. The sample included all staff within the school that interacts with secondary students, which involves school management, staff and teachers who are responsible for secondary students at some point during the school day, staff involved in student health or are engaged in physical activity, as well as physical education and health teachers. Our empirical material consists of field notes (180 hours of fieldwork), transcriptions from interviews (12 staff), as well as survey nomination data (23 participants). Qualitative data has been analyzed

through a reflexive thematic analysis, and survey data through a social network analysis, and then further combined in an integrated analysis. Preliminary results of the current study show that the school staff's social networks are characterized in different ways within close everyday-discussion colleague networks, peer networks concerning physical activity, and advisory networks regarding physical activity. In the everyday discussions among staff on topics regarding secondary students, physical education teachers are positioned as isolated islands in the networks. While physical education teachers hold a somewhat key role relating to discussions about physical activity, these discussions also go through other, and sometimes more influential, agents. Conflictingly, the physical education teachers still picture themselves as physical activity ambassadors for students' daily physical activity. This picture is also shared by other school staff. At this school, the results shed light on important issues concerning how the social (network) context among school staff helps promote and inhibit physical activities for the students.

Keywords: social networks, school organization, opinion leadership, physical activity, secondary students

ID 95 Exploring movement in creative dance: introducing 'dancemlage' in physical education teacher education

Christopher Engdahl (GIH The Swedish School of Sport and Health Sciences)

Materialities play a crucial role in both the educational practice of physical education (PE), and in physical education teacher education (PETE). This article explores how, often unnoticed, materialities, human as well as non-human, play part in movement exploration in creative dance in PETE. The methodological point of departure is a pedagogical unit in creative dance enacted as part of an optional dance course in a Swedish PETE program where movement exploration was studied. In the unit, students and a teacher collaboratively explored movement and movement assignments, including the use of materialities. In order to understand how materialities 'co-act' in movement exploration during class, this article provides a post-anthropocentric and Deleuzian approach. The concept dancemlage is introduced both as a way to analyse materiality and as something to work with in pedagogical practice. Moreover, the article suggests that by recognising dancemlages in creative dance teaching, teachers can be given a tool to further learn about learners' explorations and to open up for divergent understandings about what it means to participate in creative dance.

Keywords: movement exploration; materiality; Deleuze, post-anthropocentrism

ID 380 Becoming and being a PE teacher during the COVID-19 pandemic: the experience in a Brazilian PETE context and the development of divergent skills

Allyson Carvalho de Araújo (Federal University of Rio Grande do Norte) & **Leilane Shamara Guedes Pereira Leite** (Federal University of Rio Grande do Norte)

Physical Education Teacher Education (PETE) was challenged during the COVID-19 pandemic, in particular due to the lack of having an 'in-person' practical experience. During that period, we followed a group composed of PE undergraduate students, a PE teacher as a placement supervisor, and a PETE teacher in a public school in Northeastern Brazil. This group made professional training placement remotely and discussed different skills appropriated by future teachers. During that disruptive teaching reality, the prescribed teaching skills were progressively reshaped by the different experiences and expectations of the placement supervisor, PETE teacher, and the undergraduate students. This study aims to identify the self-declared teaching skills of undergraduate students linked to professional training placement during remote teaching. This exploratory, qualitative research analyzed individual reports from 11 future PE teachers, responses to an online questionnaire, and participant observation of recorded class planning sessions to map evidence about teaching skills. All data was analyzed by the placement supervisor and the PETE teacher through thematic analysis. The pluralism about knowledge observed in the research shows a gain in skills with media and digital technologies, resulting in PE mediation by the different languages of the digital landscape. Future teachers recognize digital media and technologies as a possible path to promoting pedagogical aspects, such as the active involvement of students. They naturalize that they have developed digital skills in planning and teaching classes and creating and sharing educational digital resources. However, they are apprehensive about how it will help them in a face-to-face class. Such digital skills differ from those developed by the placement supervisor (who graduated from the same PETE course five years before) and those prescribed in the PETE program in which future teachers are involved. In turn, the placement supervisor declared a feeling of incompetence in dealing with digital platforms despite highlighting the collaboration network among prospective teachers. At the same time, she was more confident about interpersonal skills to deliver face-

to-face classes. The research findings indicate that both the social and sanitary contexts profoundly impacted how future teachers assimilate the skills desired in professional training placement. The pandemic prompted more significant development of digital skills to plan and deliver classes while limiting some of the development of interpersonal skills, thus highlighting divergent skills between future teachers and the supervisor. At this point, we believe the professional training placement must be a moment to develop skills and an opportunity to reflect on practice in PE to become a conscious teacher about their acquired skills.

Keywords: Physical Education Teacher Education; Teaching skills; Pandemic.

ID 383 Impact of Teachers' Participation in an Interdisciplinary Professional Development Community on Teaching of Body Systems and Health-Related Fitness Topics

Nehir Kavi Şimşek (Ardahan University) & **Mustafa Levent Ince** (Middle East Technical University)

The present study aims to analyze the impacts of an interdisciplinary professional learning community (idPLC) consisting of a group of different subject matter teachers (teaching to the same secondary school class) on: 1) teachers' content knowledge and pedagogical content knowledge development processes on body systems (skeletal, muscular, cardiovascular, respiratory) and physical fitness; and 2) their students' health-related fitness (HRF) knowledge and physical activity (PA) levels. To this end, a convergent parallel mixed method design was adopted. The sample included students studying in the sixth grade in two experimental and two control schools (experimental $n = 37$, control $n = 57$) and different subject teachers teaching in these classes in experimental group schools ($n = 10$). In experimental groups, two six-week idPLCs were designed and implemented separately for the teachers of each school. In idPLCs, teachers discussed developing knowledge and skills regarding their students' body systems and physical fitness, integrating the topic into their subject matter teaching, and supporting their students' learning in two-hour weekly meetings within the professional learning community structure. Each idPLC included a facilitator and five different subject matter teachers (physical education, science, psychological counseling and guidance, visual arts, or Turkish). No intervention was provided in the control groups. Qualitative data were collected by idPLC video-records, semi-structured individual interviews conducted with teachers, and field notes, and quantitative data were collected by "Health-Related Fitness Knowledge Test for

Middle School Students (İnce & Hünük, 2013)" and "Physical Activity Questionnaire for Children (Erdim et al., 2019)" through pretest/posttest applications. Content analysis was used in the analysis of qualitative data. For qualitative and quantitative data analysis, respectively, the paired sample t-test and content analysis methods were used. Qualitative findings showed that teachers' content and pedagogical content knowledge in the idPLC process was developed through (1) inquiry, (2) acceptance, (3) application, and (4) reflection. Quantitative data revealed that the experimental group students' HRF knowledge levels and PA levels increased significantly compared to the control group ($p < 0.05$). In conclusion, idPLC effectively develops interdisciplinary teaching practices and improves student learning. Teacher idPLCs' as a professional development strategy is strongly recommended.

Keywords: Interdisciplinary Teaching - Professional Learning Community - Health-Related Fitness - Body Systems

ID 698 The Influence of Beliefs on Professional Vision of Physical Education Teachers

Katrin Strub (German Sport University Cologne) & **Sabine Reuker** (German Sport University Cologne)

Teaching is considered to be a complex process, events occur simultaneously and teachers have to make decisions under time pressure (Reuker, 2012). In addition, physical education (PE) demands on teachers to develop not only physical-motoric but also cognitive and social skills (Armour, 2010). To handle these specific circumstances and requirements prevalent in PE, skills such as selective attention, interpretation and decision-making are needed and discussed as relevant and are subsumed under the concept of Professional Vision (PV)(van Es & Sherin, 2002). In research that investigates influencing factors on PV, also beliefs are increasingly examined, their relevance for teaching practice has already been proven (Schoenfeld et al., 2011). However, the extent to which the PV of prospective PE teachers differs depending on different beliefs has not been adequately addressed so far. The present study examines the influence of beliefs on the PV of prospective PE teachers. About 250 prospective teachers took part in an online questionnaire that aims to capture different beliefs about teaching. Using the questionnaire of Heemsoth and Kleickmann (2018), two contrasting groups ("constructivist" and "transmissive") are formed. Participants from both groups are shown video sequences of an everyday PE lesson, offering the possibility to focus on different events (e.g. physical-motor

or social-cognitive processes and methodological or didactical approaches). In order to investigate and compare their PV, all participants are then asked about their selective attention, interpretation and decision-making. Additionally, the eye movement is captured by an eye-tracking system to gain further insights about the focus of attention. Thus, possible interrelationships are established between quantitatively measured gaze behaviour and what is qualitatively evaluated through verbalised utterances. It is expected that the PV of prospective PE teachers differs in terms of their either more constructivist or transmissive beliefs as they focus on and interpret events differently and make different decisions. These differences are also expected to be captured in their eye movements. The results will be presented and discussed in the context of professionalising PE teacher education. Armour, K. (2010). The physical education profession and its professional responsibility...or...why '12 weeks paid holiday' will never be enough. *PE and sport pedagogy*,15(1),1-13. Heemsoth, T. & Kleickmann, T.(2018).Learning to plan self-controlled physical education: Good vs. problematic teaching examples.*Teach Teach Educ*,71,168-178. Reuker, S.(2012).Der professionelle Blick von Sportlehrkräften. *Sportwissenschaft*, 42(4),240-246. Schoenfeld, A.H.(2011).Toward professional development for teachers grounded in a theory of decision making. *ZDM*,43(4),457-469. van Es, E. & Sherin, M.(2002).Learning to notice: scaffolding new teachers' interpretations of classroom interactions.*JTATE*,10(4),571-596.

Keywords: Professional Vision, Beliefs, Influence, Physical Education Teacher, Physical Education Teacher Education

ID 711 Special Olympics as an impetus for inclusion - myth or reality? - An explorative study with prospective physical education teachers

Heike Tiemann (University of Leipzig)

Special Olympics describes itself as a "global inclusion movement" that "changes the lives of people with intellectual disabilities all over the world" (Special Olympics, 2023). Major international sporting events such as the Special Olympics World Games, which take place every four years, are particularly important in this context. These are supposed to contribute to "greater recognition and social participation of people with intellectual disabilities" (Special Olympics, 2023). Whether this claim of the sports movement corresponds to reality or is more of a myth has only been analyzed marginally in sports science research. However, studies of the impact of disability sports events, such as the Paralympics, on public attitudes towards people

with intellectual disabilities point to the potential in this regard. (Ferrara, Burns & Mills, 2015). With reference to this research deficit, the present study investigates the effects of the Special Olympics World Games on spectators who are experiencing this sports movement for the first time. The study explores the ways in which this sporting event can contribute to increased recognition of the athletes and therefore how this event can be seen as an impetus that can lead to greater social participation of people with an ascribed intellectual disability. The qualitative study examines a group of people who play an important role as multipliers when it comes to recognizing different people in sport and enabling them to participate equally in sport (lessons) regardless of stigmatizing attributions. This group consists of prospective physical education teachers (n=13) who visited the Special Olympics World Games in Berlin 2023 over several days and were surveyed using problem-centered interviews. In addition, the students wrote self-reflections about their experiences and impressions before, during and two weeks after their visit to the Games. The ongoing analysis, based on the theoretical background of the social model of disability (Crow, 1996), indicates that the subjects' lines of argumentation changed over the course of the event. These can be characterized by a differentiated perception of the athletes' potential, which is linked to a recognition of their performance. The students' view of the athletes shifted from a more deficit- orientated perspective to a potential- orientated perspective. At the same time, the interviewees also shared observations that made them think about the way society treats people with intellectual disabilities.

Keywords: special olympics, disability sports events, spectator

Coach education, professional development

ID 377 The role of physical activity and sport modality in shaping psychosocial skills: A study on fair play, self-esteem, and self-efficacy in children

Andrea Ceciliani (University of Bologna), **Marcelo Bigliassi** (Florida International University), **Ekaterina Oparina** (Florida International University), **Francesco De Matteis** (University of Modena and Reggio-Emilia) & **Gabriele Russo** (University of Bologna)

Engaging in physical activity and sports is essential for the psychosocial development of children, as it fosters moral development, social integration, and character building based on ethical principles, such as fair play(1,2). This study analyzed the relationship between physical activity behavior, sport modality, and higher-order psychosocial skills, such as moral decision-making, fair play, self-esteem, and self-efficacy, in a sample of children from two primary schools. Our hypothesis posited variations in psychosocial outcomes based on children's physical activity levels and sport participation (individual vs. team, open skill vs. closed skill). One hundred twenty-nine primary school children (59 females, Mage = 8.13, SD = 0.81 y.o.) participated in the study. Each participant completed the following questionnaire: the Fair Play in Physical Education, the Attitudes Moral Decision Making in Youth Sport, the Rosenberg Self-Esteem, the Physical Self-Efficacy, and the Physical Activity questionnaires. The results demonstrated that physical activity and sex exerted a general effect on fair play, whereas sport type did not exhibit a significant association with any of the studied constructs. However, sex and physical activity level, as well as sport type, were identified as significant predictors of sports self-efficacy. Overall, our study highlights the complex and multifaceted nature of these constructs and the importance of considering multiple factors in elucidating their relationships. Our study has important implications for trainers and teachers who aim to promote fair play and sportsmanship in their programs. To promote ethical behavior in youth sports, character education programs that emphasize values such as fairness, respect, and responsibility can be helpful. Coaches and parents can also serve as positive role models to promote these values and create a culture of fair play and respect in youth sports programs. By emphasizing these values, such programs can contribute to positive psychosocial development in young athletes. References: 1)Opstoel, et al., (2020). Personal and social development in physical education and sports: A review study. *European Physical Education Review*. 2) Serrano-Durà et al. (2021). Systematic review of research on fair play and sporting competition. *Sport, Education and Society*.

Keywords: Open vs. Closed-skill sports; Individual vs. Team sports; moral decision-making

ID 696 Enhancing professional judgement and decision-making in dynamic environments

Andrew Horrell (University of Edinburgh), **Jas Bruce** (The British Association of Snowsport Instructors) & **Brodie Runciman** (University of Edinburgh)

This paper reports on an approach adopted in snowsports pedagogy designed to develop professional 'expertise'. Developing professional competence is a complex task, and research in the area of professional judgement and decision-making (PJDM) has provided insights into how it may be possible to enhance 'expertise' through structured observations and reflections (Fadde, 2009). This project focused on how snowsport educators work with student teachers during intensive courses as they work towards professional certification. The dual aims of these courses are to develop and assess student's ability to provide experiential learning in outdoor settings. During the courses, student teachers adopt different roles, all are required to plan, teach and conduct a peer evaluation. In the teaching episodes, assisted by the snowsports educator, a student teacher undertakes a focused observation and then, at the end of the session, against the criteria for assessment, leads the evaluation of the session. These processes designed to promote PJDM were evaluated, and data were gathered via structured observations, field notes and semi-structured interviews with student teachers (N=24) and snowsport educators (N=3). These were transcribed and then analysed within Nvivo14 via processes of open coding, axial coding and selective themes. In addition, there was a process of closed coding against the learning outcomes for the courses. The findings indicate that through the processes related to developing PJDM in snowsports, a shared understanding of the courses' assessment criteria was developed. In many cases, this aided student teachers in making a shift beyond seeking to be competent ('passing the course') and moving towards an appreciation of how the courses were developing their ability to enhance their PJDM in dynamic environments. Interactions between the snowsport educators and the student teachers during the observation of sessions were considered to be particularly valuable in enhancing PJDM. The snowsport educators indicated they required support and development, in the area of questioning techniques and would value opportunities to observe their peers as a means to improve their practice when supporting student teachers. Fadde, P. J. (2009). Expertise-based training: Getting more learners over the bar in less time. *Tech., Inst., Cognition and Learning*, Vol. 7, p171-197.

Keywords: Professional judgement, Professional expertise, Coach education, Teacher Education

ID 434 Planning for social value creation while building a methodology for a game-based approach to teaching martial arts in an after-school program

Alba Rodrigues (George Mason University), **Risto Marttinen** (George Mason University) & **Dominique Banville** (George Mason University)

Objective: To understand how martial arts coaches create value through the co-development of a tactical game methodology for 7-10-year-old children. **Methods:** The cycle of value creation in social learning spaces (Wenger & Wenger-Trayner, 2020) was the conceptual framework. The common value (aspect cared for) of the group bonds the participants who bring their personal values to make a difference in the setting. Participants were two stakeholders and five martial arts instructors (karate, judo, Brazilian jiu-jitsu, & taekwondo) who worked for a large sports institution in Brazil. Data sources included (a) reflexive researcher journals, (b) debriefs with a critical friend, instructors, & stakeholders, (c) meetings with instructors & professional development (PD) sessions, (d) informal conversations through WhatsApp, (e) observations of lessons, (f) observation of PD sessions, (g) resources developed by instructors, (h) institutional documents, and (i) interviews with instructors. Data was analyzed using thematic analysis. **Results:** Theme 1-“Value Creation Within the Social Learnings Space”: the development of a dialogical researcher-instructor relationship was crucial to the value creation cycle. Instructors mentioned that the researcher did not impose knowledge but shared and learned with them and brought new perspectives. Respect and care for each other's knowledge led to a learning process developed as a group and the creation of a methodology focused on improving the experiences of kids in the program (what mattered to us). Theme 2-“Organizational Support”: by navigating the uncertainties and understanding the challenges faced by the instructors in creating something they valued to improve their pedagogical practice, the group was able to find venues to ask for support and open dialogue with stakeholders. Theme 3-“Transformative Value”: tactical games provided a student-centered structure to teaching martial arts that was perceived as more valuable and enjoyable to students. With the method developed in the social learning space, instructors increased their focus on students' critical thinking. What was learned and tested during the interventions led the instructors to change their classes and pedagogies in different ways. **Conclusion:** Creating value is a cyclical process in a social learning space to plan and act to achieve pedagogical change with expert martial arts instructors. Working together to make a difference in something valued by the group was a way to co-develop a methodology for teaching martial arts through a tactical game approach with a focus on fostering a student-centered pedagogy. Through dialogue and respecting the knowledge of the

instructors, the participants created something that matters to the institution and their students. Wenger, E., & Wenger-Trayner, B. (2020). *Learning to make a difference: Value creation in social learning spaces*. Cambridge University Press. <https://10.1017/9781108677431.006>

Keywords: sport pedagogy, social learning spaces, participatory research, combat sports, professional development

ID 431 Challenging the beliefs driving a controlling style in physical education and sports: what does the evidence reveal

Leen Haerens (Avanti Brugge Dames VZW)

Sports coaches and physical education teachers are entrusted with the vital task of helping youngsters learn and grow in safe and nurturing environments. Yet, sometimes, they may resort to a controlling (i.e., pressuring and autonomy-thwarting) style of coaching and teaching. This presentation will include the latest SDT-based research on the detrimental effects of a controlling coaching and teaching style for young people's motivation and well-being, their growth and development, and even their performance. In doing so, it will challenge three pervasive laymen's beliefs. The first belief is that certain controlling practices are needed for performance, instilling discipline and promoting respect. SDT's distinction between a controlling and a structuring style is essential in this regard. Although both a controlling and structuring style entail a directive socialization approach, the extent to which these styles thwart versus nurture people's needs differs. Our most recent work on the circumplex approach to teaching and coaching reveals that respect and discipline typically follow need-supportive rather than controlling communication. Evidence will be presented that directiveness is perceived as more legitimate and has a more positive impact when it is provided in a structuring rather than controlling way, and when it is combined with autonomy-support. The second belief is that a controlling style is beneficial in some situations or that specific people benefit from a controlling style: "Is a controlling approach justified or warranted when students display disruptive behavior?" and "Are some youngsters more resilient or even immune for a controlling style?". Findings from experimental vignette-based studies as well as longitudinal repeated measures field studies will be presented to answer these questions. The third belief is that the periodic use of a controlling style is no longer detrimental if it is combined with a generally need-supportive style, or when it is embedded in a broader empowering climate. To address this belief, we rely on profile analyses to

gain more refined insights into the impact of different combinations of styles, and multilevel analyses to explore the dynamic interaction between coaches' and educators' generic styles and situational or periodic instances of control. The presentation will conclude with a summary of the factors such as normalization within sport that lead to a controlling style as such insights are essential to develop effective interventions to help coaches and educators in adopting a more need-supportive style to create safer and more motivating learning environments that foster growth and development.

Keywords: Pressure, shouting, self-determination, coach, teach

ID 128 Measuring Motivation of Adolescent Student-Athletes - Development of the Student-Athletes' Academic and Athletic Motivation Scale (SAAMS)

Maike Niehues (Universität Hamburg), **Erin Gerlach** (Universität Hamburg) & **Jeffrey Sallen** (Universität Leipzig/Universität Hamburg)

Introduction and Aim of Study In the past, measuring motivation among athletes in dual careers has gained importance. Previous attempts to measure motivation among adolescent student-athletes have failed (Niehues et al., 2021). Hence, the aim of the study was to develop and evaluate a new instrument, the Student-Athletes' Academic and Athletic Motivation Scale (SAAMS), for student-athletes in secondary schools based on the expectancy-value-theory by Eccles (1983). **Method** The study was split into two parts. The first part focused on the evaluation of the initial SAAMS using exploratory factor analysis with 346 student-athletes (age = 17.3 years, 47.7% female). After a revision process, the SAAMS was distributed to 497 student-athletes in the second part of the study and analysed using confirmatory factor analysis (CFA). Moreover, reliability as well as validity were tested using Cronbach's Alpha and Pearson's correlation. **Results & Discussion** The results of the CFA reproduced the six-factor structure proposed by the expectancy-value theory (CFI = .916; RMSEA = .048; SRMR = .065). The factor loadings were above .56. The internal reliability was satisfying (Cronbach's Alpha between .74 and .89). Based on these results, the following factors were interpreted for the academic and athletic context: expectancy, ability, importance, interest, usefulness, and cost. The psychometric properties of the SAAMS indicate a sophisticated and ready-for-use instrument in order to measure academic and athletic motivation among adolescent student-athletes. Possible fields of application can be found in research as well as

practical settings. Literature Eccles, J. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives: Psychological and sociological approaches* (pp. 75-146). W. H. Freeman. Niehues, M., Gerlach, E. & Sallen, J. (2021). Measuring dual careers motivation among German student-athletes using the Student Athletes' Motivation Toward Sports and Academics Questionnaire. *Challenges and failures of linguistic and cultural adaptations. German Journal of Exercise and Sport Research*, 51, 378–383. <https://doi.org/10.1007/s12662-021-00723-9>

Keywords: motivation, dual career, student-athletes

ID 295 Applying the Collective Impact Framework to Develop Sport Participation Activities within After-School Clubs and Sports Clubs

Mari Hirvonen (Itla Children's Foundation)

The aim of the presented development project is to enhance the cooperation between FMLA and VSC, using the Collective Impact framework to provide improved pathways for children and youth to participate in meaningful leisure time sports activities. In Finland, sports activities have traditionally been organized within voluntary sports clubs (VSC). However, in recent years, after-school activities have been evolving through the "Finnish Model for Leisure Activities" (FMLA) initiative by government policy. The goal of this initiative is to enable every child and youth to participate in after-school leisure activities, including sports, free of charge. Organizing sports activities within both FMLA and VSC has expanded the variety of participation opportunities in sports activities. However, it has also led to practical challenges, such as overlapping activities, a shortage of instructor resources, and difficulties in communicating the various activities to families. Therefore, there is a need to enhance the cooperation between FMLA and VSC to provide better participation pathways in sports activities for children and youth. To address this need, in June 2023, five municipalities (Helsinki, Espoo, Vantaa, Turku, and Jyväskylä) initiated a one-year developmental project funded by the Ministry of Education and Culture. The Itla Children's Foundation and the Faculty of Sport and Health Sciences serve as advisory partners for the project team. As part of a systemic approach, the current development project utilizes the Collective Impact (CI) framework, as formulated by Kania and Kramer 2011. This framework consists of five integral components: a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication, and backbone support organizations. In Finland, this

framework has primarily been used in family services, and this development project represents its first application within youth sports activities. This presentation will address two evaluative questions: 1) How is the Collective Impact framework understood and formulated within the development project? 2) What benefits and challenges have been identified in the context of recreational sports activities when using the Collective Impact framework? The presentation addresses these questions based on project activities, including development workshops, documents, and an evaluative workshop with the project team. Altogether, the presentation discusses the Collective Impact framework within recreational youth sports activities and reflects the potential for systemic change in the field, involving various actors from the public and third sectors.

Keywords: After school clubs, Sports activities, Leisure time, Collective impact, Cooperation

Physical activity in children's and adolescents' life

ID 99 Effects of Physical Activity on Executive Functions in Individuals with Down Syndrome: A Systematic Review

Nathan Scott (University of Georgia), **Nicole Kirk** (University of Georgia) & **Phillip Tomporowski** (University of Georgia)

Executive functions are defined as higher-order cognitive strategies used in goal-directed thought and behavior. Executive functions have been linked to crucial cognitive processes such as verbal communication, reasoning skills, adaptive behaviors, and instrumental activities of daily living. Compared to their chronologically aged peers, individuals with Down syndrome exhibit major deficits in executive function and a progressive loss of executive function over time. While numerous intervention studies and reviews have shown the beneficial effects of physical activity on executive functions in typically developing populations, less is known about the efficacy of exercise interventions on executive functions in individuals with Down syndrome. Therefore, the aim of this paper was to systematically review the data from intervention studies on the effects of physical activity on executive functions in participants with Down syndrome. PubMed, ERIC, PsychInfo, and SportDiscus databases were systematically searched for interventions using search terms related to Down

syndrome, physical activity, and cognition. Altogether, 11 intervention studies met all inclusion criteria and were included in the review. Among the studies reviewed, quasi-experiments were the most common study design, though randomized control trials and pre-post tests were also represented in the sample. Study outcome variables included working memory, inhibition, set shifting, reaction time, cognitive planning, and verbal fluency. Findings of included studies indicate that participants with Down syndrome generally experienced similar positive effects of physical activity on executive functions as their typically developing peers, namely inhibition and cognitive shifting. Significant methodological issues, such as issues in blinding, small sample sizes, lack of proper randomization, and lack of adequate control groups, make these results difficult to interpret. More studies of high quality on individuals with Down syndrome are necessary. Therefore, future research concerning the role of physical activity on executive functions among persons with Down syndrome should incorporate studies with higher sample sizes, control groups beyond a simple convenience sample, and true randomization to all experimental groups in order to increase study rigor

Keywords: physical activity, exercise, down syndrome, executive function, cognition

ID 569 The European Physical Education Observatory's Toolkit for Internal Monitoring: a Case study about the Quality Physical Education in a Portuguese High School

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Purpose: This presentation reports on a case study that aims to monitor quality physical education (QPE), by using the Toolkit for Internal Monitoring (TIM) instrument from the European Physical Education Observatory (EuPEO)¹. Methods: In this cross-sectional study, the students, the PE teachers and the head of the PE department answered the TIM. The TIM is composed of the students' survey EuPEO Pupils' Questionnaire (EPQ), that addresses the curriculum category, and the European School Questionnaire (ESQ), that addresses the categories 1) curriculum, 2) partnerships, 3) equipment and finances and 4) school teachers and is answered by

the head of the PE department. Additionally, were included in EuPEO the European Learning Assessment System, Pupil version (EuLAS-P), and the European Learning Assessment System, Teacher version (EULAS-T). The EuLAS-P addresses the physical self-concept category and the EuLAS-T addresses the categories, 1) physical activities and 2) physical fitness. The sample was composed of 297 students and 10 PE teachers. The mean values of the answers to the EPQ, EuLAS-P and EuLAS-T were obtained by a descriptive statistical analysis. The answers to the ESQ allowed producing a descriptive characterization of the school. Results: The analysis of the results revealed three characteristics that deserve attention. (1) There are PE contents that are not taught to all classes, being gymnastics and athletics the contents most left aside. (2) As for PE, formative assessment was a strategy held by the schools' PE teachers, but it has been focused on classification and not on the learning outcomes of the students. Students have revealed that a conversation about summative assessment is the most held strategy and peer assessment of the learning process is the less held strategy. 3) Active recess was an implemented strategy and the only way of promoting PA outside classes, once teachers of different subjects did not implement active breaks during classes. Conclusion: The contents of the PE subject aim to the students' eclectic development² and the assessment of their learning outcomes. This variety, to meet the purpose of the assessment¹, must be related to the implementation of formative assessment strategies. One of the proposed strategies in this field is the creation of talking moments during classes, after the end of a learning module, where the teachers explain to the students' how they can improve their skills, including them on the assessment process. There was also the proposal of, besides the active recess, active breaks are included on other subjects' classes, due to its benefits on PA levels and effort levels⁴. References: ¹EuPEO. <https://www.eupeo.net>. ²Portuguese Ministry of Education (2018). Essential Learnings. ³Carlson et al. (2015). Implementing classroom physical activity breaks: Associations with student physical activity and classroom behaviour. Preventive Medicine.

Keywords: Active recess; monitoring; quality physical education; physical activity; whole school approach

ID 387 Children's Physical Activity and Play Behaviors During Recess in elementary schools: a three-year longitudinal perspective

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Phillip Ward (Department of Human Sciences, The Ohio State University, Columbus, Ohio) & **Peter Iserbyt** (KU Leuven - University of Leuven)

Recess is one school-based component of CSPAP where children can engage in daily MVPA. Lunch recess in Flanders (Belgium) has a minimum duration of 50 minutes, as such it has the potential to contribute substantial to the recommended 60 minutes of MVPA per day. Research has shown that for six to nine-year-old children only 11% of boys and 2% of girls in Flanders meet the 60-minute recommendation. These proportions decrease further with increased age. Research has shown the value of assessing the relationship between physical activity and activity type, the size of the social group students engage in and their interactions with others both to interpret findings more contextually and in turn to contribute to the design of future recess interventions. The purpose of this study was to investigate elementary school children's MVPA and play behaviors in terms of activity type and group size during lunch recess on the playground from 2nd to 4rd grade longitudinally across three consecutive years. Differences between boys and girls on the variables were investigated as well. A total of 88 second grade children (48 boys and 40 girls, age 7 years) in 10 elementary schools in Flanders (Belgium), were systematically observed during lunch recess for three consecutive years using the SOCARP-tool. Trained observers assessed the children's physical activity levels, group size, activity type, and social interactions during live coding sessions, which took place from September through June with a mean of 10 (range 6-23) observations per school. Overall, MVPA levels decreased from a mean 46% in second grade to a mean 39% in fourth grade ($p < .001$). Time spent in sedentary behaviors increased from grade 2 (36%) to grade three (46%) ($p < .001$). During all three years MVPA levels of boys (range 45%-50%) were higher compared to girls (range 32-41%) ($p < .001$), with boys spending significantly more time in sports (6%-11%) than girls (1-7%) and less time sedentary (boys 32%-36% versus girls (41-57%). Girls spent more time in smaller groups of 2-4 children (62-69%), while boys spent more time in larger groups of 5-9 children (19-36%) and 10 or more (5-22%; $p < 0.05$). Results from this study showed that children's MVPA levels during recess decreased from 2nd to 4rd grade, is consistent with reported decline in overall physical activity (Farooq et al., 2018). Girls achieved less MVPA and spend more time in small groups (2-4 children), whereas boys spent more time in larger groups. This could be due to the fact that boys spent more time playing sports on the playground, which often requires larger groups (e.g., playing soccer or basketball). Future interventions with tailored strategies for boys and girls during lunch recess are needed, since it remains an important setting to generate MVPA. Furthermore, recess policy could facilitate physical

activity, especially since children are already spending a great amount of time sitting during a regular school day.

Keywords: Playground, MVPA

ID 708 Differences in physical activity and gaming profiles of adolescents with disabilities

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Adolescence is a time for personal growth, where individuals build on social skills and feelings of belongingness. Yet, adolescents with disabilities are known to have worse health outcomes than their peers without disabilities. It can be challenging for adolescents with disabilities to participate in regular physical activity, physical education and sport participation, especially when there is a lack of competent teachers, coaches and instructors. Rather, adolescents with disabilities look to alternative forms to build their social health. One such activity is digital gaming, where individuals can play, socialise and compete against other gamers with or without disabilities. The aim of the study is to test the hypothesis that adolescents with disabilities participate more in gaming and do less organised physical activities and sports than same-age peers without disabilities. This is a secondary analysis of the Finnish Late Adolescent Physical Activity (LAPA) 2020 autumn study. Students were in high school (ages between 16-19y old) and completed a survey on the frequency of gaming behaviour across seven genres of digital gaming (Role-playing, Adventure, Puzzle, Sport simulation, Strategy, Massive Multiplayer Online – MMO, and Esport), participant of organised sport club (yes or no), and disability (measured by self-report child functioning module). The frequency of gaming was combined across the items and analysed with a two-step cluster analysis to identify the commonality of the behaviour. Three clusters were reported and named as ‘frequent esports’, ‘low gamer’, and ‘occasional gamer’. Repeated Chi-square tests of independence were carried out to see differences in gaming cluster and organised sport members with different disability types. From the 3169 high school students who’s results were analysed, the most common cluster was the low gamer (37.0%), then the frequent Esport gamer (33.8%) and lastly the occasional gamer (29.2%). There were no statistically significant differences between the gaming clusters and members of an organised sport club. Among individuals with disabilities (17%), there were fewer non-

gamers (29.3%) than those without disabilities ($p < .001$). This was particularly evident if the individual reported cognitive difficulties ($p < .001$) and behavioural difficulties ($p = .006$). Differences in gaming clusters were not statistically significant for individuals with sensory or walking difficulties when compared with adolescents without disabilities. The only disability type that was associated negatively with sport club membership were among individuals with behavioural difficulties (28.7% vs 37.3% with no disabilities). Digital gaming is more prevalent among adolescents with disabilities than their peers without disabilities. This was evident with fewer rates of the low gaming profile than peers without disabilities. Adolescents with behavioural difficulties may find digital gaming as an alternative to organised sports.

Keywords: Esport; Digital Gaming; Functional Difficulties; Surveillance

ID 459 Cultural change: the valuing of the meanings of physical activities has fallen among Finnish children

Pasi Koski (University of Turku)

In today's world, physical activities and sport is one of the areas of life that competes with other areas of life for the attention of young people. Physical activity relationship (PAR) reflects the central role that physical activities play in an individual's life. If PAR is weak, you will not find the strong and many individual appealing aspects of sport. Conversely, a person with a strong PAR will find many strong meanings that are important to them. This study uses the PAR approach to examine the positive meanings that Finnish children aged 11-15 years attach to physical activity and the change in their emphasis from 2014 to 2022, using data collected through the F-SPA survey in 2014 ($n=2728$), 2018 ($n=2073$) and 2022 ($n=2177$). The importance of physical activity for children was tracked in the questionnaires using a 34-item scale. The results show that the appeal of physical activities had fallen significantly between 2014 and 2022. In 2022, Finnish children did not find as many important meanings for themselves in physical activity as they did eight years earlier. The change has been particularly marked among girls. The results reflect a cultural shift where physical activity is less valued. Former research shows that the number of important meanings identified is linked to personal physical activity levels. However, the cultural change identified in this study does not bode well for the promotion of physical activity.

Keywords: physical activity, adolescent, meaning

ID 480 A diagnostic motor competency screening tool and targeted interventions for Early Years children.

Vanessa King (Association of Physical Education) & **Kristy Howells** (Canterbury Christ Church University)

Motor competency is a key component of early childhood in order to be physically active for life. Optimal physical development begins at the embryonic stage, as the neonatal child's nervous system evolves, starting with primitive reflexes being integrated, continuing through infancy, (Pecuch et al., 2021.) Engagement in physical activity experiences in each child's affordances throughout infancy develops motor competency, beginning with rudimentary skills, progressing to fundamental movement skills. If experiences do not provide stimulating developmental processes, a detrimental effect on motor competency will occur (Clark, 2007). Yet within the UK, there is limited research of young children's motor competency and a lack of a national screening tool. Data from the Active Lives Survey in the UK completed by Sport England over the past seven years (2017-2022) has shown consistent differences in the physical activity when considering the variables of age, gender, ethnicity, family affluence, those with disabilities and long term health conditions for children aged 6 to 11. Children enter school in the UK the September after their 4th birthday, yet data from Active Lives Survey does not include the youngest age group. This paper shares the use of a new diagnostic tool to be implemented nationally to enable practitioners and teachers in school to measure young children's motor skills. The diagnostic tool is used to identify motor skills and then to implement progressive interventions through exercises to address the presence of active primitive reflexes (APRs) which can indicate neuromotor immaturity, (Hazzaa et al., 2021). This implementation of the new diagnostic tool is particularly important within the UK, considering Huggett and Howells' 2022-2023 research who highlighted that young children's motor development had been severely impacted from COVID-19, due to lack of physical activity experiences and affordances and recommended the need for interventions. The data collected for the testing and implementation of the new diagnostic tool and interventions, included children aged 4 to 5 years who were attending varying socio-economic schools, (top 30%-bottom 10% indices of deprivation (IMD)). The IMD were calculated from school postcodes using the Government measurements of socioeconomic inequality. This paper will present the data, currently being analysed, of the children's motor competencies on school entry, their assessments of their progressions through each stage of the interventions. The aim

of this paper is to provide valuable insights, from the UK, into the role that school practitioners in assessing and then developing motor competency through bespoke interventions for the children's needs. It is through this novel focus on enhancing the integration of children's primitive reflexes as well as increase children's self-perception of their motor competency which will in turn will enhance their engagement in lifelong physical activity.

Keywords: motor competency; physical activity intervention; diagnostic tool; early years

Pedagogy and didactics in physical education

ID 350 Peer-teaching reloaded: a pedagogical framework for expanding student active learning

Cláudio Farias (Faculdade de Desporto, Universidade do Porto, Oporto)

Peer-teaching (or peer-assisted learning) is typically applied through dyadic interactions (reciprocal teaching) and as an extension of direct instruction (Metzler, 2017). Students develop a deeper understanding of the subject-matter by passing on lesson content to their classmates and ascertaining their performance against performance criteria. There is also increased social bonding between students and more empathetic and socially responsible citizenship (Ward and Lee, 2005). Drawing on extensive research and new knowledge systematisation on the topic, this pedagogical proposal shows that it is possible to extend the educational experience of physical education students by expanding the scope of peer-teaching beyond its traditional application. This means overturning and reshaping simplistic views of the teacher's role in peer-teaching, far beyond an expectant guide-on-the-side (Farias & Mesquita, 2022). It also implies extending the involvement of students in peer-teaching "duties", with rotations spaced further apart in time, the use of collaborative learning in peer-"teacher" teams and the reshaping of peer-teaching into peer-coaching (becoming proactive contributors to positive social interactions). Overall, instruction complexity is re-dimensioned to the spectrum of possibilities for instructional action by children and young students and what they can realistically be expected to develop and take responsibility for. The aim is to make the physical education experience learner-oriented (the student is at the centre of the process) and

learner-driven (much of the decision-making is conducted by the students themselves), balancing the responsibility transfer with maximum enjoyment. This proposal comprises three components. Firstly, I present a guiding taxonomy of instructional knowledge and skills to be developed by peer-coaches. Peer-coaches learn instructional strategies referenced to planning (pre-impact), implementation (impact) and evaluation (post-impact) processes (Rink, 2020). Learning these skills is phased, e.g., task presentation and structure elements are spread over three phases, with increased complexity levels. Secondly, the teacher progressively mediates this process through scaffolding means and settings that support the students' instruction interventions until they develop independence from the teacher. Thirdly, the previous processes are integrated with content development, providing examples of task progressions throughout the lesson and across lessons. Farias, C., & Mesquita, I. (2022). *Learner-oriented teaching and assessment in youth sport*, Routledge, Mini-Book series. Routledge. Metzler, M. (2017). *Instructional models in physical education*. Taylor & Francis. Rink, J. E. (2020). *Teaching physical education for learning* (8th Ed.). McGrawHill. Ward, P., & Lee, M. A. (2005). Peer-assisted learning in physical education: A review of theory and research. *Journal of teaching in physical education*, 24(3), 205-225.

Keywords: Peer-assisted learning; student-centred; physical education.

ID 368 In Different Shapes: Competitions in Korean Secondary School Physical Education

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Background/Purpose: Competition in physical education(PE) has often been considered the 'double-edged sword'(Hastie & Mesquita, 2017). Although it is an essential element of (youth) sports practice, a lingering cultural resistance that taboos competitive activities in school curriculum can underestimate the educational potential of competition. Based on Johnson and Johnson's(1999) social interdependence theory, the purpose of this study was to explore the experience during competitive activities in secondary school PE and to examine the factors influencing the practice from the teachers and students' perspectives. Method: Ten secondary school PE teachers(5 male, 5 female, Avg. teaching experience 12.9 yrs) and 8 students(3 boys, 5 girls, 8-12 grades) were selected based on their athletic background and teaching/learning experience. Data were collected from semi-structured interviews,

lesson plans, class materials, student work samples, and teachers' journals. Data were analyzed inductively, creating categories or themes using NVivo 12 software. Findings: Both teachers and students use various tactics to regulate the intensity of competition and commitment/skill level required to participate in competitive activities. Four types of competition were identified from the inter-relationship of two dimensions of social interdependence: positive versus negative interdependence of (a) outcome, and (b) means of an activity. These types include (a) watered-down recreational, (b) serious leisurely, (c) hostile dog-eat-dog, and (d) excellence-pursuing competition. Factors influencing these differences were (a) the intended goal of the participants (e.g. winning, having fun, learning life lessons, talent development), (b) means to achieve the intended outcome (e.g. eliminating, dominating, helping, sharing, bonding), and (c) perceived role of the opponent (e.g. barrier, facilitator, partner, insignificant stranger). Conclusion: Each type of competition found in this study has its unique pedagogical implications. It is not appropriate to demand a professional level of competitiveness from students who have just begun their journey in sports. However, it is also misleading to take off competitive element altogether for students who want to participate in sports as a lifetime leisure or a career path. Competition in PE should not be considered as a single form of social interaction waiting on a verdict of good versus evil dichotomy. Rather, it is a multi-dimensional concept and when it reaches to its fullest educational potential, it can work as a cooperative endeavor for excellence and greatness in each student.

Keywords: Competition, Secondary Physical Education

ID 382 Navigating Change: Implementation of Teaching Personal and Social Responsibility in K-1 Physical Education

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Introduction: The purpose of this study was to explore a teacher's transformative journey in pursuing pedagogical change through action research. Motivated by the absence of explicit affective student learning outcomes, the teacher adopted and implemented Teaching Personal and Social Responsibility (TPSR; Hellison, 2011) within a K-1 Physical Education (PE) program in the Midwest region of the United States. Method: The intervention spanned six weeks, including 26 lessons. The study chronicled the teacher's (N=1, male, 13 years teaching experience) evolving

experiences, shifting perceptions, innovative teaching strategies, and refined planning practices. Instrumentation included TARE post-teaching reflections (Wright & Craig, 2011), TARE implementation checklists, and artifact analyses of daily journals and lesson plans. Data were analyzed using inductive qualitative methods (Braun & Clarke, 2006; Keegan, 2019). Results: Data revealed complex pedagogical changes leading to significant improvements in the teacher's content delivery and planning focused on responsibility within four themes. Specifically, findings highlight Reconfigured Planning Priorities, Delivery Incongruence with Learned Behaviors, Conditions Ripe for Challenges and Change, and Tangible Teacher and Student By-Products. Conclusion: The study underscored the gradual pedagogical shift, driven by the teacher's persistence rooted in core values and the perceived benefits of responsibility-based education (Casey, 2013). Findings emphasize the complexity of pedagogical change, stressing self-reflection, value alignment, and philosophical agreement for successful TPSR implantation in PE (Gray et al., 2019). This work aligns with the AIESEP 2024 Conference Theme: Pedagogy and Didactics in Physical Education. References: Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. Casey, A. (2013). 'Seeing the trees not just the wood': Steps and not just journeys in teacher action research. *Educational Action Research*, 21(2), 147-163. Gray, S., Wright, P. M., Sievwright, R., & Robertson, S. (2019). Learning to use teaching for personal and social responsibility through action research. *Journal of Teaching in Physical Education*, 38(4), 347-356. Hellison, D. (2011). *Teaching personal and social responsibility through physical activity* (3rd ed.). Human Kinetics. Keegan, R. (2016). Action research as an agent for enhancing teaching and learning in physical education: A physical education teacher's perspective. *The Physical Educator*, 73(2), 255-284. Wright, P. M., & Craig, M. W. (2011). Tools for assessing responsibility-based education (TARE): Instrument development, content validity, and inter-rater reliability. *Measurement in Physical Education and Exercise Science*, 15(3), 204-219.

Keywords: teaching personal and social responsibility (TPSR), physical education, action research, models-based practice

ID 393 Bridging Art and Motion: A Transformative Approach to Early Childhood Education

Jose Coto Lousas (University of Oviedo), **Jacob Sierra Diaz** (University of Oviedo), **Javier Fernandez Rio** (University of Oviedo) & **Milca Iglesias Echevarria** (University of Oviedo)

In a world of constant change, education faces a critical challenge, that extends beyond the classroom. Traditional teaching methods, focused on lectures, memorization, and standardized tests, often fall short of addressing evolving student and societal needs (Sancho-Gil & Hernández-Hernández, 2018). Yet, a beacon of hope shines. It's time to embrace innovative pedagogical approaches, deeply understand them, and nurture lifelong skills (Flores et al., 2019). Educators are becoming guides, resource facilitators, and creators of authentic meaningful educational experiences (Hoogveld et al., 2005; Martínez, 2008; McKenney et al., 2015; Razzouk & Shute, 2012). Meet the heroes of this transformation – Early Childhood Education teachers. They've evolved into architects, crafting teaching materials and strategies tailored to students' unique needs and diverse contexts (Hernández-Leo et al., 2017). Art takes centre stage in this story, especially Early Childhood Education (0-6 years). Art isn't an elective; it's a vital channel for young minds to express and explore their interactions with the world and society (Alcaide, 2023). Two powerful allies emerge: Visual Thinking Strategies (VTS) and Aesthetic Education (AE). These strategies place students at the heart of their learning journey (Jacobovski & Ferro, 2021). Visual Thinking Strategies (VTS) uses art to nurture thinking, communication, and visual literacy (Hailey et al., 2015). Aesthetic Education (AE) goes further, encouraging appreciation, reflection, cultural understanding, and active engagement with art (Greene, 2018). But the story takes a twist—the motor story. It's not just about art; it includes motor skills and artistic expression. Imagine students actively participating in their learning through art and physical activities (Omeñaca, 2013). The story unfolds with a study, driven by a simple but powerful goal: to understand how art can be harnessed in Early Childhood Education and explore the Motor Arts-Based Learning (MABL) approach. The cast? 101 enthusiastic students, future Early Childhood educators from the University of Oviedo, Spain. The mission? To revolutionize pedagogy and equip students with skills to thrive in an ever-changing world through dynamic, meaningful educational approaches. This is not just a story; it's a call to action. It's an invitation to join the journey of innovation and transformation in education, where art, motor skills, and student engagement play leading roles. Are you ready to embark on this adventure with us? In this congress, we are going to present an innovative pedagogical strategy carried out in Early Children's Education to develop key competencies related to arts and physical literacy. Results showed that motor story is an innovative approach to promoting motor competence meanwhile visual literacy through representative painters is also promoted.

Keywords: Early Childhood Education, Arts and Physical Education, Visual Thinking Strategies, Aesthetic Education, student-centred pedagogies

ID 197 The characteristics of Chinese aspiring physical education teachers in a WeChat learning community

Hongyun Li (Loughborough University), **Gareth Wiltshire** (Loughborough University), **Argyro Elisavet Manoli** (University of Bergamo) & **Ash Casey** (Loughborough University)

Learning management systems (LMSs) such as Moodle and Blackboard are not widely used in Chinese Universities. To compensate, lecturers create their own WeChat-based professional learning communities (PLCs). Given what we know about disparities in student engagement in such platforms, it is vital that we better understand the characteristics of student engagement so we can offer better support. The aim of this study was to investigate participants' differential levels of engagement in a WeChat-based PLC. One university teacher and 26 students organized a WeChat group at a university in the southwest of China. The students were third-year undergraduates from a sports training programme and the majority aspired to be PE teachers. Data collection included 18 months of non-participate online observation of the WeChat group, five focus group interviews (n=23) and semi-structured individual interviews (n=17) conducted via Tencent Meetings. Throughout online observations, we identified that participants had three types of engagement in the PLC: active participants, moderately active participants, and lurkers. These types of engagement should be considered on a spectrum as participants' engagement was not static. Active participants (n=6), constituting 23% of the group, frequently participated in discussions, shared resources, and helped others voluntarily without requests for help. They accounted for 38.4% of the total messages exchanged. Moderately active participants (n=6) accounted for 14.5% of the total messages. The largest category, consisting of 53.8% of the participants, was categorized as lurkers (n=14). These individuals observed the discussions but made little or no comments. Despite their number, lurkers only shared 28% of messages during the data collection period. After conducting an analysis of the online data to categorize participants into different levels of engagement within the WeChat group, interviews were conducted to explore different factors influencing engagement. The interview data were analysed thematically, and the following themes emerged: Cultural factors: reports saving face, keeping harmony, and respecting teachers lead lurking or observing are common behaviours of Chinese students in online groups.

Time issues: explores how the students felt lack of time limited their ability to engage in synchronous online discussions, particularly when they had work placement in schools. Interests and training experience: shows the students invested more interest in the group resources in which they had relevant training experience. In conclusion, this study highlights the dynamics of engagement within a WeChat-based PLC for aspiring PE teachers in China. It underscores the importance of considering cultural factors and time issues when implementing online PLCs, as well as the significance of tailoring resources to align with students' interests and training experiences for enhanced engagement and learning outcomes.

Keywords: social media; professional learning; students engagement; cultural factors

Friday 17th May, 12.15 p.m.

Physical education teacher education, professional development

ID 198 The Occupational Socialisation of PE Teachers' and Identity shifts

Karl Brennan (Loughborough University), **Ash Casey** (Loughborough University) & **Julie Stirrup** (Loughborough University)

Seminal occupational socialisation research, predominantly from last century and predominantly from the USA, tells us that the strength of school-based experience (both past and future) is such that it “washes out” the impact of physical education teacher education (PETE). The aim of the study, therefore, was to discover the impact of occupational socialisation on PE teachers' identities in a UK postgraduate PETE programme in the UK. Specifically this study focussed on the impact of acculturation, the PETE year and the participants' first year of teaching on their identities. Eleven participants, from one PGCE PE course in England, agreed to take part in this two year longitudinal study. Data were collected at interview for the course in the form of a written task (during their acculturation), during PETE (professional socialisation) through metaphors and semi structured interviews, and in their first year teaching in school (the organisational socialisation phase) through two further interviews. The data collected were analysed using a constructivist approach to grounded theory. There were five stages to this analysis: data were collected and analysed simultaneously; gerunds were adopted; comparisons were made within and between data; initial categories were allowed to mature over time and emerged from the data; and data were mined until theoretical saturation. This was an iterative process involving repeated rounds of analysis that impacted on subsequent data collection methods. NVivo acted as a database for this and allowed for the ongoing fracturing and recombining of slices of data. Analysis indicated that PE teachers' identities shift during and across their acculturation, professional socialisation and organisational socialisation. Enduring themes, that centred on relationships, enjoyment, lifelong participation, were noticed during analysis around how to act, how to be and how to understand. There were also clear shifts in participants' focus over time. Across the three phases of occupational socialisation they talked less about being a role model and management/organisation and started to reflect more on

what they taught and how they would like to teach it. Powerful socialising agents across the study were schools and the university, people, in particular PE teachers, mentors and heads of department and how they were/felt supported throughout these phases. In conclusion it was found that whilst acculturation is powerful, so too are professional and organisational socialisation. What is clear is that the curriculum in schools, children within them and the perceived support around them impacts on the developing identities of beginning teachers. It was also clear, in contrast to existing understanding, that in this early stage of their careers the PETE experience had not be “washed out” and instead remained central to their professional identifies.

Keywords: Occupational Socialisation; Physical Education Teacher Education (PETE); Identities

ID 205 The Type of Goals PE Teachers Set for Their Classes Matters: Longitudinal Effects on Autonomy Support, Structure, Chaos, and Control

Arne Bouten (Ghent University), **Leen Haerens** (Ghent University) & **Katrien De Cocker** (Ghent University)

PE teachers may have various objectives for their classes, ranging from enhancing student fitness and fostering social interaction to improving physical appearance. According to Goal Contents Theory (GCT), a sub-theory of Self-Determination Theory (SDT), these goals can be categorized into two main types: intrinsic and extrinsic. These instructional goals shape the way teachers engage with their students. Past studies indicate that teachers with a focus on intrinsic goals are more likely to subsequently support students' autonomy. In contrast, a focus on extrinsic goals has been associated with a more controlling teaching style over time. Despite these insights, there is limited research on how the pursuit of these goals affects PE teachers' adoption of a structuring or chaotic teaching style. The aim of this study was to test longitudinal relationships between intrinsic and extrinsic instructional goals and four teaching styles: autonomy support, structure, chaos, and control. A total of 36 secondary PE teachers (39.13 ± 8.80 years old; 47.2% women) and their 325 students (15.17 ± 1.59 years old; 61.1% girls) completed online surveys at two timepoints, three months apart. Teachers reported on their goals using the Adapted Goal Content for Exercise Questionnaire and on their (de)motivating styles via the Situation in School Questionnaire-PE. Students evaluated their teachers' styles through the same questionnaire. Two structural equation models (SEM) were used:

one based on teacher reports, including eight subareas of the four teaching styles, and one based on student reports, focusing solely on the four main styles to optimize model fit. The teacher SEM model demonstrated acceptable fit to the data (CFI = 0.979, RMSEA = 0.038, SRMR within = 0.000, SRMR between = 0.057). Intrinsic goals at T1 positively predicted participative teaching at T2 ($\beta = 0.275$, $p = .016$) and attuning teaching at T2 ($\beta = 0.265$, $p = .006$), both subareas of autonomy support. They also positively predicted clarifying teaching ($\beta = 0.348$, $p = .025$), a subarea of structure. Extrinsic goals at T1 negatively predicted participative ($\beta = -0.306$, $p = .014$) and attuning teaching at T2 ($\beta = -0.278$, $p = .002$). Additionally, they negatively predicted guiding teaching ($\beta = -0.294$, $p = .004$), a subarea of structure. The student SEM model demonstrated good fit to the data (CFI = 0.998, RMSEA = 0.010, SRMR = 0.034, cluster-corrected SE). It showed that intrinsic goals negatively predicted student-perceived control ($\beta = -0.100$, $p = .007$), and that extrinsic goals negatively predicted student-perceived structure ($\beta = -0.101$, $p = .041$). In conclusion, the type of goals PE teachers set for their classes matters. While intrinsic goals lead to more autonomy support and structure, the opposite is true for extrinsic goals. These findings suggest a need for teacher training programs to emphasize the importance of goal-setting in shaping motivating teaching strategies.

Keywords: Instructional goals, teaching styles, self-determination, longitudinal

ID 210 Investigating the Role and Use of The Spectrum of Teaching Styles in Physical Education Teacher Education (PETE) programs

Christopher Mellor (Adelphi University) & **Jamie Brunson** (University of Memphis)

The purpose of the study was to investigate the role and use of The Spectrum of Teaching Styles in modern Physical Education Teacher Education (PETE) programs. The specific research questions addressed: a. How do faculty members (FMs) utilize The Spectrum in their programs? b. How have FMs' occupational socialization influenced their enthusiasm for and ability to use The Spectrum in their PETE programs? Guided by a case study design, ten participants based at PETE programs across the globe were purposely recruited to participate in the project having been identified as a Spectrum scholar. Data were collected with three techniques: two semi-structured interviews, program documents and artifacts, and the supplementation of teaching episodes. Data was analyzed using analytic induction and constant comparison. Data reliability and trustworthiness of the analysis were established with three methods. Findings revealed that FMs' employed The Spectrum in a variety of

ways and generally possessed a shared philosophy about The Spectrum despite having vastly different socialization stories. Indeed, data revealed that programs used either an “embedded approach” whereby The Spectrum was taught throughout the program or a “condensed approach” whereby The Spectrum was taught during specific times within the program, only. FMs’ credited the efforts of their colleagues and having a positive shared technical culture as influential to their ability to utilize The Spectrum. Interestingly, all FMs described their initial and secondary professional socialization as significant to their enthusiasm for employing The Spectrum in the way they did. Contrary to previous literature, professional socialization has traditionally had a lesser impact than other stages of socialization. FMs indicated that their previous professors stressed the importance of The Spectrum, they had ample opportunities to utilize the styles in the field, and a shared technical culture across multiple professors helped their initial understanding of the Spectrum. The implications for PETE for future use of The Spectrum should consider the level to which programs have a shared technical culture and programmatic alignment/scaffolding of the curriculum. Furthermore, it should be acknowledged that every FMs socialization and path to The Spectrum is different. PETE programs should consider the ability of some faculty to introduce introductory lessons in teaching styles, while others can provide a deeper understanding as the students become proficient in delivering the styles in field placements.

Keywords: Spectrum, Styles, Faculty, PETE, Socialization

ID 206 The Effectiveness of an Online Intervention with Video Annotation to Enhance Secondary PE Teachers' Motivating Style

Arne Bouten (Ghent University), **Leen Haerens** (Ghent University) & **Katrien De Cocker** (Ghent University)

Multiple effective interventions to improve PE teachers’ (de)motivating style have been developed. Typically, these are in-person workshops that span one or multiple days. However, time constraints often prevent PE teachers from participating in such trainings. Additionally, traditional workshops tend to be broad in focus and rarely offer hands-on experience with actual students. Online interventions offer a promising alternative, as they allow for flexible scheduling and customization to individual teachers' needs. Moreover, they can facilitate authentic reflection by incorporating classroom videos. To leverage these benefits, we developed an online video-annotation tool aimed at enhancing PE teachers' (de)motivating teaching style

via self-reflection. Two key components of the tool are a visual profile of each teacher's own style, and a feature allowing teachers to annotate their own classroom videos. A previous pilot study has confirmed the tool's acceptability and feasibility among PE teachers. The current study evaluated the tool's impact on the (de)motivating style of in-service PE teachers. A total of 76 secondary PE teachers (38.53 ± 8.68 years old; 41.9% women) and their 562 students (15.26 ± 1.62 years old; 59.7% girls) participated. Schools were cluster-randomized, and within each school, teachers and one class per teacher were uniformly assigned to either an intervention or a control group. Teachers of the intervention group used the online tool individually, averaging one to two hours of use. Teachers of the control group received only a brief email containing generic information on motivational teaching. Both teachers and students completed online questionnaires after two PE classes, with an average interval of three months between pre- and post-tests. Perceptions of teaching style were measured by the Situation-in-School PE questionnaire. For teacher-perceived teaching styles, repeated measures ANOVAs revealed that the intervention group improved more in autonomy-support compared to the control group ($+0.291$ vs $+0.019$ on a 7-point Likert scale; $p = .039$). No significant differences were found in structuring, controlling, or chaotic teaching. For student-perceived teaching styles, two-level repeated measures analyses in MLwiN showed no significant differences between the intervention and control group over time. In conclusion, this study shows that short online interventions with video annotation can be effective in increasing teachers' autonomy support, offering a viable alternative for traditional workshops. However, the intervention had no discernible impact on students' perceptions. Given that teachers relied solely on self-reflection, future research could explore the impact of adding peer or expert feedback. Additionally, the efficacy of blended online-offline interventions, combining the strengths of traditional workshops with digital tools, warrants further investigation.

Keywords: Intervention, teaching styles, self-determination, multi-informant

ID 221 From physical education to physical and health education: Implementation of an in-service training activity designed for secondary school PE teachers

Marc CLOES (University of Liege), **Emilie Scenna** (Local Health Promotion Center of Liege), **Nicolas Franck** (University of Liege), **Maurine Remacle** (University of Liege) & **Alexandre Mouton** (University of Liege)

As has been the case in many countries since the late 90s, the Federation of Wallonia-Brussels (FWB-French-speaking part of Belgium) has decided to integrate health education into the physical education curriculum. The emphasis has been placed on student management of health and safety. Even though preservice PETE programmes anticipated over the last ten years by gradually introducing health education concepts into their curricula, in-service teachers potentially face challenges in adapting their teaching practices. Aiming to prepare them for the implementation of the new reference framework, the team in charge of training PE teachers at University of Liege worked with seven organizations specialized in health promotion and health education to develop a three-day training course combining the creation of teaching sequences focusing on health-related themes (addictions; education in relational, emotional and sexual life; environmental health; mental health; nutrition; life hygiene) and the practice of activities chosen for their links with health aspects. One of the special features of the course is that teachers were involved in a co-construction process with health advisers from non-school professional backgrounds to share knowledge and experience when developing new lessons plans. This study is based on the heuristic model of the teaching-learning process. The teachers completed an online questionnaire prior to the training module in order to ascertain their positions on various aspects related to the evolution of their school subject and their expectations with regard to the proposed training (25 respondents). At the end of the course, 15 teachers answered another online questionnaire designed to gather their feedback and determine whether some of their opinions on the reform had changed. For their part, the organizers and advisers (n=11) shared their experiences during and after the training. Teachers who were aware of the reform were in the minority, as were those who thought that their colleagues would adhere to it. On the other hand, most of them felt that health education is one of the prerogatives of PE teachers, that they are motivated to develop new teaching methods and are confident about implementing the new standards. Their professional experience seems to be more conducive to the latter than the knowledge they acquired during their initial teacher education. Their expectations of module focused mainly on obtaining information about the new curriculum and competences to be taught as well as concrete examples of lessons to propose to their pupils. After the training, the participants' opinions focused on the evolution of the subject did not change fundamentally. Participants' feedbacks about the module were largely positive. On the basis of the participants' responses and the exchanges within the staff, a SWOT analysis highlighted a number of implications that could help school authorities preparing PE teachers for their new roles.

Keywords: Pact for Excellence in Education; Physical and Health Education; Continuous professional development; Physical education teachers

ID 133 Cognitive activation in pre-service PE teachers' beliefs-Insights into different stages of professional socialization

Sophie Engelhardt (University of Tuebingen, Germany / University of Koblenz, Germany) & **Julia Hapke** (University of Koblenz, Germany)

Professional socialization is critical because it can cultivate pre-service physical education teachers' (PPETs) beliefs about teaching PE, which in the end will impact the quality of their teaching practice (Richards et al., 2019). The quality of physical education (PE) teaching practices is determined not least by cognitive activation, i.e., the extent to which students engage with the content in a cognitively deeper way (Engelhardt et al., 2023). This study examines how cognitive activation is displayed in PPETs beliefs at different points in their professional socialization. We conducted ten group discussions with PPETs at four time points of PE teacher education: Beginning of Bachelor of Education (Nt1 = 13, Mage = 19.4 years), End of Bachelor of Education (Nt2 = 12, Mage = 22.4 years), End of Master of Education (Nt3 = 6, Mage = 26.0 year) and during the following practical teacher training (Nt4 = 10, Mage = 29.4 years). During group discussions, participants were asked to plan a PE lesson collaboratively. Data were analyzed using reflexive thematic analysis (Braun & Clark, 2022). At the beginning of professional socialization (t1), PPETs' beliefs of transmissive knowledge transfer dominated, so cognitive activating tasks were hardly considered in their lesson planning. At the end of the B. Ed. (t2), didactic terms (e.g., "cognitive activation," "reflection") were named randomly without elaborating on the idea behind them. At the end of the M. Ed. (t3), cognitive activation framed quality learning tasks (e.g., problem setting at the beginning, corresponding reflection at the end). During practical teacher training (t4), cognitive activation was shown on the one hand to be a gateway to successful PE, but on the other hand, it was judged to be an unnecessary complication in the life of a PE teacher. Across professional socialization, PPETs believed that cognitive activation would jeopardize familiar PE classes as in their eyes it conflicted with movement time, with student motivation, and with the assumed undemanding nature of PE classes. Future research should aim to better integrate occupational and professional socialization. Internships can be used to practice cognitive activation in PE. Mentors and accompanying university seminars can help to reflect on those practical teaching experiences (Richards et al.,

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Keywords: cognitive activation, occupational socialization theory, physical educa-
 tion teacher education, teaching quality, thematic analysis

ID 140 Empowering primary physical education leads through a CPD pro- gramme focusing on influencing and negotiating.

Jason King (Leeds Beckett University) & **David Morley** (Leeds Beckett University)

Teachers leading Physical Education in primary schools in the UK have access to a wide range of professional development opportunities both within Initial Teacher Education and beyond. These opportunities are typically premised on their ability to deliver a broad and varied PE curriculum. However, professional development is rarely developed to address the lack of confidence commonly experienced by primary school teachers responsible for leading and delivering PE. Empowering PESLs with the knowledge, skills and understanding to effectively engage a whole range of stakeholders in their schools to provide PE is, therefore, crucial. This study documents the creation of a 9-hour professional development programme, designed to develop the PESL's ability to negotiate with and influence others during the fulfilment of their role. This study collected data from 24 PESLs as part of a PE network in the North of England. Semi structured group interviews were conducted over three time periods, halfway through, at the conclusion of the programme, and six months after the programme concluded. PESLs in our study reported an increase in their personal awareness and confidence, coupled with an enhanced ability to influence and negotiate with others, which they felt directly improved their contribution to PE and the broader community. Providing CPD opportunities for primary PE leads in the realms of influencing and negotiating has demonstrated the importance of investing in staff through a bite size delivery programme which has had a beneficial impact on the PE lead, teachers within the school, the school community and ultimately the students.

Keywords: CPD, Influencing, Negotiating, Teachers

ID 149 Reflective conversations at practicum: A matter of control

Emil Johansson (Dalarna University)

The purpose of the case study is to contribute knowledge about how supervisors guide student teachers (ST) in reflective conversations before and after their teaching at practicum, and how supervisors seem to influence STs to experience their practicums in constructive ways. The methodology consisted of me observing two STs teaching on three occasions, recording the reflecting conversation they had with their supervisor after the lesson, and conducting an in-depth interview with the STs after their practicum period. The focus when collecting the empirical material was to shed light on how the supervisors seemed to influence STs' reflections on their teaching during practicum, and how these reflections affect what experiences STs gain from their teaching practice and stimulate their further growth as professional teachers. When analyzing the material, I focused on how controlling the supervisor's guidance was in the reflecting conversations, whether they asked questions, explained, or instructed, and how the PETE students responded to their guidance. To do that, I used Biesta's (2022) concept "act of pointing", which describes what and how educators direct students focus on. Then in the next step, I focused on how the STs experienced their practicum based on these reflective conversations and the in-depth interview. For this, I used Dewey's (2015) understanding of what separates the meaning of experiencing and having an experience, and how different experiences can be described as educative, non-educative, or mis-educative. The results indicate that the supervisors' guidance varied regarding how controlling they were, and I identified four different acts of pointing in the reflective conversations: -

The restrained and constructive 'act of pointing', - The rule-focused 'act of pointing', - The direct and technical 'act of pointing' -

The restricted and condemning 'act of pointing' Based on these various acts of pointing, I describe the STs' gained experiences as two different kinds of journeys during their practicum. ST A gained educative experiences - he experienced an adventurous journey because he got the opportunity to experience unexpected situations during practicum and thoroughly reflect on them. ST B gained non-educative, or maybe even mis-educative experiences - he was restricted and often told what to do, making his reflections technical and superficial. Enabling STs to find their own path as teacher can stimulate their professional growth as teachers and make them gain educative experiences, that stimulates their growth in a

constructive direction. However, supervisors' control over STs cannot be too free, they need to control them somehow – it is a matter of loosening the control, but never losing it. Biesta, G. (2022). *World-centred education: a view for the present*. Routledge. Dewey, J. (2015). *Experience And Education* (Reprint ed.). Free Press.

Keywords: Reflective conversations, practicum, reflection, experience, guidance

ID 156 A Hierarchical Analysis of Mentors Mentoring Characteristics, Practices and Barriers in Predicting Student Teachers' Career Development

Munkaila Seibu (University of Education, Winneba)

Mentoring has taken a centre stage in career preparation and development in all walks of life due to its ability to merge the gaps between theory and practice. The main purpose of this study was to analyse the relationship between mentors' mentoring characteristics, practices, and barriers and their impact on beginning student teachers' career transformation for quality education. The census survey technique was used to select participants for the study. A questionnaire was used to collect quantitative data from 95 PE mentors. The findings of the study indicate that both mentors mentoring characteristics and practises were good predictors of PE student teachers' career development during internships. The Institute of Teacher Education and Continuous Professional Development (ITECPD) of UEW should take into consideration mentors' mentoring characteristics and practises in selecting and training mentors. This strategy will help reduce mentoring barriers and promote the quality preparation and career development of PE teachers for national development.

Keywords: career development, mentoring characteristics, mentoring practices, physical education student teacher, quality education

ID 157 Translating physical education policy advocacy experiences into practical lessons through the policy process case method with a teacher, teacher educator, and curriculum officer

Jenna Lorusso (University of Limerick) & **Ann MacPhail** (University of Limerick)

Policy processes, and one's engagement in such processes, are widely considered challenging but important phenomena for all educational stakeholders to understand. Some policy scholars have argued that an effective way to unpack policy

process experiences into meaningful practice-based insights is to engage multi-stakeholder groups in sustained, reflexive dialogue where they work collaboratively to make sense of their lived policy experiences by relating them to policy theory. However, there exists little methodological guidance on how to do so. In response, we have developed the policy process case (PPC) method (as a professional learning tool and translational research mechanism) to operationalize this advice and have trialed it in various formats (e.g., with national and international groupings). This in-progress research is an iteration of the PPC method that: (a) takes a more focused approach and considers participant experiences with a particular form of policy work: policy advocacy; and (b) is more facilitator-structured than previous cofacilitated versions and streamlined in length. The intention for the former choice is to allow for depth in the commonalities across participant experiences and the intention of the latter is to make the method more accessible to busy stakeholder schedules. Specifically, one physical education teacher, one physical education teacher educator, and one physical education curriculum officer, each from different national contexts, are engaged in this research which is currently unfolding in five monthly 1.5-hour meetings. In meeting #1, participants got to know one another and their experience with policy advocacy. In meetings #2-4, participants are engaging in in-depth discussion on one participant's experience (termed 'case' herein) (i.e., one participant case per meeting). Prior to each meeting, participants review a one-page version of the policy case and a corresponding policy theory/article relevant to it. For example, one case centered on a participant's experience championing proposed new State PE legislation alongside a coalition and, in particular, their experience testifying to the Senate committee. Given the focus of this case, a reading on the advocacy theory of the Narrative Policy Framework was selected. In the final meeting, participants will reflect on practical lessons that might be drawn from their reflection on the experiences and theory as well as their thoughts on the PPC method process they engaged in. Following this, the research team will thematically analyse the meeting artefacts and transcripts. In this presentation, we will share insight into the three cases as well as preliminary findings regarding the policy advocacy lessons learned and the benefits and challenges in this focused, structured, and streamlined variation of the PPC method.

Keywords: policy, professional learning, physical education, stakeholder, case

ID 564 Learning from older generations of teachers by means of narrative inquiry

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Focused on intergenerational learning (Gray et al., 2021; Pardy & Reimer, 2018) and narrative inquiry (Bolívar, 2012), and particularly inspired on Santoro, Pietsch and Borg (2012), this study reports the experience of physical education preservice teachers in preparing, developing and self-evaluating a narrative inquiry by means of interviewing old generation teachers about the main accounts and critical points of their professional preparations and development. Within the context of an Educational Research course of a Physical Education Teacher Education master's degree (first semester 2022/23), 27 pre-service teachers (15 males, 12 females) working in nine groups, after studying the topics of intergenerational learning and narrative inquiry, designed a script for conducting semi-structured interviews with teachers who began their career at least in the 1980s. Almost every group carried out two semi-structured interviews, enrolling 17 older teachers (10 males, 7 females). Based on the recording and transcription of the interviews every group constructed a narrative and conveyed the lessons they learned from the interviews. Pre-service teachers expressed their delight and rewards obtained from the dialogue with older teachers. The distinguishing experience of each interviewed teacher, the personal and professional stories, problems, stances, and changes; the professional learning, and development, the motives of tiredness or vitality, optimism or distrust, along with the evaluations of pre-service teachers convey a good expectation for the intergenerational dialogue within teacher education. Project funded by the Foundation for Science and Technology with the reference: PTDC/CED- EDG/1039/2021: Fifty years of teaching: factors of change and intergenerational dialogues. References Gray, C., Lowe, G. M., Prout, P. F., & Jefferson, S. (2021). 'Just like breathing': A portrait of an 85-year-old veteran teacher [Article]. *Teachers and Teaching: Theory and Practice*, 27(6), 571-586. <https://doi.org/10.1080/13540602.2021.1977275> Pardy, J., & Reimer, K. (2018). Generations of Learning: A Professional Learning Experience. In *Re-imagining Professional Experience in Initial Teacher Education* (pp. 107-122). https://doi.org/10.1007/978-981-13-0815-4_7 Santoro, N., Pietsch, M., & Borg, T. (2012). The passion of teaching: learning from an older generation of teachers. *Journal of Education for Teaching*, 38(5), 585-595.

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Keywords: Teacher Education, Intergenerational Learning; Narrative; Generational Dialogue

ID 567 (Re)framing the Teaching Performance Assessment in HPE Teacher Education: Beyond performative notions of ‘classroom readiness’

Amanda Mooney (Deakin University)

In Australia, like many international contexts, the pre-pandemic landscape of teacher preparation was heavily influenced by broader political agendas that sought to address (perceived) issues in teacher quality. Despite inquiries into teacher quality every year for the past 30 years in Australia (Dinham, 2013, p. 92), the recommendations from the Teacher Education Ministerial Advisory Group (2014) arguably instigated unparalleled reforms in Australian Initial Teacher Education (ITE) that resulted in changes to accreditation, admission, content of teacher education programs and the requirement to provide evidence of graduate's classroom readiness with completion of the Teaching Performance Assessment (TPA) task. Conceived as a summative assessment of graduate practical skills and knowledge, each institution's TPA is endorsed at a national level as a valid assessment that clearly assesses the content of the Australian Professional Standards for Graduate Teachers and includes the elements of planning, teaching, assessing and reflecting. Theoretically informed by Hay and Penney's (2013) (after Bernstein's) concept of assessment as a message system, this research examines the experiences of six graduate HPE teachers in this capstone assessment task. Data is thematically analysed through an assessment literacy framework (Hay and Penney, 2013) to identify the ways in which assessment knowledge and practice are enabled or constrained through this task, and to interrogate the role the TPA plays in (re)producing certain messages about what is valued in practice as a graduate teacher. In moving beyond a performative task to assure ‘classroom readiness’, we argue the need for a reframing of the TPA as ‘assessment for learning’ and draw on participant's narratives to make visible the ways this task might build capacity in assessment practices for graduate teachers and broaden conceptualisations about what it means to be ‘classroom ready’.

Keywords: Teaching Performance Assessment, Assessment for Learning, Teacher Education

ID 246 Continuing Professional Development of in-service Physical Education Teachers: A Scoping Review, 2002 – 2021

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Numerous studies have sought to understand the impact of CPD on changing the practices of PE teachers. Despite this, the literature has not explained the relationship between PE teacher change and CPD. The aim of the present study was to review the evidence on in-service PE-CPD research to ascertain 1- what is effective CPD in PE, 2- its perceived impacts on teaching practices, and 3- the factors that influence teacher change in engagement with CPD. To identify, assess, and synthesize qualitative, and mixed methods studies exploring PE teacher's engagement with CPD, a scoping review was conducted. Initially, 2086 studies published between 2002 and 2021 were identified through searches of EBSCO bibliographic databases and Google Scholar. Through title and abstract screening, 317 studies were assessed as eligible. 42 papers, including one paper from the “snowballing method” were deemed relevant for the synthesizing. Descriptive analysis found a five-fold increase in CPD studies since 2011. The study collated evidence from a total of 479 PE teachers, with a predominance of longitudinal studies (n=32). The results revealed that most studies reported positive results (n=37). Models-based practice was the most common CPD content (n=13). Whilst almost 40 % of CPD studies occurred outside of school settings (n=16), ten different theoretical frameworks were identified in 25 of 42 studies. In a deeper analysis, all extracted data using the thematic analysis method were synthesized, resulting in 4 themes Support: This theme shows how providers and participants value either external or internal support within CPD activities, alongside the benefits of digital technologies Barriers: This theme identifies barriers on three levels: 1- Micro barriers which are rooted in the teachers' individual reasons, 2- Meso barriers associated with school-based factors, and 3- Macro-barriers such as pedagogical and curricular changes, which were rarely considered in the papers. Teacher change: The third theme shows the association of the teacher change process with 1- developing new skills and pedagogies, 2- a transition to student-centered teaching, and 3- confidence. Teacher beliefs: The final theme

highlights that PE teachers' beliefs about CPD and/or PE may play pivotal roles in shaping the efficacy of CPD. Whilst this scoping review indicates that there is no best way of CPD in PE, it does state that most CPD outcomes reported in these studies can be viewed positively. Nevertheless, it is better to be cautious as these positive outcomes may be temporary as they may only have lasted for the duration of the CPD itself. Although the data in this systematic review is, in most cases, self-reported it does indicate that teachers' beliefs in the teacher change process may be as vital, if not more so, than the design of CPD itself. However, a weakness of the current CPD literature in PE is its failure to ascertain the long-term effects of CPD on teachers' beliefs and practice.

Keywords: Physical Education, CPD, teacher change, teachers' beliefs, socialisation

ID 593 Designing a Framework for Sustainable Development of Elite Cricket in Zimbabwe with Special Reference to Tertiary Institutions

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The proposed research study aims to explore the intricate entanglement between sport, society, and sustainability. The study will investigate the impact of sustainability on both society and sport and vice versa. The research will be conducted in light of the development of civilizations to provide a comprehensive understanding of the topic. The study will be limited to the examination of present-day sports and its pathological quest of breaking all records and transgressing all ceilings, which threatens its internal sustainability. The study will be conducted in Zimbabwean tertiary institutions to provide a local perspective on the topic. In Zimbabwe, tertiary institutions offer a variety of sports-related courses and programs, including sports science, coaching, and management. However, there is a lack of research on sustainability in sports in Zimbabwean tertiary institutions. Therefore, this study aims to fill this gap by examining the impact of sustainability on sports in Zimbabwean tertiary institutions. The study will investigate the challenges and prospects of sports administration in tertiary education in Zimbabwe. The findings of this study will provide insights into the current state of sports sustainability in Zimbabwean tertiary institutions and will help identify areas for improvement.

Physical literacy, Health literacy

ID 158 Physical Literacy Journey of Physical Education and Classroom Teachers: A Hybrid Community of Practice Experience

Gonca Eren (Eskisehir Technical University) & **Dilek Yaliz Solmaz** (Eskisehir Technical University)

Across the world, increasing health problems due to sedentary lifestyles, obesity and decreased fundamental movement skills in childhood are among the dangers that can negatively affect individuals of all age groups and future generations. Physical literacy (PL), which is described as a lifelong journey, has been developed as a multidimensional concept to contribute to the holistic development of individuals and to build healthy living habits. School physical education practices are critical in constructing this lifelong journey. PL and school physical education are intertwined and coherent structures, and one of the main objectives of each physical education course should be to develop individuals' PL. Therefore, at this point, teachers, as the conductors of physical education classes, have important responsibilities. The relative lack of teachers' understanding and practice of PL provides a rationale for the creation of in-service training opportunities. This research aims to enrich teachers' learning and understanding of the concept of PL (Whitehead, 2010) and its six core characteristics: motivation, confidence, physical competence, interaction with the environment, communication, and knowledge and understanding through a community of practice (COP) experience with physical education and classroom teachers. In the study, a COP consisting of eight physical education and classroom teachers was formed and teachers participated in hybrid meetings on PL for six weeks. The data sources of the study consisted of audio recordings of the meetings facilitated by the researcher, semi-structured interviews with the teachers and weekly reflections of the teachers. The data were analyzed using a thematic analysis approach (Braun & Clarke, 2006). The findings were shaped within the framework of the themes predetermined by the researcher, the six key elements of PL. Accordingly, it was revealed that both classroom and physical education teachers learned about the concept of PL and its six key elements in the COP sessions and their awareness of the concept increased. In parallel with this process, it was also noticed that teachers engaged in self-evaluations and critical reflections both within the COP and individually. In all sessions of the COP, discussions and knowledge exchange were conducted in a collegial manner and through constructive dialogues. In conclusion, this

study reveals that teachers enrich their knowledge and understanding of PL and increase their awareness through a COP, accompanied by sincere and open communication and constructive dialogues. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101. Whitehead, M. (Ed.). (2010). *Physical literacy: Throughout the lifecourse*. Routledge.

Keywords: Physical literacy; Professional development; Community of practice; Physical education teachers; Classroom teachers.

ID 107 Physical Literacy Consensus Statement for England

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Aim: This study aimed to develop a physical literacy consensus statement for England that was accessible for those working in research, policy and practice. **Methods:** Phase one included a review of the evidence, a first national stakeholder consultation, and focus groups with children and young people. Phase two included a modified delphi methodology and co-development of the draft statement with an expert panel of sixty researchers and stakeholders. Phase three included a second national consultation on the draft statement. Phase four involved further co-development and an online survey with the expert panel to revise the statement. **Results:** Consensus was established on a definition: Physical literacy is our relationship with movement and physical activity throughout life; the statement also included five key messages encompassing (1) understanding physical literacy, (2) why physical literacy matters, (3) Supporting physical literacy, (4) our experiences affect our physical literacy, and (5) physical literacy is personal. **Conclusion:** system partners hope that the consensus statement will enable the sector to speak with one voice on physical literacy and unite around this common goal to drive sustained engagement in physical activity for life. Future research should evaluate the implementation and the impact of the consensus statement.

Keywords: 'physical literacy' ' consensus' 'England' 'physical activity' 'lifecourse'

ID 532 Teaching social-emotional well-being on Instagram through authentic sharing by teachers

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The purpose of the 1% Instagram campaign is to let students know that adults face challenges too, and this is something all of us must deal with in life. We hope that the authentic sharing of our vulnerabilities encourages students to seek out their parents, teachers, or trusted adult figures when they face challenges too big for them to shoulder; seeking necessary help is not a sign of weakness. In school, while teachers might share their own experiences with students individually or in their classes, how might we make such sharing accessible to all the current students? This forms the premise of the campaign. In 2022, 5 photo posts and 1 video post with the respective teacher's sharing in the caption were published across 6 weeks on the school's Instagram account. Data analysis was conducted by gathering the statistics from Instagram Insights, namely reach, impressions, and likes, in comparison to other posts. The findings influenced the data analysis for 2023; particularly, how are students actually viewing the posts? Is the campaign achieving its intended purpose? In 2023, 4 video posts of about 1 minute each were published across 4 weeks. Each post focuses on what the teacher does to recharge (and why) amid the hustle and bustle of daily life. The posts end by encouraging the reader to set aside time to do something that recharges him/her. Data from Instagram Insights, namely plays, and average watch time, and the following from a survey sent to the students were analysed: which video was watched, if the entire video was watched, if the respondent enjoyed the video, if the respondent resonated with any of the 5 intended outcomes of the campaign (students in Year 5 only). The 5 outcomes are: I was reminded to take a break to recharge I feel motivated to do something I like in order to recharge I feel inspired to discover something I'd like to do to recharge I wondered about what truly recharges me I feel comforted knowing that teachers/adults around me face tough days/moments too. Students can indicate that they resonated with none of the outcomes. 1618 of 2318 students responded to the survey; 49% saw at least 1 video, with 3 in 5 watching at least 1 entire video. 4 in 5 students who viewed at least 1 video enjoyed the sharing; 9 in 10 Year 5 students (63% of respondents) resonated with at least one of the intended outcomes. The 1% Instagram campaign has reached the student population and offered real experiences of teachers whom most students know (and like to hear from). These posts speak to the student readers individually, through a medium they are comfortable with. Such

sharing might have been confined to individuals, specific groups of students, or even lost if shared in-person by the particular teacher(s).

Keywords: Teach social-emotional wellness using Instagram

ID 508 “I am proud of what I can achieve by myself” – Guided sporting activities in prisons benefit the mental state of female inmates in Germany

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Introduction This study examines the effects of guided sporting activity on the mental state of female inmates in a German prison. **Methods** Given the highly subjective nature of the topic, semi-standardized interviews were conducted with female prisoners (n=7), who participated in a six-week 'Functional High Intensity Interval Training'-intervention. Within this program, training sessions in the prison facility were conducted three times a week guided by professional coaches. The interview data were analyzed using qualitative content analysis according to Kuckartz and Rädiker (2022) including a mix of deductive and inductive approaches. **Results** The codesystem comprises six main categories (in italics) subsuming several subcategories each. In terms of subjective perspective on sports and reflection of the intervention, research results suggest that guided sporting activities can have vitalizing effects due to psychophysical health effects among female prison population, which is mostly characterized by general demotivation and fatigue. Regarding self-efficacy and own body relationship the inmates state that corresponding activities are used as tools to promote the experience of inner balance and basic feelings of satisfaction. Furthermore, relating to social interactions in sports the inmates report an improvement in the prevailing social climate. However, this climate is still subject to prison-specific restrictions in the form of essential distrust of other individuals. Concerning general sporting activities within the prison context, the interviewees gave significantly more weight to the positive effects of sports than to the equivalent in general society. This discrepancy in weighting results primarily from omnipresent prison-specific characteristics such as the continuous lack of freedom and the repetitive monotony of everyday life in prison. These factors include considerable psychophysical health problems, which can range, for example, from an increased prevalence of depression-like symptoms to a prominent occurrence of physical risk factors such as obesity. **Discussion** In view of the said effective capacities of guided sports in prisons and the empirically evident benefit of a good

mental health standard on sustainable crime prevention (Ghanbarzadeh & Mohamadi, 2012), corresponding sporting measures can be attested a high theoretical potential regarding the support function on rehabilitation processes of inmates. References Ghanbarzadeh, M. & Mohamadi, A. (2012). Aerobic exercise on mental health of prisoner people. *Journal of Physical Education and Sport*, 12(2), 217–221. Kuckartz, U. & Rädiker, S. (2022). *Qualitative Inhaltsanalyse. Methoden, Praxis, Computerunterstützung (5th ed.)* [Qualitative content analysis. Methods, practice, computer support]. Beltz Juventa.

Keywords: Jail, Functional High Intensity Interval Training, Mental State, Qualitative content analysis

ID 389 A transnational analysis of PE teachers' attitudes to change and embrace a holistic approach to developing Physical Literacy.

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Low levels of children's physical activity and the correlation with poor physical and mental health is a worldwide issue. Physical Education (PE), Physical Literacy, and PE teachers themselves have been identified by many countries as key to addressing this situation. The limited success of PE thus far, however, is often attributed to its reluctance to change, with PE teachers' beliefs and attitudes often cited as a major barrier. The study's purpose is to investigate the attitudes to change of PE teachers from 8 different countries from 5 continents across the globe and to explore how these attitudes support or inhibit the adoption of new practice - in this specific case, the all-round development of Physical Literacy. Survey data was collected utilising the Teacher Change Questionnaire-Physical Education (TCQ-PE), and the Perceived Physical Literacy Instrument (PPLI) administered online. Preliminary analysis from the first pilot country showed that participants were distributed among the three

change disposition categories: 31 teachers were change disposed (CD), 55 held a neutral position, and 48 were not change disposed (NCD). The ANOVA results indicated no statistically significant differences among the three groups ($F(2,131) = 0.060, p > 0.05$) in relation to their understanding and self-perception of physical literacy. Follow-up semi-structured interviews will be conducted to explore the teachers' propensity to change in more detail, and how a holistic developmental approach to Physical Literacy can be operationalised, identifying potential barriers and its enablers. Initial findings suggest that a PE teacher's epistemology and its impact via an epistemological chain of decision-making judgements bears great influence on the adoption or rejection of new teaching ideas such as a more rounded view of PL. A better understanding of its operation has the potential to help Physical Education evolve and have a greater impact on young people's lives.

Keywords: Holistic, Global, Development, Epistemology, Change

Physical activity in children's and adolescents' life

ID 258 Highlighting stimulating games that impact physical, social and nature-related behaviors in different outdoor environments for preschool children

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Introduction and objectives The natural outdoor environment is recognised to be stimulating for children's global development with critical impact on their physical health and social outcomes (1,2). Furthermore, outdoor educational activities have been associated with connectedness with nature which may play an important role in education for sustainable development and empathy towards nature. The aim of this study was to highlight examples of stimulating situations found in outdoor play that make a particular contribution to children's development. **Method** Children aged 4 to 5 took part in various outdoor physical activities organised by a teacher specialising in motor education for pre-school children. The activity took place in eight different and complementary environments. The behaviour of 12 children was recorded using a portable GoPro and a focal-length camera. A qualitative inductive

approach was used to identify relevant physical, social and toward-nature behaviours. Results Exploratory qualitative analyses are under way. For each environment, we will highlight examples of play moments considered as very stimulating for children and how their may impact on their development. A particular attention will be paid to the risky play and also to socio-motor, naturo-social and naturo-motor interactions. Discussion Results of this qualitative analysis will be available in May 2024. This research is expected to identify very specific moments in multiple contexts that bring out salient elements related to development and learning during outdoor activities global development and are) usefull to understand why and how outdoor play is so relevant for children education. References 1.

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Keywords: Outdoor, Children, Risky play, Behaviors

ID 375 Body Mass, Physical Fitness, and Healthy Habits According to Extracurricular Behaviour

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Background: Physical activities (PA) is associated with higher health among primary school children. However, the effectiveness of extracurricular programs in enhancing children's physical fitness (PF) remains limited. Also, it is unclear whether children enrolled in such programs are more likely to engage in the Mediterranean diet or to experience reduced screen time weekly compared to their inactive

counterparts. Objective: To compare the Body Mass Index (BMI), PF, adherence to the Mediterranean diet, and weekly screen time of primary school children according to the performed extracurricular PA. Methods: This is a cross-sectional pilot test. 181 students (96 boys and 85 girls) from the same primary school participated in this study. All students engaged in 2 h/week of physical education. They were grouped according to age (6-7 years; 8-9 years; and 10-11 years), sex (boy and girl), and extracurricular activity (2 hours in municipal sports services (MS-PA); 2 hours in sports clubs (SC-PA); on their own (O-PA); not engaged in extracurricular PA (NPA)). BMI was measured using a scale and bioimpedance equipment (Renpho ES-CS22M). PF was assessed through the Course Navette Test, Long Jump Test, CMJ with free arms Test, 5x10 m Test, and Manual Dynamometry. Adherence to the Mediterranean diet was measured through the KIDMED Test. Screen time was assessed by asking for the number of hours spent per week on a screen (TV, computer, smartphone, etc.). Parents were requested to complete questionnaires together with their children. Normality was confirmed using the Kolmogorov-Smirnov test. A one-way ANOVA and post hoc Tukey tests were used to compare among the groups engaged in different extracurricular physical activities for each age group, with boys and girls analysed separately. Results: In boys, only the first age group (6-7 years) displayed significant differences in PF: higher manual dynamometer in the SC-PA group than the NPA group (+4.23 kg; $p < 0.05$), and higher faster times in the 5x10 m test in the MS-PA group compared to the NPA group (-2.81 s; $p < 0.05$). In girls, differences were observed in the second age group (8-9 years), with the NPA group presenting higher BMI values than the MS-PA group (-5.01 kg/m²; $p < 0.05$), and the MS-PA group achieving greater distances in the horizontal jump (+14.13 cm; $p < 0.05$). NPA boys from the first age group reported a lower KIDMED score than the SC-PA group (-0.70 points; $p < 0.05$), while NPA boys from the second age group scored lower on the KIDMED than both MS-PA (-0.91 points; $p < 0.05$) and SC-PA participants (-0.90 points; $p < 0.05$). Conclusions: Participation in extracurricular PA may not consistently enhance PF in primary school children. A review of extracurricular PA programmes may be necessary to ensure their effectiveness in improving children's health. Engaging in extracurricular PA may not result in higher adherence to the Mediterranean diet or lower screen time.

Keywords: Physical Fitness; Primary School Children; Behaviour

ID 286 Effects of Chronic Exercise on the Executive Functions and Mathematics Achievement of Elementary Students

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Regular exposure to physical activity (PA) has numerous health-related benefits including better physical fitness (PF). However, PA in schools is only limited to PE. To promote PA in schools, positive effects of increased PA in academic performance have been researched on, with recent findings suggesting that the mind and body are connected because the brain is activated more during and after chronic exposure to PA. The research investigated the effects of a 4-week afterschool chronic exercise program on Mathematics achievement and executive functions (EF) of elementary students. It utilized a quasi-experimental pre and posttest research design to two comparable fifth-grade sections assigned as either the control or experimental group. The experimental group scored better than the control group in Mathematics, Stroop test, and Fitness Test. However, there was no significant difference in the other components of EF and body mass index (BMI). All EF core skills were correlated with Mathematics Achievement Test (MAT). Results suggest that additional minutes for exercise improve mathematical performance and fitness levels. Participation in the 4-week chronic exercise program significantly improved math achievement of fifth-grade students. Implications for effective learning include incorporating PA in school programs, as a 30-minute PA done on a regular basis shows positive effects on academic scores and does not hamper learning, highlighting not only the physical effects of an exercise program, but its effects on mental improvement as well.

Keywords: physical activity, academic achievement, fitness

ID 493 Game Changers: A participatory action research project for/with students with disabilities in school sport settings

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The benefits of sport for youth are well documented and include but are not limited to increased levels of general health and well-being, greater social engagement, enhanced self-esteem, and improved academic performance. Nevertheless, the literature finds that students with disabilities (SWD) do not have the same access to

school sport (i.e., participation in interscholastic or intramural sport programs) as others, and therefore do not benefit physically, mentally, emotionally, and socially from sport participation. Students with disabilities often face additional barriers beyond limited sporting opportunities, including a deficiency of resources (human, financial, facility, and equipment) and a lack of school awareness as to how to serve, meaningfully, these students' sporting and physical activity needs. To improve school sports opportunities for SWD, we piloted Game Changers—a participatory action research project. Game Changers, a Physical and Health Education Canada initiative focused on improving school sport opportunities and providing leadership training for these students. Students with disabilities (grades 9 to 12), their schools' physical education teachers, and communities' sport leaders, along with university researchers, came together in this research, hoping to learn and grow together to improve outcomes for SWD. The pilot, conducted in three schools in two different Canadian Provinces, with three idealized goals: a) bring to the fore para/adapted/inclusive sport opportunities for all students; b) provide an empowering opportunity for students with disabilities to participate, make choices, and act as leaders in the development of sport programming; and c) engage youth with disabilities in sport as participants, leaders, mentors, and role models. Essentially, could a participatory action research project that empowered SWD and those that support them lead to increased meaningful school sport opportunities for these students? This study employed a comprehensive mixed-methods research approach to gather and analyze data, using four data sources: pre- and post-program surveys for student participants, pre- and post-program focus group interviews for student participants, pre- and post-program focus group interviews for teacher-champion participants, and school/sport observations. Positive findings were related to improved students' perceived competence and autonomy, inviting student voice, identifying and responding to sport participation barriers, and creating genuine sport opportunities within school settings. Additional noteworthy informative findings included unachieved intrinsic motivation and belonging, questions of the sustainability of sport programs without interventions like Game Changers, the use of recreation/leisure as substitutes for sport, and an ongoing need for genuine leadership and mentorship opportunities. A discussion of these findings is offered and would be informative to others interested in providing equitable sporting opportunities and using participatory action research for/with youth with disabilities.

Keywords: sport, disability, participatory action research, school, equity

ID 495 #fitspiration: Investigating students' perspectives on body ideals in sports-related social media

Brigitta Höger (University of Vienna & University of Education Upper Austria)

Theoretical background: From a sociocultural perspective, body image is central to the dynamic socio-cultural negotiation processes that take place in the complex world of young individuals, forming an essential part of their embodied identities (Grogan, 2022). Notably, sports-related social media function as "pedagogical devices through which they [either] learn to recognise themselves and/or others as good, healthy, active and/or having desirable bodies in the pursuit of 'healthiness'" or as deviant, undesirable and unhealthy in accordance with/ contrary to societal body ideals (Rich & Miah, 2014, p. 305). As PE should aim at fostering critical engagement with sports-related health practices and body norms, including the appreciation of diversity, the fundamental question arises: How do young individuals negotiate their perceptions of bodily norms and deviance within the realm of sports-related social media, and which notions of social in- and exclusion do these negotiations entail? Methods: Against the theoretical background of the discursive framework of normality and deviance (Link, 1998), 48 students (16f, 32m; 14-19a) were invited in small groups to create image collages from sports-related Instagram posts following guideline questions (Vacchelli, 2018). Next, they were engaged in group discussions based on the collages on their conceptions of body ideals in the context of social media (Bohnsack, 2010). Transcripts and collages were analyzed with the Documentary Method (Bohnsack et al., 2010). Results & Discussion: Despite instances of students adopting a critical stance towards body ideals, stereotypical notions are reproduced within a binary gender framework. Additionally, bodies with disabilities and those with excess weight are labeled as deviant, either through admiring scrutiny or within the context of weight reduction practices. Their emerging awareness of image editing practices does not weaken the impact of these portrayed body ideals. These findings indicate the necessity for educational offers within the realm of PE, focusing on health-related, digital, and diversity-sensitive education. Bohnsack, R. (2010). Documentary Method and Group Discussions. In R. Bohnsack, N., et al. (Eds.), *Qualitative Analysis and Documentary Method: In International Educational Research* (pp. 99–124). Barbara Budrich. Bohnsack, R. et al. (Eds.). (2010). *Qualitative Analysis and Documentary Method: In International Educational Research*. Barbara Budrich. Grogan, S. (2022). *Body image: Understanding body dissatisfaction in men, women and children*. Routledge. Link, J. (1998). *Versuch über den Normalismus: Wie Normalität produziert wird*. Westdeutscher Verlag. Rich, E., & Miah, A. (2014). *Understanding Digital Health as Public Pedagogy: A Critical*

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Keywords: body image, social media, Physical Education

Pedagogy and didactics in physical education

ID 183 The Use of Adventure Education-Based Parkour in Physical Education and Sports to Develop Motor, Cognitive and Social-Emotional Skills

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Introduction: Quality physical education fosters motor skills, recreational abilities, and essential cognitive skills leading to the development of physical literacy (McLennan & Thompson, 2015). Such holistic programs prepare children for the future, making it vital to expand interventions and assess their impact on children. Objective: This study examined the effects of an adventure education model-based parkour intervention on primary school children's divergent thinking, motor creativity, motor coordination, perceived motor competence, and social-emotional skills as component parts of physical literacy. Methods: A mixed-method quasi-experimental design was used in fourth-grade students (intervention=28, comparison=27) with two classroom teachers selected by purposive sampling. An eight-week parkour intervention based on adventure education model (Ritson, 2016) was applied to the intervention group. Pre and post quantitative data were obtained using four different scales, while qualitative data were obtained only from the intervention group through semi-structured interviews, group interviews, and field notes. Results: Results of one-way ANCOVAs indicated significant post-test differences in divergent thinking skills [fluency $F(1,52) = 33.14, p < .001$; originality $F(1,52) = 7.39, p = .009$], motor creativity [$F(1,52) = 9.76, p = .003$], motor coordination skills [$F(1,52) = 34.45, p < .001$], and perceived motor competence [$F(1,52) = 7.44, p = .009$] compared to the comparison group. As a result of the thematic analysis, the main themes of overcoming difficulties and fear, social-emotional interaction and skill development

emerged. Conclusion: The results support the positive impact of the adventure education-based parkour intervention on the development of elements of physical literacy in children, consistent with the goals of quality physical education. Moreover, qualitative findings revealed that the intervention not only improved students' physical skills, but also that they internalized these gains, leading to improvements in social-emotional skills. This research contributes to the understanding of how innovative physical education interventions can enrich children's educational experiences in alignment with the development of physical literacy as a primary outcome of physical education. Funding: This study was supported by The Scientific and Technological Research Council of Türkiye (TÜBİTAK) under project number 221K265. References: 1. McLennan, N., & Thompson, J. (2015). Quality physical education (QPE): Guidelines for policy makers. Unesco Publishing. 2. Ritson, L. (2016). Adventure Education: Fun games and activities for children and young people. Routledge.

Keywords: adventure education, parkour, divergent thinking, motor creativity, motor coordination

ID 413 Curriculum enactment in China: the legal system and its influence on teacher pedagogy

XUAN MENG (Shanxi University), Andrew Horrell (The University of Edinburgh) & **Paul Mcmillan** (The University of Edinburgh)

This paper provides a unique insight into the legal system in China and its significant impact on the pedagogy and professional practice of physical education (PE) teachers. Charmaz's (2014) work on grounded theory was employed as the methodological framework for this qualitative interview-based study. Situated in northern China, 22 PE teachers (8 female, 14 male) participated in a study focused on their curriculum enactment. Semi-structured face-to-face interviews of 45–90 minutes were conducted with PE teachers. NVivo 12 Pro was used for the analysis of interview data; the process of coding followed initial, focused and selective steps. To develop a better understanding of how 'Health First' curriculum was taken up and enacted by teachers, and specifically recognising the characteristics of a non-western research context; we deployed two theoretical concepts – 'technologies of the self' and 'self-cultivation'. In China, PE teachers' pedagogy was influenced by a broad range of concerns. Teachers' awareness of their vulnerability within the legal system strongly influenced their pedagogy and curriculum enactment, their teaching

behaviours reflected the attempts to protect themselves from the accountability of incidents that occur in classes. Our findings reveal, rather than prioritising 'Health First', curriculum enactment was predicated on 'safety first' as a result of the complex interplay between teachers' awareness of the legal system and their professional ethics, which led to these teachers interpreting the maxim of 'Health First' as 'safety first'. Therefore, teachers' curriculum enactment efforts are carried out within a complicated socio-political context, with interplay between 'technologies of the self' and 'self-cultivation', as teachers sought to be transformative, find personal harmony and navigate the competing demands of stakeholders. The findings provide an interdisciplinary view of the complicated and interconnected socio-political considerations involved in teachers' pedagogy. The process of teachers' curriculum enactment was not only related to curriculum reform policies and associated regimes of accountability, but also interconnected with their awareness of the legal system. Therefore, this study provides the first account of how teachers in China adapt to retain a balance between concerns with self, curriculum enactment, interactions with stakeholders, and how they engage with students. Charmaz, K. (2014). *Constructing grounded theory*. SAGE.

Keywords: curriculum enactment, legal system, physical education, teacher pedagogy

ID 416 Physical Education Teachers as Homeroom Teachers: Professional Identity, Perceptions, and Implementations

Sima Zach (Levinsky-Wingate Academic College), **Amit Natani** (Levinsky-Wingate Academic College), **Sarit Shalev** (Levinsky-Wingate Academic College) & **Miki Ophir** (Levinsky-Wingate Academic College)

Abstract Aims: To examine the perceptions of Physical education (PE) teachers who are homeroom teachers concerning their professional identity and their methods of transforming perceptions into actions. Specifically, their perception concerning educational sessions: Their content, objectives, actual behavior, and their students' level of involvement. In addition, these teachers were asked to confront their perception about the potential contribution of these lessons with the actual contribution, and explain the gap between them. The homeroom teacher assumes responsibility for all social and educational aspects concerning the students in their class. They are accountable for their actions in the presence of the principal, necessitating regular reporting and consultations with the principal regarding any class-related

issues and student concerns. Maintaining ongoing communication with the teaching staff in their class, they actively monitor academic progress and student behavior. Periodically, and as necessary, they present class and student problems to the pedagogical council. During educational sessions with their students, they engage in discussions covering national and social topics, address problems, and delve into current events locally and globally. They consistently liaise with parents at times specified by the school administration, receiving regular updates about the students beyond the standard class hours. Method: A mixed methods design: Quantitative – 128 PE teachers who are homeroom teachers filled out a questionnaire that examined their perceptions regarding their professional identity as well as their actions. Qualitative – two focus groups of PE teachers who are homeroom teachers (n = 14) were interviewed to receive a deeper and understanding on study aims. Results: Once the PE teachers became homeroom teachers, they developed a strong sub-identity of the educating teacher concurrently to the sub-identity of the professional teacher. They extended the scope of educational values and became more holistic oriented in their attitude. They could better see the student's worldview beyond the physical aspect of sports and movement. They were empathetic towards the students, and more oriented towards creating a pleasant climate with social acceptance. To their perception, a better understanding of the complexity of student life increase student teacher communication and the likelihood to achieve educational goals. They also became an integral part of the stuff which had a positive effect on their centrality and sustaining in the school. However, findings show that the vast majority of the objectives for these lessons are set by the teachers. They do not work systematically; rather, they react to the environment/community/political situation/ in order to be as much relevant as they can. The most common methodology they use is an open discussion in which less than half of the classroom actively participates. Almost all of the teachers believe in the importance of this lesson and its potential contribution, both to the individual student, and to the whole class. Yet, only half believe that this potential actually realizes. Discussion: PE teacher education programs should integrate within their curriculum specific preparation to becoming a homeroom teacher at school. Such preparation would equip them with tools to cope and confront with the conflicts, dilemmas and difficulties that they will encounter in the future.

Keywords: homeroom teacher, physical education teacher education, teacher preparation, educational attitude

ID 427 High school students' experiences in learning health through a salutogenic and inquiry-based approach

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Drawing on salutogenesis theory (Antonovsky, 1979) as a framework for developing new understandings of health in physical education (McCuaig & Quennerstedt, 2018), it is important to enact pedagogies that enable learning health with young people, in a participatory manner (Quennerstedt, 2019). With this rationale, this study aimed to explore high school students' experiences in learning health through a salutogenic and inquiry-based approach (O'Connor, Jeanes & Alfrey, 2016), that sought to create opportunities for students to think critically about health and bodily practices, investigate topics they were interested in, and develop capacities towards action in their context. The project employed an action research method and took place at a public high school in Brazil, within the scope of an elective program in the area of physical education, entitled "Bodily Practices and Quality of Life". Participants were 20 students (7 girls and 13 boys; 15 years old), one PE teacher-researcher, and two critical friends. Data were generated over eight months through classroom artifacts, the teacher's reflexive journal, critical friend conversations throughout the program development, and focus groups with students after the program completion. Qualitative analysis resulted in two main themes: (a) students' widening their perceptions about health and bodily practices, with new viewpoints about the meanings and determinants of health (e.g., importance of public policies and the Brazilian public health system for health promotion for all), and meaningful movement experiences that were novel to them; (b) students' development of agency in the school context, with the co-construction of four group research projects on health and quality of life, and dialogue with key school staff for impacting their local reality. Based on their interests and needs, they investigated (i) the impact of a recent shift in school schedule on students' quality of life, (ii) students' eating habits, (iii) students' interests in physical activity, and (iv) teachers' mental health. As a result of enacting a salutogenic and inquiry-based approach, we conclude that students experienced learning health in an authentic and relevant way, developing capacities for exploring and questioning factors that affected their health and school lives. References Antonovsky A. (1979). *Health, Stress, and Coping*. Jossey-Bass. O'Connor, J., R. Jeanes, and L. Alfrey. (2016). *Authentic Inquiry-based Learning in Health and Physical Education: A Case Study of 'R/evolutionary' Practice*. *Physical Education and Sport Pedagogy*, 21(2), 201-216. Quennerstedt, M. (2019).

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Keywords: Health pedagogies. Salutogenesis. Adolescents. Student voice.

ID 477 The disciplinary power of innocent gendered playfulness in upper secondary Polish physical education

Zuzanna Mazur (University of Physical Education in Warsaw), **Natalia Organista** (University of Physical Education in Warsaw) & **Nils Håkan Olof Larsson** (The Swedish School of Sport and Health Sciences)

The aim of the study is to explore gendered communication between PE teachers and students in Polish upper secondary school and perceptions about this communication among male PE teachers and girls. The data for analysis were derived from: observations of physical education (PE) lessons at an upper secondary school, focus group interviews (n=17) with male and female students participating in the observed PE lessons, and semi-structured in-depth interviews (n=5) with the teachers conducting the observed lessons. The study was conducted in 2021 and 2022. Built on Butler's concept of heteronormativity (1988, 1990) and Foucault's concept of normativity (1977) this research highlighted how PE teacher's way of communicating with students disciplined and normalized heteronormative patterns in PE space. Interviews with teachers showed that they haven't seen their communication with students as strongly normative and their knowledge about gender issues is fragmented and deficient. Interviewed students were dismissive about the stereotypical gender communication they were subjected to. Strong normalization about heteronormativity made any resistance very difficult. The results will be discussed against the background of the dominant socio-cultural factors shaping the school environment and understanding of gender in Poland. Butler, J. (1988). *Performative acts and gender constitution: An essay in phenomenology and feminist theory*. *Theatre journal*, 40(4), 519-531. Butler, J. 1990. *Gender Trouble: Feminism and the subversion of identity* (p. 61). New York: Routledge. Foucault M. (1977). *Discipline and punish : the birth of the prison* (p. 170). Allen Lane, London.

Keywords: physical education, gender, teacher, student, communication

4 POSTERS

VENUE: C-BUILDING

Theme: Physical education teacher education, professional development

ID 104 The Professional Identity of Physical Education Teachers: What are the key components?

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The Professional Identity Formation (PIF) process underscores the moral and ethical aspects that professionals must internalize alongside their professional skills and knowledge base. Emphasizing PIF in physical education teacher education (PETE) programs can provide valuable guidance for physical education (PE) teachers in identifying the essential professionalism required for their roles as professionals. This study aims to provide an overview of professional identity (PI) components that South Korean secondary school PE teachers form based on the 'Professional Identity Matrix for Physical Education Teacher (PIMPET)' framework, which represents PE teacher's multifaceted qualities regarding their professional responsibilities.

A total of twelve Korean secondary school PE teachers participated in this qualitative study. They were selected through maximum variation sampling based on the following criteria: teaching career stage, gender, participation in the professional learning communities, school level, and school type, all of which are the main characteristics of Korean secondary PE teachers. Data were collected through open-ended questionnaires, semi-structured in-depth interviews, and various documentation. Data analysis was carried out using the six-step thematic analysis method.

PIMPET consists of three identity dimensions (competence, knowledge, and disposition) as one axis and three task areas (teaching, student, and administration) as the

other axis. Nine components and eighteen specific components have been identified and categorized into the nine domains of PIMPET. Within the competence dimension, the components that stood out include (a) teaching competency for PE, (b) communication and management skill, and (c) PE/sports event coordinating skill. Next, in the knowledge dimension, key components encompass (d) knowledge about PE, (e) knowledge about students, and (f) knowledge about PE policy and administration. Lastly, in the disposition dimension, the identified components include (g) passion for PE, (h) caring for students, and (i) responsibility for school. Two specific components were discovered in each of the nine components.

These eighteen PI components provide a detailed representation of PE teachers' PI and shed light on the three identity dimensions of professionals. It is noteworthy that disposition played a foundational role in shaping PE teachers' PI, actively facilitating and interacting with their competence and knowledge dimensions. While it is important to acknowledge the need for potential adjustments to the specific components reflecting cultural backgrounds, we maintain that the PIMPET framework and the PI components derived from this study can serve as a comprehensive guiding framework for the integration of PIF into PETE programs. This will ultimately support the PE teachers' process of embodying the essential qualities to act, think, and feel like a true professional.

Keywords: professional identity (PI); professional identity formation (PIF); physical education teacher

ID 109 A Qualitative Exploration of Physical Educators' Socialization and Role Breadth Self-Efficacy to be Involved with CSPAP

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Background/Purpose: The World Health Organization recommends that school-aged youth engage in 60 minutes of daily physical activity. However, 80% of youth worldwide fall short of meeting this physical activity target. To address youth inactivity comprehensively, a "whole-of-school" approach is advocated. In the United States, the Comprehensive School Physical Activity Program (CSPAP) serves as a "whole-of-school" framework designed to ensure youth meet physical activity guidelines. Physical education teachers (PETs) are poised to play a critical role as CSPAP leaders. Nevertheless, CSPAP adoption in schools remains limited. One valuable perspective for examining CSPAP adoption is PETs' role breadth self-efficacy (RBSE). RBSE occurs when professionals must broaden their purview and undertake a more expansive and proactive role. In this context, an insightful framework for assessing PETs' RBSE in relation to CSPAP involvement is the theory of teacher socialization in physical education (TSPE). TSPE delves into how lifetime experiences shape a teacher's current teaching practices and attitudes through three distinct

phases: (a) acculturation, (b) professional socialization, and (c) organizational socialization. However, there is a gap in the literature regarding the influence of TSPE across a PETs' lifetime that may determine their RBSE to be involved with CSPAP. Thus, the purpose of this study was to explore how the phases of TSPE influence in-service PETs' RBSE to be involved with CSPAP. Method: In-service PETs (N=25; Female=16) from United States public schools were recruited from a previous research study as a part of a nationally representative sample (n=14), along with a convenient sample of PETs (n=11) who had personal and professional contacts to the authors. Data was collected using semi-structured Zoom interviews that were recorded and transcribed verbatim. Results: Constant comparison and inductive analysis were used to code the data and develop themes and subthemes supporting the theoretical framework: (a) Modeling and Encouragement from Socializing Agents (positive role models and mentors, social support, community and school resources), (b) Learn by Doing: Mastery Experiences (physical activity leadership development, personal and situational factors), and (c) Agent of Change, "I Believe in This" (negative experiences fuel motivation, belief of being a physical activity leader for the school community). Conclusions: PETs' involvement in CSPAP is influenced by their life experiences. Positive childhood experiences with physical activity, skill development as CSPAP leaders during teacher education, mentorship from experienced educators who exemplify effective strategies, and the capacity to foster social connections among school stakeholders are key factors impacting PETs' RBSE. Investigations into mentorship programming for novice PETs to lead CSPAP in schools and "best practices" for CSPAP training in teacher education are recommended.

Keywords: Physical Education; Whole-of-School; Teacher Socialization in Physical Education Theory; Role Breadth Self-Efficacy; Comprehensive School Physical Activity Program

ID 116 Attitudes of students towards video-based digital media in physical education

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While the importance of teachers' attitudes toward the use of media in schools and classrooms as a facet of professional competence development is receiving increasing attention, the attitudes of students toward the use of digital media at schools are often still dominated by abbreviated ideas. Due to the high and massively increased duration of media use in the last two decades, it is assumed that they would also like to use media for learning. However, the media-related attitudes of students are a relevant criterion for media use within and outside of school contexts and are therefore also the target perspective of media didactic efforts. Therefore, the social-

psychological construct of attitude is considered as comprehensively as possible in its multidimensionality (cognitive, affective, and behavioral components). The central questions here are how students' attitudes toward the use of media in physical education are shaped, which relationships between attitude components can be postulated, and which external variables can be used to promote positive attitudes.

Based on the Technology Acceptance Model (Park, 2009), a questionnaire was developed to assess attitudes and validated by means of a survey of eighth graders (N = 202). External variables (e.g., school sports activity and media experience), cognitive attitude dimension, affective dimension, and behavioral dimension were considered as subscales. A covariance-based structural equation model was calculated, which depicts effects between external variables and attitude dimensions.

The postulated model had satisfactory model fit (RMSEA = .06; χ^2/df ratio = 1.72; CFI = 0.90). It can be seen that the use of media in physical education and the associated self-effectiveness in learning with media have a positive impact on the cognitive component of attitude. Thus, perceived usefulness and usability are increased, as well as potential misconceptions regarding design and movement primacy are reduced. However, the cognitive component of the attitude had no direct influence on the intention to use media in physical education. Positive effects of the cognitive component on the intention to use are mediated entirely by the positive evaluation of media use. Only a positive affective evaluation increases the intention to use media in physical education. Negative attitudes toward media in physical education can be attributed to a lack of access and, thus, a lack of self-effectiveness in dealing with them. Interventions at the student and teacher level should, therefore, aim to introduce the advantages of media-supported physical education in a didactically adequate way to increase self-effectiveness and reduce negative attitudes.

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Keywords: Physical education, attitudes, digital media, videos in teaching

ID 125 360° videos – a practical overview of 360° video applications in sport and physical education

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Introduction

Extended reality technologies, such as Virtual Reality, offer a range of benefits for

developing key outcomes related to sport performance. However, such technologies are often very costly and therefore, inaccessible to most coaches and physical educators. 360° video is a cost effective technology that is proposed to offer similar benefits as other extended reality technologies for teaching and learning processes in sports and physical education (Lindsay et al., 2023). Studies exploring 360° videos in sport have reported positive results for attention, perception processes, and enjoyment as a training tool (Cunningham et al., 2023; Kittel et al., 2020). In the context of physical education, 360° videos are useful tools to encourage reflection, and to raise motivation for learning processes (Roche & Rolland, 2020; Rosendahl et al., 2023).

Methods

To provide evidence-based recommendations on the application of 360° videos, electronic databases were searched. Different approaches were presented to use with associated 360° video footage from the field of different sports and physical education.

Discussion

The purpose of this poster is to clarify how 360° video can be practically applied in sport and physical education, through scenario-based examples for cognitive, motivational, reflective and motor training processes. In addition, it includes opportunities to reflect on transfer possibilities to other sports disciplines and potentials for future research.

Literature

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Keywords: 360° video, immersive video, VR video, spherical video, digital training

ID 126 Using group concept mapping to conceptualize meaningfulness in Physical Education with secondary students

Douglas Gleddie (University of Alberta) & **Jodi Harding-Kuriger** (University of Alberta)

Background: The Meaningful Physical Education (Meaningful PE) framework (Beni, 2021; Beni et al., 2017; Ní Chróinín et al., 2018) employed by some physical educators recognizes that the voice of students is important for providing educative experiences. However, little research has been conducted in secondary physical education (PE) contexts. The purpose of this study was to conceptualize meaningfulness in PE with secondary students using the mixed method approach, Group Concept Mapping (GCM, Kane & Trochim, 2007).

Methods: Participants included PE teachers (n = 3) and their students (n = 55) in an urban secondary sports academy school in Alberta. Students and teachers contributed their conceptualization of meaningfulness through three main activities using the Group Concept Mapping software and processes: 1) brainstorming to identify all of their ideas that depict meaningfulness; 2) sorting the synthesized statements; and 3) rating each of the statements based on its importance, frequency and possibility. **Results:** The meaningfulness maps conceptualized by these secondary students depict 44 synthesized statements distributed across five fundamental clusters describing meaningfulness in PE: kindness, physical activity, fun, competition, and quality education.

Conclusion: Two major findings emerged, the first being that relationships (kindness, competition, quality education) are critical to the experience of meaningfulness in PE with secondary students. The second is that GCM is a valuable tool for collaborating with secondary students to articulate context specific descriptions of meaningfulness in PE experiences.

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Keywords: meaningful physical education, teacher education, secondary students, physical education

ID 136 Satisfaction of physical education teachers in the workplace in schools in Harju County, Estonia.

Eneli Pöld-Mändlo (Tallinn University/ physical education didactics lecturer) & **Sonja Anderson** (Tallinn University/ student)

The shortage of qualified teachers remains a significant problem in many countries as well as in Estonia. Several studies show that job satisfaction is one of the most important factors affecting teachers' motivation and retention, and it has also been related to teachers' decisions about whether to stay in the teaching profession or not (Skaalvik & Skaalvik, 2011; Gültekin, 2019; Toropova, Myrberg & Johansson, 2021). Measuring teacher motivation and satisfaction predicts potential teacher burnout (Gültekin, 2019), and as the demands on PE teachers and PE classes increase every day, it is important to examine teacher job satisfaction. With the above in mind, four aspects were measured in the school context: 1. satisfaction with the chosen profession; 2. satisfaction in current job; 3. satisfaction with workload and work results; 4. time resource and fatigue. To achieve the objective of the work, the survey was conducted as a questionnaire. A total of 80 PE teachers participated in the survey (75% Estonian and 25% Russian language of study), 64% of whom were women and 36% were men. The average age of the respondents was 43 years. The results show that PE teachers are generally satisfied with their choice of profession and their current job. It could be pointed out as a problem that only half of the respondents see themselves still working at the school in 10 years. More experienced teachers feel that they do not have enough time to rest and recover. In terms of workload, overburdened (those who give more than 22 hours of PE lessons per week) teachers expressed higher satisfaction with the choice of profession and performance compared to part-time teachers. As many as 47% of the respondents confirmed that they feel emotionally exhausted at the end of the working day. The stress scale also showed the same result, where 49% of the respondents had chosen 7 or more points as the stress level on a 10-point scale. A higher level of satisfaction is expressed by teachers of schools with Russian language of instruction.

Conclusion: it is necessary to find the reasons why the majority of young teachers do not see themselves as teachers in the long term, and find how the work stress of teachers can be reduced.

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Keywords: Teachers, physical education, job satisfaction

ID 139 Addressing Ethnic and Cultural Diversity in Physical Education Teacher Education - Discourses Among Teacher Educators

Sandro Vita (Oslo Metropolitan University), **Kristin Walseth** (Oslo Metropolitan University) & **Tonje Fjogstad Langnes** (Oslo Metropolitan University)

In today's increasingly diverse societies, the principles of social justice, inclusion, and equity are paramount, echoing throughout various sectors, including educational systems. Educational institutions, from primary schools to higher education providers, bear the responsibility of taking a stand on issues related to social justice. In light of these evolving demands, educators are expected to be 'culturally responsive' or 'culturally competent.' However, within the realm of physical education, a noticeable gap persists as the student population becomes increasingly diverse, potentially leading to marginalisation and exclusion of pupils and students from minority backgrounds (Barker, 2019; Douglas & Halas, 2013).

This research explores how physical education teacher educators from Norway, Canada, and Aotearoa/New Zealand address ethnic and cultural diversity in their teaching practices and the discourses they employ in discussing these matters. Through interviews with physical education teacher educators, this study addresses two intertwined research questions: Firstly, it examines the discourses that emerge in addressing ethnic and cultural diversity in physical education teacher education. Secondly, it delves into the subject positions discursively constructed for student teachers within these discourses.

Drawing upon Laclau and Mouffe's (2014) discourse theory, the analysis identifies the discourses that teacher educators draw upon during interviews and elucidates the subject positions these discourses facilitate for student teachers. Additionally, the study employs Gorski's (2009) multicultural education framework to provide a comprehensive understanding of the findings.

The preliminary findings suggest that the socio-cultural context of each nation influences the discourse among teacher educators. Nevertheless, commonalities emerge in the way these educators address ethnic and cultural diversity and navigate the complexities inherent in teaching these issues. Based on Gorski's (2009) framework, we identify six discourses across all countries, ranging from conservative and liberal to critical approaches.

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Keywords: PETE, Ethnicity, Culture, Discourse

ID 154 Emotional intelligence of physical education undergraduate student-athletes

Konstantinos Karteroliotis (National and Kapodistrian University of Athens) & **Manolis Adamakis** (National and Kapodistrian University of Athens)

Several indicators are related to university students' wellbeing, such as emotional intelligence (EI) and physical activity (PA). Previous studies found that, in the context of sport performance, EI was related to emotions, physiological stress responses, successful psychological skill usage, and more successful athletic performance. Additionally, in the context of PA, it was found that trait EI was associated with higher PA levels and positive attitudes toward PA (Laborde, Dosseville, & Allen, 2016). Thus, the purpose of this study was to explore EI levels of undergraduate physical education (PE) student-athletes.

The sample consisted of 180 undergraduate PE student-athletes (44.4% females; M age=22.03±1.95 years). All participants represented a heterogeneous sample of student-athletes who competed at levels ranging from elite/professional competitors (5.6%) to pre-elite collegiate athletes (14.4%), as well as non-elite collegiate athletes (80.0%). Assessment of EI was done using the Greek version of the Schutte Self-Report Emotional Intelligence Scale (Adamakis & Dania, 2021). A MANOVA was performed for EI scores by gender, athletic level (non-elite collegiate athletes, pre-elite athletes, elite competitors) and type of sport participation (individual, team). The main MANOVA interaction effect for the overall EI [$F(1,168)=.19$, $p=.67$, $\eta^2=.001$], as well as the separate factors [$F(4,165)=.20$, $p=.94$, $\eta^2=.005$], indicated that there were no statistically significant differences between groups. The only statistically significant main effect was observed for student-athletes of different athletic level [$F(8,332)=2.12$, $p=.033$, $\eta^2=.049$]. More specifically, pre-elite athletes scored significantly lower in Emotion regulation of the self [$F(2,168)=4.86$, $p=.009$, $\eta^2=.055$] compared to non-elite collegiate athletes and elite competitors. The results of the present study suggest that team and individual sport student-athletes, as well

males and females, do not have observable differences in trait EI. Also, student-athletes' competing at a high-performance level record similar trait EI to those competing at low performance level, except for Emotion regulation of the self. This result is intriguing given the connections found between EI and sport performance. Longitudinal investigations are required to explore more directly the connection between trait EI and long-term success.

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Keywords: emotional intelligence, physical activity, PETE, students, sport

ID 168 Pedagogical Principles for integrating Open Education Resources within Physical Education Teacher Education Programs

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Physical education teacher education (PETE) programs are being encouraged to develop preservice teachers' ability to infuse technology into their curriculum planning (Gawrisch, Richards & Killian, 2019). The aim of this study is to propose the pedagogical principles that PETE programs could use for enabling preservice teachers to benefit from digitally infused resources. For achieving the above aim, we analyze the principles that we adopted during the design of Open-Educational Resources (OER), as part of an Erasmus + KA2 program. The three-year Erasmus + KA2 program involved the development of an Outdoor-Adventure Education (OAE) curriculum framework for physical education that would support teachers to implement lessons with a focus on social and emotional learning. One of the program objectives was to integrate OERs in curriculum planning based on the OAE framework across the PETE continuum (initial, induction and continuous professional development). By drawing on post-digital research examining the moral and ethical implications of digital education (Pollard & Vincent, 2022), the design of our OER was based on the following principles: (1) embed OER within existing PETE modules, (2) align OER design to the mission of PETE programs, and (3) deploying critically informed pedagogies for OER implementation and evaluation. Based on the first principle, we embedded OER within the PETE modules of the Universities participating in the Erasmus program, as affordances that could promote preservice teachers' academic

performance and skills. According to the second principle, we used the service-learning methodology as an approach that aligns with PETE programs' mission to cultivate students' human, critical, and soft skills. Particularly, some OERs were designed as case-study scenarios which undergraduates could use during their practicum at schools. As a third principle, we adopted the active and inquiry-based pedagogy of Adventure Education curriculum models within each of the OER to help PETE students move beyond 'techno-instrumentalism' to innovation and formative evaluation in digital education. By acknowledging that preservice teachers come with an existing level of knowledge and commitment to use technology in their practice, we argue that it is critical for PETE programs to review the current state of technology use and develop systems of support that go beyond instrumental logics, to pedagogies of e-emancipation.

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Keywords: innovative pedagogies, post-digital education, microprograms, outdoor adventure education curriculum

ID 175 Physical Education teacher motivations, beliefs, and emotions across career stages

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Background: Physical education (PE) teachers are central to the teaching-learning process as they make important decisions about curriculum and instruction. While many characteristics impact decisions, research on teacher motivation, beliefs, and emotional well-being are growing in prominence. Despite the onset of evidence-based practices, the adoption and maintenance of effective teaching practices is likely dictated by teacher motivation and well-being. In addition, teacher motivation is likely impacted by their career stage. Teachers may not follow a linear career journey, fluctuating from being eager, feeling competent, stagnant, or wanting to leave the profession. The purpose of this study was to explore how self-reported career stages related to teacher reported motivations, beliefs, and emotions.

Methods: PE teachers from the U.S. (N= 729; Mage= 46.64, SD= 10.19; 51% Female) completed a survey measuring their motivation for curriculum and instruction (expectancy, value, and cost), professional beliefs (sense of calling and perceived value of PE), emotions (enjoyment, anger, and anxiety), and career stage (Induction 6%; Seeking Improvement 20%; Competent and Building 46%; Job Frustration 7%; Stable and Stagnant 10%; Career Exit 11%). Teachers reported years of teaching, grade levels taught, context, and region in the U.S. A series of Multivariate Analysis of

Covariance (MANCOVA) were used to compare groups (statistical adjustments for uneven groups).

Results: Controlling for teaching demographics, several significant effects were identified. Expectancy beliefs were significantly higher for 'competent and building' stage as opposed to the 'seeking improvement' and 'job frustration' stages. Interestingly, 'career exit' showed higher expectancy than 'seeking improvement' and 'job frustration'. Cost beliefs were significantly higher in 'job frustration' compared to all other stages but 'stable and stagnant' and 'career exit'. These latter stages were higher in cost than 'induction', 'seeking improvement', and 'competence and building'. Sense of calling showed 'job frustration' stages reported lower scores than all other stages, with 'competent and building' reporting highest scores. Value beliefs were higher in 'seeking improvement' and 'competent and building' stages over frustration, stagnation, and career exit. Similarly for emotions, 'seeking improvement' and 'competent and building' stage teachers reported more enjoyment and less anger over frustration, stagnation, and career exit. Anxiety was reported higher in the 'induction' and 'job frustration' compared to others.

Conclusion: PE teachers were predominately in the 'competent and building' and 'seeking improvement' stages. Profiles of teachers emerged with the strongest motivations, beliefs, and positive emotions linked to 'competent and building' stage, and 'job frustration' as the least motivated stage. Interestingly, stagnation and induction were linked to decreased motivation.

Keywords: Motivation; Wellbeing; Teacher Beliefs

ID 184 Teachers' Digital Sovereignty in Physical Education in a Digital World

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Introduction

The digitalization of physical education (PE) represents both a challenge and an opportunity to address the subconscious learning and socialization processes as well as the hereby associated implications at an interdisciplinary level. Interdisciplinary learning scenarios are a clear example of the discrepancy between (educational) policy demands and school reality in a digital world (OECD, 2016). When encountering these difficulties, PE teachers face the task of designing their lessons in such a way that curricular requirements are adequately met. While doing so, they must empower students to navigate the present and future complexities of the digital world, including emerging technologies and phenomena in both daily life and PE contexts. To achieve this PE teachers need to be prepared for and supported during this process.

Methodical

Approach

The sub-project Physical Education Digital, part of the joint project Digital-aesthetic Sovereignty of Teachers based on Cultural, Artistic, Musical, Poetic, and Physical Education in the Digital World (DiaeS) funded by the European Union and the Federal Ministry of Education and Research in Germany, aims at developing, testing, implementing, and evaluating specific training modules for PE teachers. The content implemented in this program is consolidated through participatory collaborations with state institutes, stakeholders, and teachers, thereafter qualitatively and quantitatively evaluated.

Expected

Results

&

Discussion

With our tailored training modules, we address the discrepancy between the reality of schools and the required standards for participation in a digitized world. In order to create digital sovereignty (Pohle & Thiel, 2020), teachers' application-oriented digital skills are further analyzed. On the one hand, this ensures that teachers can provide specific knowledge about PE as well as movement relevant skills and abilities. On the other hand, social behavior and implicit norms in sports can be addressed as well. The teachers providing these topics face the reality of an increasingly networked and digitalized world. This project will prepare teachers for this challenge with a multi-stage program, the contents of which include:

- The analysis of digital recordings of PE lessons to improve movement, with the particular potential of 360°-video technology
- Classroom management, disruptions, and gamification/e-sports in digital settings in PE
- The development of digital-based health skills Accompanying evaluation will show the impact on PE teachers competencies and abilities.

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Keywords: teacher education; teacher training; digital physical education; digital sovereignty; digitization

ID 211 Digital competence centre for basic motor competencies - MOBAK DigiKo

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Universität Frankfurt, Institut für Sportwissenschaften), **Jürgen Schwier** (Europa-Universität Flensburg, Abteilung Sportwissenschaft), **Christopher Heim** (Goethe-Universität Frankfurt, Institut für Sportwissenschaften) & **Erin Gerlach** (Universität Hamburg, Institut für Bewegungswissenschaft)

Introduction: In recent years, the MOBAK concept has yielded valid measurement tools (e.g., Herrmann et al., 2017), and established an internationally recognised approach to improving children's basic motor competencies (cf. Scheuer & Heck, 2020). The project MOBAK DigiKo leverages these foundations and focuses on enhancing the qualification for motor competence diagnostic procedures in primary schools while facilitating the use of digital tools in physical education planning, implementation, and assessment.

Objective: The primary objective is to establish a collaborative digital competence centre consolidating and applying various resources with an initial focus on three federal states in Germany – Hessen, Hamburg, and Schleswig-Holstein.

Methods: The project focuses on adapting, utilising, and implementing the existing digital tools developed by project partners in the past: an application for test data collection and digital evaluation (University of Frankfurt), an app-based modular toolkit for lesson planning and teacher training (University of Hamburg), and digital teaching scenarios focused on planning, implementation, and evaluation (University of Flensburg).

Results: Collaboration with state teacher training institutes is intended to ensure the sustainable integration of computerised applications and digital resources into school practices through three modules with the following objectives:

1. To enable teachers to conduct a reliable and accurate diagnosis of basic motor competencies.
2. To empower teachers to design, test, and implement instruction supported by digital technologies.
3. To implement existing teaching and learning scenarios in the training, further education, and professional development of physical education teachers in a blended learning format (Hinternesch et al., 2021).

Conclusions: The consortium project aims to enhance data literacy among physical education teachers and foster collaboration among institutions involved in teacher education and professional development. The transfer of digital tools into practice will be achieved through sustainable integration into university-level physical education teacher training and state institute programmes. Professionalisation components, digitally supported teaching materials, and learning scenarios will be offered as open educational resources through consortium platforms with ongoing development.

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Keywords: Basic Motor Competencies; MOBAK Concept; Digital Tools; Teacher Training; Blended Learning

ID 212 Teacher Education Candidates Use of the Spectrum of Teaching Styles to Teach Social and Emotional Learning Competencies

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Purpose: The purpose of this study was to utilize cognitive-developmental learning theory to investigate how physical education teacher candidates learned to utilize the Spectrum of Teaching Styles to address Social and Emotional Learning (SEL). The study was guided by the following research questions: (a) what previous knowledge do the teacher candidates maintain related to SEL in physical education? (b) what are the teacher candidates' perceptions of the Spectrum of Teaching Styles throughout their university coursework, and (c) what are the teacher candidates' perceptions of the use of the Spectrum of Teaching Styles in addressing SEL after completing their field experience.

Methods: This study utilized a qualitative case study approach with 6 teacher candidate participants enrolled in Elementary Methods. The course included 8 weeks of on-campus training in the Spectrum of Teaching Styles as well as the CASEL framework, followed by 8 weeks of planning for and implementing lessons during field experiences. Data collection included Instagram reflections (photovoice), TARE 2.0 systematic observation forms, focus group interviews, and critical incident reports. Data was open and axially coded with researcher journal entries being completed each week synopsising initial findings. This was followed by the development of a codebook that was reviewed by an outside member and then tested with new data. After several rounds of pilot codebook testing, a final codebook was developed and applied to all data sources.

Results: Findings included 3 themes indicating a progression over the span of the semester: knowledge gap, modeling and practice, and belief in the process. The teacher candidates lived experiences in physical education had not included SEL or teaching styles beyond command and practice. The student's experiences discussing the styles as a tool for implementing SEL, seeing it modeled by their instructor, peer teaching, and practice implementing through field experience was a powerful learning process that modified their teaching. Ultimately, the teacher candidates applied the styles as an approach towards teaching generally, and to implementing SEL. They believed that the 2 combined can have positive outcomes, but struggled with expanding into the productive styles.

Discussion/Conclusions: Providing teacher candidates with training and practice utilizing the Spectrum of Teaching Styles to address SEL competencies can result in a change in perception of the role of physical educators as well as providing tools to enhance teaching practice. Cognitive-developmental learning theory serves as a helpful guide to understanding teacher candidates' progression with new content. Teacher education is not as powerful as the K-12 experience in addressing preconceived beliefs regarding physical education, so more than one semester of teacher training should be provided for preparation using the styles, particularly related to SEL competencies.

Keywords: social and emotional learning, spectrum of teaching styles, physical education teacher education, cognitive-developmental learning theory, qualitative case study

ID 220 Physical Education Teacher Candidates' Perceptions of Sense of Belonging

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Introduction: Researchers suggest that physical education teacher education (PETE) programs should promote student retention with values and beliefs as perceived by teacher candidates (Templin et al., 2019). Scholars imply that increasing students' sense of belonging contributes to retaining students (Woods & Ayers, 2019). Research on belonging has been conducted in STEM teacher education (e.g., Balgopal et al., 2022) with several studies in the physical education context (e.g., Haegele & Maher, 2022). Therefore, this study aimed to examine physical education teacher candidates' perceptions of a sense of belonging after completing the PETE program of study.

Methods: A qualitative case study was selected. There were four participants: two females and two males. Data sources included semi-structured interviews, informal conversational interviews, and living graphs (Hryniewica et al., 2014). Data were analyzed using open and axial coding (Corbin & Strauss, 2008). Trustworthiness was established through data triangulation, peer review, and member checks.

Results: Findings indicated teacher candidates' sense of belonging at two levels: time for students and no students left behind. Time for students means faculty take extra time to connect with students after class. No students left behind represents faculty will involve all students in any teaching and learning setting. Conclusion: The findings implied that PETE faculty should cultivate a sense of belonging by connecting to students. PETE students feel welcomed and invited through these specific professor behaviors (Purkey et al., 2020). Thus, faculty may consider conducting a self-study of PETE practice to promote a sense of belonging, which may enhance their welcomed and invited behaviors.

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Keywords: PETE Retention, Belonging, Welcomed, Invited

ID 266 The acceptance of Play-Based pedagogy for Physical Education by parents and teachers: Exploring the facilitators and barriers for educating key stakeholders.

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Non-linear pedagogy in the form of structured play has several benefits, such as supporting motor development, and helping children learn emotional and behavioural control (Ali et al., 2019; Suherman et al., 2019). When focusing on physical education (PE), play-based pedagogy fosters an inclusive environment and allows children to take control of their own learning (Klein & Beach, 2023). Roughly only half of children in the UK, aged 5-7, are meeting the recommended World Health Organisation guidelines for physical activity (PA). Therefore, understanding how to increase enjoyment in PE is necessary, as this experience can affect future PA behaviours. Thus far, research focusing on the implementation of play-based learning in the UK has required high input from researchers to ensure the programme is followed, which is not feasible in the long term. Therefore, research considering how well such a programme would be adhered to with minimal input is essential. The aim of this study was to determine the acceptability and feasibility of a play-based PE programme. The focus of this study was on key stage one lessons (ages 5-7). Two schools in England took part, with a total of four year 1 classes, and four year 2 classes. The programme consisted of teachers taking an online Continuing Professional Development (CPD) course run by BOING, an organisation that uses active

and inclusive play to focus on developing children's physical literacy. Following the CPD, teachers were asked to deliver play-based PE sessions for six weeks. Simultaneously, parents were provided with a support booklet that included weekly home play-based games, which could support the children's PE lessons. Both parents and teachers were asked to complete questionnaires created using a COM-B framework to assess capability, opportunity, and motivation for play-based PE. In addition, follow up interviews were conducted with teachers and parents. In total, 15 teachers and 14 parents completed the questionnaires, and four parents took part in interviews. Quantitative and qualitative data will be presented regarding teachers and parents' perspectives of play-based PE. In addition, discussion regarding teacher engagement with the CPD and play-based PE will be included, demonstrating the difficulties with regard to engaging UK primary schools with changes to their usual delivery of PE.

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Keywords: Physical Education, Play-based pedagogy, Professional development, Parents, Teachers

ID 268 Tech in the Gym: Exploring Preservice Physical Educators' Perception of Their Preparedness to Integrate Technology

Omar Albaloul (Arizona State University/Kuwait University) & **Mirka Koro** (Arizona State University - Tempe, AZ)

Introduction/Background: Research underscores the significance of technology in enhancing students' engagement in physical education. The rapid advancement of new technologies has led physical education teacher education (PETE) programs to train teachers to integrate technology into physical education. However, to date, little is known about physical education teachers' perceptions of their preparedness following PETE to integrate technology into physical education.

Purpose: Guided by the constructivist theoretical perspective, this study aimed to explore preservice physical education teachers' perceptions of their preparedness to integrate technology into physical education.

Method: Eight preservice physical education teachers from the College of Basic Education (CBE), the only institution offering a PETE program in Kuwait, participated in this study. Semi-structured interviews were conducted, each lasting 40-55 minutes. Subsequently, the transcribed interviews were analyzed using thematic

analysis. The reliability of the interview data was ensured using member checking and peer debriefing.

Results: Three themes were generated from the qualitative data: a) perceived neglect of PE-specific technological training, where participants felt their training lacked PE-specific applications, which left them feeling unprepared; b) challenges in bridging theory and practice, where participants stated they were trained on the theoretical sides of technology but did not learn to or practice applying it in the gym; and c) outdated content and pedagogy not aligned with current technological advancements, where participants expressed concerns that the teaching content and methods they learned did not match the latest technological advancements.

Conclusion: This study indicates that Kuwaiti preservice PE teachers perceive their preparedness to integrate technology into their teaching to be lacking, highlighting the need for the CBE to introduce PE-specific technological training, address the gap between theory and practice, and continually update content and pedagogical approaches corresponding to technological advancements.

Keywords: Technology, preservice, physical education

ID 448 Comparing the Impact of the Sport Education Model on Student Motivation in Kuwaiti and American Students

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Background: Sport Education (SE) stands as the most researched pedagogical model in physical education. While researchers have consistently underscored its capacity to improve student motivation in physical education, a gap remains concerning its implications in Arab nations. Moreover, no studies have been identified comparing the outcomes of SE between the U.S., where the model originated, and other countries.

Purpose: This study was conducted to (1) determine the impact of SE on Kuwaiti students' motivation, (2) determine any differential effects of SE on Kuwaiti and American students' motivation, and (3) explore students' perceptions of SE in both countries.

Methods: A replicated mixed methods quasi-experimental pre-test and post-test design was used. Participants were 33 middle school students (9 girls and 24 boys; ages 10-11) from two classes in southwestern US, and 37 middle school students (12 girls and 25 boys; ages 11-12) from two classes in Kuwait. Both sets of classes across the two countries were instructed by the same teacher who was trained in teaching SE. Student interest/enjoyment, perceived competence, effort/importance, and pressure/tension were measured using the Intrinsic Motivation Inventory

instrument (IMI). Student perceptions of SE were assessed using a group Semi-structured interview. Quantitative data were analyzed using repeated measures and mixed ANOVAs followed by t-tests. Qualitative data were analyzed using a thematic analysis technique. Results: Kuwaiti students' interest/enjoyment, perceived competence, effort/importance, and pressure/tension scores significantly improved in the group that taught using SE only. Comparing the impact of the SE on students' motivation between the two countries showed no significant differences. The interview data provided further support for the IMI results.

Conclusion: SE can be effective in increasing Kuwaiti students' motivation in physical education. This motivating effect of SE consistently observed across both Kuwaiti and American students.

Keywords: Sport Education¹, traditional ², Physical Education³, Motivation⁴, intervention⁵.

ID 287 The impact of COVID-19 on Physical Education pedagogy and curriculum design

David Savage (UEA)

Physical Education (PE) is by nature a practical subject and one which more often than not requires being in the same space as others. With the impact of COVID-19 forcing a change in schooling, lockdown learning required young people and educators alike to place themselves in front of a screen for long periods, an obvious challenge in PE. This is echoed by Tozer (2021) who suggests that those outside of the profession are unsure and unaware of the importance PE has on the nation's children. With the return to school and some normality returning, the impacts of COVID-19 can still be felt.

PE teachers (n=40) in East Anglia were contacted and asked about their PE provision and curriculum design. Whilst schools often have and follow a different curriculum, it might be expected that during and shortly after a pandemic, these would align more closely with one another, especially given the guidance issued.

From the data gathered in this study, it would appear that teachers still had autonomy over their lessons and the freedom to deliver what they felt was appropriate for their pupils. Perhaps unsurprisingly, it was highlighted that engagement was different to that of usual in-person PE lessons. Furthermore, different sub-groups also acted differently. It is suggested that understanding and maturity play a big part in acceptance of a situation. Many participants not only spoke about the physical impact of COVID-19 on pupils' wellbeing and physical activity being a 'de-stressor', but highlighted the psychological and social aspects too.

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Keywords: Physical Education, COVID-19, schools

ID 305 Moving - Moving to - Moving to be - Moving to be moved

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Introduction

We engage in learning activities, focusing on targets and results, easily excluding sensory information that informs us to breath, eat or move. Do we choose to do so, or are we just reacting to our learning environment without critically examining or choosing our responses? This might indicate the existence of unsustainable responses in relation to our coordinative process in daily learning activities in school. With this study I wish therefor to understand and articulate these possible unsustainable movement responses. The intention with this study is to increase our understanding and choice of movement responses to sensory feedback, by studying the transferal processes between stimuli and response. This means to explore seemingly disconnected or non-constructive sensory interrelation or what might be seen as sustainable movement responses. A challenge within this project is to phrase this movement into writing.

Theoretical frame and aim
Sustainability is understood as the human organism's process to maintain itself or to recover its potentialities on a long-term basis, in the sense of long-term viability. Movement is seen as always present, in a continuous interaction with the environment. The purpose of the study is to increase knowledge about ways of understanding sustainable movement, imbedded in, but not specifically bound to epistemological theory. This is done by exploring movement process, and choices of existing movement responses. In focus are micro-movements, usually ignored, though continuously integrated in on-going sensory feedback-loops. Attention is directed towards how processes of movement learning support sustainable movement. Within that, the study is looking for a constructivism in our human organism, an organic organization that supports sustainable movement.

Method and considerations
The study is informed by a hermeneutic understanding to find an articulation on micro-movement. The writing is done with strong process orientation. Methodologically, the principle of reflecting to re-order as well as to condensate material is essential throughout the writing process. Autoethnographic observations of movement explorations are used in the process of transforming present momentary motion of sensory feedback into a textual format. Included in the observations are stimuli, sensations, and responses, all forming a flow of signs or letters, maybe even a sketch, creating a form on a paper or screen. As one can only say with a given language what the language permits, the study's findings are presented in a generative way, with an explorative and poetic approach to language. Relevance The relevance for this study lies in possible implementation and use of a more sustainable movement practice in school, with the intention of including movement related

learning in a comprehensible, graspable, and sustainable way when learning in school. In the iterative process of learning movement this study hopes to point out “the what and the how”, and through that the ability of making choices. In result we may gain access to our moving organism in the very process of learning, and consequently make possible choices to move constructively in relation to the present inner and outer environment.

Keywords: Sustainable Movement, Responses, Sensory feedback. Micro-movement

ID 313 A Case Study of Physical Education Teacher Change in Attitudes Toward Social Emotional Learning Through Professional Development

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Introduction: Social-Emotional Learning (SEL) has been targeted as a need in education due to societal changes such as shared trauma of experiencing the COVID-19 pandemic. Where many subject areas primarily focus on teaching to the cognitive domain, physical education (PE) teaches to the psychomotor, cognitive, and affective domains. Aligned with SEL, the affective domain prioritizes behavioral, social, and emotional skills that closely reflect similar learning objectives. Although SEL has been taught in physical education through models such as Teaching Personal and Social Responsibility and Adventure Education, to integrate SEL effectively and intentionally into all PE teaching practices, it is imperative physical educators participate in quality professional development (PD) to cultivate a positive learning environment and provide students authentic learning experiences. Roster (2019) found educators given the opportunity, or required, to do SEL PD, had a higher rate of job satisfaction. In addition, Roster believed that teacher burnout and desire to leave the profession can be reduced by gaining tools for self and students through SEL courses. Utilizing Guskey’s Model of Teacher Change (2002), this study explores changes in teacher practice, changes in teacher attitudes and beliefs, and changes in student learning outcomes through an SEL PD.

Method: Purposive sampling was employed by recruiting three physical educators at a middle school in a Midwest state in the United States of America. Participants completed a 6-week online asynchronous PD. Data collection was executed through three rounds of focus groups and six guided journal entries. Data were analyzed through Collaborative Qualitative Analysis (Richards & Hemphill, 2019) via thematic analysis (Patton, 2015) utilizing deductive and inductive methodology.

Results: Five main themes were found: a) teachers suggest a need for change in PD, b) self-awareness and self-management were a primary focus, c) teachers provided examples of how to integrate SEL into their self-practices, d) strong recognition of natural integration of SEL into PE, and e) participants had specific takeaways from SEL PD in connection to their realities of their teaching context. Conclusion: This study demonstrates the possibility of utilizing content specific PD on SEL, increasing understanding and integration of SEL within PE. This could change beliefs and

attitudes towards the topic, impacting student learning outcomes in the affective domain.

Keywords: professional development, social emotional learning, teacher change

ID 330 Action Research as an approach to develop teaching materials for meaningful Physical Education

Anne Wolff Jakobsen (University of Southern Denmark) & **Annemari Munk Svendsen** (University of Southern Denmark)

The last decade international researchers have been particularly interested in Meaningful Physical Education (PE) as an approach for teaching and learning (Fletcher et. al., 2021; Kretchmar, 2006). However, there is limited guidance for teachers on how to promote meaningful experiences in PE (Fletcher et. al., 2021). In the project "More meaningful Physical education in primary school", we aim to generate knowledge of what characterizes and supports meaningful experiences in PE for pupils in Early Primary schools in Denmark and translate this into concrete tools. This poster will primarily present experiences from this action research project which resulted in six pedagogical recommendations that guided the development of a teaching-material for PE.

The project is designed as an action research project because it revolves around changes in practice based on the practitioner's experiences and visions (Kemmis, 2009; Reason & Bradbury, 2008). Through iterative cycles of practical experiments and critical reflection, 29 teachers and pedagogues from four Danish schools collaborated with a team of researchers in the development of six pedagogical recommendations to promote meaningful experiences in PE in Early Primary Schools in Denmark. Through 21 workshops the teachers in collaboration with researchers developed and tried out different teaching strategies, activities, and principles. These actions were informed by theoretical input about Meaningful PE and the teachers' own experiences. The process was challenging but constituted an important starting point for the development of a formalized teaching material, which aims to support teachers and pedagogues' planning and teaching practice on creating meaningful experiences in PE. The teaching material was tried out by teachers and the activities were evaluated by pupils. The teaching material consists of three courses: i) Play and collaboration, ii) Circus school and iii) Pirate school.

This poster will present the process and the challenges we met during this research-project. It will also give an overview of the three teaching materials that became the result and discuss this in relation to the concept of pragmatic validity (Kvale & Brinkmann, 2009).

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Keywords: Actions Research, Teaching Materials, Meaningful Physical Education, Sport Pedagogy

ID 340 Learning to teach using the Sport Education model across two progressive practicum experiences during a physical education teacher education program.

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Background. Despite an extensive body of knowledge demonstrating the efficacy of the Sport Education (SE) model in delivering on student learning outcomes, there remains a dearth of research that has theoretically explored how pre-service teachers learn, interpret and deliver the model. Previous research using the lens of occupational socialization has shown learning to teach SE comes with feelings of satisfaction but pre-service teachers (PTs) need to be provided with ample opportunity to experience and practice the model (McMahon & MacPhail, 2007). The purpose of this study was to use the occupational socialization perspective to examine the reasons why PTs delivered specific features of SE during two progressive school-based practicum experiences.

Methods. Participants were five preservice teachers (PTs) from a university physical education teacher education program in the USA. PTs participated in two individual semi-structured interviews at the end of each of the practicum experiences reflecting on their use of SE (i.e., range of 2-4 units; minimum of 12 lessons within each unit), support and barriers to implementation, and their intended future use of the model. In-depth qualitative content analysis were conducted on the interview transcripts using open, axial and selective coding techniques with trustworthiness established through processes of credibility, dependability and confirmability strategies.

Results. Response trends revealed PT support for their implementation of the model with team sports content. The provision of SE unit plans and knowledgeable cooperating teacher support were both identified as key facilitation aspects for the delivery of the model. The structures of SE including the use of consistent team

points, use of roles and team affiliation were the most commonly reported features across both practicum experiences. Student engagement and role performance served as important reinforcers for continued use of the SE model. PTs reported challenges in adapting the student roles and team structure to individual activities.

Conclusions. PTs reported success in delivering key features of the SE model within progressive school-based practicum contexts. Their sustained use of the model was motivated by the students' engagement with their roles and the team affiliation structure of the seasons. Content centered on individual activities presented the PTs challenges in terms of their implementation of some of the key features. The relationship between gaining competency in delivering SE and the developmental phase of the PTs needs further investigation to increase motivation for future use and to reduce watered down versions of the model. Future research is also needed to track PTs use of the SE model as they transition into the organizational socialization phase of their career as beginning teachers.

Keywords: Sport Education model, Pre-Service Teachers, Occupational Socialization

ID 367 Self-efficacy among physical education teacher education students in Mexico

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Self-efficacy can be defined as the perception or personal belief that is based on each individual's abilities or skills performed in a specific situation. These self-efficacy beliefs have great influence in each individual's thoughts, feelings and behavior (Bandura, 1995). However, currently there is an increased interest in this particular topic within physical education/activity researchers in Mexico, since it can help to determine the ability that individuals have to face different struggles on a daily basis. As such, the aim of this study was to determine the self-efficacy levels and health-care among higher education students in a physical education teacher education undergraduate degree and compare between students that practice physical activity and those that do not practice. A cross-sectional, descriptive and non-experimental study was conducted. A total of 1305 students from a physical education teacher education program among 18 and 26 years of age participated. A self-efficacy and health-care questionnaire (Blanco et al., 2016) was applied. This questionnaire has 28 items and is divided in 5 categories: 1) nutrition care, 2) exercise, 3) tobacco consumption avoidance, 4) alcohol consumption avoidance, and 5) coping with problems. The items manage different stages: current stage - responding to the context; ideal stage - wishing to perform specific behaviors; and change stage - effort to change a specific behavior. A statistical and descriptive analysis was conducted. A multivariate analysis (MANOVA) followed by an analysis of variance (ANOVAs). This

analysis was conducted to compare differences among students that practice and those that do not practice physical activity. All analyses were made through the SPSS version 21.0 and a statistical significance of $p=.05$. Results from the MANOVA indicated global significant differences among the physical exercise items according to the practice of physical activity/sport variable (Lambda de Wilks = .910; $p< .001$; $\eta^2 = .090$) and between the means and standard deviations of the physical exercise factors of current abilities (H), interest in physical exercise (I), changes in physical exercise (C), dissatisfaction in physical exercise, improvements in physical exercise. These results revealed that students that practice physical activity/sport obtained significantly higher scores compared to those who do not practice physical activity/sport among the variables H, C and I. Being the dissatisfaction variables and improvement among students that practice physical activity/sport lower to those that do not practice. It can be concluded that students that do not practice physical activity/sport show a lower self-efficacy in these areas and lower dissatisfaction in their current stage, but willingness to change it. As such, it provides an opportunity to intervene among these students in order to improve their self-efficacy behavior and change their lifestyle in the long run.

Keywords: self-efficacy; health-care; physical education teacher education; physical activity

ID 433 Well-being concept perceptions by actors involved in physical education field

Gaëlle Le Bot (Université de Lorraine, Faculté des sciences du sport, LISEC)

Introduction and objectives
Well-being is a concept that society and school institutions are embracing nowadays. Well-being is a major objective follow-up by the French National Education Ministry. Well-being was also investigated by educational researchers. Different models of well-being at school are described in research literature. But we can wonder how the concept of well-being is really perceived and integrated by actors involved into physical education field. The aim of this research was to document how the concept of wellbeing in physical education is apprehended and defined by a group of trainee teachers, secondary school teachers and trainers in bachelor's degree of sport and physical education faculty.

Methods

To reach this aim we conducted eleven interviews: three with PE teachers (2 women, 1 man), four with trainee PE teachers (3 men, 1 woman) and four with sport and physical education faculty' trainers (2 men and 2 women). These interviews lasted an average of 30 to 40 minutes. All participants gave their consent prior to the interviews. They were informed that the data would be anonymized and would not allow them to be identified. They were approached on the basis of convenience sampling. We ensured that the sample was diverse in terms of gender and status. We transcribed, coded and analyzed the eleven interviews by two researchers using

a thematic content analysis. To do this, we first coded them separately, then joined our coding. This process, repeated over three interviews (one per participant status), enabled us to adjust the categories identified and the units of meaning. This step minimizes the difficulties and biases associated with coding.

Results and discussion

We have shown as results that the concept of well-being is defined by most of our participants in accordance with the literature as feeling good. The concept of well-being is also defined by this group of participants involved in PE based on seven perspectives: global/local wellbeing, physical wellbeing, mental wellbeing, social wellbeing, emotional wellbeing, personal development wellbeing and ephemeral/durable wellbeing. We discussed these results and 1) the key role that PE can play in putting students in movement, in getting them to move their bodies, which can contribute to producing different forms of well-being; 2) the importance of bodily well-being in linking the physical, mental and emotional dimensions developed in a specific context that leads students to interact with others (social dimension) and to project themselves through action (personal development); 3) the possibility of considering well-being along a spatial and temporal continuum aimed at going beyond the state of well-being experienced in PE to transfer its main dimensions to the different places and moments of students' lives.

Keywords: well-being, content analysis, physical education, secondary schools teachers, teacher education training

ID 442 The development of attitudes and self-efficacy expectations towards inclusive teaching in the professionalisation process of physical education students - a longitudinal approach

Greta Engelke (Leipzig University)

The components attitude and self-efficacy expectation are considered important influencing factors for the successful implementation of inclusive teaching and have been empirically investigated several times in recent years with regard to their effect and significance for teaching in heterogeneous learning groups from the perspective of students and teachers (e.g. Thomas & Leineweber, 2018). However, there is a desideratum in research with regard to qualitative longitudinal studies that shed light on the development of both components in the professionalisation process of prospective PE teachers. In order to fill this gap the present study aims to analyse how and on the basis of which influencing factors the attitudes and self-efficacy expectations towards inclusive teaching of physical education students at Leipzig University develop over the course of their studies. The study is designed as a prospective qualitative longitudinal study with eight survey waves. An innovative method is used to collect the data, the basic idea of which comes from the field of diary studies. The participating students (N=6) have the task of answering given reflection questions in the form of a self-recorded audio file at the end of each semester.

The evaluation is based on Lewis (2007) by systematising the data using a matrix-based method (framework) and examining changes over time.

Preliminary interim results (first and second wave) show that the students consider inclusion to be an important and challenging issue for their future work as PE teachers and attribute a high level of importance to addressing the topic during their studies for their professionalisation process. Personal points of contact and experiences can be identified as potential influencing factors relevant to attitudes, which differ greatly among the participating students at the beginning of their studies. There are uncertainties in relation to dealing with a diverse group of pupils in PE lessons due to a lack of theoretical and practical school knowledge as well as a lack of personal experience. Personality traits such as communication skills, reflectiveness and openness seem to have a positive effect on self-efficacy expectations. Regarding the development over time, the data show initial tendencies that the theoretical and practical examination of the topic of heterogeneity or inclusion within individual university courses can lead to a positive change in students' self-efficacy expectations.

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Keywords: Inclusion, longitudinal approach, physical education students, attitudes, self-efficacy expectations

ID 446 Promoting Gaelic games in Irish primary schools – the perspectives of teachers and external coaches

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There is a strong tradition of Gaelic games within curricular physical education (PE) and extracurricular school sport in primary schools on the island of Ireland. In that context, as the national governing body (NGB) for these sports, the Gaelic Athletic Association (GAA) provides coaching inputs in over 90% of schools. While generalist teachers are responsible for teaching PE in these schools, the involvement of external coaches delivering sport-specific content is also widespread (Mangione et al., 2020). Accordingly, the outsourcing of certain teaching and coaching responsibilities occurs in ways that are similar to what happens in many other countries. Significantly, however, that GAA's contribution is made on a not-for-profit basis; instead, its central focus is on recruitment for community clubs. This research sought to

provide a deeper understanding of the role teachers and coaches play in the delivery of (i) curricular PE, and (ii) extracurricular school sport, in order to provide guidance for policymakers on the development of effective practices in primary schools. The research team generated two data sources: quantitative data collected through a national GAA coaching survey, and qualitative semi-structured focus group interviews.

These interviews were conducted with teachers (n=14), volunteer coaches (n=8) and full-time GAA coaches (n=10) who had responded to the original survey. The qualitative data were analysed using a six-step process to establish key themes (Braun & Clarke, 2021).

Our findings highlight how external coaches contribute to both curricular and extra-curricular activity within the school environment through the development of movement skills and the creation of school-community links. These coaches admitted that their knowledge of PE curriculum content was limited, however. While their presence in schools was broadly welcomed, the data suggest that an emerging culture of accountability is likely to result in greater scrutiny of their activities. Teachers also played a pivotal role in the promotion of Gaelic games within schools but significant differences of opinion were evident with regard to managing competition and inclusion. We also identified clear inconsistencies in practice across the country, pointing to the potential for significant levels of policy slippage. Accordingly, these findings have implications for sports governing bodies and education policy-makers, and may inform the development of government policy for the organisation of PE and school sport.

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Keywords: PE, primary, outsourcing, school sport, coaching

ID 463 The impact of vacation perceptions and activities on secondary PE teachers' professional development and resilience

Seokhyun Hong (Seoul National University), **Okseon Lee** (Seoul National University) & **Geunwon Lee** (Seoul National University)

Background: In the Korean education system, vacations are ostensibly a break in teaching and learning, as there are no regular classes. Therefore, there are criticisms that teachers who do not teach during vacations should be paid "no work, no pay". However, As teachers' professionalism and well-being have a direct impact on students, it is worth paying attention to what PE teachers do for professional development and resilience during vacation.

Purpose: The purpose of this study was to examine secondary school PE teachers' perceptions of and activities during the vacation, and to explore how these experiences impact teacher professional development and resilience.

Methods: This study adopted a multiple case study (Creswell, 2013) method to explore secondary PE teachers' perceptions and activities during vacation and how these activities affect teachers' professional development and resilience. Participants in the study consisted of six secondary PE teachers (Avg experience=8.8 years) through purposive sampling, taking into account geography, gender, teaching experience, and school level to reflect the experiences of a diverse group of in-service secondary PE teachers. Data was collected through semi-structured interviews, and the data was analyzed inductively through a process of description, analysis, and interpretation.

Findings: Secondary PE teachers' perceptions of school vacations were that, although they were nervous about social criticism, they were not a spare period, but rather an extension of education for professional development and teaching preparation. Activities were categorized into four types: (a) formal professional development activities such as conferences and workshops, (b) informal professional development activities such as reading, teacher learning community, and sports skill acquisition, (c) relationship building and life skill acquisition through various leisure activities, and (d) self-care and mindfulness practices through relaxation. These vacation activities influenced PE teachers to (a) strengthen their professional competencies and producing creative teaching ideas through formal and informal professional development activities, (b) expansion of practical pedagogical knowledge through various leisure activities and acquisition of life skills, and (c) maintain an optimal state of well-being through adequate rest and mindfulness.

Conclusion: PE teachers' vacation activities had a positive effect on their professional competence and optimal well-being. Therefore, it is necessary to recognize that teachers' vacation activities can be an important scaffolding for teachers' growth, and it is necessary to study more in-depth and find ways to actively support them.

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Keywords: vacation, professional development, resilience

ID 470 The changing perspectives and practice of assessment in addressing the Physical Education teacher in Taiwan secondary school

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The international agenda for assessment continues to convey a growing interest in assessment for learning (AfL) as a tool to support learning and enhance teaching (AIESEP, 2020). The recent literature on assessment in physical education acknowledges the need for physical educators to integrate AfL into their teaching and assessment practice as an important part of the future development of the subject (Moura et al., 2021). This study explored to what change into Taiwanese Secondary school PE teachers used assessment philosophies to term what they were practicing with respect to assessment in physical education before and after they participated Continuous Professional Development (CPD). This study highlighted that supportive, practical and critical participatory approaches are crucial to encourage PE teachers to question and change their assessment philosophies, and to improve their assessment literacy. We used qualitative approaches to conduct six Taiwanese secondary school PE teachers who was participated CPD more than five year and conducted individual interviews and teaching materials analysis to understand their experiences. Data were analyzed through open coding and constant comparative. It was found that after participating in CPD, most of PE teachers' assessment philosophy have changed. But in practical experience, used previous traditional assessment philosophy to explain new experiences. PE teachers are in conflict over whether the new philosophy is better than the previous one. And they felt doubtful and uncertain about whether they have implemented the new philosophy in the classroom. In conclusion, although PE teachers' assessment philosophy have changed, in practice they are still in a fluid and unanchored stage. This reminds researchers that it is necessary to re-examine the support provided by the CPD system in order to effectively help PE teachers improve their assessment literacy.

Keywords: Continuous Professional Development, Assessment Literacy, Assessment for Learning

ID 490 Participation and its diminishing factors in swimming lessons: A preliminary study

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The aim of the study is to describe participation of students in swimming lessons, what factors effect on students' absence in swimming lessons and how teachers support students' participation in upper comprehensive school and upper secondary level.

The questionnaire survey was delivered to physical education teachers (n=229) in spring 2021 by University of Jyväskylä, Finnish Swimming Teaching and Lifesaving Federation (FSL) and Association of Physical and Health Educators in Finland. Content analyses was utilized, and in the preliminary phase of this study the main goal

was to present the basic factors. IBM SPSS 26 statistical device was used in statistical analyses.

According to the teachers, 76 % of the 7th grade students participated on the swimming lessons. After the 7th grade, the participation decreased to around 70 % in 8th and 9th grade. In upper secondary school participation percent was 64 % and in vocational school 22 %. The factors that effected on the absence were related to the student's willingness to participate. There were various factors, including low self-esteem, shame of one's body, nudity in shower rooms, being in swimming suit in front of others and organising teaching in mixed groups. Also, anxiety and mental health disorders effected on participation. Aquaphobia, shame of ones' ability to swim or lack of it effected too. In addition, bad previous experiences in swimming lessons, religious factors and sense of urgency in moving from school to the swimming hall impact on absence. Teachers tried to support students' participation in many ways. They discussed about swimming lessons, students' feelings and body positivity with students. Teachers tried to create positive and acceptive atmosphere toward swimming and organized to enable to use private shower rooms and different timeslots for shower room. The associations between different factors and quantity of factors are not known yet.

The teaching of swimming skills and water rescue skills is important in upper comprehensive school and upper secondary level due to that Finland is a country of thousand lakes. In the latest research only 55 % of the 6th graders can swim 200 meters in Finland. Swimming lesson research in schools is essential to improve these numbers. Also, students' feelings and experiences on the subject should be investigated.

Keywords: physical education, swimming teaching, participation

ID 496 Adapting to student diversity in badminton, a skill that is built with experience: The use of didactic variable (DV)

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Introduction

Teachers are confronted to an evergrowing heterogeneity between each high-schooler which requires to adapt to student diversity. Adaptability in teaching is expressed through the concept of didactic variables (DV) which is a tool described in francophone didactic. DV are parameters that can be changed in a learning setting in order to learn (Colomb, 1999), like the time needed to do a drill. By changing the DV, teachers can focus on different knowledge and adapt to different students learning. We use DV as a marker to identify whether they try to adapt to diversity. Our purpose is to study the differences between expert and novice PE teachers using DV, in the case of badminton.

Methodology

We have selected a teaching expert and 2 novices. One of the novice (A) was a trainee in his first year of teaching and the second novice (B) was a trainee in his second year. The three of them work in France. We ran 20 minutes interviews before and after each of 2 consecutive lessons with their classes of 14 years old students. The expert had taught badminton for 20 years, B for one year, and A had never. We filmed them during their lessons and asked about their use of DV by using “auto-confrontation” to link their actions and intents. We registered each DV by nature with general DV existing in every teaching situation like time, space, players number and purposes, or with specific to badminton DV, technic and strategy.

Results

The expert prepares 70% less DV (5) than B (8) but more than A (3). Each of them defines the “technic” that has to be achieved, the “level of confrontation” and the “space” needed to do the drill. Only the expert thought of DV beforehand that were linked to the student learning stage. The expert modifies 6 times the technic (2) or the strategy (4), depending on the level of his students. He manipulates the technic for those who face the bigger hardships while the other experience various strategies. A does not modify his situations. B modifies the space (3), the time (4), the score (7) and the racket used (3) without changing DV aimed at technics or strategies. Failing students are the ones having their situation changed by DV.

Conclusion

These 3 teachers use different kind of DV. The expert tends to modify more specific DV while B is using different kind of general DV. A uses DV in his preparation but does not modify his learning situation live. There are 3 different stages in the use of DV : no use “in” lesson (A), then, a great variety to keep the situation “alive” (B) and, then, fewer DV but more specific one (The expert). It shows that the use and purpose of DV could be linked to teachers experience and is way more linked to knowledge than just a way to harden or soften a drill, like it is shown in most of educational work describing the use of DV.

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Keywords: Variable Didactic Adaptation Diversity

ID 520 Theoretical premises regarding the assessment thinking and practice of physical education teachers: a scoping review

Lars Fischer (German Sport University Cologne)

In the light of international student assessments (e.g. PISA), effective learning has received significant attention across all subjects. Accordingly, there is a consensus

that effective teaching requires assessment (Leuders et al., 2022). The purpose of this scoping review was to (a) identify publications regarding the theoretical premises underlying the assessment thinking and practice of PE teachers, (b) systematically map the literature and (c) describe the empirical research on this topic.

The research was conducted in accordance with the methodology for scoping reviews as suggested by Peters et al. (2020). Thus, an a priori protocol was developed using the PRISMA Extension for Scoping Reviews (Tricco et al. 2018). This protocol guided a three-step search strategy, which aimed at locating relevant publications: (1) An initial search of three databases (SPOLIT, SportDISCUS and Web of Science) was performed in order to identify articles on the topic; relevant titles, abstracts as well as index words were used to develop a full search strategy, resulting in (2) an extended search using the following electronic databases: The ERIC, Fachportal Paedagogik, PubMed, SPOLIT, SportDISCUS, Web of Science. The retrieved literature was then screened by two independent researchers for inclusion. Finally, (3) the reference lists of all included sources of evidence were reviewed for additional publications. The findings of this scoping review were charted using the overarching framework by Leuders et al. (2022), indicating that the underlying theoretical premises and correspondent terms used vary greatly, ranging from diagnostic competence to professional vision. Although the topic of assessment has garnered significant attention in the literature, there is limited evidence on the variables influencing the assessment thinking and practice of PE teachers.

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Keywords: teacher education, diagnostics, concepts

ID 538 High-quality primary school PE: exploring the role of specialist teachers

Benjamin Kirk (Sheffield Hallam University)

There is considerable international debate about who is best placed to deliver high-quality physical education (PE) in primary schools. Since 2015 there has been the option in England to train as a primary school teacher with PE specialism and this group of teachers now make up a small but significant number of the workforce. Survey research during their pre-service training has identified that these teachers accumulate more hours of PE-specific tuition, observe and teach more PE lessons, and identify as more confident and willing PE teachers than their non-specialist colleagues. However, there is yet to be any research exploring the specialists' perceptions and experiences once they are in-service. Consequently, this doctoral study adopted a grounded theory approach to investigate how 20 primary PE specialist teachers were employed and how they perceived their PE roles and responsibilities. All participants qualified to teach via a one-year, full-time primary education (5-11) PE specialist post-graduate certificate in education. The sample comprised 13 males and 7 females, roughly reflecting the gender cohort ratio on the pathway. Data were collected via a single semi-structured interview with each teacher, either face-to-face or via video conference call. The findings reveal that many of the participants initially sought full-time, teacher-salaried primary PE teaching roles, but were left disappointed by the scarcity of the positions - only one had successfully secured such as a role. 17 were employed as generalist teachers and two were employed as PE coaches. Those employed as generalists perceived they had four key roles; to teach high-quality PE, to provide PE guidance and support to colleagues, to be a subject advocate, and to be an effective PE subject leader (SL). However, several were frustrated that the more senior, but seemingly less-qualified, incumbent was reluctant to relinquish the PE SL position. Consequently, their PE roles rarely extended beyond teaching their own class and informal, ad-hoc advice to colleagues. In contrast, the PE SLs felt they were positively shaping their peers' practice and pupils' PE experiences across their schools. The PE teacher and the two PE coaches articulated a shared belief that their fundamental role was to facilitate high-quality PE experiences for their learners. They taught all the PE lessons in their school and felt their position enabled them to design and deliver a developmental and integrated curriculum, which considered the individual needs of all their pupils. However, both PE coaches felt undervalued and were deliberating whether they could afford to continue in non-teacher salaried roles. In conclusion, it appears that there is potential for these specialist teachers to significantly enhance PE in their schools. However, without more full-time, teacher-salaried PE roles, and support from school leaders to manoeuvre the specialists into positions of influence, their scope may be limited.

Keywords: primary, physical education, specialism, role

ID 541 Expert rating on the subject of corporeal presence in physical education teacher education. A phenomenological heuristic approach.

Jonathan Knapp (Heidelberg University of Education / Department of Natural und Human Sciences) & **Martin Giese** (Heidelberg University of Education / Department of Natural und Human Sciences)

In the context of the COVID-19 pandemic and the associated limitations on in-person interactions, digital communication methods in physical education teacher education have witnessed an unprecedented breakthrough. Disparities between face-to-face seminars and the physical distance of participants in online seminars raise questions about the significance of corporeal presence in various formats. Nevertheless, the understanding of body and mind often relies on a dichotomous interpretation, in which the body-as-object is instrumentally subordinated to the mind (Brinkmann, 2019). Current educational and pedagogical theories emphasize not only discursive but also corporeal practices, increasingly focusing on the potential of the body-as-subject as a medium for the subjective configuration of interaction situations (Ruin, 2017). This perspective is also reflected in a phenomenologically oriented sports pedagogy, which describes the body as its own organ of reflection (Klinge, 2016). An empirical basis promises insight into how the body is substituted in various formats, enabling a more body-oriented design of learning processes and university teaching. This central research concern will be addressed by exploring the subjective significance of corporeal presence in educational settings through semi-structured guideline interviews. This qualitative instrument aims to illuminate intercorporeal educational potentials and further explore partially overlapping bodily phenomena. The aim of the presentation is to introduce an application example of an expert rating to validate the qualitative data collection instrument. It is shown exemplary how the items have changed to discuss potentials and limitations of the external item analysis. As recommended by Bortz and Schuster (2010), the central tendency as well as the variability of the results are depicted using boxplots. The results of the validation study are mostly positive but also lead to three central revisions, which will be displayed in the presentation.

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Keywords: expert rating, corporeal presence, validation, phenomenological exploration, physical education teacher education

ID 578 Building Self-resilience and Self-reliance through Outdoor Orientation Programs

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Introduction: University freshmen are faced with challenges of making the transition from home to college. Many universities offer outdoor orientation programs to provide resources to navigate challenges. Given the effects of COVID-19 and mental health challenges among students today, there is a need to explore outdoor orientation program's ability to help students gain self-reliance and resilience skills. Specifically, how do students who attend an outdoor orientation program increase their self-resilience and self-reliance?

Method: 32 students were purposely recruited while enrolled in an outdoor orientation program at a US mid-west university. Over five days, they participated in adventure education and outdoor pursuit excursions. Data collection included survey measures of the Resilience Scale, the Mental Health Continuum, and Perceived Stress Questionnaire. In addition, observations, focus group discussions, and questionnaires were also collected. A profile analysis was utilized to evaluate the trends of each construct across time. This involved a repeated measures analysis of variance (ANOVA) and a multivariate ANOVA (MANOVA). Additionally, a thematic (Patton, 2015) collaborative analysis process was applied (Richards & Hemphill, 2018).

Results: Quantitative data displayed a significant interaction between constructs across time (Wilks' $\Lambda = 0.394$, $F = 3.843$, $p = .038$), suggesting a lack of parallelism as perceived stress dropped to a greater degree between the end of the program and the end of the semester. Themes included: peer interaction increased participants perception of college readiness, students overcame challenges and increased confidence in their own abilities, and knowledge of campus and local geography influenced perceptions of comfort in the community.

Conclusion: The trend of perceived stress suggests a need for more opportunities for students to develop skills while navigating challenges across time (Gass, M., et al., 1990). To date, many countries acknowledge the benefits of outdoor education in helping students develop necessary skills such as personal and social development, disruption of social norms, and increases in self-perception and self-concept (Sutherland & Legge, 2016). Physical education preparation programs and K-12 educators in the US, may consider exploring the need for earlier exposure to these programs.

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Keywords: adventure education; outdoor education; mental health; transition programs

ID 586 Investigation of the effect of differential learning approach on football basic skills in 9-10 age group students

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The aim of the study was to investigate the effect of a football skills learning programme for 4th-grade students using the learning with Differential Learning approach on dribbling, ball control and kicking, and small-sided football skills. The research question was formulated as "Does the learning with differential learning approach affect the learning of football skills?" This quantitative research used the field experimental research method with study and control groups including pre-test and post-test models. In this study, the study and control groups consisted of 9-10 year old male and female students who were in the 4th grade of a primary school in Beykoz district of Istanbul province. In the second semester of the school year 2022-2023, the basic football skills training programme was applied to the experimental group for 20 lessons in 10 weeks, two days a week, with two lessons of 40 minutes per day using with the differential learning approach. During this process, the control group had PE and games lessons with their class teachers. Both groups were administered the Dribbling Test, Goal Kick/Pass Test, Ball Control Test and Small-Sided Game Football Skills Analysis as a pre-test at the beginning of the study period and as a post-test at the end of the study period. "The Wilcoxon test was used to examine the differences between the students' pre-test and post-test scores within groups, and the Mann-Whitney U test was used to examine differences between groups. The p-value obtained as a result of the tests was below 0.05 and was considered statistically significant for all tests. There is no statistically significant difference ($p > 0.05$) between the performance scores of the experimental and control groups in the 4th grade PE and games course taught with the differential learning approach. However, there was a statistically significant difference between the pre and post-test scores of the experimental group in the dribbling test, losing the ball from play, attacking with the ball, efficiency index and playing ($p < 0.05$). In this context, it may also be appropriate to teach sports and games with a differential learning approach in classes with heterogeneous groups of students.

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Keywords: 'learning with differences', 'children's soccer', 'physical education and play', 'skills'

ID 694 Physical Education Teaching Efficacy Scale - adaptation for Finnish first year generalist pre-service teachers

Heikki Hurskainen (University of Jyväskylä, Faculty of Sport and Health Sciences), **Arja Sääkslahti** (University of Jyväskylä, Faculty of Sport and Health Sciences), **Mikko Huhtiniemi** (University of Jyväskylä, Faculty of Sport and Health Sciences), **Kasper Salin** (University of Jyväskylä, Faculty of Sport and Health Sciences), **Anne Virtanen** (University of Jyväskylä, Finnish Institute for Educational Research) & **Timo Jaakkola** (University of Jyväskylä, Faculty of Sport and Health Sciences) Over the past two decades researchers have expressed concern about the lack of efficacy and qualifications of generalist teachers to teach physical education (Freak & Miller 2017). Professional efficacy has been recognized as one of the most influential factors predicting teachers' pedagogical decisions and effectiveness (Summers, Davis & Woolfolk Hoy 2017). To follow Finnish pre-service teachers' preparedness and development to teach physical education throughout their studies, a reliable instrument is necessary.

The purpose of this study was to investigate the internal consistencies and bivariate correlations of the seven sub dimensions of the Finnish-translated Physical Education Teaching Efficacy Scale (PETES; Humpries, Hebert, Daigle & Martin 2012) among Finnish first year generalist pre-service teachers (GTE). Participants were first year GTE students (n=282) from six different universities in Finland. Students answered the digital questionnaire modified from the PETES. Seven different sub dimensions of efficacy were included: (1) content knowledge, (2) scientific knowledge, (3) accommodating skill level differences, (4) teaching students with special needs, (5) instruction, (6) using assessment and (7) using technology. Internal consistencies were determined using Cronbach's alpha coefficients and bivariate correlations using Pearson's product moment correlation coefficients. Results

showed that the Cronbach's alpha for each dimension was from 1 to 7 as .76; .82; .94; .93;.93;.92; .91.

Correlations coefficients among all seven sub dimensions were statistically significant and correlations ranged between .59 and .90. Magnitude of the correlations were moderate to high, and Cronbach's alphas exceeded the threshold of .7. These results indicate that the internal consistency of the Finnish-translated PETES is sufficient, and it can be utilized in examining the physical education teaching efficacy in the Finnish teacher education programs. However, the characteristics of the instrument should be further investigated in more detail.

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Keywords: physical education, teacher education, teaching efficacy, pre-service teacher, student

ID 711 Special Olympics as an impetus for inclusion - myth or reality? - An explorative study with prospective physical education teachers

Heike Tiemann (University of Leipzig)

Special Olympics describes itself as a "global inclusion movement" that "changes the lives of people with intellectual disabilities all over the world" (Special Olympics, 2023). Major international sporting events such as the Special Olympics World Games, which take place every four years, are particularly important in this context. These are supposed to contribute to "greater recognition and social participation of people with intellectual disabilities" (Special Olympics, 2023). Whether this claim of the sports movement corresponds to reality or is more of a myth has only been analyzed marginally in sports science research. However, studies of the impact of disability sports events, such as the Paralympics, on public attitudes towards people with intellectual disabilities point to the potential in this regard. (Ferrara, Burns & Mills, 2015). With reference to this research deficit, the present study investigates the effects of the Special Olympics World Games on spectators who are experiencing this sports movement for the first time. The study explores the ways in which this sporting event can contribute to increased recognition of the athletes and therefore how this event can be seen as an impetus that can lead to greater social

participation of people with an ascribed intellectual disability. The qualitative study examines a group of people who play an important role as multipliers when it comes to recognizing different people in sport and enabling them to participate equally in sport (lessons) regardless of stigmatizing attributions. This group consists of prospective physical education teachers (n=13) who visited the Special Olympics World Games in Berlin 2023 over several days and were surveyed using problem-centered interviews. In addition, the students wrote self-reflections about their experiences and impressions before, during and two weeks after their visit to the Games. The ongoing analysis, based on the theoretical background of the social model of disability (Crow, 1996), indicates that the subjects' lines of argumentation changed over the course of the event. These can be characterized by a differentiated perception of the athletes' potential, which is linked to a recognition of their performance. The students' view of the athletes shifted from a more deficit-orientated perspective to a potential-orientated perspective. At the same time, the interviewees also shared observations that made them think about the way society treats people with intellectual disabilities.

Keywords: special olympics, disability sports events, spectator

ID 267 What does it mean to be physically educated? A question of physical intelligence.

Richard Whall (University of Central Lancashire)

“It could be said that walking is a highly intelligent activity. This intelligence, however, is not located exclusively in the head but is distributed throughout the entire field of relations comprised by the presence of the human being in the inhabited world” (Ingold, 2004, p.332).

Intelligence is generally believed to be a property of mind. But what if we think about intelligence beyond the mind? An intelligence reliant as much on body as brain? A holistic intelligence that supports our interactions in a physical world? How might this influence education, and Physical Education (PE) in particular? Intrigued by these questions, I set out on my PhD research journey to explore the concept of physical intelligence (PI) and what it means to be physically educated, seeking to understand these phenomena from both my own perspective and from those with significant lived experience. Guided by a hermeneutic cycle flowing between reflexivity, data collection & analysis and data-driven literature reviews, I gradually shaped a conceptual model of PI to act as a framework for further exploration.

The aim of this presentation is to share the story of the model's development and potential implications for PE. Encountering deeply rooted 'body-as-machine' metaphors and the dualistic hegemony of mind over matter posed significant philosophical challenges, sharing much in common with the roots of physical literacy. However, firmly tying itself to notions of physical activity and stepping away from some of the early philosophical sparring, it is debatable if the physical literacy movement

has fully addressed, for example, “the range of physical capacities that would enable individual persons to make the most of their embodied dimension; enable them to interact with the world and to awaken the huge wealth of potential capacities; help them to become richer persons both in themselves and in respect of that which they know about the world?” (Whitehead, 2001, p.130).

Constructed through multiple revolutions of the hermeneutic cycle, a model of PI was developed emphasising the dynamic interplay between ways of knowing (awareness, experience and environment) and ways of communicating (feelings, thoughts and actions), which work together to help you know about yourself in relation to the world and underpin your resourcefulness to adapt to, or solve, problems through movement. Thinking about PI in this way may help to pick up from where physical literacy left off, providing a framework to help understand how to make the most of our embodied capacities and the ways in which we can interact with the world, beyond physical activity – with significant implications for what it means to be physically educated.

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Keywords: Intelligence, literacy, embodiment, education

ID 176 Meaningful PE: A Scoping Review

Gabrielle Strittmater (University of Illinois at Urbana Champaign), **Kevin Andrew Richards** (University of Illinois at Urbana Champaign), **Tim Fletcher** (Brock University) & **Hannah Huynh** (University of Illinois at Urbana Champaign)

The purpose of this scoping review is to explore current research [2017-2023] descriptively and thematically focused on the pedagogical innovations known as Meaningful PE (MPE) and Learning about Meaningful PE (LAMPE). The research question guiding this review was: what is the current state of the literature related to MPE and LAMPE? This scoping review utilized PRISMA Expansion Guidelines (Tricco et al., 2018) to direct methodological choices. The research team consisted of four individuals who met periodically throughout the process as advised by PRISMA. This scoping review started with a keyword search performed on four common databases. Descriptive information of the scope of MPE and LAMPE were collected such as methods, authors, and participants. A qualitative thematic analysis was also conducted on findings from included studies. Upon completion of the title and abstract screening, a total of (n = 25) empirical studies met the inclusion criteria [LAMPE (n = 6), MPE (n = 19)]. Top contributing authors included Fletcher (n = 14), Beni (n = 11), and Ní Chróinín (n = 10). Articles were published in a variety of journals including *Physical Education and Sport Pedagogy* (n = 7), *European Physical Education Review* (n=4), and *Curriculum Studies in Health and Physical Education* (n=3).

All research studies utilized qualitative methodologies; including but not limited to case study, self-study, and phenomenological research. The cornerstone review of literature on meaningful experiences in PE (Beni et al. 2017) showed evidence of five features that children commonly referred to as contributing to a sense of meaningfulness in PE. These features comprise a framework, which led to research into MPE and LAMPE accelerating. Thematic findings include (a) pedagogical decision making was supported by the structured framework, (b) student reflection promotes awareness of meaningfulness, and (c) implementation of MPE and LAMPE is influenced by teachers' beliefs and experiences. Based on these initial findings, it is important that there is ongoing exploration into the experiences of scholars and practitioners who use LAMPE along with the students who engage with MPE. In particular, the frameworks themselves must be subjected to continued revision and potential expansion.

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Keywords: Physical Education, Meaningful PE, PETE

ID 505 Self-presentation as adaptive athletes – what we can learn from athletes' Instagram posts

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Theory

With social media widely available, traditional media outlets no longer are the only influence on societal beliefs. Therefore, persons from marginalized groups have the opportunity to challenge existing structures through social media¹. The athletes' self-presentations serve to create social identities and can be analysed as social practices². The current state of research on self-presentations of athletes with disabilities can be organised along three categories: As data were used Instagram posts, interviews with the athletes and comments from recipients of the (self-) representations of athletes³. Emancipatory, identity-theoretical and discourse-theoretical⁴ starting points were chosen as theoretical foils. Often the Para-Olympics were selected as the observed form of sport.

Method

In order to overcome this focus, the sport of CrossFit is added to the research, as

there has been major developments in recent years. Adaptive categories were added to the CrossFit Games, as well as new competitions for adaptive athletes. After identifying adaptive athletes through Netnography, Instagram posts (n=8) from said athletes serve as data material. The analysis is based on the documentary Method. First the image and then the corresponding text are analysed and compared with each other⁵.

Results

Preliminary analyses reveal three basic practices of self-presentation: self-presentation as an influencer, self-presentation as an athlete and self-presentation as a person with physical disabilities. The different self-presentation practices can be identified and distinguished from each other in the picture, in the text and in the hashtags used.

Discussion

While social media offers great potential, it can also perpetuate excluding structures. Apart from non-barrier-free access, filter bubbles in particular prevent people with impairments from participating in social discourse on an equal level. In order to overcome these bubbles, as many people as possible should be able to see diverse representations of athletes. One way to achieve this would be to address the topic in educational settings, such as PE classes.

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Keywords: social media; adaptive athlete; CrossFit; self-presentation; Instagram

ID 363 Preservice teachers' health literacy levels and perceptions of teaching capabilities: an Australian case study

Cassidy Kealy-Ashby (The University of Sydney), **Louisa Peralta** (The University of Sydney) & **Claire Marvell** (The University of Sydney)

Research studies focusing on schools and teachers' capabilities to teach and develop students' health literacy (HL) are few. Of the research that currently exists, teachers face difficulties when teaching health education to enhance students' critical HL levels, with only one study examining preservice teachers (PSTs). The aim of this study is to explore one Australian University and two of its undergraduate initial teacher education (ITE) programs and the role that it plays in developing PSTs' HL levels and capabilities to plan for promoting students' HL. Twenty-three final year Health and Physical Education (HPE) and thirty-four final year Primary Education participants completed a Health Literacy Questionnaire. The selected Health Literacy Questionnaire assesses HL as a multi-dimensional concept categorised in nine sections, deemed reliable and valid for young adults (composite reliability range from 0.8–0.9) hence offering a broad and valid understanding of a person's HL capabilities. Current HL levels were found to be higher across all nine sections for HPE PSTs when compared with Primary PSTs, showing medium to very large effect size differences ($d=0.50$ – $d=1.42$), with all but one section reporting statistical significance. Overall, as a group, the HPE and Primary cohorts had lower levels of HL in section 5 (appraisal of health information), which shows that both groups displayed suboptimal levels of critical HL. Five PSTs from each ITE program consented and were involved in focus group and individual interviews which were analysed using Braun and Clarke's inductive approach (2014). Key findings from the interviews expressed concerns in confidence in teaching HL, emphasised the need for ITE programs to focus on developing PSTs' HL levels and to implement authentic opportunities to practice enhancing students' HL. Findings provide insight into the role ITE programs in promoting PSTs' HL before becoming graduate teachers in schools.

Keywords: health literacy, preservice teachers, health and physical education, primary education

ID 576 Fostering competencies for healthy, physically active lifestyles in nursing students: Empirical rationale and study design for a cluster-randomized controlled trial

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Background: Given the shortage of nursing staff in aging societies, it appears increasingly important to ensure high-quality education and appropriately prepare future employees for the multifaceted demands of the vocation. Previous studies have shown that the nursing staff has to master considerable physical activity throughout the day. The concept of physical activity-related health competence (PAHCO) specifies person-related qualities (movement competence, control competence, self-regulation competence) which may act as key mechanisms for ensuring work ability by quantitatively and qualitatively managing these physical demands. Interestingly, PAHCO has been included into the 2020 state curriculum for nursing education in Bavaria, Germany. The goal of the present study was to (a) analyse the work ability of nursing students and (b) investigate the role of the school level for characterizing students' PAHCO to derive potential intervention components across the spectrum of setting-based physical activity promotion. Methods: We adopt a multi-level approach with the baseline data of the TakeCare! Study treating the 'students' as the first-level factor and the 'schools' as a cluster variable on the second level. While including a Kenward-Roger correction to account for the sample size on both levels, we extracted the intraclass coefficient (ICC) to inspect the relevance of cluster effects. We descriptively analysed the distributions of students' levels of PAHCO (via PAHCO questionnaire) and work ability (via the WAI-r assessment). Results: We recruited a total of 380 vocational students for the baseline analyses (age 25.87 ± 9.3 years, 75.3% female, BMI $25.2 \pm 5.8 \text{ kg/m}^2$). Despite the age and vocational experiences of the target group, we registered the following distributions for work ability: poor 4.4%, moderate 40.1%, good 44.5%, and very good 11.0%. In summary, we recorded small cluster effects for movement competence (ICC = 0.042), control competence (ICC = 0.025), self-regulation competence (ICC = 0.057), and work ability (ICC = 0.058). Discussion and outlook: The schools as clusters take small role for describing individual levels of PAHCO and work ability. However, evidence is still lacking regarding the most convenient school-based intervention approach for promoting PAHCO. In this regard, intervention research offers a multitude of potential approaches, spanning expert-driven intervention approaches ("top-down") and participatory approaches ("bottom-up"). Therefore, we will apply a cluster-randomized controlled trial with 16 schools across four different study arms (balanced assignment): one bottom-up group, one top-down group with delivery by teachers, one top-down group with delivery by external physical activity experts, and one control group. The results will lead into evidence-based recommendation to sustainably disseminate PAHCO in the Bavarian nursing school landscape (n = 185 schools).

Keywords: Health Literacy, Physical Activity, Job Training, Education, Physical Literacy

Venue: C-BUILDING

Theme: Pedagogy and didactics in physical education

ID 40 Perceptions of Collaboration between general and special educators in Physical Education

Christopher Mihajlovic (Rohräckerschulzentrum Esslingen)

The educational field traditionally distinguishes between general and special education in educational practice, which leads to different perspectives and positions with different roles and aims towards inclusion in collaborative school practice. Cross-professional collaboration can be regarded as an important feature of inclusive classroom practices, especially concerning the provision of support for children with disabilities. However, little research on collaborative practices between special and general educators in the PE context has been conducted in Finland and internationally.

This article describes the perceptions and experiences of collaborative practice between subject teachers of PE (n=3) and special educators (n=3) on teaching pupils who have been granted special support. Using a qualitative approach, the study seeks to establish the nature and extent of collaboration amongst these teachers and to identify the benefits and barriers to implementation. Semi-structured interviews with the study participants were used as the main data source. Data were collected from teachers working in the public school system in the southern part of Finland. Considering that the aim of the study was to examine collaborative practices, educators with several years of experience in cooperation were selected.

The interviews have been content-analysed adopting a deductive-inductive approach. The findings indicate that whilst teachers are mostly aware of the value of collaboration, its implementation varies immensely among the different schools. Both professional groups usually played their traditional positions in the teaching activities.

While the special educators in this study see themselves mainly responsible for supporting pupils with disabilities, the PE teachers showed a strong commitment to the subject matter of their teaching. Participants also reported several challenges relating to time constraints and a lack of classroom support. Overall, this research identified the important role of collaborative structures and cultures which requires critical reflections of the individual aims and a shared vision of inclusive teaching.

Keywords: inclusion; physical education; special education; pedagogies

ID 153 Influence of a digital analysis tool on the game tactical knowledge and skills of primary school pupils

Marco Steger (University of Education Freiburg) & **Anne-Christin Roth** (University of Education Freiburg)

Introduction

Game-based approaches to teaching sports games aim at achieving game skills and understanding (Barba-Martín, Bores-García, Hortigüea-Alcalá & Gonzáles-Calvo, 2020). One component of this is the mastery of basic tactics. A central component of this is the recognition and exploitation of gaps in the sports game to circumvent an opponent's obstruction (Memmert & Harvey, 2010). This ability is based on the concept of the coverage shadow, whose understanding not only allows gap recognition but also provides information about possible and impossible passing routes. The fact that the coverage shadow is not visible in sports games can lead to problems in learners' imagination and understanding of this concept. This cognitive issue is intended to be reduced by drawing the coverage shadow and the resulting running and passing paths on a still image of a previously recorded game scene. Through a continuous alternation between play and reflection phases, mental representations of the coverage shadow are to be generated, expanded or changed. In the experiment with a one-factor, two-stage design, the experimental group analyzed their own recorded game scene and, based on a small-group discussion, sketched the coverage shadow and the resulting passing/running paths. The control group, on the other hand, analyzed a re-enacted game scene without the use of a digital tool. A knowledge test was conducted before and after the study to assess the game tactical knowledge of elementary school pupils (N=202). To evaluate game tactical skills, the recorded game scenes were quantitatively analyzed. A multilevel analysis showed no significant difference ($p=.78$) between the experimental group and the control group in terms of game tactical knowledge. Additionally, no correlations between gender ($p=.18$) and previous experience ($p=.65$) with game tactical knowledge were found. Initial results from the data on game tactical skills, which are still being analyzed, suggest a greater increase in performance among pupils with lower scores in the pretest. The preliminary results provide cautious indications that understanding the coverage shadow on a declarative level does not necessarily imply its correct procedural application.

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Keywords: tactics learning, digital tool

ID 164 Teaching Methods for Sustainable Learning Education in Secondary School

Berit Bremert (German Sports University Cologne)

In a complex and challenging world, the essence of Sustainable Learning Education (SLE) is to create and disseminate sustainable curricula as well as learning and teaching methods that equip people with the skills and dispositions to make a positive contribution to making the world a better place. There are several key skills that are desired learning outcomes, e.g. critical thinking, problem-solving, reasoning, judgment, imagination, collaboration, and reflection (Hayes & Reinders, 2020). In general, SLE is a new term, so the scientific discourse on concretization is still pending (Ben-Eliyahu, 2021). Therefore, the aim of the research was to specify teaching methods used worldwide in the context of SLE in secondary schools. A scoping review was carried out to find possible methods for SLE (Elm et al. 2019). Therefore, only articles focusing on teaching methods were included. The time frame for inclusion results was published between 2015 and 2022 because new demands on teaching methods became politically relevant after the adoption of the 2030 Agenda for Sustainable Development by all United Nations member states in 2015. Furthermore, studies were excluded from the review process if they did not focus on secondary education. The consideration is that students in primary education aren't yet expected to achieve the same set of skills and not all individuals will attend tertiary education and universities may have access to specific program-related resources. After screening the results from Eric and Web of Science, eight articles were included in the scoping review, presenting five different teaching methods. Overall, this confirms the paucity of studies on the topic, because only eight from nearly 3000 articles were included.

Although sustainable education is a global approach, the review shows that the methods are mainly promoted in North America and Europe. The identified methods included forms of mapping, storytelling, learning outside places, and augmented reality and thus show a variety of possible approaches to achieving sustainable skills. Not all methods are empirically validated and therefore require further research to confirm the effectiveness of the presented methods. The poster presents the approach of Sustainable learning in education and the findings of the review as well as possible follow-up research.

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Keywords: sustainable learning education, education for sustainable development, didactics, learning methods

ID 199 Implementing digital technology in physical education. How does it influence pre-service teachers' rhetoric of teaching?

Ingvild Eia Linnestad (Norwegian School of Sport Sciences), **Håkan Larsson** (Norwegian School of Sport Sciences) & **Petter Erik Leirhaug** (Norwegian School of Sport Sciences)

The aim of the study is to investigate how the teaching rhetoric of physical education (PE) is influenced by the implementation of digital technology. The relationship between the teacher and the content is our main focus, and we refer to the teacher – content axis in the didactical triangle as the rhetoric aspect of teaching (Augustsson & Boström 2016, s. 5). This relationship is about the teacher having an area of knowledge (the content) and an ability to present it (Augustsson & Boström 2016, s. 5). Our qualitative analyses is done on pre-service teachers reports from lessons they have delivered during their teacher-training in upper secondary school. We have analyzed 19 student reports looking for descriptions of how the pre-service teacher understands and presents content when digital technology is included in PE. The reports contain detailed descriptions of the pre-service teachers perspective on the use of digital technology, the type of technology being used, how technology has been included in the lesson, as well as reflections after having positive and negative experiences with the use of digital technology. In analyzing the data, we have followed the principles for a thematic analysis as described by Braun & Clark (2021). We have further used the didactic triangle as a theoretical framework to help us discuss particular aspects of teaching. Finally, we are embracing Dewey's concept of transactions when we consider what is true about pre-service teachers' rhetoric of teaching being displayed through their actions and choice of digital technology (Quennerstedt, 2013). Our results show that how and what is communicated as content by the pre-service teacher is affected by the type of digital technology being used. The experience from using digital technology as a way to engage the students was more positive when digital technology supplemented the teacher's overall communication of content, and more negative when the pre-service teachers relied on technology to "do the job". We also found that when considering the use of technology, the pre-service teachers greatest concern was to reduce the amount of physical activity for the pupils and contribute to increasing overall screen time for youth. In our discussion we debate whether pre-service teachers' rhetoric of teaching is affected by their exploration of digital technology in teacher education. We conclude by suggesting how teachers can highlight content in PE supported by the use of digital technology.

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Keywords: Physical education, digital technology, teaching rhetoric, didactics

ID 244 The experiences of Physical Education teachers traversing the pedagogical shift to Models-based Practice.

Samuel Faulkner (Loughborough University), **Ash Casey** (Loughborough University) & **Rachel Sandford** (Loughborough University)

Within the field of Physical Education (PE), Models-based Practice (MbP) represents a shift from the much-maligned multi-activity, sports technique approach towards alternative curriculum, teaching, learning and assessment practices. Using established pedagogical models (such as sport education and cooperative learning) MbP has the potential to serve as a vehicle for teachers to shift pedagogically. However, little is known about either their experiences or the perceived outcomes of such as change. The aim of this study, therefore, was to understand the experiences of teachers transitioning to a MbP approach in PE.

The primary data collection method was semi-structured interviews over an 18-month period. This enabled insights as participating teachers (N=5) comprehended, conceptualised, and subsequently implemented MbP in their schools. In addition to interviews, document analysis offered situational insights into the planning and preparation associated with the transition.

The analytic method drew upon principals of both Grounded Theory and Thematic Analysis. Thematic Analysis techniques were applied to complement and reinforce the themes and concepts identified through the primary method of Grounded Theory. This inductive approach to analysis resulted in the development of the following themes:

A desire for more collaboration: Teachers reported the need for further collaboration prospects. Currently opportunities for collaboration were, at best, infrequent. This led educators to express a desire for more extensive collaboration not only within academic circles but also with fellow teachers from diverse backgrounds.

A desire for more education: Teachers relied on past teaching experiences and of more conventional approaches to teaching due to the lack of MbP education available to them. In some cases, this was due to convenience and lack of knowledge available when it came to the chosen models and combining them. Further

resources on MbP implementation could aid in implementation across different contexts.

Distinct pedagogical planning styles in implementation: Across teachers, planning was seen to be inconsistent, with approaches often being split into highly structured or moderately structure style of planning. Moreover, it was evident that select teachers within specific academic departments assumed leadership roles in the planning process. This allowed them to attain a heightened level of comprehension and proficiency compared to their counterparts.

Overall, teachers' experiences in adopting MbP reflect a dynamic process characterised by adjustments, the pursuit of effective planning strategies, and the aspiration for collaborative support. Participants found themselves grappling with the intricacies of pedagogical models to cater to their students' diverse learning needs whilst attempting to ensure the delivery of a well-rounded educational approach.

Keywords: Models-based Practice, Pedagogical models, Curriculum models, Instructional models, Holistic development

ID 290 The Distance teaching and learning in PE class during the Pandemic

Mari Kääpä (University of Jyväskylä, Faculty of Education and Psychology), **Terhi Huovinen** (University of Jyväskylä, Faculty of Sport and Health Science) & **Alicia Fedewa** (University of Kentucky)

Introduction

During the spring of 2020 the entire world experienced the shutdown of the COVID-19 Pandemic. The schools were closed, and distance teaching became the new reality. Finland was no exception. Leading Physical education (PE) classes remotely is a challenge for any teacher. The aim of this study was to evaluate the distance-teaching methods that PE teachers used during the lockdown period, including planning, teaching, and assessing and to determine which methods proved most engaging for students.

Method

In May 2020, PE teacher interviews were conducted and recorded by video-conference-sessions (N=15) and supplemented with questionnaire answers (N=51). The participants were identified from PE teachers' Facebook sites and through researchers' personal contacts. The data consists of experiences in using active PE assignments done at home and the feedback from students that teachers received. The analyzing process followed the qualitative content analysis (QCA) strategy and statistics from questionnaires added the knowledge about used teaching aids and methods.

Results

PE teachers felt distance teaching was more burdening than usual teaching at school. The most common way to give PE assignments was once a week (56%), daily

assignments (36%) and following the normal school schedule (36%). The PE teachers felt that they succeeded in following curriculum requirements during distance teaching, but teaching skills was challenging and teaching social skills was impossible according to survey results. There were several challenges in PE evaluation during distance teaching that were also identified from teachers as well during the Pandemic. Based on students' feedback, outdoor tasks, different assignments to choose from, assignments with family members and the option to be done within their own schedule were the most popular among students. Some students even preferred distance learning to attending school.

Conclusions

Following the curriculum requirements was challenging but PE teachers found creative ways to teach successfully during the distance-teaching-period. Teachers felt that these newfound digital skills acquired from navigating distance learning will enable diversifying their teaching abilities in the future. The distance teaching required more personal contacts with students to build relationships as well as required teachers to address students' performances and challenges individually, which ultimately provided PE teachers' with more personalized knowledge about each student. The students' feedback revealed that in addition to actual physical education tasks, they had learnt digital skills, taking responsibility for their own learning, and increased self-knowledge, indicating that when done well, distance learning in a PE class can have benefits for both student and teacher.

Keywords: physical education, distance teaching, learning remotely, Pandemic

ID 320 Relationships between Teachers' Self-Efficacy Beliefs and Interstudent Bullying in Finnish Physical Education

Juha Kokkonen (JYU), **Arto Gråsten** (United Arab Emirates University), **Al Ain** (United Arab Emirates) & **Marja Kokkonen** (Jyväskylän yliopisto)

Introduction: Bullying is a complex multidimensional phenomenon among school-aged children (Nansel et al., 2001). In schools, bullying is partly dependent on class-level risk factors such as teachers' self-efficacy (TSE) beliefs (Guimond et al., 2015), which, in physical education, have been found to be associated with teaching practices (Pan et al., 2013), teachers' creative thinking (Xiong et al., 2020), and teachers' adoption of a new curriculum (Gorozidis & Papaioannou, 2011). However, the education system has neglected the relationships between TSE and teachers' perceptions of effective learning objectives promoting students' growth towards humanity and ethically responsible membership in society (Teraoka et al., 2021). Therefore, this study examines the effects of TSE beliefs on teachers' perceptions of interstudent bullying in PE.

Method: The sample comprised 175 PE teachers (122 females, 53 males), aged between 27 and 62 years, recruited from eighteen regions in Finland. We used a person-oriented approach to explore clusters of PE teachers with homogeneous

teaching-efficacy profiles. Additionally, we investigated the relationships between TSE profiles and teachers' perceptions of interstudent bullying including covariates of teaching level, teaching experience, tertiary education, gender, and age.

Results: Physical education teachers with low teaching-efficacy profiles reported more frequent interstudent bullying in PE than teachers with intermediate and high profiles. Regarding the low teaching-efficacy profile, tertiary education emerged as a significant covariate for bullying; PE teachers with a master's degree in sports science scored interstudent bullying frequency higher than teachers with other degrees. In the intermediate profile, younger and more experienced PE teachers reported more frequent interstudent bullying than older and less experienced counterparts in the same cluster.

Conclusions: Organisations responsible for teachers' education and voluntary professional development must consider the diversity of TSE, regarding teachers' age, teaching experience, and educational level, by tailoring pedagogical practices to guarantee bully-free PE for all students.

Keywords: physical education, latent class analysis, teaching background, beliefs, bullying

ID 343 "EP - Active Living": Evaluation of the usefulness, usability, and acceptability of a mobile application designed for upper secondary school physical education

Alexandre Mouton (University of Liege), **Marc Cloes** (University of Liege), **Marie Cambresier** (University of Liege) & **Maurine Remacle** (University of Liege)

The objective of this research was, firstly, to evaluate the usefulness, usability, and acceptability of the mobile application "EP - Active Living," and, secondly, to identify its strengths, weaknesses, opportunities, and threats as a pedagogical tool for secondary education physical education (PE). To evaluate the mobile application, we contacted sixty-six experts, including secondary education PE teachers, inspectors from the Federation Wallonie-Bruxelles, university assistants/doctoral students/professors in the field of PE, and psychopedagogues. Each expert was invited to watch a video describing the application's features and respond to a questionnaire. Initially, we asked them to assess the application in relation to the three dimensions of evaluating a digital device for learning/teaching (Tricot et al., 2003). These three dimensions are as follows:

1. Pedagogical utility: Do the proposed features help achieve the targeted pedagogical objectives?
2. Usability: Is the tool easy to use, to handle without making manipulation errors?
3. Acceptability: Is the tool compatible with the values, culture, and context in which we want to implement our application? A

Likert scale was provided to evaluate each feature (e.g., useless, not very useful, useful, very useful). For each theme, the experts had the opportunity to leave comments. Subsequently, the participants mentioned the strengths, weaknesses, opportunities, and threats of the mobile application (Strengths, Weaknesses, Opportunities, Threats; Helms & Nixon, 2010). Regarding the data analysis, for quantitative data, we calculated the mean scores and standard deviations for each feature and dimension (maximum score = 4). We agreed that a mean score higher than 2.5 equates to a positive evaluation of the assessed item. For qualitative data related to comments and the SWOT analysis, we used codes and meta-codes, allowing us to classify responses by frequency. In total, thirty-six experts participated in this study, including twenty-six secondary education PE teachers, one inspector, seven university members involved in teacher training in PE (professors and assistant doctoral students), and two psychopedagogues. Regarding the content of the mobile application, the utility of each feature received a positive evaluation with a mean score exceeding 2.5. Usability (3.53 ± 0.61) and overall acceptability (3.03 ± 0.56) were also positively evaluated (mean = 3.53; SD = 0.61 and mean = 3.03; SD = 0.56). Comments and the SWOT analysis led to the improvement of certain features, including evaluating autonomy after the class, focusing more on the student's intrinsic motivation, enhancing individualization, and improving knowledge transfer to the home. The majority of experts appear positive about the usefulness, usability, and acceptability of the mobile application. Nevertheless, some modifications should be performed before initiating the pilot phase with secondary education students.

Keywords: physical education; physical activity: mobile app; secondary school

ID 400 Co-development of a Gamified Movement Competence PE intervention

Jenna Rice (Liverpool John Moores University), **Lawrence Foweather** (Liverpool John Moores University), **Katie Fitton Davies** (Liverpool John Moores University), **Ceriann Magill** (Liverpool John Moores University), **Jonathan Foulkes** (Liverpool John Moores University), **David Stodden** (University of South Carolina), **An De Meester** (University of South Carolina) & **Matthieu Lenior** (Ghent University)

Developing emotional intelligence competencies during childhood is important as it can aid their own understanding and management of emotions. Higher levels of emotional intelligence are associated with better mental health outcomes. Limited evidence has demonstrated positive relationships between emotional intelligence and motor competence. Gamification is promising pedagogical approach to support the development of motor competence and emotional intelligence. At present no interventions using gamification, to facilitate development of motor competence and emotional intelligence. This study describes the process of developing three gamified PE interventions with school stakeholders. In total, three primary schools were recruited, and the lead author, 91 children (aged 9 to 10 years) and four classroom teachers participated in a series of eight co-development workshops.

Childrens ideas for the gamified PE intervention were captured using write and draw, and mind-mapping. The intervention development process provided the following thematic outcomes for children; movement and social skill development, preferences in PE and activities and games for the intervention. Teacher thematic outcomes included barriers and facilitators to implementing a gamified approach in PE, successful components in PE and development of a 10-week gamified intervention. Three school specific gamified interventions with key school stakeholders were developed; 'the American dream'; 'A quest through time' and 'Treasure Island'.

Keywords: Co-production, Gamification, Schools, Intervention, PE

ID 439 Learning about digital media in physical education – Insight into a cooperation project between university and school

Svenja Kamper (TU Dortmund University)

There are several suggestions for the use of digital media in physical education. They are mainly concerned with the question of learning with digital media, but less about digital media (Greve et al., 2020). To achieve a responsible participation in the digital transformation, the development of suitable teaching concepts to promote a reflexive engagement with digital media, so learning about media, in physical education is central.

In a design research project (Prediger et al., 2015) a teaching concept for PE teacher trainees has been developed that focuses on learning about digital media, which is conceptualized as digitalization-related reflective competence (e.g. Aufschnaiter et al., 2019). The core of the teaching concept is the "walkthrough method" (Meister & Sluneko, 2021), which serves to analyse apps. This teaching concept is modified for school context and is tested in PE classes of the upper secondary school. On the one hand, it is to be asked to what extent the method can foster reflection processes. On the other hand, the aim is to find out which conditions for success and difficulties characterize the cooperation between university and school, conceived as co-construction. For the empirical investigation of the learning and cooperation processes, learning diaries of the students (n=40) and field notes of the cooperation partners of university and school (n=2) are created and evaluated using qualitative content analysis (Kuckartz & Rädiker, 2022).

The study has not yet been completed. At the conference, results will be presented referring the adaption of the university teaching method for school context and initial results on the conditions for success, synergies and difficulties of the cooperation between university and school.

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Keywords: digital media, digitalization in physical education, physical education teacher trainees, reflection on digital media, learning about digital media

ID 513 Students' conception in elementary track and field learning: an analysis of children's drawing

Naho Matsumoto (Akita University)

In constructivist perspective, it has been pointed out that, during learning experiences, students construct their own new knowledge based on prior knowledge and principles (Piaget and Inhelder, 1969). The constructivist perspective adds value regarding the importance of studying student conceptions. Studies on student conceptions (Hare and Graber, 2000) have suggested that such conceptions stand apart from curriculum planning and thought, particularly through findings about students' misconceptions and naïve conceptions. Track and field is the activity field in school education that is focused on setting a better record and exploring better running, jumping, and throwing. To establish new record, students is looking for better motion and how improve it with thinking their own movement about forms and body mechanics. Therefore, the focus of this study was, from searching student conception in elementary track and field (running hurdle) lessons in physical education, to know what students learn, in views on students acquired knowledges and cognition. This study used the method of analyzing children's drawings. This method is regarded as important and useful, and is also, similar to the art visual method in sociology studies. For decades, drawing analysis has been used as a research method in health education and sports pedagogy (MacPhail and Kinchin, 2004). And through references review, she summarized the benefit of using drawings for research as below; (a) understanding students' perspectives on school learning, (b) richness of visual data, (c) appropriate expressive forms adapted for children's development. In this study, a total of 31 fifth-grade elementary school students (13 boys, 18 girls) participated in four-week track and field (hurdle race) units consisting of eight 45-

minute lessons. In response to open questions, data were collected through drawings and explanation writing after each lesson. In addition, group and personal semi-structured interviews, with and without drawings, were conducted immediately after every class. Drawing(n=178) and interview data were coded thematically. Trustworthiness was established through triangulation of data and member checks. As results the themes that emerged: tips of movement, other's help, video reflection, improvement, next goal. There were much amount of tips of movement about how to jump, how many number of steps between hurdle and hurdle, appropriate distance to next hurdle when they jumped. And they also thought how it works well under what situation. It suggested that students think deeply to improve their running hurdle movement during trials. And students recognized that other student's advice and help, and teacher's advice lead to improve, and those were also value. In this learning video reflection with iPad was done and student recognized it help to be clear of their own movement recognition. Students facilitated themselves their own continuous learning with making reflections, finding way to improve and set next goals. As conclusion, through checking conception in drawing and interviews, in learning track and field learning, it was suggested that students think deeply about their body and movement with body mechanics and search next goal to improve, and also others advice lead them to better move.

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Keywords: drawing analysis, interviews, elementary physical education, constructivist

ID 531 "The effects of game-based teaching on student game performance in elementary physical education"

Dionysios Papagiannopoulos (Department of Physical Education / Sport Science, University of Thessaly/PhDc) & **Nikolaos Digelidis** (Department of Physical Education / Sport Science, University of Thessaly/Prof)

Aim

The game-based approach (GBA), like Teaching Games for Understanding (TGfU), is a student-centered approach that favors tactical knowledge, and is proposed by many academics, as an alternative to the teacher-centered skill-focused approach to game teaching. The purpose of this study was to examine the effects of a unit of lessons on the game performance of elementary students in team handball.

Methods

The participants were 196 students (5th and 6th graders) and 6 in-service PE

teachers (4 women, 2 males) from 6 Greek primary schools in Peloponnese, Greece. The students were assigned to 2 groups, the experimental (102 students) that participated in TGFU-based lessons, and the control (94 students) that participated in a regular PE games unit (the teachers in the control group implemented the unit using their preferred method). Both groups received instruction in team handball. Each group received 8 lessons of 45 min each day (2 days a week) over a 4-week period. All PE teachers were unfamiliar with the TGFU model. The PE teachers of the experimental group received training (4 sessions, once a week) on the TGFU model before the intervention, from the researchers.

The researchers also designed the 8 lesson plans that the PE teachers implemented in the experimental group. The design was based on the teaching objectives for the 5th and 6th grades. A 5-vs-5 game of 14 min was played to evaluate game performance before and after the intervention. The players of each team were the same for both games. Each team played against the same opponent team in both games (before and after the intervention). The games were recorded and then analyzed using the Game Performance Assessment Instrument (GPAI). Data were collected on 3 individual measures (decision making, skill execution and support) and 2 overall measures of game performance (game performance and game involvement) to measure all students' game performance. Data were analyzed using the statistical analysis of the paired sample t-test. Results The results revealed significant changes between the pre- and postintervention groups for the experimental group. The application of TGFU-based lessons significantly promoted student decision-making, skill execution, support, and overall game performance.

Discussion

The findings of this study provide evidence that the TGFU methodology is an appropriate teaching framework for the teaching of games and appears to promote the components of the elementary student's game performance and their overall game performance.

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Keywords: TGFU, game performance, games teaching, physical education, game-based teaching

ID 543 Transformation journeys at the Sports Sciences Faculty by implementing an activist approach with visually impaired individuals: Peer/Administrative staff/ Academic staff perspectives

Ferda Gursel (Ankara University, Sports Sciences Faculty) & **Ozlem Alagul** (Kastamonu University, Sports Sciences Faculty)

Visually impaired individuals have continued to be seen as a marginalised group in universities worldwide for nearly twenty-five years (Ruzenski, 2019). There is a need to mobilise time and effort for disability rights by arguing that the academic and social demands of visually impaired individuals at universities are political, not personal (Ash et al., 1997). The aim of this study was to explore the journey of the transformation of a sports sciences faculty towards inclusion through an activist approach with the enrollment of a visually impaired students for the first time. In this case study; under the leadership of the academic advisor, who is also the practitioner of the activist approach; the transformation stories of faculty members and two visually impaired individuals in a four-year undergraduate program were investigated. In this process, data were obtained through the diaries and regular meeting records of academic advisors and students with visual impairment and activities (meetings, seminars, peer support programs, etc.) where stakeholders came together. As the findings of the study, it was found that the architectural structure of the faculty was made accessible for visually impaired individuals with the awareness of the administrative staff of the faculty, and peer support was provided to visually impaired individuals inside and outside the faculty with the understanding of the students, but academic staff who have been working as teaching staff for a longer time in the faculty are more resistant to the adaptation of courses in education and training. In conclusion, this study provides evidence that awareness-raising activities designed with an activist approach accelerate the creation of inclusive contexts for people with visual impairments.

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Keywords: activist approach, transformation, visually impaired individuals

ID 573 Teachers' perceptions of competition in physical education: the enactment and impact of competition on students' wellbeing

Rebekah Pink (University of Birmingham) & **Kyriaki Makopoulou** (University of Birmingham)

In this presentation, we will report the research design and protocol and preliminary results from a qualitative case study research on how competition in Physical Education can be enacted to support students' wellbeing. In the context of the rising concerns over Mental health issues across the population, schools in England have a statutory duty to promote and support students' mental health and wellbeing

(MHW) (Public Health England, 2021). In England, PE is a compulsory curriculum subject with the provision of competitive activities an embedded part since 2013 (Department for Education, 2014). Yet, the meaning, place, relevance, and importance of competition in PE is debated internationally. The aim of the study is to understand teachers and students' perspectives and experiences of competition in PE; and to examine how various approaches to competition affect students' wellbeing. The study will be conducted within the case study framework, with the case identified at the level of one secondary school in England. Two PE teachers and all students in one of their classes (n=60, children aged 11-14) will be invited to be study participants. Data will be collected over a 6-week period (March-May 2024) adopting a novel methodological approach. Four main data collection tools will be employed: (i) semi-structured interviews (and informal conversations) with the selected PE teachers; (ii) weekly lesson observations of PE lessons (minimum 8 per teacher); (iii) questionnaires to gather evidence on students' experiences of competition at the end of each PE lesson observed; and (iv) focus group interviews with a purposive selected group of students (five per class, n=10). These methods have been selected and combined to offer novel insights and first-hand data on competition in PE and to examine the links to students' wellbeing in a way that has not been done before. Following reflections on methodological considerations, preliminary results from the study will be presented and discussed.

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Keywords: PE, Competition, Wellbeing, Students

ID 595 The integration of type 8 special education students into mainstream education through martial values and practices from judo

Jérémy Bonni (Haute Ecole de la Province de Liège (HEPL))

In Wallonia Brussels Federation (WBF), students with disabilities are generally enrolled in an institution for special education that focuses on better meeting their specific needs. Therefore 8 types of disabilities are listed whereof the 8th one deals with instrumental disorders or "learning disabilities". For students facing such disorders psychological, relational and attentional difficulties can also be identified. The question of the integration (or even inclusion) of these students in ordinary education deserves to be asked, especially during the transition to secondary education, where members of the education team are generally less equipped to adequately meet the specific needs of these students.

In this regard, it is recognized that physical and health education may be useful. The use of opposition sports and martial arts could represent a promising approach.

Among these, judo is renowned for the values it teaches, for the educational stakes it implies and even for the strengths it brings, whether mental or physical. Nevertheless, the literature is relatively poor on this subject. In WBF, this type of sport activity is rarely offered as a part of physical education. The objective of this study is therefore to design and implement a cycle of 7 teaching units, adapted to the characteristics of type 8 students and their specific needs, aimed at improving 5 variables: openness to others, self-confidence, perseverance, attention and self-control. These variables would indeed constitute an essential basis for succeeding in ordinary secondary education. With this in mind, an action research was undertaken with a sample of 10 pupils (including 5 girls) of type 8 disabilities (e.g. dyslexia, dysphasia, dyscalculia, written language disorder, attention deficit disorder with or without hyperactivity, autism spectrum disorder), aged between 10 and 13 years.

The data was collected several times: during a pre-test (prior to the implementation of the sessions), and during the post-test. The 5 variables were measured in two complementary ways: by questionnaire (based on the Self Perception Profile for Children (SPPC); Harter, 1982) and by observation (criterized) of students in predefined practical situations. In addition, a video recording made it possible to double-code the data and ensure the reliability.

The results show that by offering students a playful, diversified and progressive work within opposition activities during which they are confronted with teaching-learning situations requiring perpetual adaptation (balance of power, collective and individual objectives, "working with" and "against"), it is possible to respond to the particularities of students with learning disabilities.

Keywords: Special education, learning disabilities, integration, reasonable accommodation, judo.

ID 597 Development and analysis of a distance training system aimed at improving the pedagogical support provided to student athletes

Jérémy Bonni (Haute Ecole de la Province de Liège (HEPL))

In line with the European projects "GEES", "ECO-DC", "Mind The Gap" and "B-WISER", training modules for dual career support providers of student athletes (SA) have already been proposed by Wylleman et al. (2018). On the other hand, there seems, at present, to be no research offering training for members of a higher education community and on the pedagogical support to be provided to such students. This would be justified since teachers can play a crucial role in the success of SA at the academic level.

The specific objectives of this study are (1) to design a distance learning device composed of different teaching modules; (2) to implement this device within an university; (3) to assess the usefulness, usability and acceptability of this device to a higher education community, while analyzing its strengths, weaknesses, opportunities and threats.

With this in mind, we decided to use the constructivist paradigm in a process of designing training devices targeting mainly members of the educational community of a European university (University of Liège – ULiège). Among the many existing models in pedagogical engineering, we have chosen to use the "BECOMERIOR" model (Leclercq, 2007). This chosen model postulates that any training system is based on 10 components: Needs; Existing; Design; Objectives; Methods; Evaluation; Implementation; Intervention; Observations; Regulation.

The target audience is represented by the three categories of university actors directly involved in the academic training of ULiège SA: members of the «ULiège SA» commission, members of the ULiège educational community and academic tutors. A total of 17 subjects participated in this study.

Data collection tools were used at two key moments of this study: during the pre-test of the device that was undertaken before making it available to subjects and during the observation-regulation stages. The data collection is based on a mixed approach, with complementary quantitative and qualitative data being collected through a questionnaire.

Based on the BECOMERIOR model, this study finally allowed to design and implement an unprecedented distance training system for members of the ULiège educational community, but also – through the quantitative data collected – to confirm its usefulness, usability and acceptability. The complementary qualitative data provided by the SWOT analysis (Helms & Nixon, 2010) finally make it possible to identify its strengths and weaknesses, and above all, to identify opportunities for improvement of it as well as possible threats related to its implementation.

Following the analysis of the results obtained in this study and a socioecological, holistic and systemic approach of the dual career, the scheme could both be made officially available to ULiège bodies and encourage other higher education institutions, in Europe and elsewhere, to adapt it to their own context.

Keywords: student athlete, dual career, higher education, pedagogical support, distance training system.

ID 592 Integration of Physical Education with Physics, Biology, Mathematics and Technology (PE-STEAM): Voices and Outcomes from an eTwinning Project

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Background: While studies on STEM have recently increased in the field of education, the concept was generally investigated within academic subjects and remained limited in PE context. The aim of the study was to investigate the outcomes and

student-teachers' experiences in interdisciplinary teaching project based on PE-STEAM.

Method: Considering mixed-methods, the study was conducted with embedded design. 56 students, 12 teachers and 2 experts participated in the study. The control group consisted of 47 students that was sampled to compare quantitative results. The project training program included PE-Math, PE-Physics, PE-Biology, PE-Technology modules based on interdisciplinary approach. Demographic information form, an attitude scale for STEM, an attitude scale for PE, semi-structured interview forms, an analytic rubric of PE-STE(A)M project, field notes and project documents were used to collect data. Quantitative data were analyzed by descriptive statistics, Mann-Whitney U, Wilcoxon signed rank and Friedman tests, while thematic analysis was conducted based on trustworthiness.

Results: According to the post-test results of treatment and control groups, there were statistically significant differences with a small effect size ($r = .220-.281$, $p < .05$) in sub-dimensions of STEM attitudes, while a medium effect size differences ($r = .340$, $p < .05$) was observed in total STEM scores. Conversely, no statistically significant difference was observed in attitudes towards PE ($p > .05$). The findings obtained by analytic rubric revealed that there were fluctuations in the students' targeted learning outcomes and skills between modules. Themes that stand out within the scope of qualitative analysis was as follow: "connected and meaningful learning", "diversity and colourfulness in teaching/learning styles", "transfer in learning and teaching", "learning dimensions specific to PE", "cooperation, social and cultural interaction", "techno-pedagogical frameworks", "multi-dimensional teacher identity and professional development", "transformation and breaking prejudices", "awareness on career fields", "integration of scientific research nature". Conversely, sub-themes such as "problems regarding to online education and technology usage", "overwhelming PE to excessive theory and digital technologies", "differences and inequalities in participant levels", "problematic dimensions regarding to project and process management", "inconsistencies in plan, content and applications" were identified under the main theme of "negative dimensions and criticism".

Conclusion: Integration of PE with STEM fields has a potential to create a holistic, creative, innovative and meaningful learning climate and pedagogical experiences for students and teachers. However, factors such as practice-based nature of PE, limitations of integration, marginalization, quality and amount of technology use, plan and content risk the emergence of expected potentials of integration.

Keywords: Physical Education, STEM, Interdisciplinary teaching, Mixed-Methods

ID 307 "Now in PE lessons we've got our own voice" - Creating a 'culture of voice' in primary Physical Education.

Juliet Paterson (Plymouth Marjon University)

Democratic pedagogical approaches and student-voice pedagogies are viewed as essential for engaging pupil voice in lessons, developing understanding of pupils' meaningful experiences and increasing the personal significance of movement (Fletcher et al., 2021; Cardiff et al., 2023). However, without a shift in culture - children's voices can still be inadvertently suppressed despite using democratic and student-voice pedagogies (Wall, 2023). A culture, or social and compassionate context, whereby children feel valued, respected, and understood is essential. As such, a 'culture of voice' (Arnott & Wall 2022), where children are not only valued, respected, and understood, but also provided opportunities to speak and be heard with confidence is crucial. Such opportunities are embedded in practice and are supported by development of a reciprocal teacher and pupil relationship (Arnott & Wall 2022). Despite significant interest in children's voice, especially within primary Physical Education, knowledge and understanding of how to develop such a 'Culture of Voice' is lacking.

During this study, a democratic pedagogical approach to co-design, we called 'Action Gang', was employed for teaching PE. Action Gang took place in an inner-city primary school in the Southwest of England, with a lower Key Stage Two class and their teacher, twice a week, across one school year. Focus groups and visual participatory methods, such as filming, mapping, and drawing were used to gather pupils' experiences of this approach. Findings showed embedding dialogue, reflection, and action upon experience within primary practice positively influenced pupil experiences of PE and physical activity. That said, the development of a 'Culture of Voice' was influenced by many other elements in the situation. Therefore, the purpose of this presentation is to share how the shift in culture was enabled, how this evolved and how pupils' meaningful experiences of primary Physical Education and physical activity were influenced by this.

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Keywords: Culture of Voice, Co-design, Meaningful PE, Primary, Decision-making

ID 588 EFFECTS OF THE IMPLEMENTATION OF AN HYBRID MODEL DURING PHYSICAL EDUCATION CLASSES IN A PORTUGUESE PUBLIC SCHOOL

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Physical Education (PE) provides a privileged avenue for students to develop life skills in a variety of settings, including sports. The evolution of teaching styles in PE has seen a shift from the traditional focus on the teacher as the central figure in the learning process to newer perspectives that focus on student-centered learning and encourage students to take responsibility for their own learning, encouraging problem-solving, critical thinking, and task autonomy, such as Sport Education Model (SEM) and Teaching Games for Understanding Model (TGfU) (1,2). Given still the limited research in this field in certain specific contexts, the aim of this study was to assess how using a combination of the SEM and TGfU teaching models affects students' motivation and motor skill development in physical education classes during handball teaching. Sixteen Portuguese high school students, aged between 15 and 16, were accessed in two moments. The pre-test was conducted during the first two classes, and the teaching of the lessons took place over the following six weeks. The post-test was administered during the last two scheduled classes, comprising a total of 10 classes. To assess students' motivation, a questionnaire was used (1). Students completed a 10-item questionnaire anonymously. Each item was rated on a Likert scale consisting of 5 response possibilities, from 1 (strongly disagree) to 5 (strongly agree). Seven of the items related to students' enjoyment of physical education and 3 were related to the importance of physical education. To evaluate students' motor skill development used the Game Performance Assessment Instrument (GPAI) (2). This instrument includes seven observable game performance categories, of which only 3 were analyzed due to the data collection method used. The variables analyzed included decision-making, support actions, and guarding/marketing actions. Data were collected based on the number of appropriate and inappropriate actions students performed within a designated 10-minute period. The main conclusion of this study is that implementing a hybrid teaching model based on SEM and TGfU had positive effects on students' learning handball, although it did not significantly impact their motivation. This reinforces the idea that placing the student at the center of their learning process in physical education and promoting a fun way of teaching is effective in helping students learn the game.

Keywords: student-centered learning; game-based model; physical education

Venue: RUUSUPUISTO

Theme: Health teacher education, professional development

ID 207 The ongoing impact of the COVID-19 pandemic on school-based physical activity in Canada

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Public health restrictions resulting from the COVID-19 pandemic had rapid and negative impacts on the physical activity (PA) levels of youth in many countries. However, the short- and long-term impacts of the pandemic on school-based PA has received less focus.

The purpose of this analysis was to examine changes in school-based PA of Canadian youth between 2018 and 2022, using the Canadian Community Health Survey (CCHS).

The CCHS is a nationally representative survey that asked youth 12-17 years to report their school-based PA at 4 time-points: January-December of 2018, January-March of 2020, September-December of 2020, and January 2021-February 2022. Data was analyzed both nationally, and broken into 5 regions: Atlantic Canada, Québec, Ontario, the Prairie Provinces, and British Columbia. Significant differences across timepoints were assessed using a repeated measures t-test. At the national level, school-based PA levels decreased significantly in both boys and girls from 2018 (Boys: 21 min/day; 95% CI: 19-23, Girls: 17 min/day, 95% CI: 15-19) to late 2020 (Boys: 15 min/day; 95% CI: 12-17, Girls: 11 min/day, 95% CI: 10-13) (all $p < 0.05$). Values remained significantly below 2018 levels in 2021 for both boys and girls (Boys: 16 min/day; 95% CI: 15-18, Girls: 11 min/day, 95% CI: 10-12) (all $p < 0.05$).

Trends in school-based PA differed across regions. Ontario mirrored national trends, with significant reductions in school-based PA for both boys and girls in 2021, when compared to 2018 (all $p < 0.05$). In Québec, school-based PA remained significantly reduced in 2021 among girls ($p < 0.05$), but not boys ($p > 0.05$). In Atlantic Canada, the Prairie Provinces and British Columbia, school-based PA levels in 2021 were no different from 2018 in boys or girls (all $p > 0.05$).

These results highlight that significant reductions in school-based PA persisted into 2021-2022 in a nationally representative sample of Canadian youth. This represents a clear and important target for intervention to improve the health of young Canadians.

Future studies should examine whether differences in policy during the pandemic can explain regional differences.

Keywords: youth, physical activity, school

ID 329 The core competencies of a health education teacher

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Teachers play a crucial role in students' learning and in the development of health literacy. The aim of this study was to identify the core competencies needed for teachers of Health Education in supporting student learning.

A 3-round Delphi study was carried out over an 8-week period in 2022, through consultation with 25 Finnish experts in Health Education. An open-ended question was used to identify the core competencies for school health educators. The data were analysed using inductive content analysis. In subsequent rounds, experts were asked to assess the importance of the identified competencies on a 7-point Likert scale, and finally to rank the most important competencies.

In total, 52 competencies were identified and categorized into eight core competence domains. Thereafter, 40 competencies were assessed and selected for the third round, in which the experts ranked the 15 most important competencies, encompassing four core domains, i.e. pedagogic and subject-specific didactic, social and emotional, content knowledge, and continuous professional development. The study defines Health Education teacher core competencies and domains. The information can be used in teacher education programmes, for developing teaching, and for teachers' self-evaluation.

Keywords: Competence, Health Education, teacher, teacher education, school

ID 574 Supporting health education pre-service teachers' reflective thinking through systematic observation

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Background: Effective teaching requires that teachers possess various pedagogical and didactical skills as well as a high level of responsiveness to diverse teaching situations. Teacher development and resolving challenging situations require teachers to have good communication and interaction skills, and the skill to reflect on their teaching behaviour. The ability to reflect on teaching behaviour serves as a benchmark for professional development, and also speaks to a teacher's level of self-efficacy (Van Manen, 1977).

Aim: The aim of this study was to examine how health education pre-service teachers reflect on their own teaching behaviour and interaction, and how systematic observation can support the development of reflective thinking.

Methods: The modified Classroom Assessment Scoring System (CLASS, Pianta *ym.* 2008; Itäranta, 2020) was used to systematically observe pre-service teachers' interaction and communication in health education micro teaching lessons. Participants were 18 second-year students in a physical and health education teacher education master's programme. A mixed methods methodological approach was employed. The preservice teachers' level of reflection was examined by analysing the reflective journals students wrote at the end of the course.

Results: Preliminary results indicate that when provided with concrete observation materials pre-service teachers are better positioned to observe and reflect upon their teaching behaviour and teacher-student interaction. Pre-service teachers demonstrate an ability to reflect on their teaching at both technical and practical levels (Van Manen, 1977). Reflecting upon teaching situations afterwards also increased their awareness of the teacher-student interaction but also of the interaction between teacher behaviour and student learning.

Conclusion: In summary, the preliminary findings of this study suggest systematic observational tools offer various possibilities for the enhancement of teaching and learning in higher education and for fostering the professional development of health education teachers.

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Keywords: systematic observation, teacher education, health education, reflection, interaction

ID 331 Students' perceptions of physical education teacher: Do perceptions differ by students' gender, age, and physical activity level?

Nelli Lyyra (JYU, Faculty of Sport and Health Sciences), **Sanna Palomäki** (JYU, Faculty of Sport and Health Sciences), **Pilvikki Heikinaro-Johansson** (JYU, Faculty of Sport and Health Sciences) & **Sami Kokko** (JYU, Faculty of Sport and Health Sciences)

Background: The school environment and physical education (PE) classes in particular influence the attitude an individual develops toward physical activity. The student's perceptions of physical education, physical activity, and physical competence are shaped by the PE lesson contents and by the teacher's approach to interacting with students, listening, and providing encouragement. This study aimed to analyze what teacher characteristics students perceive as important and whether there are differences in terms of students' gender, age, and overall physical activity level.

Methods: This study is part of the Finnish School-aged Physical Activity study (F-SPA) that collects data with a nationally representative sample on children and

adolescents' physical activity-related behavior every two years. The participants in this study were 2922 secondary school students (52 % girls) and the sample was collected in 2022. Students' perceptions of teacher characteristics were measured by four items included in the Pedagogical Dimensions in Physical Education Inventory. Physical activity was measured by asking students to evaluate how many days they reached at least 60 minutes of MVPA. Descriptive analyses and Chi-square tests were used.

Results: The teacher's fairness and encouragement were the most important characteristics of a PE teacher for all secondary school students. More than 60% of the students considered these characteristics important or very important. About half of the students thought it was important that the teacher was easy to talk to and slightly less than half valued the teacher's expertise. More girls (69%) than boys (58%) perceived the teacher's encouragement important or very important factor in PE ($p=0.002$). No significant differences were found in the students' perceptions between 7th and 9th grades. Students who were less physically active rated all teacher characteristics as less important than students who were more physically active ($p<0.001$).

Conclusions: The results of this study are consistent with the literature, that has emphasized the importance of teacher fairness and good interpersonal and communication skills in the work of effective PE teachers. Contrary to our expectations, students whose PA level were low valued for example teacher's encouragement less than students whose PA level was high. This shows that motivating all students to be physically active is a complex task. Implementing quality physical education requires teachers to have versatile competencies to motivate and enhance participation for all students, especially those who are less physically active.

Keywords: Physical education, teacher characteristics, student perceptions

ID 462 Positive influences of physical education program on cadets' military identity developments

Euichang Choi (Seoul National University / Professor) & **Mirim Moon** (Seoul National University / Graduate school student)

Background: Given the distinctiveness and significance of military institutions, research on military identity and officer development programs is being conducted. However, there has been limited research on how the physical education(PE) program influences the formation of cadets' military identity.

Purpose: The purpose of this study was to examine the characteristics of composition and operation of PE programs of Korea Military Academy(KMA) and to explore how these PE programs influence the development of cadets' military identity.

Method: Six senior cadets (male=3, female=3, Avg age=23.3) were selected based on their participation in PE program at the Korea Military Academy. Data were collected through semi-structured in-depth interviews.

Findings: KMA cadets' military identities were categorized into (a) Experts in principles, (b) Leaders of unity, (c) Individuals with mental toughness, and (d) Leaders as well as followers. The PE program at KMA had positive effects on the formation of cadets' military identity in three main dimensions: (a) as a context to learn physical training principles, (b) as a context to cultivate mental toughness, and (c) as a platform for interaction and unity among cadets. First, the PE program provided principles for physical training, thus shaping their military identity as 'Knowledgeable soldiers'. Second, competitive team sports within the PE program strengthened the 'Unified spirit' among cadets by providing a platform for sharing experiences and strategies. In this process, cadets simultaneously experienced the roles of both leaders and followers within the team, shaping their military identity as 'Leaders as well as followers'. Lastly, the PE program offered cadets an opportunity to experience achievement and success, contributing to the enhancement of their 'mental toughness'.

Conclusion: The physical education program at KMA provides cadets with opportunities to learn principles and cultivate mental toughness. It also plays a vital role in fostering interaction and unity among cadets. Consequently, it is evident that the physical education program at KMA goes beyond merely enhancing physical fitness and plays a critical role in becoming soldiers.

Keywords: military identity, physical education program, professional development

ID 487 Analysis of a health promotion program over 4 years targeted at school population with focus on staff – The Gryphon Challenge

Tan Cheng June (Raffles Institution)

The Gryphon Challenge (TGC), an annual event tailored for Raffles Institution (RI) staff, has consistently been a catalyst for promoting physical activity, health, and holistic development within the institution for four consecutive years. This research presents a comprehensive analysis of the event's evolution, its impact on participants, and the alignment with the school's goals.

1. **Participation Growth:** TGC has witnessed a remarkable surge in participation over the years. In its latest edition in 2023, with the introduction of enhanced features within a mobile app, a significant milestone was reached as 224 staff members, encompassing 50% of RI's total staff, including teaching and academic support staff, enthusiastically joined the challenge. This upsurge in staff involvement coincided with a parallel rise in student participation. The allure of an exclusive Finisher Shirt proved to be a key factor contributing to this growth. The staff has seen a remarkable increase of 220% over the past four years, while the students have shown a solid growth of 73% during the same period.

2. **Physical Activity Goals:** TGC adapted its physical activity goals to align with RI's bicentennial year. In 2022, participants were challenged to complete a 150km run or 300km cycle over a 14-week period. In 2023, the challenge shifted to achieving 200,000 steps in just four weeks, effectively tying the event to the school's milestone.

3. **Mental Health Awareness:** Acknowledging the significance of mental well-being, TGC collaborated with the Raffles Guidance Centre (RGC). During the third week of the event, both staff and students were encouraged to participate in workshops organized by RGC, with a primary focus on mental health awareness and wellness.

4. **Positive Feedback and Lifestyle Changes:** At the conclusion of the event, many reported notable personal transformations, including weight loss, the establishment of consistent physical activity routines, family engagement in fitness endeavors, and even venturing into their first marathon races.

5. **Holistic Development:** Beyond personal benefits, TGC participants who were teachers became inspirational role models and advocates for their students. Sharing their first-hand experiences, they motivated students to engage in a holistic approach to personal development.

The Gryphon Challenge has evolved into an influential initiative, empowering teachers and staff at RI to prioritize physical activity while simultaneously inspiring the next generation. Involving staff members in a teaching institution as pseudo-influencers has the potential to extend the reach of what Physical Education teachers aim to achieve. This paradigm shift extends beyond the conventional model of physical education, encompassing not only PE teachers and students but the entire staff, thereby fostering a physically active lifestyle within the entire institution.

Keywords: Physical Literacy, Influencer, Empowerment, Holistic Development

ID 254 Digital competencies of health professionals in obesity therapy

Sabine Pawellek (Leipzig University), **Thomas Prof. Dr. Wendeborn** (Leipzig University) & **Hagen Dr. Wulff** (Leipzig University)

Digital therapy approaches, defined as the implementation of certified therapy programs through digital media, offers an effective treatment for combating the globally high prevalence of obesity. However, the digital delivery requires new competencies from educators. Given the existing research depiction, the objective of this study is to delineate and quantify the educators' digital competencies in the obesity setting by deriving insights from educational science theories and corresponding survey instruments for assessment.

A multistage approach was used for the construction of the questionnaire (Moosbrugger & Kelava, 2020). In accordance with the PRISMA guidelines for

systematic literature searches, theoretical models were identified from two literature databases. Subsequently, an item pool was derived. Items were subjected to appropriate scaling as guided by the literature. The validation of the questionnaire was conducted through written expert interviews. Resulting quantitative and qualitative satisfaction parameters were used to revise the content and format.

The analyses revealed that, among other models, the DigCompEdu- (Redecker, 2017) and the TPACK- (Koehler & Mishra, 2009) model formed the foundational framework for 18 therapy-appropriate items. Questions were categorized into five dimensions: selection and delivery strategies, learning support, media reflection and media development. Moreover, insights drawn from literature guided the inclusion on inquiries regarding experiences with digital media in therapy and demographic information. Expert interviews (n=7, m=28.6%) yielded 68 remarks, facilitating a reduction in the number of items and processing time to ten minutes. Participant satisfaction with the survey instrument averaged $5,14 \pm 0.64$ on a six-point Likert scale.

The survey instrument represents a pioneering effort in ascertaining competencies required for the realization of digital obesity therapy. After a validation of the quality criteria, perspectives for subsequent scientific inquiries emerge, including the examination of correlations between competency level and resulting therapy effectiveness. Further deductions pertaining to the training of obesity educators can be drawn, which potentially enhance therapy efficiency. These insights may be transferable to the training of other health educators in the future.

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Keywords: competencies, literacy, health professionals, obesity, digital media

ID 200 Is Lurking a Problem? Engagement and Learning Achievement in Online Learning Communities

Hongyun Li (Loughborough University), **Argyro Elisavet Manoli** (University of Bergamo), **Gareth Wiltshire** (Loughborough University) & **Ash Casey** (Loughborough University)

Lurking on social media has often been presented as problematic. The aim of the study, therefore, was to explore the relationship between online engagement and perceived learning of Chinese sports training students in a WeChat-based online professional learning community (PLC). Since email is hardly used between Chinese students and teachers, creating WeChat groups to achieve connection and support programme learning is common practice. One university teacher and 26 students organized a WeChat-based online PLC at a sports university in the southwest of China. The students were third-year undergraduates from the sports training programme and many of them wanted to be PE teachers after graduation. A variety of data collection techniques were used in this study. This included 18 months of non-participate online observation of the WeChat group, five focus group interviews with 23 students and 17 semi-structured individual interviews conducted via Tencent Meetings. The data were analysed thematically. Analysis showed that 14 students (53.8%) lurked in the WeChat group, sharing a total of 1612 messages (or 28% of the total messages exchanged) during the data collection period. These participants can be divided into two sub-groups according to their learning intentions and behaviours. The first group of students (n=3) lurked in the group and only asked questions or asked for help that was related to the programme from the teacher or other participants. Those students were examination-focused and always remained absent from regular discussions. They engaged only to obtain module materials and stay up to date on the university notifications. The second group of students (n=11) were more likely to observe interactions and engage with learning resources but made little or no comment about anything else. It would be easy to say that both groups of students were disengaged. The data, however, showed that while lurkers were inactive in the sense of writing comments online the majority followed chats and reported reading the conversations and taking advantage of what they read. Students reported lurking for many reasons such as being disturbed by others' comments, not wanting to disturb others themselves, and not previously getting a response from peers. There was evidence that lurkers did not see their learning as being lower than their more active peers. Indeed, in some cases, participants felt that they were learning more than their more active peers.

Online engagement should not be used to predict perceived learning. Lurkers can benefit from PLCs by reading/watching resources, reflecting on their practice, and applying what they have seen. It is important for university teachers to acknowledge and respect the diverse ways in which participants engage in PLCs. University teachers should organize PLCs that cater not only to active participants but also acknowledge that even those who prefer to lurk can still be effective learners.

Keywords: social media; professional learning; Chinese student-teachers

Venue: RUUSUPUISTO

Theme: Physical activity in children's and adolescents' life

ID 166 Talented athletes as high achievers - only in sports? Analysis of academic performance and the impact of dual career assistance programmes in upper secondary school

Jeffrey Sallen (University of Hamburg & Leipzig University), **Thomas Wendeborn** (Leipzig University) & **Erin Gerlach** (University of Hamburg)

The goal of promoting a dual career (DC) is to encourage and support athletes in pursuing an academic career during their athletic career that corresponds to their own interests and opens up attractive possibilities in the vocational context after the end of their athletic career. In order to achieve this goal, dual career assistance programmes (DCAP) have been developed and evaluated. One of the globally established DC support approaches are elite sports schools (ESS). DCAP at ESS aim to help student-athletes deal with athletic and non-athletic career issues. The question arises as to whether and which DCAP effectively support student-athletes in developing their full academic potential compared to regular students. Empirical studies on this question are rarely visible (Sallen et al., 2023). The focus of the present study was on two different DCAPs for upper secondary student-athletes. Both DCAPs were offered at an ESS in Germany in the federal state of Brandenburg. DCAP I gives student-athletes the opportunity to obtain the in Germany necessary general higher education entrance qualification in the usual way: 2-year qualification phase divided into four semesters with all final exams at the end. In order to prevent student-athletes from becoming overstrained at the end, DCAP II contains two additional academic DC services: (1) the qualification phase can be extended by two to four semesters and (2) the final exams can be spread out over several semesters. Does the school performance and the development of school performance differ between DCAP I users and DCAP II users? Does the school performance differ between ESS student-athletes and the entire student population? The school performance was recorded for all 200 student-athletes (♀ 48%; ♂ 52%) who acquired the general higher education entrance certificate and entered the upper secondary level at ESS in the first three years since the launch of DCAP II. 139 of these student-athletes attended DCAP I, 61 to DCAP II. In addition, the average school performance of the entire student population in the federal state of Brandenburg was taken into account. The school performance was extracted from of higher education entrance certificates. Cross-sectional and longitudinal data were statistically analysed using t-tests and RM-ANOVA. The analyses revealed the following findings: 1) student-athletes' school performance is well above the average of the entire student population. 2) Although, DCAP II users are much more involved in elite sport, their school performance and performance development do not differ from DCAP I users. These results do not provide any indication of a systematic neglect of student-athletes' academic career in favour of their athletic career. DCAP appear to ensure the success of student-athletes' academic careers effectively.

Sallen, J., Wendeborn, T., & Gerlach, E. (2023). Talented athletes as high achievers – only in sports? *German Journal of Exercise and Sport Research*.

Keywords: Educational Support, Competitive sport, Adolescence, Achievement, Development

ID 222 Novel Strategie for Classroom-Based Physical Activity Promotion? -- Interpretation of the Connotation, Implementation Basis, and Effect of Brain Breaks

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Purpose: Brain Breaks is a physical activity program that combines classroom-based physical activity with modern technology while providing children with multi-level guidance. The purpose of this study is to sort out the connotation, implementation basis and application effect of Brain Breaks, and then put forward the practical application suggestions and future research direction, with a view to providing theoretical basis and practical basis for its further understanding, application and promotion in all levels and types of schools in China.

Methods: First, the literature related to Brain Breaks was collected on CNKI and WOS through the documentation method. Second, the text analysis method was used to interpret the content related to Brain Breaks in the papers. Third, the expert interview method was used to propose implementation strategies.

Results: Brain Breaks was developed by HOP Sports in 2014 and supported by the Centers for Disease Control and Prevention, and has been compiled and implemented in more than 70 countries. (1) In terms of content, Brain Breaks is characterized by fragmented movement as an essential attribute, institutional compliance as a design principle, and exercise for mind and body as a core feature. (2) Compared to physical education classes and traditional physical activity intervention programs, Brain Breaks is conditionally based, temporally and spatially economical, safe and reliable. (3) The health-promoting effects of Brain Breaks are specifically manifested in both physiological and psychological terms. In the physiological, It can improve students' physical activity levels, which in turn improves fitness. In the psychological, It can improve students' attitudes toward sports participation and help students develop positive perceptions of learning.

Conclusions: When promoting and practicing in China in the future, attention should be paid to the means of implementation by teachers, interdisciplinary thematic learning, the selection of representative implementation targets, and the precise implementation of activity implementation programs. At the research level, exploration

should be conducted towards the impact of motor skills, intervention of special groups, gender differences, environmental changes, and physiological mechanisms of action, and so on.

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Keywords: Brain Breaks; physical activity programs; health promotion

ID 255 The influence of healthy lifestyle technologies on young people's physical activity participation and health learning: a systematic review

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The aims of this systematic review were 1) to explore the effect of healthy lifestyle technologies (HLT) use on the physical activity (PA) participation and health learning of young people (aged 13-18), and 2) to assess the sustainable/long-term influence of HLT on young people's healthy lifestyle behaviours.

A systematic search was conducted to locate relevant studies in five databases (SPORTDiscus, Medline, PsycARTICLES, PsycINFO, and Scopus) which had been published in academic journals in English between 2011 to 2022. The initial search returned 4733 papers, which led to 649 articles being abstract screened. Twenty-six articles were ultimately identified and selected, which included seven articles from supplementary citation and google scholar searches.

Descriptive analysis revealed that the most studies (21 of 26) were published between 2017 to 2021 and were conducted in the United States (n = 11) and United Kingdom (n = 8), with the remaining studies being conducted in Finland (n = 2), Australia (n = 2), New Zealand, Canada, or Turkey (n = 1). In terms of design, nine studies were mixed methods, eight were qualitative, four were RCTs, two were non-RCT and quantitative descriptive studies respectively, and one was a pilot study. The studies were conducted in different contexts, with 17 taking place in school, six online or in the community, while three studies were carried out across multiple contexts. In the case of the intervention studies (n=15), most interventions lasted

between 4 to 12 weeks, with the shortest being a 20-day intervention and the longest lasting 18 months.

Thematic analysis was employed to identify three themes relating to the influence of HLT on young people's PA and participation and health learning:

- (1) Behaviour change: this theme refers to the outcomes with respect to the short- or long-term influences of HLT use on young people's behaviour.
- (2) Psychological responses: this theme considers the psychological factors influencing young people's HLT use, including young people's attitudes toward HLT as a health promotion tool.
- (3) Facilitators and barriers to HLT use: this theme reports the facilitators and barriers to HLT use and to meeting young people's PA and health needs.

To conclude, this systematic review indicated that HLT can have positive effects on young people's PA participation and health learning. However, the findings evidenced only the short-term effects of HLT on young people's PA participation and health learning with the long-term influence remaining inconclusive. Given this, further research is required to better understand HLT use and how the effects of HLT use can be sustained in order to maximize the benefits of its use on young people's PA and health.

Keywords: Digital technologies; physical activity; health

ID 297 Policy Advocacy Using Implementation Data: Overview and Some Results from the U.S. Physical Education and Physical Activity Policy Study

Chad Killian (University of New Hampshire), **Ben Kern** (University of Wyoming) & **Hans van der Mars** (Arizona State University)

This presentation will include an overview of the United States Physical Education and Physical Activity Policy (US-PEPAP) implementation study. Distinct challenges for policy work in the U.S exist. Continued proactive advocacy for physical education (PE) and physical activity (PA) opportunities is essential. One aim of this project is to support state-level "Policy Champions" (PCs). PCs are primarily university faculty in Physical Education Teacher Education/Sport Pedagogy who recognize the utility of policy implementation data in advocating for increased access to and quality of PE and PA opportunities in schools. Due to their interest in advocacy for policy-change/development, PCs can leverage local US-PEPAP data to push for positive change. Therefore, we will describe our efforts building grassroots PC advocacy networks who use data from this study to advance policy. We will also share results outlining provision of PA opportunities in elementary schools across student-focused Comprehensive School Physical Activity (CSPAP) components. Recommendations for PA suggest minimum levels (60 min/day) for school-aged children to maintain health, yet most fail to meet these weekly goals. Various factors can support and/or inhibit school-based PA engagement, but availability of PA

opportunities is foundational to participation. CSPAPs provide a whole-of-school framework for stakeholders to expand and enhance PE and PA opportunities in both the school and the household/community environments. While comprehensive PA promotion approaches are aimed at students achieving recommended daily PA, broad implementation of CSPAP components is not well documented. We shall present data on the availability of PA opportunities in elementary schools in the United States across student-focused CSPAP components. Elementary PE teachers (n=2,184) from 25 U.S. states completed the US-PEPAP survey. The survey included 19 items related to PE access and 6 items related to weekly scheduled recess and PA opportunities. Only one state met recommended 150-minute weekly PE instruction, while 18 states offered under 100 minutes of weekly PE. A total of 20 states exceeded the 100-minute weekly recess recommendation, 14 states provided over 50-minutes of before school PA, while 15 states reported more than 100 minutes of weekly after school PA opportunities. Data on during-school and weekend PA was sparse, but suggested minimal opportunities were available. Elementary schools in the U.S. reportedly offer significant opportunities for PA during recess and before/after school. However, actual student PA engagement remain unobserved at this scale. PE provision was well below recommendations. Given the critical role of PE within CSPAP, the observed limited time is concerning. Subsequent research should be focused on how PE instructional duration influences PA engagement across other CSPAP components. Re-evaluating the feasibility of current weekly PE recommendations is also warranted.

Keywords: Whole-of-School, Comprehensive School Physical Activity Program, recess, sport

ID 308 Physical activity levels and perceived body image in relation to perceived wellbeing among adolescents.

Ann-Christin Sollerhed (Kristianstad University) & **Pernilla Garmy** (Kristianstad University)

Introduction

Adolescent mental health problems are a global public health concern accompanied by a growing disease burden. Adolescence is an important period for the development of good health and wellbeing in adulthood. Subjective health complaints among adolescents have increased over time, with more adolescents reporting psychosomatic complaints (Inchley et al, 2020). Physical activity is often suggested as a method to improve wellbeing (Granger et al, 2017). However, physical activity levels have decreased, and sedentary behavior has increased among adolescents over the last decades (Tremblay et al, 2011).

Aim

The study aimed to investigate self-reported physical activity levels, perceived body image which include body appearance and body functioning, in relation to perceived wellbeing among adolescents.

Method

Data were obtained from questionnaires completed by 1518 adolescents 13-15 years old and 1491 adolescents 15-17-year-olds. Data were first analyzed using descriptive statistics and Chi-square tests, and finally multiple logistic regression analyses were used to examine whether physical activity, perceived body image, gender and perceived family finances had any significant effect on the likelihood of observing positive perceived wellbeing among adolescents.

Results

Most of the adolescents rated their wellbeing as good or quite good, 88% of 13-15-year-olds and 74% of 15-17-year-olds. About half of the adolescents reported that they were physically active three times or more times a week for at least 30 minutes at a time. The results of the bivariate analyses showed significant associations between physical activity levels and perceived wellbeing, as well as associations between being satisfied with body appearance/body functioning and perceived wellbeing. Adolescents with a perceived good family financial situation were more likely to assess their wellbeing as good or quite good.

Conclusions

A positive body image, which include both perceived body appearance and body function, and physical activity at least three times a week were significantly associated with wellbeing in adolescents, which imply the importance of promotion of physical activity among young people. From a public health perspective, a better understanding of how physical activity can influence positive wellbeing may help inform politicians and school administrators and health care providers to incentivize children and adolescents to engage in physical activity both within and beyond the school's boundaries.

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Keywords: physical activity; adolescents; body image; wellbeing; subjective health

ID 310 Investigation of the Effect Mathematics and Physical Education and Games Designed and Implemented Applied with the Interdisciplinary Teaching Approach on the Mathematics Performance of Primary School 2nd-Grade Students

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The study's purpose was to examine the effect of interdisciplinary teaching on the mathematics performance of primary school 2nd-grade students. The study included 55 boys and girls from 2nd-grade primary school in Beykoz, Istanbul. This quantitative research used the pre-test and post-test study and control group models (within a quasi-experimental design). This research, which was conducted in 14-week (2 hours, 2 times/week) during the second term of education season, intends to investigate the effect of mathematics and physical education and games designed and implemented and applied with the interdisciplinary teaching approach (independent variable) on Mathematics Performance (dependent variable). The "Mathematics Achievement Test" assessed the students for mathematics performance. The data were determined as descriptive statistics, "Wilcoxin" and "Mann Whitney U" Tests were used in the analysis of the data. All statistical analyses were performed by using SPSS for Windows version 22. According to the results, there were statistically significant differences between the pre-test and post-test results related to the mathematics performance of the group of interdisciplinary teaching approach ($Z=-3,547$; $p<.000$). On the other hand, there were no statistically significant differences in both groups of mathematics performances between boy and girl students ($p>0.05$). It is considered that mathematics and physical education and games designed and implemented applied with the interdisciplinary teaching approach positively affect the mathematics performances of primary school 2nd-grade students.

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Keywords: interdisciplinary teaching, physical education, game, mathematics

ID 378 Narrative review on the application of the Sport Education Model in extracurricular context.

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Abstract: The Sport Education Model (SEM; Siedentop et al., 2019) is a consolidated Pedagogical Model for teaching-learning a series of sports in the educational contexts. Precisely, these sport contexts beyond school are an appropriate educative framework for carrying out research to promote active critical pedagogies. For that reason, it seems evident that models-based practice should be established in extracurricular activities.

Extracurricular-sport programmes promoting important psycho-social determinants such as self-esteem, motivation, perseverance, socialization, and sport adherence (Fredick & Marttinen, 2021). Therefore, it is important to promote comprehensive programs that encourage the positive development of the physical, cognitive, emotional, and social dimensions through physical activity and sport. In this context, extracurricular programmes should continue to provoke meaningful learning and the consolidation of active and healthy lifestyle, since it is an area where more educational innovation needs to be investigated and developed to increase the number of studies based on the implementation of SEM in extracurricular environments. For that reason, Hastie et al. (2023) proposed the use of Pedagogical Models such as SEM (Hastie et al., 2023). There is no doubt of the educational value and pedagogical value of SEM, directly impacting on the perception and attitudes towards life in general and sports in particular. In recent years, several studies have been focused on different aspects and settings of the SEM around the world. However, it is startling that no international narrative review about implementation of SEM in extracurricular (school-age) settings is found from 2005 to nowadays. For all the above, the objective of the present narrative review is to analyse and explore the impact of the SEM in extracurricular contexts (including federated sport clubs, summer camps or multi-sport-leisure programs carried out outside the regular hours of formal education). Intended to lay the foundations that the SEM will be an appropriate pedagogical framework not only in educational contexts, but also in extracurricular sports contexts. If the application of the SEM is carried out in an adequate way, according to the objectives, characteristics, didactic principles of the model and implemented by a trainer/ animator previously trained for this purpose.

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Keywords: Sport Education Model, out-of-school, young students/players, trainer/animation, narrative review.

ID 465 Physical activity and school health education in secondary schools: characteristics of a low income region

Erika Beregi (Faculty of Health Sciences, University of Miskolc) & **József Bognár** (Institute of Sports Science, Eszterházy Károly Catholic University)

Educational and policy interest has increased towards means to promote young people's physical activities and health behavior. The social and physical environment, health education curriculum and relationship with families are key factors for school health promotion (Langford et. al., 2015). Low income is a strong indicative of overweight students and unhealthy behavior (Stamatakis, Wardle & Cole, 2010). The purpose of this study was to describe the level of physical activity and health education in general high schools and technical schools in a disadvantaged region. Data collection included questionnaire with secondary school students (n=732; Mage=17,3±1,2) and teachers (n=102; Mage= 48,2±11,4) and also document analyses of school health education regulations, manuals and guides. The adapted versions of the Health Behavior in School Aged Children, the International Physical Activity Questionnaire-short form and a self-constructed questionnaire were utilized. The results demonstrated that 92,1% of teachers and 74% of students do not take part of any regular physical activities. The time students are inactive a day is 339,04±165,72 minutes and 24,1% of students and 28,0% of teachers are not involved in any moderate or intense physical activities. The majority of students and teachers (76,7% & 84,7%) think that physical education teachers have the main role and responsibilities in school health education programs. There is a weak correlation between the students' subjective state of health and their satisfaction with health education (r=0,28; p<0,001). Teachers are more contented with health education programs than students (p=0,04). There is no difference between general high schools and technical schools in terms of intensive and moderate exercises. However, high school students spend more time sitting than those in technical schools (p=0,01) and technical school teachers are more inactive that high school teachers (p=0,04). Students stated that they would need more opportunities for different sport activities, challenging and music-based exercises.

The documents' major deficiencies laid in the content and methods of teaching, the actors and tasks, tools of health education, and the measurement and evaluation effectiveness. In order to improve health behavior, the needs and expectations of students have a prominent place in school based programs. Also, students and teachers need to work together for improved healthy active living through cooperation and mutual goals. The types of schools and the socioeconomic status must also be taken into account.

Langford R, Bonell C, Jones H et al. (2015). The World Health Organization's Health Promoting Schools framework: a Cochrane systematic review and meta-analysis. *BMC Public Health*, 15: 130.

Stamatakis E, Wardle J, Cole TJ. 2010. Childhood obesity and overweight prevalence trends in England: evidence for growing socioeconomic disparities. *International Journal of Obesity*. 34: 41-47. 10.1038/ijo.2009.217

Keywords: level of physical activity, school health education, low income region

ID 473 A systematic review of the association between physical activity and school readiness.

Dan Jones (Teesside University), **Uchechi Blessing Emeniru** (Teesside University), **Joshua Ibhahe** (Teesside University), **Tinuola Hannah Lowa** (Teesside University) & **Adewumi Olayinka** (Teesside University)

Early years (0-6 years old) is a key time for development in children. Evidence shows that the brains ability to change in response to stimuli is at its highest during early years (Levitt, 2009), suggesting an opportunity to establish healthy behaviours.

Prior to entering formal schooling, many children attend preschool, kindergarten or Reception, this often represents children's first full-day experience in an educational setting. These educational settings tend to allow children to have more freedom to play, than when they transition to school (Fisher, 2009). Making this timeframe a unique period in children's lives, and one worthy of research.

School readiness is an indicator of how ready to transition to formal schooling a child is. An assessment of a child's school readiness is important, as research has found that how children transition into school affects their future educational outcomes (Ponitz, McClelland, Matthews, & Morrison, 2009). There is concern that children who do not achieve school readiness struggle to engage with learning in formal schooling and may experience increased difficulty in engaging as the demands accumulate, leading to them falling behind their school ready peers (Forget Dubois et al., 2009).

Tools used to assess school readiness vary across the world, but many of them include an assessment of a child's physical development. Physical development in early years can be indicated by many activities, such as being able to dress and toilet independently, move in a coordinated manner, control objects such as pens and

pencils efficiently. To achieve these skills, children require a level of motor competence. Stodden et al. (2008) suggests that in early years children develop motor competence by engaging in physical activity, and previous research has indicated an association between physical activity and motor skills (Jones et al. 2019). Furthermore, evidence suggests that engagement in physical activity can be beneficial for social and emotional development and the development of communication and language skills; both of which are important for school readiness. Despite the numerous benefits of physical activity and school readiness, evidence suggests that engagement rates and achievement are low in early years.

This systematic review aims to synthesise the literature to explore whether there is an association between physical activity and school readiness in early years children. We searched 6 databases (CINAHL, MEDLINE, SportDiscus, ERIC, Web of Science and PsycInfo) and are currently in the process of full paper screening. We will produce a meta-analysis of the correlation, if feasible, alternatively a narrative synthesis of the relationship between the variables will be presented. This review will offer valuable insight into the importance of physical activity for school readiness in early years children, to inform future research and intervention and early years curricula design.

Keywords: Physical Activity, School Readiness, Early Years.

ID 535 Kicking for Health: Football as a Catalyst for Youth Well-being

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Introduction: The World Health Organization (WHO) recommends 60 minutes of daily moderate-vigorous physical activity (MVPA) for adolescents (Bull et al., 2020), but around 81% do not comply. Given football's global popularity, especially among adolescents. Could the regular practice of this sport help meet this recommendation? This study examines the relationship between physical activity and health in youth footballers. Method: 130 male footballers (14.71 ± 1.83 years) from a Spanish professional academy, with 8.76 ± 2.08 years of prior competitive experience, categorized by age: U13 ($n=38$, 12-13 years), U15 ($n=45$, 14-15 years) and U18 ($n=47$, 16-18 years). Physical activity was assessed using accelerometers in 12 training sessions (3 per week) and 3 matches. Results: Significant training-related differences ($p < .001$) across age groups were found. U18 had higher Very Vigorous Activity and MVPA levels (11.61 ± 6.28 , 61.46 ± 2.45 min, $p=.001$) than U15 (2.04 ± 1.83 , 50.84 ± 3.78 min) and U13 (1.42 ± 1.62 , 53.35 ± 4.96 min). U15 showed greater Light Activity disparities with U18 (22.88 ± 3.85 vs. 6.75 ± 1.28 min, $p=.001$), but not with U13 (21.82 ± 4.22 min). U13 displayed differences in Moderate Activity and Steps (33.70 ± 6.33 min, $p=.003$ and 6310 ± 899 , $p=.024$) with U18 (29.69 ± 5.08 min and 5873 ± 649), but not with U15 (30.88 ± 4.58). Matches (>60 minutes and <60 minutes)

revealed significant activity patterns. For matches >60 minutes, U15 demonstrated higher Moderate Activity than U18 and U13 (49.80 ± 11.48 , $p=.011$ vs 38.97 ± 10.92 , 41.78 ± 9.56 min), while U18 exhibited significantly higher Very Vigorous Activity than U15 and U13 (4.79 ± 5.29 , $p=.022$ vs 1.14 ± 1.67 , 2.01 ± 3.37 min). In matches <60 minutes, U18 displayed significantly more MVPA (36.91 ± 5.22 min, $p=.019$) and Steps (4831 ± 833 , $p=.033$) than U15 (31.09 ± 9.17 min, 4112 ± 1116) but not U13 (34.84 ± 6.63 min, 4423 ± 902). Average MVPA minutes per training session and match (>60 minutes played): U18 (61.46 ± 2.45 y 77.78 ± 5.93), U15 (50.84 ± 3.78 y 79.63 ± 14.84) and U13 (53.35 ± 4.96 y 74.04 ± 14.73). Conclusions: Football mitigates adolescent physical inactivity, seen in age-related disparities with U18 displaying higher Very Vigorous Activity and MVPA. Varied match activity patterns highlight football's nuanced impact on adolescent health. Overall, these findings emphasize football's role in promoting active and healthy youth lifestyles, offering insights into health promotion strategies.

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Keywords: Football, Physical Activity, Adolescents, Health

ID 552 Physical activity and school health education in secondary schools: characteristics of a low income region

Erika Beregi (Faculty of Health Sciences, University of Miskolc) & **József Bognár** (Institute of Sports Science, Eszterházy Károly Catholic University)

Educational and policy interest has increased towards means to promote young people's physical activities and health behavior. The social and physical environment, health education curriculum and relationship with families are key factors for school health promotion (Langford et. al., 2015). Low income is a strong indicative of overweight students and unhealthy behavior (Stamatakis, Wardle & Cole, 2010). The purpose of this study was to describe the level of physical activity and health education in general high schools and technical schools in a disadvantaged region. Data collection included questionnaire with secondary school students ($n=732$; $Mage=17,3\pm 1,2$) and teachers ($n=102$; $Mage=48,2\pm 11,4$) and also document analyses of school health education regulations, manuals and guides. The adapted versions of the Health Behavior in School Aged Children, the International Physical Activity Questionnaire-short form and a self-constructed questionnaire were utilized. The results demonstrated that 92,1% of teachers and 74% of students do not take part of any regular physical activities. The time students are inactive a day is $339,04\pm 165,72$ minutes and 24,1% of students and 28,0% of teachers are not

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Keywords: level of physical activity, school health education, low income region

Venue: RUUSUPUISTO

Theme: Coach education, professional development

ID 209 Coach experiences of formal coach education developed by national governing bodies: A systematic review

Zhenlong Wang (Loughborough University), **Ash Casey** (Loughborough University) & **Ed Cope** (Loughborough University)

The education and training of coaches is considered central to maintaining and improving the quality of coaching. Formal coach education is accessed by thousands of coaches each year. However, coaches perceived this form of learning as playing a minor role in their learning and development. One possible reason is coaches' perspective is not considered in current programmes design. This study aims to systematically review the existing empirical evidence on how coaches experience formal

coach education programmes developed by NGBs. The significance of the study lies in understanding how coaches have experienced NGB coach education with a view that this understanding can help inform the future design and delivery of such learning provision. This study followed the methodology of a systematic literature review, adhered to ENTREQ and PRISMA guidelines, searched six e-databases (ERIC, PsycInfo, PsycARTICLES, Sport Discus, Scopus, Web of Science) using key words related to coach experience, coach education and national governing bodies. The inclusion criteria were: coach; formal coach education courses developed by NGBs; English peer-reviewed qualitative articles published between 2000 and 2021. Thematic analysis was used to analyse data from the included articles. 15 studies met the study's inclusion criteria. Analysis showed three main themes influenced coaches' course experience: coach educator pedagogy, learning design, and course content. Specifically, coaches' experience depended heavily on (a) whether the educator used pedagogical approaches which include interactive elements and (b) whether educators had good interpersonal skills. In addition, Coaches also considered it important that course content could be discussed in practical-based workshops, there was sufficient time for them to practice what they had learned, and that they were supported by educators with their reflective practice. Finally, coaches considered course content based on empirical evidence to carry greater credibility. The review provides a detailed understanding of what coaches perceive they want and need from NGBs courses. While we cannot claim that the perceptions from the coaches in this systematic review can be generalised or represent the experiences of every coach, these findings provide insight to inform how future NGB's designers and educators could think about what coaches want and need from their education and training experiences. What this review has highlighted is the critical role the coach educator plays in how coaches' experience formal coach education. Despite increased research intention into the role and biographies of coach educators, a focus on their pedagogical practices (i.e. what they do the support learning and their ensuing rationales) is limited. This seems a necessary next step in research focussed on coach educators and is important in helping NGB's to recognise the support coach educators need to understand and develop their pedagogical practices.

Keywords: Coach learning, coach education, coach development, sport coaching

ID 223 Developing coaches' knowledge of the athlete-coach relationship through formal coach education: the perceptions of FA Coach Developers

Andrew Newland (Liverpool John Moores University)

Developing high quality A-C relationships improves both athlete performance and well-being. However, content relating to the A-C relationship has been underrepresented within coach education. The study evaluates how coaches completing the English FA's UEFA A and B Licenses develop knowledge of the A-C relationship. It does so by drawing on the perspectives of those who design and deliver the courses. Semi structured interviews were completed with nine experienced FA coach

developers alongside a document analysis of seven key course documents. Data was analysed through an inductive thematic analysis and five themes were generated; 1.) Coach developers understand the A-C relationship is built on trust, care and hard and soft interpersonal approaches. 2.) The triad of knowledge impacts on the A-C relationship, not just interpersonal knowledge. 3.) The A-C relationship is not meaningfully addressed in the formalised course content. 4.) In situ visits provide an effective medium to develop knowledge of the A-C relationship. 5.) The assessment framework does not align with the formalised course content. Findings demonstrate despite a diversification in content, the A-C relationship is introduced in a superficial manner. Future research should clarify the knowledge coaches require to develop high quality A-C relationships within a high-performance footballing context.

Keywords: Coach education, high performance sports, athlete-coach relationship

ID 294 Development and validation of a questionnaire to assess patient satisfaction in digital movement therapy.

Jan Krell (University of Leipzig / Faculty of Sport Science) & **Hagen Wulff** (University of Leipzig / Faculty of Sport Science)

The rapid development of digital technologies has had a significant impact on healthcare in recent decades. The use of digitally supported movement therapy has the potential to considerably increase the accessibility and reach of therapeutic interventions. In this regard, a critical success factor is the concept of patient satisfaction. However, for digital interventions, there is a lack of evidence in terms of theoretical grounding and operationalization. Therefore, the aim of this study is to identify factors for assessing patient satisfaction with digital exercise therapy and to test the developed dimensions for consistency.

The questionnaire measuring satisfaction with digital movement therapy was developed by a multilevel procedure (Moosbrugger & Kelava, 2020) and includes factors influencing patient satisfaction, such as practical implementation, information exchange, technical equipment, and therapeutic staff. Based on data from 180 respondents ($\varphi = 71$, $\sigma = 90$, no information = 19) an explorative factor analysis as well as an analysis of the characteristics with regard to their internal consistency and discriminatory power was conducted. Five factors could be extracted from the initial item pool. The questionnaire has satisfactory to high internal consistency (global Cronbach's alpha of 0.74). The individual dimensions consistently showed an item-scale correlation of $r > 0.30$. The validated instrument allows for the first time the survey of patient satisfaction with digital exercise therapy, as well as corresponding analyses. This results in the possibility of optimization, the creation of comparability of therapy measures among each other and the answering of further scientific questions (correlation and multivariate analyses). In addition, the resulting findings can be integrated into the development of education and training programs so that therapists can better understand and address the needs of patients. Future research

should ensure the applicability of the instrument in different contexts and populations.

Keywords: University of Leipzig, Faculty of Sport Science

ID 335 Development and Implementation of Codes of Conduct for the Prevention of Violence and Optimal Development of Children and Youths in (Elite) Sports

Kathrin Kohake (University of Muenster)

Violence in interpersonal relationships in sports, involving coaches or other officials on one side and athletes (children, adolescents, young adults) on the other, has long been a pressing issue in (elite) sports (Rulofs, 2020). There is no doubt that appropriate prevention measures should be developed and implemented at various organizational levels; this applies to Germany as well as to other countries (International Safeguarding Children in Sport Working Group, 2016). A project in collaboration with a local federation and the national German Gymnastics Federation aims to directly contribute to the development and implementation of practical prevention measures and provide broadly applicable insights through empirical accompanying research. The focus is on codes of conduct for coaches, athletes, parents, and officials. Such codes of conduct are considered urgently needed as prevention measures because they can provide clear guidance for all parties involved and, in turn, exert stronger behavioral control. In addition to protective aspects, the codes of conduct should also encompass behaviors that have been empirically shown to have particularly performance-oriented, developmental, and motivational benefits for athletes. Therefore, empirical findings from coaching effectiveness research, as well as normative standards (e.g., the Convention on the Rights of the Child), were considered. The likelihood of acceptance and daily practice of these codes of conduct increases when the immediate stakeholders in competitive sports are actively involved in their development and implementation. Thus, an important task was to develop a process structure and individual components of organizational development that sustainably and effectively integrate top-down and bottom-up processes. The poster will provide an overview of the project and modules and share examples of the developed codes of conduct. To scientifically assess the utility and acceptance of the prototypically designed organizational development structure, the approach was evaluated by conducting interviews with various stakeholders. Preliminary results indicate the importance of the participatory approach and the consideration of all stakeholder groups. Participants value the personal exchange and opportunities to contribute to the discourse. Of particular importance to them are the procedures in the event of rule violations. These will need to be addressed in a subsequent step.

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Keywords: interpersonal violence, codes of conduct, coaching effectiveness, organizational development

ID 524 TraiNa – a cross-over Education Program for Coaches in youth competitive sports

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In Germany, it was established to run coach education programs (CEP) in certain sports by the respective sports association. Centrally controlled by the DOSB – the German Olympic Sports Confederation – there are three levels of coaching education: C for a general overview in a special sport, B related to talent identification, A for high-performance sports. On top of that, the DOSB coaching academy in Cologne offers a cross-over coaching education for professional coaches exclusively for 50 years. Over the last 50 years changes in social demographics, the declining birth rate and the effects of all-day schools have had a massive impact on youth athletes and coaches' requirements in Germany. Coaches are responsible for far more task than just achieving sporting success with their athletes. The changed roles and tasks require a highly qualified coach in youth competitive sport. Current coaching programs of the respective sports associations alone are no longer sufficient to meet the modern requirements of junior coaches.

In 2017, the DOSB Coaches Academy Cologne started to develop a new CEP especially for coaches of young athletes, called "TraiNa". This program follows a cross-over approach. First, coaches at the highest level of the sports association-based CEPs (level A (= 3)) were asked after several years of experience what content was missing in their CEPs. Then, an expert group gathered to create a concept for the new CEP. This group consisted of sport scientists of different disciplines with expertise in sports of children and young adults, coach developers with expertise in coach education and representatives of sports associations to contribute the expectations of the institutions in which coaches operate.

Result: In five modules coaches learn a lot regarded to their special target group, needs and restrictions. These modules cover topics such as positive youth development, the influence of parents, special communication, safety conditions and more, which were identified as areas of information that were missing in the existing CEPs of the sports organizations. A blended learning-based design was created, consisting

of four face-to-face events with online based phases for preparation and wrapping up in between. In a final fifth event, the coach students had to present training concepts to one of the subjects learned in the CEP. The first class started with 20 coaches from 18 different sports in July 2018 and ended in May 2019. Advertised as a pilot, participants were encouraged to give qualified feedback during and after. Based on this feedback and the experiences gained by the teachers, adaptations were carried out for the next course. After five years, the new CEP was subjected to an independent scientific evaluation. The aim was to examine the teaching quality in the CEP. The presentation will give an overview about “TraiNa” as such, which is opened internationally, changes during time and outcomes of the evaluation.

Keywords: Coach Education Program, youth sports

ID 570 Creating Rich Learning Environments Through Manipulation of Court Sizes in Youth Volleyball

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In order to achieve meaningful learning in games teaching practices, physical educators and coaches are required to develop an understanding of how they can incorporate a game-based pedagogy. The focus of game-based approaches such as Teaching Games for Understanding and Game Sense is on developing skillful game play, game play involvement and enjoyment.

The use of small-sided games is one of the central aspects that become visible in such pedagogical practice. Small-sided games potentially contain rich learning opportunities for young players. However, the influence of using different court sizes in game-based teaching practices has been relatively unexplored. Especially, when using a focus on the space of the court and how that may contribute to the richness of the learning situation. The purpose of this study is to investigate the course of gameplay (rally length) as function of court size manipulations in youth Volleyball.

Twenty four children, aged between 9-12 years, participated in this study. Children were grouped in 6 teams of each 4 players. The teams played different matches 4v4 on the basis of three different court sizes (small, medium, large). All matches were video-recorded. Totally, fifteen unique matches were analyzed on the following variables: (1) rally length, (2) number of contacts with the ball (touches), and (3) service efficiency. From all the matches that have been played, more than 1,500 rallies were analyzed.

The findings show that changes in court sizes between a small, medium and large court result in an increased rally length for the small court. These changes cannot be attributed to the strategy of performing less touches (bump, set, spike). On the contrary, the findings show an increase in the number of touches per net-passages

on a small court. It is expected that effective team synergies contribute to longer rallies. Statistics of serve errors and aces are also included to better understand the eventual dominance of the serve. These insights support teachers and coaches in their current practice while designing rich learning environments in games teaching practices.

The findings contribute to the body of knowledge on the use of task manipulations in small-sided games and how single task manipulations can result in changes in the course of game play on a basic level in youth Volleyball. Findings also informs adopters of technological developments, such as led floor technology, to use easy accessible changes of court sizes for game design that is tailored to player abilities.

Keywords: Game based approach; court sizes; Volleyball; game-based pedagogy

ID 596 Psychometric properties of the Authentic Leadership Questionnaire with intercollegiate coaches

Jennifer Mead (Bridgewater State University)

The well-being of coaches and athletes may be enhanced through the development of coaches who demonstrate authenticity, are self-aware, and act in concordance with their espoused values and beliefs. In 2008, Walumbwa et al. operationalized authentic leadership by testing a higher-order, multidimensional model of the construct. The initial instrument, the Authentic Leadership Questionnaire-Rater (ALQ-Rater: Avolio et al., 2007), provided evidence to support the construct validity and composite reliability of the multidimensional structure of the ALQ-Rater, as well as the discriminant and predictive validity of a higher-order factor of authentic leadership. A parallel version of the ALQ-Rater, the Authentic Leadership Questionnaire-Self (ALQ-Self: Avolio et al., 2007), was also developed. Beyond the initial development of the ALQ-Rater, no empirical studies were identified in which the factor structure of the ALQ-Self was examined or in which the authentic leadership construct was applied in within the sport coaching domain. The current study was conducted to test the factorial validity of the ALQ-Self, as well as one- and four-factor, first-order models of authentic leadership.

Data were obtained from 710 intercollegiate coaches. Confirmatory and secondary factor analyses were conducted to test support for the factorial validity of the ALQ-Self. A one-factor, first-order model; a four-factor, first-order model; and a second-order factor model, and the internal consistency reliability of the ALQ-Self were tested.

The CFA of the 16-item, first-order, 4-factor model of the ALQ-Self resulted in stronger indices of fit to the data than those reported with the one-factor or the second-order factor model of the ALQ-Self. Additionally, the chi-square value for the first-order, four-factor model ($\chi^2 = 352.84$, $df = 98$, $p < .001$) was significantly

less than the chi-square value for the one-factor ($\chi^2 = 669.40$, $df = 104$, $p < .001$) and second-order factor models ($\chi^2 = 934.13$, $df = 101$, $p < .001$) of the ALQ-Self. Relatively stronger fit indices, consistency with the dimensions present in theoretical literature related to authentic leadership, overall model parsimony, and the limited practical utility for a higher-order authentic leadership score, led to the decision to retain the four-factor model. The weighted omega values for the four-factor, first-order model of the ALQ-Self ranged from .57 to .75.

The four latent factors of authentic leadership are reflected in intercollegiate coaches. Limited evidence of support for the internal composite reliability and adequate supporting evidence for the factorial validity of the four dimensions of ALQ-Self is demonstrated. Before authentic leadership, as operationalized by Walumbwa et al. (2008), is incorporated into coaching education programs, further modification of the ALQ-Self or development of a separate valid and reliable instrument to assess the authentic leadership construct are necessary.

Keywords: authentic, leadership, self-awareness, coaches, psychometric

Venue: RUUSUPUISTO

Theme: Physical literacy, Health literacy

ID 346 'Take a ride on a lifelong journey!' A physical literacy school-based intervention to safely engage adolescents in active transport

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Purpose: Active Transport to and from School (ATS) are positively associated to a better health (Borrestad et al., 2012) while low levels of physical activity continue to be recorded all around the world. The concept of Physical Literacy (PL) has recently become the cornerstone of strategies to promote sustainable physical activity but has yet to influence practices in the field. However, a focus on the safety aspects of ATS is necessary as death rates and serious injuries for cyclists has risen to 8% and 20% (ONISR, 2022). The aim of this study was to investigate the effect of a PL school-based intervention for children's perceptions of being able to engage safely and sustainably in ATS.

Method: 185 pupils (agemean=11.76±0.52; 46% girls) were included in the study (test: n=110; control: n=75). Pupils from the test group have benefitted to PL

intervention conceptualised according to the recommendations of Carl et al (2023). At the end of the intervention, pupils from the both groups have completed a survey to measure the perceptions of development on the four PL dimensions (physical, cognitive, psychological and social), specifically created for this study based on Vieille-Marchiset et al. (2018).

Results: Firstly, the internal validity of the questionnaire was checked. The factorial analysis reduced the number of items from 19 to 13 with an exclusion of the social dimension. Secondly, participants from test group and boys have respectively significantly higher overall score than participants from control group and girls after the intervention (test vs. control: 14.9 vs. 13.4; boys vs. girls: 16.7 vs. 14.5). Group effects are show in the three dimensions: physical (16.4 vs. 15.3), cognitive (16.0 vs. 12.8) and psychological (15.3 vs. 13.8) with significantly higher score for participants from test group than them from control group. Gender effects are also show in the three dimensions with a significantly higher score for boys compare to girls in physical (18.4 vs. 17.1), cognitive (15.9 vs. 13.3) and psychological (15.9 vs. 13.3) dimensions. The validation process of the survey and post-hoc tests would be described during the conference.

Discussion/conclusion: PL is a dynamic process to enhance educational interventions on active transport to school, reinforcing the importance to incorporate it into physical education lesson planning while focusing on gender differences. This study measures perceptions of development and future studies could objectively measure ATS.

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Keywords: physical activity, ecological framework, development, questionnaire, mobility

ID 401 Gross motor coordination in relation to weight status in 7- to 9-year-old children from Slovakia

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Overweight and obesity among children currently remain one of the major public health problems worldwide. In the past two decades, there has been increasing evidence that motor competence is crucial for developing an active and healthy lifestyle. The purpose of the study was to investigate gross motor coordination in overweight and obese children compared with normal-weight peers. The convenience sample consisted of 429 primary school children ($n = 216$ girls; $n = 213$ boys) with a mean age of 8.63 ± 1.22 years. Children were recruited from 18 primary schools in the region of eastern Slovakia. Gross motor coordination was assessed with the Körperkoordinations test für Kinder (KTK). The anthropometric data (body mass, body height, sum of five skinfolds) were measured. Weight status determined by BMI was defined in accordance with the International Obesity Task Force (IOTF) cut-off points for children. The one-way analysis of variance was used to compare motor characteristics between normal-weight and overweight/obese groups. Pearson correlations were performed to explore the associations between motor coordination indicators and BMI. The outcomes revealed statistically significant differences favouring normal weight children in walking backwards, hopping for height as well as in the KTK motor quotient, with medium and large effect sizes. On the contrary, no significant differences in jumping sideways and moving sideways were confirmed between the compared groups, neither in girls nor in boys. Weak to moderate inverse correlations were found between the KTK parameters and BMI, for both sexes. Moreover, study findings point to the higher prevalence of motor impairments in children with overweight and obesity. More than 9.5% of the normal-weight children were identified as being motor impaired, but that proportion was 41.2% in overweight and obese children. The study reinforces the idea that excessive body weight provides a constraint for gross motor coordination in primary school children. A developmentally appropriate level of motor proficiency enables successful participation in various physical activities, which subsequently supports the development of a positive lifestyle trajectory. Considering the crucial role of the motor competence in physical activity engagement, there is a need for an early identification of possible motor impairments in overweight or obese children. Development of motor proficiency is a key strategy in preventing the vicious cycle of childhood obesity. The study was supported by the scientific project No. 1/0162/22 – 'Learners' motor competencies in the context of primary education: Determinants and possibilities of stimulation', which was funded by the Scientific Grant Agency of the Ministry of Education, Science, Research and Sports of the Slovak Republic and the Slovak Academy of Sciences.

Keywords: physical education, childhood, motor development, obesity

ID 402 Basic motor competencies in the reflection of weight status in 9- to 10-year-old children

Ingrid Ruzbarska (University of Presov, Faculty of Education, Presov) & **Tamara Lukacova** (University of Prešov, Faculty of Education, Prešov, Slovakia)

The alarming occurrence of childhood obesity and related civilizational diseases is a global problem. Existent research consistently confirms the important role of motor competencies in the prevention of childhood obesity as well as the influence of weight status on the level of children's motor competencies. The purpose of the study was to investigate basic motor competencies in overweight and obese children compared with normal-weight peers. Data were collected from 250 third and fourth graders (130 girls, 52%) with a mean age of 9.46 years. The MOBAK 3-4 test battery was applied to determine the level of basic motor competencies of children. The test consists of eight motor tasks that cover the object movement (throwing, catching, bouncing, dribbling) and self-movement (balancing, rolling, jumping, running) competence areas. The international childhood BMI cut-offs suggested by the International Obesity Task Force (IOTF) were applied to classify subjects into two BMI groups: the normal weight group and the overweight/obese group. The one-way analysis of variance was used to compare motor measures between normal weight and excessive weight groups. A total of 27.8% of boys and 19.5% of girls from the research sample were identified as overweight or obese. The research findings showed a significantly higher score in girls with normal weight compared to their peers with overweight/obesity in two of the four indicators of self-movement competence area (balancing, rolling) as well as in the overall score of the MOBAK test. Regarding the object movement competence area, no significant differences between the compared BMI groups in both girls and boys were demonstrated. Research indicates possible sex-specific mechanisms in the interaction between BMI and motor development in childhood. This requires differentiated intervention for girls and boys to promote motor development, physical activity and to prevent obesity. The low and developmentally undersized level of children's motor competencies can negatively determine their participation in a wide range of physical activities, and thus lead to a negative spiral of a "sedentary" lifestyle. Intervention motor programs at younger school age should therefore be primarily aimed at the development of children's fundamental motor skills. The study was supported by the scientific project No. 1/0162/22 – 'Learners' motor competencies in the context of primary education: Determinants and possibilities of stimulation', which was funded by the Scientific Grant Agency of the Ministry of Education, Science, Research and Sports of the Slovak Republic and the Slovak Academy of Sciences.

Keywords: MOBAK test, motor development, obesity, childhood

ID 451 Smart Classroom: Create Collaborative Learning Spaces That Transform Pedagogies, Curriculum and Student Development

Raymond SUM (The Chinese University of Hong Kong)

The study aims to create a collaborative learning and teaching environment that leverages innovative technology to enhance the learning experience and promote student success. The study provides a multi-medium interface for various programs and research teams, as well as for teaching teacher education, required and elective physical education courses, sports team training, project presentations, and meetings at the university's venues. This initiative will greatly enhance the learning and teaching experience at the faculty and department levels, transforming pedagogies, curriculum, and student development. Here are the approaches:

1. Collaborative Learning Spaces: Create collaborative learning spaces that promote group work and collaboration. These spaces will be equipped with interactive displays, digital whiteboards, and other digital tools to facilitate collaboration and group work.

2. The Student Activities Analysis Platform (SAAP) is a collaborative learning platform that incorporates an automated eye-tracking system or wearable device with emotion recognition technology. This system collects biometric data on heart rate variability, stress levels, and emotional states such as tension, calmness, excitement, pleasantness, and feeling challenged during lectures or classroom activities. The SAAP allows individual instructors to analyze students' biometric data from the beginning to the end of the lecture or activity, along with the recorded lecture or activity using the proposed digital whiteboards. Additionally, to further enhance learning and teaching, height-adjustable standing desks will be installed. These desks can automatically or manually adjust to standing or sitting levels based on students' stress levels and emotional states. With the integration of the above approaches, individual instructors can reflect on their teaching effectiveness and make adjustments as needed with reference to students' biometric data. Individual students can also refer to their biometric data to self-regulate their learning strategies and manage their well-being.

Keywords: smart classroom, transform pedagogies, well-being, physical activity

ID 458 From girls' school sports clubs to adult life sports: Exploring the transfer process

Yeri Hong (Seoul National University), **Jihye Yoo** (Seoul National University) & **Okseon Lee** (Seoul National University)

Background: Since the introduction of the school sport clubs(SSC) policy in South Korea, many studies have examined the impact of school sports clubs on girls' participation in physical activity. However, few studies explored the impact of SSC on female sport participation in adult life.

Purpose: The purpose of this study was to explore how girls' SSC experiences have transferred to lifetime sports participation. **Methods:** Six adult women, two each from the sports of soccer, volleyball, and badminton, were selected based on the following criteria: (a) duration of participation in SSCs, (b) experience in participating in SSC competitions, and (c) duration of adult lifetime sports participation. Data were collected through semi-structured in-depth interviews and analyzed inductively.

Findings: The girls' experiences were categorized into three phases: (a) 'initiation': how they joined in SSC and fell in love with the sport, (b) 'extension': expanding participation of beyond school to daily life, and (c) 'transfer': living with sports in adult life. First, initiation consisted of 'joining through various opportunities', 'feeling the attraction of the sport through participation in practices and competitions', 'forming strong bonds with teachers and friends', and 'participating in special events'. Second, extension included 'passion for the sport and desire for additional activities' and 'doing the sport with friends in daily life'. Third, transfer included joining and adapting to the life sports community through the processes of 'applying the same elements', 'adapting to different situations', and 'applying acquired skills'.

Conclusion: Girls' school sports clubs provided girls with in-depth experiences in sports, enabled them to enjoy and love sports, and served as a springboard for adult women to voluntarily and actively participate in life sports, leading to lifelong enjoyment of sports.

Keywords: girls' school sports club, adult life sports, transfer

ID 521 "So from uncles, they're all a bit broader as well" – Knowledge of inmates in prison about fitness

Milan Dransmann (Bielefeld University), **Martin Koddebusch** (Bielefeld University), **Bernd Gröben** (Bielefeld University) & **Pamela Wicker** (Bielefeld University)

Introduction

The presence of fitness sport has been noticeable in Western social culture in recent years, gaining enormous popularity and relevance especially for youth. Fitness and the associated beauty ideals are often spread via social media, as influencers are trusted sources for young people (Theis, 2022). However, how do young inmates in prison – who are temporarily banned from accessing the internet – define knowledge about fitness, what sources do they use to acquire knowledge, and how do they consider the credibility of a knowledge source?

Methods

Male youth inmates (n = 12) who train in the fitness room of the prison at least once a week were selected as interviewees. The inmates are imprisoned in two branches of an open German prison. The interview data was analyzed with the Software MAXQDA according to qualitative content analysis of Rädiker & Kuckartz (2021). The interview guide protocol as well as the categories for the deductive content analysis are based on the research questions of Bindel and Theis (2020).

Results

The inmates define knowledge primarily as the execution of movement or the technique. According to the inmates, the right technique protects from injuries. Given the current circumstances (no use of internet-enabled devices in the prison), acquiring knowledge through personal interactions is obvious. However, interaction partners are not only fellow inmates, but also family members or private circles of friends outside the prison. According to this, contacts outside the prison (when going out or at work) are the first address for many inmates when they have questions. The sources or persons are considered credible if they have a broad or muscular body.

Discussion

The fitness trend internalized despite restrictions to the outside world and even small points of contact are enough to recognize an influence. All twelve inmates aim to improve their fitness and appearance during imprisonment. When they are unclear about the execution of training sessions and dietary adjustments, the inmates primarily refer to personal sources for knowledge. Due to the lack of personal experience, the people with the strongest physique are attributed the greatest knowledge. Especially for prisoners who have just started exercising, there is a risk of unreflected dependency.

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Keywords: Jail, Training, Strength, Youth, Qualitative content analysis

ID 351 Evolution of a physical fitness assessment campaign towards other domains of physical literacy

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For 30 years in Belgium, in the Province of Luxembourg, a campaign to assess physical fitness was organised by provincial institutions, in collaboration with elementary schools' principals, teachers and physical education teachers. The goal of this campaign was to assess different parameters of the physical fitness and increase regular

participation in physical activities. However, multiple factors influence children participation in physical activities (1) (2), and assessing physical fitness alone is a limit. The purpose of this study was to modify the organisation of the campaign 2023 (3) and to develop new tests, based on physical and motor skills assessment.

A descriptive cross-sectional study was used to measure physical fitness and motor skills of 1.711 children aged 10 to 12 years, coming from the Province of Luxembourg. Physical tests assessed abdominal endurance, lower limb explosive power, speed, flexibility, and cardiorespiratory endurance. Motor skills were measured in a continuous dynamic obstacle course, where children should perform fundamental motor skills, combined and complex movements, coming from the Dragon Challenge (4) All tests were measured manually. Now, results are recorded in a computer file. In addition to testing, children were invited to discover different sports. Short conferences of 20 minutes were also organized about health-related topics like (importance of sleep, nutrition, hydration, screen time, ...) This campaign brought together different stakeholders involved in children's development around an event that promotes physical activity, health-related topics, and physical and motor skills assessment. Results analysis should show whether there is a link between physical tests and motor skills assessed in the 4 selected elements coming from the Dragon Challenge. In perspective, the next campaigns should provide the assessment of other physical literacy domains and not be restricted on physical and motor assessment.

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Keywords: physical literacy, assessment, children, motor competencies, physical fitness

Venue: RUUSUPUISTO

Theme: Physical activity supporting children's and adolescents' overall development

ID 103 Classroom teachers' perceived educational benefits and difficulties in integrating physical activity into academic lessons

Sanga Yun (University of Georgia), **Junhyuk Park** (University of Georgia) & **Euichang Choi** (Seoul National University)

Classroom-based physical activity is widely acknowledged for its role in enhancing children's health and academic performance. Previous research has emphasized that teachers demonstrate a greater willingness to provide active lessons when physical activities align meaningfully with students' learning objectives. However, the academic integration of physical activity is known to be challenging, especially for novice educators. While teachers' perceptions of the educational benefits and difficulties are crucial determinants of their motivation to adopt academic movement integration, limited attention has been devoted to exploring their perceptions from an educative standpoint. Focusing on the pedagogical aspects, the purpose of this study is to investigate the practical advantages and challenges that classroom teachers encounter during the implementation process.

Twelve teachers from ten public elementary schools in South Korea participated in this qualitative study. Data were collected through semi-structured individual interviews and thematic analysis was employed to analyze the data. The analysis implied that the perception of educational benefits and difficulties should be contextualized within specific parameters. Therefore, the findings have been categorized and presented based on the integration styles, whether the goal of integration is to promote physical activity and/or enhance enactive learning.

When the activity focuses on physical activity, teachers perceived (a) improved concentration and memory, (b) increased on-task behaviors, and (c) enhanced positive emotions in students. However, teachers found it challenging (a) not to compromise the integrity of either the physical activity or the academic experiences, and (b) to direct students' attention to academic tasks in an overheated atmosphere. When teachers aim to establish an enactive relationship between students and the subject matters, they believed they could provide students with (a) sensory-motor experiences that construct embodied knowledge, (b) affective experiences that create emotionally relevant and meaningful understanding, and (c) intersubjective experiences that involve interactive meaning-making. As an educational difficulty, teachers expressed the challenge of constituting meaningful connections between movement and academic content.

This study could provide valuable insights into how elementary classroom teachers evaluate the pedagogical practices of physically active lessons. Teachers' perspectives on the educational advantages and challenges offer practical information for (a) developing implementation strategies and rationales and (b) enhancing teacher's

competence and motivation to promote more frequent use of physical activity in academic lessons. This study implies the significance of examining classroom physical activity through a pedagogical lens to support teachers in planning, implementing, and assessing active lessons.

Keywords: classroom-based physical activity, classroom teachers, perception, educational benefits, educational difficulties

ID 118 Psychological Need Satisfaction in Physical Education Predicts a Positive Development of Motivation: A Latent Growth Modeling Study

Sanga Yun (University of Georgia), **Junhyuk Park** (University of Georgia), **Sami Yli-Piipari** (University of Georgia), **Timo Jaakkola** (University of Jyväskylä), **Mikko Huhtiniemi** (University of Jyväskylä), **Arto Gråstén** (United Arab Emirates University) & **Taewoo Kim** (University of Georgia)

Self-determined theory (SDT) is a framework for understanding the role of the psychological environment in the development of human motivation. This is important in physical education (PE), as the psychological environment in PE has been shown to relate to the development of physical activity motivation and behaviours. SDT conceptualizes the psychological environment as an interplay between humans and the environment, suggesting that it varies in the continuum from need-supportive (i.e., nurturing basic psychological needs of competence, autonomy, and relatedness) to non-need-supportive. A need-supportive environment leads to autonomous motivation, i.e., intrinsic motivation and identified regulation, whereas a non-need-supportive environment leads to controlling motivation, i.e., introjected and extrinsic regulation and amotivation. Previous research has supported the theoretical postulations of the SDT, showing that a need-supportive environment contributes to improvements in adaptive motivation. However, there is very little evidence of how psychological environment and motivation develop across adolescents in the PE context. Thus, advancing current knowledge and implementing a longitudinal approach, this study aimed to examine the role of psychological needs in the development of motivational regulations among PE students. A sample of 1,148 Finnish adolescents (583 girls, 565 boys, Mage = 11.27 ± .32) participated in the annual assessments three times. The results, obtained through the latent growth curve modelling approach, indicated that students' need satisfaction (α range -.20[.03] to -.06[.02]), intrinsic motivation (α = -.38[.03]), and identified regulation (α = -.19[.03]) declined, whereas extrinsic regulation (α = .16[.02]) and amotivation (α = .09[.02]) increased. Boys perceived a higher level of competence and identified regulation compared to girls. However, boys' identified regulation declined at a greater rate than girls, while girls' extrinsic regulation showed a greater increase than boys. Body composition was also a statistically significant factor in psychological needs, indicating that a higher body mass index was associated with lower levels of need satisfaction. Need satisfaction was an important predictor of students' intrinsic motivation (R^2 = .72[.19]). In addition, positive changes in autonomy (β = .47[.09]) and competence

($\beta = .75[.10]$) explained a large portion of positive changes in identified regulation ($R^2 = .69[.20]$). Furthermore, positive development of autonomy ($\beta = .29[.13]$) and relatedness ($\beta = .45[.22]$) led to decreases in amotivation ($R^2 = .62[.22]$). In conclusion, the findings of the study corroborate the central postulations of the SDT, providing empirical evidence of the importance of the psychological needs in the long-term development of PE motivation. The findings of this study encourage PE teachers to implement psychological need-supportive instructional strategies to promote student motivation in PE.

Keywords: self-determination theory, motivational regulations, growth, structural equation modeling

ID 131 “Like my family”: Self-Esteem and an LGBTQ+ Youth Summer Camp

Sara Barnard Flory (University of South Florida), **Craigory Nieman** (University of South Florida), **Rebecca Cavazos-Wylie** (University of South Florida), **Vernise Ferrer Lindsay** (University of South Florida) & **Haichun Sun** (University of South Florida)

The purpose of this study was to determine the impact of a week-long overnight camp for LGBTQ+ youth on self-esteem, and describe the role camp played in their lives. The camp, located in the southern United States (U.S.), included daily physical activity programming, as well as youth-centered choices and workshops. Using the Gender Minority Stress and Resilience (GMSR) model (Hendricks & Testa, 2012), we examined 51 youth campers and 37 caregivers of campers. The GMSR model posits that stressors related to gender minority status can harm mental and physical health, while factors like community support and pride in one's identity can buffer these negative effects. Campers completed the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965) during check-in and check-out of a week-long summer camp for LGBTQ+ youth, as well as a community mapping exercise and semi-structured focus group interview near the end of the weeklong camp. This community mapping exercise allowed campers to draw through images, texts, and symbols what community meant to them and describe how the overnight camp fit into that definition. Sessions were audio recorded, and artifacts were collected from participants at the end of the session. Caregivers of campers completed an open-ended survey on perceived changes in their camper as a result of attending camp via Qualtrics in the weeks following camp.

Data analysis was conducted on the Rosenberg Self-Esteem Scale utilizing descriptive statistics. Results of the descriptive statistics showed an increase in self-esteem

of campers in the pre- ($M = 15.72$) and post- ($M = 18.31$) scores. Out of the 10 questions on the scale, five were found to be statistically significant at $p < .05$ level.

The focus group interviews, artifacts, and survey responses were analyzed utilizing reflective thematic analysis (Braun & Clarke, 2013). Results of this analysis showed that camp provided a supportive and inclusive environment where campers could be themselves, make friends, gain confidence, and develop a more positive outlook on life. The camp experience seemed to have a transformative effect on many attendees, both in terms of personal growth and social connections. The findings from this study highlight the need for community support in physical activity programming, as well as stress the importance of creating inclusive and affirming environments for marginalized populations, especially amidst active legislation targeting oppressed groups in the U.S.

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Keywords: LGBTQ+, physical activity, community

ID 515 The Value(s) of Fair Play: The past, present, and a hopeful future

Carla Vidoni (University of Louisville) & **Emese Ivan** (St. John's University)

The concept of Fair Play (FP) is based on values of the 19th century. It considers fairness as an ideal principle of human relations (Renson, 2009). Currently, this idealistic value has been adopted by the FP International Organization in the following ways: FP as respect, as friendship, as team spirit, as equality, as integrity, as sport without doping, as solidarity, as tolerance, as care, as excellence, and as joy. However, from a realistic perspective, in the past and present, studies have shown that these values are susceptible to different interpretations across different situations (Schneider, 2018; Whitehead, 2011). Fair play can be interpreted as sports ethics in its high-performance form, as mental well-being in recreational activities, and as educational when it is intentionally taught in school settings (Palou et al., 2020; Sekot, 2011).

This presentation intends to showcase a literature review on how the concept of FP has been perceived throughout time and in physical education and sport in K-12 settings. The methodology used for this qualitative study consisted of a conceptual analysis in FP literature in physical education and sport sociology and college students' perceptions between 2006 and 2023. The literature review search included peer reviewed articles and resolutions and documentations of international

educational and sport organizations on FP. Data from students' perceptions were collected through questionnaires and class discussions (ethical committee approved), categorized in relation to physical education (PE) and sport settings. A comparative analysis of FP as a concept in literature and in students' perception has been provided in result of the study.

In the past, some individuals believed in the values of enjoyment in game participation and respect rules for a performance, even in defeated situations. At the same time, others believed that winning at all costs prevails ethics and pleasure for participation (Renson, 2009). Fast-forward to 21st century, the International Fair Play Committee states that FP is not a theory. It teaches tolerance and respect for others and can build a peaceful society. Moreover, FP gives hope, pride, and identity, and it may unite nationalities, politics, religions, and cultures that are often divided. These statements align with social justice initiatives, and it relates to the current United Nations Sustainable Development Goals, which eight out of the 17 established goals, can be cultivated through PE, physical activity, and sport.

Although society has changed and progressed in so many ways, it is notable that from one side, the idealistic values remain hopeful for social justice, but in contrast, the media frequently exposes struggles for sustainable moral consciousness and fairness in terms of political interests, misogynistic principles, brutality, drug use and racism. From school settings perspective, FP expectations are still interpreted differently in PE classes from coaching practices (Sierra-Diaz, 2023). This presentation will conclude with an ongoing debate surrounding the concept of FP for the academic community to reflect, research, report and build sustainable develop of social justice in K-12 PE and sports.

Keywords: Fair Play, Physical Education, Coach Education, Social Justice, Moral Development

ID 617 Health-related fitness and mental difficulties among adolescence students

Tanja Mäntylä (University of Jyväskylä), **Timo Jaakkola** (University of Jyväskylä) & **Mikko Huhtiniemi** (University of Jyväskylä)

Introduction: Adolescence is a crucial period for developing mental health. However, after COVID-19 pandemic mental difficulties have become more common. Youth with good mental health can cope with their life's challenges, engage in learning, and recognize their own potential. Studies have shown that health-related fitness (i.e., cardiorespiratory, and muscular fitness) is positively associated with mental health and negatively with mental difficulties.

Objective: The aim of this study was to analyze the relationship between cardiorespiratory fitness, muscular fitness, and mental difficulties within adolescents.

Method: The study participants were 264 students from different parts of Finland. The participants cardiorespiratory and muscular fitness were measured in 2017 when students were 11-years-old using the 20-meters shuttle run, push-up, and curl-up tests. Mental difficulties were measured using the Strengths and Difficulties Questionnaire in 2023, when students were 17-years-old. Data was analyzed using Pearsons' correlation coefficients and linear regression models.

Results: There was a statistically significant association between cardiorespiratory fitness and mental difficulties ($r=-0.161$, $p<0.01$). The linear regression model was significant ($F=3.312$, $p<0.05$) and explained 3,7 % of the total variance in mental difficulties. Results demonstrated that cardiorespiratory fitness ($\beta =-0.074$, $p< 0.01$) had a statistically significant and negative association with mental difficulties. There were no associations between push-up ($\beta=0.065$, $p=0.103$) or curl-up ($\beta=-0.011$, $p=0.592$) test scores with mental difficulties.

Conclusion: The results are in line with current knowledge regarding the negative association between cardiorespiratory fitness and mental difficulties. However, in this study muscular fitness was not associated with mental difficulties which contradicts previous results. Promoting cardiorespiratory fitness may be an effective strategy to increase mental health among adolescents.

Keywords: Health-related fitness, Mental health, Adolescence, Longitudinal study

ID 713 A scaffolded pedagogical practice – Independent Boarding Schools in Denmark

Lise Maria Elkrog-Hansen (Syddansk Universitet)

Independent boarding schools, known as "Efterskoler" in Danish, are a distinctive type of residential school catering to students aged 14 to 18. One key difference between Efterskoler and regular Danish public schools is the former's obligation to promote broad-based personal and social development of the students (bildung). This aim is supported by the unique historical and cultural background of the Efterskoler. One-third of all Danish adolescents opt to study at these boarding schools. Of the 241 Efterskoler in Denmark, nearly half teach sport and physical activity (PA), many of them strongly emphasizing that engaging collaboratively in sports and PA is a effective pathway to promote personal and social development of young people. This study investigates how the aim to promote personal and social development (bildung) among adolescents manifests in one particular Efterskole. We critically analyze the school's pedagogical strategies, especially examining how 'scaffolding' principles influence the comprehensive personal and social evolution of its students.

The study is based on data generated via field work using observational and interview methods. The field work took place during the first ten days of the school year 2020, during which the study's primary author resided with the students and participated in their daily routines at the school. Four group interviews with students, two group interviews with teachers, and three individual interviews with the school's

management were conducted. Theoretically, the analytical framework is rooted in the concept of scaffolding as defined by Wood, D., Bruner, J. S., & Ross, G. (1976).

The analysis shows that the investigated school has implemented a highly structured and scaffolded pedagogical practice that particularly works through three scaffolding principles: reduction in degrees of freedom; direction maintenance; and demonstration. The pedagogical practice on the Efterskole entails a paradoxical learning environment: While the learning environment constrains students' autonomy and freedom to a degree, it concurrently enhances their sense of independence and personal accountability within those boundaries.

In the discussion of our results, we employ the theoretical lens of educational scholar Gert Biesta (2021), specifically highlighting the implications of a heavily scaffolded pedagogy in relation to personal development and the process of subjectification. Viewed through Biesta's theoretical framework, a picture emerges that the pedagogical practices in Efterskoler are characterized by the function of socialization and the strong scaffolding may pose a risk of impeding students' personal development and the process of subjectification.

Keywords: boarding schools, social development, personal development

ID 617 Health-related fitness and mental difficulties among adolescence students

Tanja Mäntylä (University of Jyväskylä), **Mikko Huhtiniemi** (University of Jyväskylä) & **Timo Jaakkola** (University of Jyväskylä)

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were no associations between push-up ($\beta=0.065$, $p=0.103$) or curl-up ($\beta=-0.011$, $p=0.592$) test scores with mental difficulties.

Conclusion: The results are in line with current knowledge regarding the negative association between cardiorespiratory fitness and mental difficulties. However, in this study muscular fitness was not associated with mental difficulties which contradicts previous results. Promoting cardiorespiratory fitness may be an effective strategy to increase mental health among adolescents. Keywords: Health-related fitness, Mental health, Adolescence, Longitudinal study

ID 422 THE INFLUENCE OF HIGH INTENSITY TRAINING PROGRAM IN YOUNG'S PHYSICAL FITNESS

Ana Sofia Ruivo Alves (University of Beira Interior/Department of Sport Sciences and CIDESD), **Henrique P. Neiva** (University of Beira Interior/Department of Sport Sciences and CIDESD), **Ricardo Ferraz** (University of Beira Interior/Department of Sport Sciences and CIDESD), **Daniel A. Marinho** (University of Beira Interior/Department of Sport Sciences and CIDESD) & **Mário C. Marques** (University of Beira Interior/Department of Sport Sciences and CIDESD)

Advances in technology lead to a decrease in daily physical activity and consequently low physical fitness levels (1). In turn, physical fitness is exposed as an important indicator of health in adolescence. The development of cardiorespiratory fitness is considered catalyst in the prevention of cardiovascular diseases (2). Although high-intensity interval training (HIIT) is indicated as a useful unconventional training on health benefits in adults, doubts remain about its influence in adolescents. Thus, the aim of the study was to analyze the influence of HIIT program on physical fitness parameters in healthy adolescents. Sixty-one adolescents (16.35 ± 0.37 years) from a public school were randomly distributed into an experimental group (HIG, $n=31$) and a control group (C, $n=30$). Study approved by the Ethics Committee of the University of Beira Interior, Portugal and the ethical procedures followed the Declaration of Helsinki. After warming up, HIG performed a HIIT program ($>85\%$ HRmax) for 8 weeks, 20 minutes, 2 x/week and final stretching. The HIG performed 3 sets, 6 exercises (e.g., sprints, jump squats, mountain climbers), of 20s activity + 10s recovery (3 min rest between sets). C only performed physical education classes. Anthropometric measurements were according to international standards (3). VO_{2max} estimated using the equation by Léger et al. (4). After 8 weeks, difference was found between HIG and C in the BMI, $F(1, 59) = 26.21$, $p < 0.001$, $\eta_p^2 = 0.43$ (large effect-size). Other difference between HIG and C in VO_{2max} $F(1, 59) = 6.30$, $p = 0.016$, $\eta_p^2 = 0.13$ (medium effect-size) was reported. This study suggests that an 8-week HIIT program may be effective in improving physical fitness in adolescents. To increase motivation and diversity in physical education classes, the high-intensity interval training should be a helpful and safe method for implementation in the school-based programs.

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Key words: Strength; aerobic capacity; development; children and adolescents

Venue: RUUSUPUISTO

Theme: Physical activity interventions

ID 144 Sustainability of Daily Physical Activity in Elementary Schools: Perceptions of the School Team Ten Years After

David Bezeau (Université de Sherbrooke), **Sylvie Beaudoin** (Université de Sherbrooke), **Maxime Chaput** (Université de Sherbrooke) & **Sara Champagne** (Université de Sherbrooke)

The practice of physical activity enhances cognitive functions and, consequently, promotes students' academic learning. The school environment is an ideal context for implementing interventions aimed at increasing students' physical activity, as children from all socioeconomic backgrounds are required to attend school for several years. In Sherbrooke (Canada), in 2009, an elementary school took this initiative. The school's team implemented a daily 20-minute physical activity period for all students before the start of classes. From 2011 to 2013, our research team was engaged to support and document the project. Fast forward to 2023: the project has become sustainable and has continued since 2013 without the support of the research team. Deployment is now autonomous, managed by the teachers. While many physical activity implementation initiatives occur in the school context, few studies explore those that sustain over time.

The purpose of this poster presentation is to characterize, a decade later, the factors facilitating the ongoing implementation of the project within the school and to

describe the challenges foreseen by the teachers and school administration for the future of the initiative.

To achieve this, nine semi-structured interviews were conducted with members of the school team. The data collected were analyzed using NVivo software. The socio-ecological model guided these analyses through five factors: 1) intrapersonal; 2) interpersonal; 3) institutional; 4) community; and 5) political.

The eight facilitators identified by the participants are linked to these five factors, including the benefits of the initiative (intrapersonal) - collaboration with parents (interpersonal) - integrating the initiative into the schedule (institutional) - initial support from the research team (community) - government policies (political). The four challenges identified pertain to three of the five factors, namely, the lack of motivation among teaching staff (intrapersonal) - the lack of content for activities offered to students and staff turnover (institutional) - access to facilities (community).

Various factors appear to contribute to the sustainability of the physical activity period, while some challenges oppose it. The representation of each level of the socio-ecological model reinforces the systemic nature of sustainability, and concerted efforts seem promising in creating a lasting culture of physical activity in schools. Our results could guide other environments in the sustainable implementation of such initiatives. In this regard, future research could build on these factors to define and share recommendations to guide them in their initiatives.

Keywords: Let's move! initiative, 10 years project, sustainability, 20-minutes physical activity, facilitators

ID 441 Evaluation of the Impact of the PlayOn! Curriculum on Students' Physical Activity in After-School Programs

Pamela Kulinna (Arizona State University - Tempe, AZ), **Omar Albaloul** (Arizona State University - Tempe, AZ), **Kylie Wilson** (Arizona State University - Tempe, AZ), **Allison Poulos** (Arizona State University - Tempe, AZ), **Kahyun Nam** (Arizona State University - Tempe, AZ), **Marissa Schulke** (Arizona State University - Tempe, AZ), **Hyungsik Min** (Arizona State University - Tempe, AZ), **Dong Liu** (Arizona State University - Tempe, AZ), **Mengyi Wei** (Arizona State University - Tempe, AZ) & **Dana Pelman** (University of Wollongong)

Background: School playgrounds are crucial settings that offer children significant opportunities to engage in physical activities (PA), contributing to their overall health and well-being. However, despite their potential, there is a shortage of playground curricula suitable for use in school settings. The purpose of this study was to determine the effect of a seven-month cluster randomized controlled trial on students' PA levels after implementing a playground curriculum in afterschool programs.

Method: Participants included 153 students in grades three through six (ages 8-12) from pre-existing afterschool programs across 14 schools within a large public

school district in the southwestern US. The schools were randomly allocated to either the intervention group (N=7) or the control group (N=7). The research-based curriculum used in the intervention, PlayOn!,¹ emphasizes the use of playground equipment to promote both structured and free activity and was implemented by the program leaders. These leaders received training sessions and teaching materials, and their ability to implement the curriculum was assessed. Intervention fidelity was measured through observations and a fidelity checklist. Students' activity levels (sedentary behavior, light PA, moderate PA, and vigorous PA) were assessed at baseline, midpoint (5 months), and post-intervention (7 months) using wrist-worn accelerometers. Hierarchical linear models were used to examine group mean differences in the proportion of time spent in each activity level when the student was at the after-school program, accounting for variation at the school level.

Results: The group-by-time interaction was significant in the model examining light PA. There was a significant increase in light PA in the intervention group from baseline to midpoint (22.05% v. 24.67%, $p < .05$) and baseline to post-test (22.05% v. 26.25%, $p < .05$). Difference between light PA in the intervention and control group at post-test was also significant (26.25% v. 21.76%, $p < .05$). However, this interaction was no longer statistically significant when student gender, race, and age were included as covariates. There were no statistically significant differences over time within or between groups for the proportion of time spent in sedentary behavior, moderate PA, or vigorous PA.

Conclusion: The findings of this study indicate the playground-based PlayOn! curriculum can enhance after-school programs by significantly increasing students' light PA. Future studies should examine the impact of the PlayOn! curriculum on students' PA in recess and physical education.

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Keywords: PlayON, Playground, Physical activity

ID 441 Arizona's (USA) recess law: Factors related to adoption over time

Pamela Kulinna (Arizona State University), **Kylie Wilson** (Arizona State University), **Marissa Schulke** (Arizona State University), **Kahyun Nam** (Arizona State University), **Hyungsik Min** (Arizona State University), **Omar Albaloul** (Arizona State University) & **Allison Poulos** (Arizona State University)

Introduction/Background: This project used an adapted ecological model of physical activity policy¹ under a Diffusion of Innovation framework^{2,3} to assess adoption of an innovative recess law in the State of Arizona (USA), ARS§-15-118. This is one of the only recess laws in the USA that requires schools to provide K-5 grade pupils with two daily recess sessions.

Purpose. To determine the adoption rate and related factors of the recess law in Arizona Elementary Schools over time after the passage of a state law. **Methods.** A modified Comprehensive School Physical Activity Program Practices and Policies Questionnaire (CSPAP-Q)⁴ was sent online to school personnel at all state elementary schools each fall for two years.

Data Analysis. Physical Education teachers or administrators completed the survey each year (n=429; 16.6% response rate). Related recess policies and practices were calculated descriptively and then correlations between each characteristic and adoption were determined across years.

Results. Adoption of the recess law (i.e., two or more recesses) trended upward after the first year and then remained above 70% years two and three (Adoption: Year 1: 30%; Year 2: 81%; Year 3: 71%). Recess related factors positively and significantly correlated with adoption in Years 2-3 were the presence of a school- and district-level policy specifying number of recess sessions and prohibiting withholding recess; providing loose equipment during recess; having 20 or more minutes of recess daily; in practice fewer teachers withholding recess.

Conclusion/Discussion. Adoption of a statewide law requiring two recess sessions for K-5 grade pupils has maintained above 70% over time; however, we may not be reaching underrepresented schools. Supporting the adapted ecological model of physical activity policy, change at the state level may lead to change at districts and schools which may impact best practices. Further diffusion of this innovation will require awareness, adoption, and sustainability.

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Keywords: Whole-of-School Health Programming, Comprehensive School Physical Activity Programming

ID 499 Ludotechnical Model for individual sport: An alternative way to improve enjoyment and intention to be physically active among children in afterschool physical activities

Alfonso Valero-Valenzuela (Universidad de Murcia), **Ernesto Arroyo-Martínez** (Universidad de Murcia), **Robin Joi Dunn** (Saint Mary's College of California) & **José Francisco Jiménez-Parra** (Universidad de Murcia)

Traditional teaching methods used for introducing athletics' skills are characterized by direct instruction, teacher-led demonstrations, and the students' repetitive imitations of the skills' techniques. As a result, traditional methods are not appealing to children who are interested in learning new individual sports in physical activity programs outside of school. New methodologies, such as the Ludotechnical Model (LTM), have emerged as an alternative for teaching individual sports. The LTM is a play-based approach to sport that increases the levels of engagement and fun without forgetting the technical aspects of the sport. The main objective of this presentation is to examine how the differences in interpersonal teaching styles impact the student's intention to be physically active and their enjoyment. The study lasted 12 weeks in three different athletics clubs. Two of these clubs received a Ludotechnical teaching methodology, while the other one had a traditional approach. The quasi-experimental design consisted of a sample of 66 participants, aged between 9 and 13 years. There were two experimental groups composed of 32 participants, split equally amongst the two clubs, and one control group composed of 34 participants. All groups were given a questionnaire before and after the intervention to analyse the study variables. For data analysis, a multivariate analysis of repeated measures with covariates (sex and age) was used.

When the groups were compared, the results showed they were homogeneous at the start. However, there were significant differences, in the posttest, in favor of the experimental group in which the teacher's interpersonal style supports autonomy and the intention to be physically active. When comparing the pretest to the posttest for all groups, the results for the control group show an increase in autonomy support over the 12 weeks. For the experimental group, there was a significant improvement in autonomy support, intention to be physically active, and fun.

The LTM has shown changes in the perception of athletes, who favor a teaching style that supports the increase of athletes' autonomy and intention to be physically active compared to the conventional methodology. Although children in both groups perceived greater support for autonomy, only those in the Ludotechnical group also perceived a greater intention to be physically active and enjoyment. This kind of innovative methodology is in line with new psychological theories such as Self-Determination Theory, where styles that support the student's autonomy generate greater satisfaction of basic psychological needs. This enhances autonomous motivation, potentially leading to intention to be physically active, and more enjoyment of physical activity and sport.

In conclusion, the LTM has been shown to be effective in classes in which athletics are introduced for the first time, whether in traditional physical education classes or after school activities. Researchers suggest that the model can be used with any individual sport discipline. Future studies are necessary to corroborate these first findings. Presenting Author: Alfonso Valero-Valenzuela (avalero@um.es)

Keywords: pedagogical models, sport pedagogy, track and field, self determination theory

ID 557 Characteristics of Afterschool Physical Activity Programming in Elementary School: A Systematic Review

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Background: Despite the known benefits of physical activity for children, evidence regarding the benefits of after-school physical activity programs still remains inconclusive (Demetriou et al., 2017). One significant reason for this is the absence of information on the details and components of the programs (Liberati et al., 2009).

Objective: The purpose of this study was to provide detailed information on programming in after-school physical activity programs at the elementary level. Method: This research is framed with the Comprehensive School Physical Activity Program (e.g., CSPAP) and whole-of-school health models (CDC, 2013; 2023). This review was conducted according to the PRISMA-P protocols that served as the guideline for systematic review. Articles were searched with five databases by using keywords based on inclusive criteria: peer-reviewed, written in English, and published between 2013-2022. This procedure identified 20 articles that met the criteria for the systematic review. An inductive thematic analysis was conducted focusing on the details and components of programs.

Findings: The review thematized the characteristics of the after-school physical activity program into three categories: 1) forms and structures of activities, 2) key components, and 3) various benefits. Firstly, the forms (e.g., sports vs non-sports) and structures (e.g., structured vs. unstructured) of activities provided by programs were identified. Although some programs were conducted according to each form (e.g., non-sports such as running, rowing, and outdoor activities) or structure (e.g., unstructured activities such as free play) independently, a number of studies implemented hybrid versions to compare the differences of the forms and structures or maximize the outcomes. Second, several key components of programs that facilitate children's positive outcomes included: (a) empowerment (e.g., giving children a chance to choose activities); (b) peer relationship (e.g., building positive and trusting relationships); (c) leadership style (e.g., well-trained certificated instructors); (d) supportive environment (e.g., creating a positive, inclusive environment); and (e) active partnership (e.g., a strong partnership between community staff and university

faculty). Lastly, various benefits were identified, including cognitive, psychological, socio-emotional, and critical aspects beyond the physical domain.

Conclusion: This review highlighted the importance of providing detailed information about physical activity programming when designing after-school programs. Suggestions for researchers and practitioners include the importance of reporting not only the benefits but also the program's specific information (such as forms, structures, and key components) from programming in order to grow the body of knowledge supporting after-school programming with a focus on physical activity.

Keywords: afterschool programs, elementary school, physical activity, sports, children

ID 369 Impact of a physical activity intervention on improving body fat, physical fitness and executive function in children from 4 to 6 years old: The MOVI-HIIT study

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The school has been recognized as the ideal place to promote active, healthy lifestyles. However, the time for preschoolers to be active during school hours in Spain is often not sufficient to reach the daily amount of physical activity (PA) recommended by international guidelines. Therefore, additional opportunities for students to be active during the school day are needed. Active breaks (short bursts of PA during the school day) provide another opportunity for children to be active at school. This study examined the impact of a PA intervention (MOVI-HIIT) on improving body fat, physical fitness, and executive function in children from 4 to 6 years old.

A controlled cluster-randomized trial included 465 schoolchildren from 9 schools (rural and urban areas) in Ciudad Real province, Spain. Five schools were randomized to the intervention group (IG), in which children performed the MOVI-HIIT intervention, and the other four schools were allocated to the control group (CG). During an academic year, the children belonging to the IG performed two active breaks per

day of 5 minutes of exercise based on high-intensity interval training (alternating periods of high-intensity exercise with rest periods, 20"/10" method) through a virtual platform. The platform is based on gamification and offers the possibility of displaying progress and obtaining rewards. In the CG, regular PA will continue. Analyses were conducted on an intention-to-treat basis. Changes in body composition (body mass index, fat mass, and waist circumference), physical fitness parameters (by PREFIT battery), and cognition indicators (core executive functions and cognitive performance) were analyzed using mixed linear regression models, controlling for baseline covariates, and cluster factor analysis.

We found a reduction in adiposity in intervention versus control schools, with a decrease in waist circumference and an increase in speed and agility, static balance, working memory, and verbal factors, referring to the ability to discover relationships between concepts and verbal comprehension.

In conclusion, this study shows that an active break intervention based on high-intensity interval exercise through a virtual platform is effective in reducing adiposity and increasing cognition and fitness in preschoolers. Therefore, the MOVI HIIT platform can be a simple, low-cost, and useful tool to improve health and academic outcomes.

Keywords: active breaks, virtual platform, adiposity, fitness, cognition, preschoolers

