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Abstract

This paper aims to provide insights into the research worlds of an international group of mid- and late-career physical education teacher educators. Specifically, it explores participants' motives for research engagement and choices, and investigates what challenges and facilitates their research efforts. Two rounds of individual in-depth semi-structured interviews were conducted with 14 physical education teacher educators across seven countries. Findings point to a distinction between research motives. Embarking on formal theses or specific funded projects was often motivated by practical and contextual drivers, such as job requirements or a wish for promotion, and was associated with feelings of frustration and stress. Motives for engaging in research in general, on the other hand, tended to be more personal or altruistic and elicited feelings such as enjoyment and passion. Time constraints, skill gaps and language barriers were all seen as challenges to research endeavours, while learning through doing, seeing and reading, and collaboration with others were seen as the main facilitators.

Introduction

The gradual embrace of the research aspect of the working lives of physical education teacher educators has been dated back to the 1960s and 1970s, during which time professors and graduates of physical education teacher education programmes in the US and their counterparts around the world began to carve out a place for research in their academic roles (Dodds, 2009; Lawson, 1990; Locke, 1984). The first large-scale study on the research work of physical education teacher educators, conducted by Metzler and Freedman (1985), revealed the following about US physical education teacher educators at the time: i) they published, on average, one peer-reviewed publication every four years; ii) they rarely subscribed to journals outside of the subject area of physical education; iii) just 9% had more that 10% of their work time allocated to research activities; and iv) 16% placed research in the top three ways in which they would like to spend their work hours, while 47% placed research in the top three ways in which they believed their institution would like them to spend their work hours. A subsequent US-Canadian qualitative study from the same era also found participants' role orientations to be at odds with institutionally-defined role expectations (Mitchell & Lawson, 1986).

Lawson (1991), setting out an agenda for further research on physical education teacher education professors, listed, among pertinent questions, a need to investigate their research motives and practices. Responding to Lawson's call, Mitchell conducted several studies on the research aspect of the physical education professoriate in the early 1990s. He first set out to trace the academic genealogy of the 'elders' of physical education teacher education – those who were major contributors to the *Journal of Teaching in Physical Education* in the 1980s and, as such, had a degree of control within the 'invisible networks of prestige' of the profession (1992a, p. 426). It was his contention that determining whose knowledge is considered valuable is key to understanding and exerting control over the evolution of a profession. He also explored the scholarly activities of physical education methods teacher

educators in Ohio (1992b), finding that while their attendance at conferences and professional meetings was relatively high, their levels of engagement with creating and sharing new knowledge was less promising. Returning to the most prolific publishers among the sample in his earlier study (1992a), Mitchell set out to determine the enablers and barriers to their scholarly work (Mitchell, 1997). Personal attributes and supportive colleagues and mentors were seen as key to their research achievements.

A review of literature mapping empirical research on physical education teacher educators from 1990 to 2014 indicated that the focused empirical exploration of the research lives of physical education teacher educators witnessed a long hiatus since Mitchell's work (McEvoy, MacPhail, & Heikinaro-Johansson, 2015)¹. Until the current decade, few papers have since contributed to the empirical research base focused on the research worlds of physical education teacher educators.

How research is situated in the lives of those at the beginning of physical education teacher education careers has received some recent attention. A special issue looking at physical education teacher education doctoral programmes in the US highlighted the need for doctoral students to engage early in the research process and gain skills which will allow them to cross disciplinary boundaries in their research work (van der Mars, 2011; Ward, Parker, Sutherland, & Sinclair, 2011). Focusing on doctoral students and early career academics in field of sport pedagogy in Australia and New Zealand, Stylianou, Enright, and Hogan (2017) found that much learning related to research skills often occurs through self-directed practice and that working in isolation is common, such that opportunities to network and form peer relationships beyond the field become important sources of support.

With regard to later-career physical education teacher educators, practitioner research has done much to inform our understandings of their relationships with research. The self-study of Tannehill, Parker, Tindall, Moody, and MacPhail (2015) stressed the importance of collaborative learning in the development of their research identities and practices. Further, Casey and Fletcher (2017) demonstrated the feelings of frustration that can arise when a physical education teacher educator's research interests do not align with the research topics deemed conducive to meeting institutional publication and funding expectations. Other studies have illustrated how the process of conducting research can impact upon the identity and understandings of physical education teacher educators (e.g., Bruce, 2013; Garbett & Ovens, 2012; Legge, 2014; Pearson, 2011; Webb & Scoular, 2011).

Focus of Paper

The purpose of this paper is to build on existing literature to provide insights into the research worlds of an international group of mid- and late-career physical education teacher educators. Specifically, the paper aims to explore participants' motives for engagement in research² and choice of research topic, and to discover what challenges and facilitates their research efforts.

Methods Participant selection

¹ This literature review was limited to peer-reviewed research published in English

² While acknowledging the value of a broad view of scholarship, the form of research which is referred to in this paper constitutes that which Boyer (1990, p. 16) refers to as the 'scholarship of discovery' and the 'scholarship of integration', i.e. that which adds to and interprets new knowledge.

Using a combination of convenience and purposive sampling (Patton, 2002; Teddlie & Yu, 2007), with a view to including mid- and late-career teacher educators with considerable experience from which to draw in responding to interview questions, 14 participants were selected from among 53 attendees at an international research seminar which focused on physical education teacher education. The selection was made according to three criteria: (1) contributing to the education of secondary physical education teachers, (2) holding a senior position in a given faculty (at least senior lecturer or equivalent), and (3) having at least 10 years of professional experience in the field of physical education with at least five of those years being as a physical education teacher educator in higher education. All participants were based in universities and, at the time of initial interview, held the title of either senior lecturer, assistant professor or professor. It is acknowledged that these titles encompass different responsibilities in different countries but the data demonstrated that all participants had a wealth of relevant experience through which to inform the data. At the beginning of the data collection period, participants had an average of 20 years of experience as physical education teacher educators, ranging from 6 to 38 years. Participants included seven women and seven men, based in seven countries: Belgium, Finland, Germany, Ireland, New Zealand, Switzerland and the USA. Although this study is international in the sense that its participants are based in various countries, it is not a comparative study and the participants do not claim to represent the totality of views from their respective countries. Rather, they provide individual perspectives from a variety of contexts.

Data collection

Data collection involved two rounds of individual in-depth semi-structured interviews. One participant chose to provide responses to questions from the initial interview in written form, another did so for her follow-up interview. These written responses were added to the interview transcripts before analysis. Of the 26 interviews conducted orally, nine were conducted in person at a location convenient to the participant (e.g. in an office or a quiet location at a conference) and the remaining 17 took place via Skype. Interview durations averaged 85 minutes (an average of 68 minutes for the initial interviews and an average of 101 minutes for the follow-up interviews).

The initial interviews were exploratory, centring on gaining a general sense of participants' professional pathways, their views on their subject and their experiences as teacher educators. The follow-up interviews, which took place approximately one year later, tracked participants' professional journeys in more detail and included questions related to how and why they engaged in research throughout their careers and the place of research in their working lives. Following the initial interview, each participant also provided a copy of his/her curriculum vitae. This was useful both in confirming general details provided in the initial interview and as a prompt in examining professional journeys and research lives in more depth in the follow-up interview.

Data analysis

The overall data corpus for this research consisted of 36 hours and 51 minutes of audio recordings as well as the two interview responses submitted in written form. When all audios were transcribed, this represented 745 pages of data (299,533 words). Data analysis was conducted mainly by the first author. The second and third author acted as critical friends, encouraging reflexivity and challenging assumptions throughout the process. Acknowledging that it is not possible to fully access the social reality of another (Smith & McCannon, 2017), our intention was to analyse descriptively the collected data (Silverman, 2013) and gain an overall sense of participants' experiences of engaging with research.

The first phase of analysis involved emersion in the data. The audios were listened to a number of times to become familiar with the narratives shared by participants in a holistic manner. A brief one/two-page summary of the full narrative shared by each participant was also created to serve as an aid in retaining the whole picture of each participant as the data analysis continued. The second phase of analysis involved exporting the full data corpus to Excel where it was divided into meaning units, defined as 'parts of the data that even if standing out of the context, would communicate sufficient information to provide a piece of meaning to the reader' (Elliot & Timulak, 2005, p. 153). Meaning units were created by reading carefully through the data and as each new thought/piece of narrative was shared, a new unit was begun. In all, the data was divided into 2012 meaning units. The units were kept relatively large (approximately 150 words on average) so that the data did not become too fragmented and the clarity of the contextual meaning was retained. As each meaning unit was created, it was assigned to the 'domain' to which it pertained (Elliot & Timulak, 2005, p. 154). The next phase of analysis involved categorising the meaning units within each domain. 1073 meaning units related to the research lives of participants and were categorised in the 'research' domain, which constituted the dataset for this paper. Within each category, units were further coded through a constant comparison of meaning units until all the data were sorted (Rubin & Rubin, 1995). The final phase involved looking across categories to identify themes which were common and provided insight into the research lives of participants. Participant pseudonyms are used in the presentation of findings.

Findings and Discussion

Åkerlind (2008, p. 17) terms underlying feelings academics have about research 'researcher affect'. The feelings our participants expressed when discussing the research aspect of their working lives included frustration, excitement, anger, confidence, pressure, interest, stress, invigoration, tiredness, being energised, regret, enjoyment, worry, motivation, nervousness, happiness, sadness, passion, fascination, satisfaction, pride and inspiration. This range of feelings reflected the motives, contexts, challenges and facilitators associated with participants' engagement with research.

Our findings section attempts to provide some detail on the most salient parameters shaping the research lives of our participants. The first subsection considers the theme of participants' research motives and choices, detailing why they conduct research and what influences their choice of topic and publication outlet. The next subsection focuses on the theme of research barriers, including an exploration of data regarding time constraints, perceived skills gaps and language barriers. The third subsection focuses on the theme of research facilitators, including the sub-themes of learning through doing, seeing and reading, and collaboration with others. Findings are discussed in the context of related literature.

Research motives and choices

Lawson (1990) and Mitchell (1997) list various motives physical education teacher educators have for conducting research, including (i) a desire to improve practice, (ii) extrinsic motives such as employment security, professional responsibility, economic gain, peer pressure, or status, and (iii) intrinsic motives such as enjoyment, curiosity, learning, personal clarification, a wish for better understanding of themselves or practices in the field, a desire for a more clearly defined academic identity, or to satisfy personal urges.

Among our participants, these motives were all evident to varying degrees. However, there was a distinction between motives for embarking on formal theses or specific funded projects and motives for engaging in research in general. When asked why she embarked on her

doctoral work, Jane (New Zealand) responded: 'Because I had to . . . it's a requirement of a university, basically, that to teach in it you should have a PhD'. When speaking about why she engages in research in general, however, her response was more reflective of her general passion for her work: 'It's all about understanding practice I guess, what we're doing and why we're doing it'. This example was representative of a trend across our participants. Their reasons for embarking on formal theses and some funded projects were often related to practical and contextual drivers, such as job requirements or a wish for promotion. Their interest in specific research topics and in the research process more generally tended to be characterised by more personal or altruistic motives such as a desire to improve practice, a desire to enhance personal learning, curiosity rooted in a practical experience or previous research finding, or enjoyment of the research process. Following Åkerlind (2008), we found that the underlying feelings participants held about research were strongly linked to their research motives. In discussing institutional pressures to publish and to establish themselves, feelings tended towards frustration and stress. On the other hand, when describing the research process and conducting research to impact on practice, positive feelings such as enjoyment and passion predominated.

The importance for the integrity, development and worth of research of pursuing questions that are both 'important' (that is, having utility for practice and/or understanding) and 'good' (that is, matching reality and being answerable) was highlighted by Locke (1984, p. 4) and has been reiterated through the years (e.g., Crum, 2001; O'Sullivan, 2007). However, as O'Sullivan (2007) points out, research choices are also often political ones. For example, funding is directed more towards some questions than others and the importance placed on impact factors can influence choice of where and how to share research. The range of research questions investigated by our participants over the years covered a broad spectrum. While all were practicing physical education teacher educators, for some their research was focused in areas other than school physical education or physical education teacher education, such as physical activity, health, and leisure. Motives for choice of research topic were also often split between extrinsic and intrinsic motives, as found by Casey and Fletcher (2017). This tension between the two was captured by Andreas when describing the effect of gaining more autonomy through gaining permanent status at his institution:

It was pretty good because I was able to focus on the research that I wanted to do, I wasn't afraid any more that I had only that non-permanent position . . . [it's] an opportunity where you can research what you want and not research what is strategic.

(Andreas, Germany)

When choosing where to publish research, participants were guided by two main motives: satisfying the common institutional desire for high impact factors and choosing outlets which would allow the research to be shared with the most appropriate audience. Further, it was reported by many that some topics (such as physical activity and health) often lend themselves to journals with higher impact factors, and projects with greater funding, than topics related to pedagogy and this can make research choices difficult. The resulting challenges for those trying to negotiate sometimes conflicting influences is well reflected in this thought shared by Elina:

I don't know if I can explain but [over the years I have been thinking] should I sell my soul to do something that I'm not so interested in but where I could establish my

name? I have had possibilities to be part of some big [national] projects where . . . they published a lot. And it has been my decision that no, it's not important to me.

(Elina, Finland)

Max, facing a similar dilemma, explained how he led his team strategically to position pedagogical research in a way acceptable to his institutional context:

In this medical faculty, we had to find our position or legitimate that we are part of that. And I couldn't do that anymore with publishing on values, on social learning and whatever. That didn't fit in this faculty . . . I didn't want to sacrifice the subject but I had to find, strategically, a way that we could still do that kind of research without getting complaints, 'why are you with this kind of research?' . . . We do research on physical education in the medical faculty and no one complains because it is wrapped in a whole concept [of physical activity and health].

(Max, Switzerland)

Within higher education, a number of global forces have directly impacted research activities at local level. Scott (2009) explains that globalisation, neo-liberalism and other forces have led to increased competition between higher education institutions with research performance being seen as key to their branding efforts. This has resulted in tighter control of research activities and a type of audit culture in which individual academics are often measured by the weight of their publication metrics (a situation evocatively represented by Sparkes, 2007). These local manifestations of global forces were also evident among our participants. They experienced divided motives for conducting research, resulting in conflicting underlying feelings. Brew and Lucas (2009) emphasise the need to gain a clearer understanding of how academics conceptualise research and how research fits within their broader academic roles. Among our participants, all enjoyed the research process and there were strong positive feelings about pursuing particular topics, especially those linked to enhancing practice. However, the institutional pressure felt by some to publish more often than they felt could be done with integrity and to pursue certain topics in certain ways irrespective of preference, although resisted by most, had a negative effect on the level of job satisfaction of many and created a mismatch between personal and institutional priorities.

Research barriers

Among the circumstances seen to obstruct their research endeavours, some participants listed an absence of a research team or network, the difficulty of trying to grapple with the volume of extant literature and pressure to do research at the expense of other aspects of their roles. The overall related sub-themes in the data were time constraints, perceived lack of skills, and language barriers.

Time

The main aspect of the research lives of participants which had a largely constraining effect on their research choices, and strongly impacted their underlying feelings, was time. Participants had many demands on their time due to balancing various other commitments related to teaching, administration and leadership. In keeping with the typical working hours experienced by academics across European countries (European Commission, 2017), this balancing of roles resulted in participants working an average of 55 hours per week. The

range of hours spanned 35 to 90 hours per week³, depending on the participant and the time of year. Because many were in senior administrative roles, other high-responsibility duties often overtook the time allocated for research resulting in this aspect of their roles often being described as 'squeezed in' or occurring outside of scheduled working hours. Feelings about allowing research work to encroach on free time differed. While Jenni (Finland) explained 'I want to do some sport in my free time so I don't think that researching, it's not my hobby', Sara (Ireland) shared that: 'In the same way that people say they go for a four-hour cycle on a Saturday . . . I would quite happily sit in and work. So, I think that facilitates, I facilitate my research'. Andreas (Germany) described this aptly as 'the never-ending story about work-life balance'.

This lack of adequate time within scheduled working hours to fulfil all requirements of the role also impacted upon the nature and experience of research activities undertaken, as the following quotes demonstrate:

I like to really get immersed in something. And so, when you're jumping out of teaching and you've only got a couple of hours here or a couple of hours there to work on your research or your writing, it's too haphazard for me. So, I think that's one of the biggest barriers really to, particularly to writing and even to thinking. Having good quality time to actually think through things. And I think that's probably my biggest barrier.

(Olivia, New Zealand)

When I have had the possibility to do just research, so then you get really into the research. But then the problem is really the time. So, when you can focus just a certain amount of time [on research], so, then, you also, perhaps, lose interest because you can't get so deep into something.

(Elina, Finland)

Keeping up-to-date with research was largely done through communication with colleagues, attendance at conferences and reading the published literature. This latter avenue was also somewhat constrained by time, however. The issue of lack of time to read, expressed by many, was compounded by the rapidly rising number of publications. As Max (Switzerland) expressed: 'the number of publications is rising in an extreme way and you can't keep up with the publications'. Lars (Belgium) concurred, further explaining that limits on his time mean his choice of what to read is often dictated by what is most pressing in the moment, precluding the possibility of maintaining a general familiarity with the extant literature: 'I very, very very rarely have opportunities to say, "Okay, now I will stay in my office and read a paper". It's always, "Okay, I need to read a paper because I need this paper for this or for this".

The importance of time to allow teacher educators to engage with research in a considered way has also been noted elsewhere (Hökkä, Eteläpelto, & Rasku-Puttonen, 2012; Willemse & Boei, 2013). As these researchers argue, if universities wish teacher educators to embrace the research aspect of their roles, to teach in a research-informed way, to follow worthwhile lines

³ One participant is semi-retired. The hours included in this calculation for him were the average hours he worked in his last position prior to retirement. Also, where participants gave a range of hours, the average was taken and included in this calculation, e.g. 40-50 hrs per week was included as 45 hrs.

of enquiry and to share their research internationally, they must provide adequate resources to allow them to effectively fulfil this and other aspects of their work.

Skill gaps

The organic, self-directed nature of their development as researchers did sometimes leave gaps in participants' research skills, which some acknowledged as a barrier. Max (Switzerland), for example, shared: 'I was never an expert in empirically-oriented research. But I always knew that I should be, you know? That always put me under pressure, but I couldn't do everything'. This and other similar reflections betrayed the sense that learning was an ongoing effort for participants and it was possible to be an expert in some aspects of their roles and a novice in others. The absence of certain skills was associated with feelings of inadequacy among some and it was not until later in their careers, when they had the opportunity to work in teams and came into contact with graduate students or younger colleagues, that their skills gaps were often filled, as will be detailed in the facilitators section.

Language

This challenge had two related aspects. One was centred on the fact that most high-impact journals are published in English, which requires those for whom English was not their first language to expend significant extra effort and time to translate concepts and findings accurately while meeting the same publication timelines and standards. Hanna, from Finland, explained how she learned to write research in English through reading exemplary papers: 'I'm reading and I'm reading . . . How do they say that? . . . I know some articles so, so well in this world . . . My first article took one week [to read]'.

The second aspect of the language barrier was the fact that much research published in languages other than English goes largely unnoticed by those who do not speak the given language(s). This results in research often being conducted and published without an awareness of pre-existing research on the same topic which could have either informed or negated the need for such research. Lars explained:

Sometimes some people say 'We did something', or I hear someone say 'This group did this'. And I think, 'Yes, we did that two years ago' . . . it's like a frustration, we did many things and these things are not known. Even though these studies were presented, for example, in the national professional journal, no-one knows it . . . It's a real criticism for us from France, French-speaking Belgium, from Portugal, from Spain and so on, from Germany; there are many, many good papers in these languages that are not used by the international network.

(Lars, Belgium)

Elina (Finland) suggested that 'the only way you can, I think, get your research to go further [is] you need to have international contacts, especially if you are non-native speakers'. Here, she suggested collaborating with other researchers internationally as a key enabler. As will be discussed in the next subsection, collaboration, both locally and beyond, was also seen as key to easing time pressures and filling identified skills gaps.

Research facilitators

Among the facilitators to their research endeavours, participants listed effective graduate programmes, guidance by mentors in early years, funding, the freedom that comes with being in a senior position in later years, and working in an environment where research is respected.

Personal characteristics such as a natural curiosity, being self-directed, a propensity for hard work and an openness to other ideas and to being challenged were also noted as facilitators. The most prevalent sub-themes under the facilitators theme were learning through doing, seeing and reading research, and collaboration with others.

Learning through doing, seeing and reading

Whether having graduated from a structured physical education teacher education doctoral programme or having been mentored through their doctoral studies or research projects in a more informal manner, participants in our study reported that most of the learning which shaped their evolution as researchers was focused on the actual 'doing' of research, as well as on being observant of others and on reading the work of others. As Jane (New Zealand) explained: 'There is nothing like actually doing the research yourself for understanding, as you will know, what you learn from going through that process, it's just huge, isn't it? Understanding the confusion, the trying to find the meaning of things.' Ian's reflection was also representative of this finding:

I think you practice it, you get thrown in. You start reading and, you know, some of it through coursework and some of it through independent study and sort of like keep digging around and being surrounded by colleagues, other doctoral students or other colleagues once you're out who have similar curiosities, they behave in certain ways that shows that they're successful, modelling.

(Ian, USA)

As Ian alluded to, reading the research of others was seen as a critical facilitator of learning. Sara (Ireland) described how she learned to become a researcher: 'reading and reading, not just reading about the methodology but reading about the enactment of it, so looking at studies of how people had done it'. Mikko (Finland), distinguished between skills he learned through courses, such as statistical analysis, and skills which were more self-taught, such as being a critical reader of research: 'Some skills you're learning as part of your studies and other skills you have to develop yourself'. The importance of reading and self-directed learning for the development of participants as researchers highlights the compounding effect of lack of time for research work, detailed earlier.

Collaboration

The most prevalent of the enablers mentioned was collaboration with others. In addition to an increase in competition, pressure and control in higher education, described by Scott (2009), there has been a parallel increase in research collaboration and co-operation between academics and institutions, both within and between countries (Brew & Lucas, 2009). Collaboration was discussed among our participants in terms of working with graduate students and other research team members, and collaborating with networks nationally and internationally. Josh (USA) was one participant who felt he had not yet had the opportunity to collaborate: 'I really missed out on being a collaborator . . . so, it's definitely an area that I think is missing from my professional career'. For other participants, collaborating through networks was seen as helpful for expanding thinking, keeping up to date and sharing research and ideas:

I think the principle of networking, communicating with colleagues at conferences and beyond, I think that the networking gets perhaps more influential as you build

your network . . . Then all of a sudden you have this little community that has shared interest, shared focus and can help each other build on what's already there.

(Ian, USA)

We have very good discussions with professors and colleagues who are doing research and we encourage each other to do [research] and to share opinions.

(Mikko, Finland)

As promoted elsewhere (Hökkä et al., 2012), collaborating in a research team was also seen as effective in allowing researchers to complement each other's skills and fill any identified gaps in experience or knowledge. Cathy explained:

I don't think it's that you have to have every skill yourself... I think at some point you have to dive in and it's a muddy messy murky piece, but you learn in the process of doing that and then you find people to help you. So the skills piece, I think and you've got to have some fundamental skills, you can't go in and not do anything. But then you bring on board these people you need.

(Cathy, Ireland)

As mentioned previously, research assistants (often graduate students) were particularly helpful in filling skills gaps, sharing the research workload and easing pressure rooted in time constraints. A number of participants, such as Max (Switzerland), expressed the positive effects of eventually being in a position to hire an assistant: 'I could read more literature, I had more time for that. I could deal a little bit with research methods . . . We had to share our competencies and so on. But I felt that I had more time.'

As participants progressed through their careers and became more involved in leadership and administration duties, it was their work with graduate students which often kept them involved and up to date with research. As Karl explained:

I started out with my own research . . . [then doing my own research] was going down [decreasing] and at the same time, being a teacher educator, applying this research, was going up [increasing] . . . And now of course, the research, it's not going down [decreasing] but it is being sort of kept up with research through the students that I am advising.

(Karl, Germany)

Collaboration allows teacher educators to build their skills, create a shared language and work towards common research agendas (Willemse & Boei, 2013). It has been found to be important for both the general professional development of teacher educators (Shagrir, 2017) and for the development of physical education teacher educators as researchers (Tannehill et al., 2015). Our data reinforced its consequence, particularly in responding to time, language and skill constraints experienced by participants.

Concluding Thoughts

In the early years of physical education teacher education, a mismatch was evident between the priorities of physical education teacher educators and those of their institutions with regard to the place of research in their roles (Goc Carp, Williamson, & Shifflett, 1996; Metzler & Freedman, 1985; Mitchell & Lawson, 1986; Williamson, 1990). For many of our

participants, a disconnect was also evident between their priorities and those of their institutions but, in this case, it was rooted more in which topics are covered by their research and how often and where research should be published. Participants attempted, as best they could, to reconcile often conflicting motives for conducting research.

A compounding issue was that of research work being conducted within an environment of time pressures which affected participants' ability to keep up with related literature, to give findings and concepts the thought and consideration they considered due to them and to engage in the kind of self-directed learning they found so important to their development as researchers. Working in research teams was seen as key to sharing the research workload, filling skills gaps and easing time pressures. The fact that graduate students were crucial members of such teams is encouraging given evidence from both our data and the literature (Stylianou et al., 2017) of how important experiential learning is for the professional learning of researchers at all career stages.

The difficulty shared by some participants due to the increasing necessity for research to be published in English is also a finding worthy of comment. Kirk (2010) has suggested that researchers should ensure they are informed by related research conducted in languages other than their own and that they could facilitate this by learning to read research papers in other languages. We contend that working, where possible, in multi-lingual teams would also allow for sharing of research findings and perspectives. Additionally, research syntheses that combine research from multiple linguistic traditions and can be shared with a broad audience would be helpful. International associations such as the International Association for Physical Education in Higher Education (AIESEP) and the Research in Sport Pedagogy Network of the European Education Research Association (EERA) are well placed to co-ordinate such multi-lingual research syntheses. The custom in some journals which requires abstracts to be published in multiple languages is another practice that journals in our field could consider adopting to increase the likelihood that researchers can at least be alerted to related research being conducted in another language.

While we have presented here a necessarily brief overview of the research motives, circumstances and feelings of a group of physical education teacher educators, we are conscious that this is a mere fraction of the data that would be needed to make any substantive conclusions regarding the research lives of this population and how their practices might be enhanced and supported. We suggest a need for more large-scale, international, quantitative research on the research endeavours of physical education teacher educators. A global longitudinal survey, for example, exploring such areas as rationales for research topic choice, enablers and barriers to enhanced research practices, and the nature of teacher educators' engagement with existing research would be helpful in gaining a broad picture of the levers influencing knowledge production and engagement with knowledge in our subject area.

We conclude by reiterating a call by O'Sullivan (2007) for conversations regarding the principles underpinning quality research in our field. It is our hope that the insights shared here regarding the realities of being researchers and physical education teacher educators may serve to inform such important conversations. The authenticity of such conversations may be heightened by taking account of differences in teacher educators' motives, contexts, work roles, levels of autonomy, felt institutional priorities, felt disciplinary priorities and underlying feelings about the research experience.

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