

**ATHLETIC AND STUDENT IDENTITY DEVELOPMENT
OF STUDENT-ATHLETES DURING THE FIRST TWO
YEARS OF HIGH-SCHOOL**

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Master's thesis

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HEINONEN, JOONAS: Urheilulukiolaisten urheilu- ja kouluidentiteetin kehitys kahden ensimmäisen opiskeluvuoden aikana.

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Nuoret urheilijat laittavat usein urheilun koulun edelle ja heille on siitä syystä suuri riski kehittyä yksipuolinen urheilijan rooliin keskittynyt identiteetti (Petitpas, van Raalte & Brewer, 2013). Vaarallisinta tämä on nuoruudessa, jolloin samanaikaisesti identiteetin kehitystehtävän (Erikson, 1958) ja sen kehityksen herkkyykskauden (Kroeger ym. 2010) aikana panostus urheiluun kasvaa niillä, jotka pyrkivät huippu-urheilijaksi (Côté, Baker & Abernethy, 2007). Tämän pitkittäistutkimuksen päätavoite oli tutkia urheilulukiolaisten identiteettiprofiileja kahden ensimmäisen urheilulukiovuoden aikana. Samalla tutkittiin taustamuuttujien, kuten koulumenestyksen, kilpailutason, sukupuolen ja urheilulajin vaikutusta identiteettiprofiileiden kehittymiseen. Tutkimukseen osallistui kaikkina mittaussajankohtina 391 urheilulukiolaista (51% tyttöjä), jotka olivat tutkimuksen aloitusajankohtana 15 tai 16 vuotiaita. Tutkimukseen osallistuneet täyttivät sekä urheilu- (AIMS; Brewer ym. 1993), että kouluidentiteettiä (SIMS; Stambulova ym. 2015) mittaavat kyselylomakkeet kolme kertaa kahden ensimmäisen urheilulukiovuoden aikana: Ensimmäisen vuoden syksynä (T1) ja keväänä (T2), sekä toisen vuoden keväänä (T3). Suurin osa taustamuuttujista kerättiin ensimmäisellä mittauskerralla. Klusterianalyysillä tästä aineistosta löytyi kolme toisistaan eroavaa identiteettiprofiilia: ”Kaksoisidentiteetti” -profiilia kuvasti suhteessa korkea urheiluidentiteetti ja korkea opiskelijaidentiteetti, ”Urheiluidentiteetti” -profiilia kuvasti suhteessa korkea urheiluidentiteetti ja matala opiskelijaidentiteetti, ja ”Vapaamatkustajien” -profiilia kuvasi matala urheiluidentiteetti yhdistettynä keskitasoiseen opiskelijaidentiteettiin. Urheilulukion alussa opiskelijat olivat tasaisesti jakautuneet kaikkien kolmen identiteettiprofiilin kesken, mutta toisen vuoden lopulla 45% opiskelijoista kuului Kaksoisidentiteetti -profiiliin. Tästä huolimatta aineistoa kuvasi tilastollisesti merkittävä pysyvyys peräkkäisten mittauskertojen välillä. Taustamuuttujista sukupuoli erotteli urheilulukiolaisia siten, että tytöillä oli suurempi todennäköisyys kuulua Kaksoisidentiteetti -ryhmään kahteen muuhun ryhmään verrattuna. Tämän lisäksi Urheiluidentiteetti -ryhmään kuulumista kahteen muuhun ryhmään verrattuna ennusti tehtävään keskittyvän tavoiteorientaation vähyys, kun taas tehtäväkeskeisen tavoiteorientaation vähyys urheilussa erotti ”Vapaamatkustajien” ryhmän kahdesta muusta ryhmästä. Muista taustamuuttujista koulumenestyksellä, koetulla valmennusilmastolla ja urasopeutuvuudella oli vaikutusta identiteettiprofiiliin kuulumiseen. Tämä tutkimus osoitti, että urheilulukiolaisilla on erilaisia identiteettiprofiileja, jotka ovat tilastollisesti pysyviä läpi urheilulukion. Pahimmillaan tämä voi aiheuttaa omaksuttua identiteettiä, joka on yhdistetty moniin negatiivisiin seurauksiin. Vastavoimana tälle vanhemmat, valmentajat ja poliitikot voivat toimillaan edesauttaa urheilulukiolaisten kokonaisvaltaista kehittymistä. Laadullisia menetelmiä sekä pidempiä pitkittäistutkimuksia tarvitaan ymmärtääksemme identiteetin kehitystä paremmin.

Avainsanat: urheilijan kaksoisura, urheiluidentiteetti, kouluidentiteetti, urheilulukio, sukupuoli, tavoiteorientaatio

UNIVERSITY OF JYVÄSKYLÄ
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HEINONEN, JOONAS: Athletic and Student Identity Development of Student-Athletes during the First Two Years of High-School

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Student-athletes often prioritize their sport-related goals over education and may be at risk of developing an exclusive identification with the athlete role (Petipas, van Raalte & Brewer, 2013). This is especially harmful in adolescence because identity is most likely to be developed at that age (Erikson 1958; Kroeger et. al., 2010) coinciding the time when one must increase their investment towards sports in order to become a professional athlete (Côté, Baker & Abernethy, 2007). The first objective of the present longitudinal study was to examine student-athletes' identity profiles during the first two years of high-school. Second, the role of different background variables, such as school success, competition level, gender and type of sport in the development of these profiles were examined. A total of 391 (51% female) student-athletes, aged 15-16 at baseline, filled out the Athletic Identity Measurement Scale (AIMS; Brewer et. al., 1993) and the Student Identity Measurement Scale (SIMS; Stambulova et al., 2015) three times during the first two years of Finnish sport high-school: at the beginning (T1) and at the end (T2) of first grade, and at the end of the second grade (T3). Most of the information concerning background variables was gathered via questionnaire at T1. The results of cluster analyses demonstrated three qualitatively different identity profiles in the sample: 'Dual identity' profile characterized by a relatively high level of athletic and high level of academic identity, 'Sport identity' profile characterized by a relatively high level of athletic identity and a low level of academic identity, and 'Uncommitted identity' profile being typified by low levels of athletic identity with mediocre values of academic identity. At the beginning of high-school student-athletes were almost evenly divided between these profiles but at T3 Dual identity group was the largest with 45% of student-athletes representing that profile. However, statistically significant stability was found for profile memberships between all three measurement points. The examination of background variables showed that women were statistically significantly overrepresented in Dual identity group compared to the other two identity groups. Further, student-athletes in Sport identity group were less mastery oriented toward academics than student-athletes in other two groups, whereas those in Dual identity and Sport identity groups were both more mastery oriented toward athletics than Uncommitted group members. Other background variables such as GPA, perceived coaching climate and career adaptability also predicted identity group belonging. Student-athletes have different types of identity profiles which are highly stable during sport high-school. For some student-athletes this can lead to maladaptive identity foreclosure. As a counter force, holistic development can be influenced by families, coaches and policy implications. Longer longitudinal study designs and qualitative methods are needed in order to study identity development more thoroughly.

Keywords: Dual Career, student-athletes, athletic identity, student identity, high-school, gender, achievement goals

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INTRODUCTION

Though students participating in athletics are known to have better grades than their non-sporting peers (Miller, Melnick, Barnes, Farrel & Sabo 2005), combining academic and athletic pursuits is a demanding task for student-athletes (EU Guidelines on Dual Careers of Athletes, 2012). The demands of balancing with school and sports makes individuals more prone to multiple maladaptive health behaviours (EU Guidelines on Dual Careers of Athletes, 2012) extending all the way to the symptoms of burnout (Sorkkila, Aunola & Ryba 2017). The set of policy that attempts to allow talented and elite athletes to participate simultaneously in education (or work) and sport is called dual career (DC) (EU Guidelines on Dual Careers of Athletes, 2012). During recent decades this DC approach attempts to provide athletes with possibilities for work and education. Other main goal of DC is to promote athletes' attainment to new career after sporting career while being beneficial during their sporting careers.

Identity describes the roles, values, goals and personally significant commitments individual narrates as his or her own (Erikson, 1968; Marcia, 1980). Identity develops mainly in adolescence (Erikson, 1968) but is formed throughout persons' life time (Marcia, 1980). Identity is an important concept to examine among student-athletes as we know that young athletes rarely engage enough exploratory behavior to form a healthy identity (Brown, Glastetter-Fender, & Shelton, 2000; Petipas, van Raalte & Brewer, 2013).

In western societies identity formation coincides with the time when student-athletes spend most of their waking hours in school or practicing sports (Wylleman & Lavallee, 2004; Brown et. al., 2000) giving them little time for identity exploration which is crucial in generating a healthy identity (Brewer, van Raalte & Linder 1993; Marcia, 1980). Student-athletes frequently make sacrifices from educational and social spheres of life in order to enhance their athletic competence (Brown et. al., 2000). A strong athletic identity can become a problem when student-athletes' identities are foreclosed (Marcia, 1980). Studies have found athletes to have difficulties coping with injuries or career determination (Brown & Potrac, 2009; Brewer & Petitpas, 2017).

In this thesis I will focus on high-school student-athletes student and athletic identity. The aim was to find out what kinds of identity profiles student-athletes demonstrate during the first two years of high-school and how stable these emerging profiles are throughout. A great number of possible background variables and their relation effects towards identity group belonging are examined. So far both student and athletic identity have found to be stable during first year of high-school

(Stambulova, Engström, Franck, Linnér, & Lindahl, 2015) and there are identity profiles to be found (Koivusalo, 2018). This master's thesis collaborates on the advancements made by those studies.

Dual Career

The term dual career (DC) refers to a policy aimed at helping athletes with forming educational and vocational careers alongside their athletic career (EU Guidelines on Dual Careers of Athletes, 2012). In these EU guidelines it is highlighted that DC field has grown interest in recent years because combining these commitments are seen as a demanding task for young athlete's. This task of combining academic and athletic career is not a new phenomenon, however. As early as 1977 it was reported that during the most successful year of their career and before in their athletic career most common occupation for Finnish athletes was studying (Vuolle, 1977). Most of the DC research has been conducted in United States, but after the EU Guidelines released in 2012 the future looks bright for DC research in Europe (Stambulova & Wylleman, 2015).

The EU Guidelines on Dual Careers of Athletes (2012) highlight that practicing sports in dual career settings increases athletes' well-being, helps them to develop life skills and eases their transition out of sport, compared to youth practicing sports outside of DC settings. Adding to those, student-athletes often prioritize their sport-related goals over education and may be at risk of developing an exclusive identification with the athlete role (Petitpas et. al., 2013).

In the centre of DC is a student-athlete whose life consists mainly from two main spheres of life: sports and academics (Miller & Kerr, 2002). Côté, Baker and Abernethy (2007) came up with a developmental model of sport participation, which highlights that there are three differing pathways of practicing sports of whom two of them (sampling and early specialization) can create elite performance. In both pathways athletes go through a phase described with high amount of deliberate practice, low amount of deliberate play and focus on one sport at the ages of 15-19. A look at academics shows that all this happens at the same time than Finnish adolescent transfer from secondary education to high-school or vocational education, meaning that demands increase in both domains at the same time.

An effort to combine these two components in Finnish context is from Ryba et al., (2016). The Figure 1 represents athletic career and academic/vocational development side by side starting from age 6 and all the way through the fourth decade of an athlete's life as described by Ryba et al., (2016).

This trajectory shows that both of these careers have increased demands during late adolescence, coinciding with identity development. Additionally Figure 1 showcases not only athletic and academic development through these years but psychological development, social relations and financial resources as well. This work is based on the holistic athletic career approach first induced by Wylleman & Lavallee (2004).

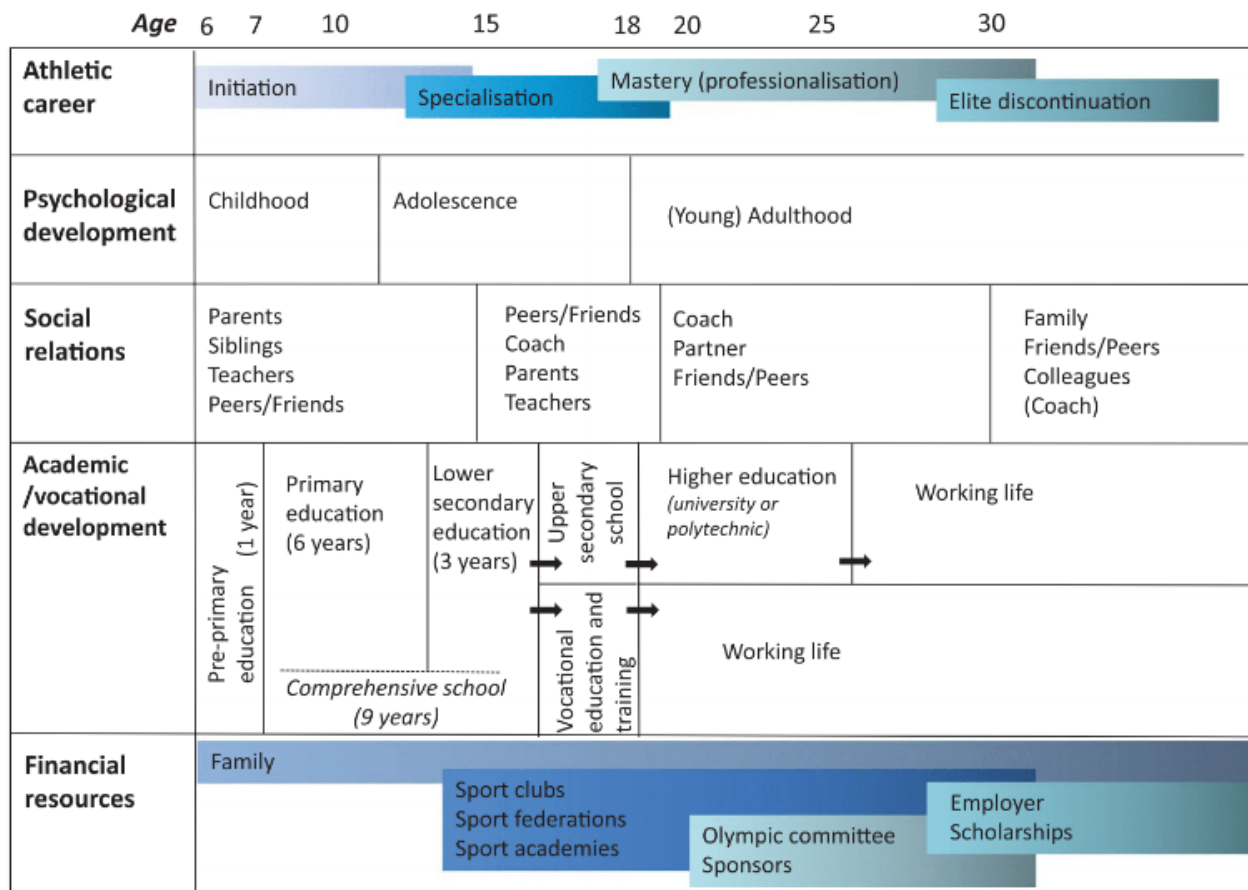


Figure 1. The Finnish version of holistic athletic career model (Ryba et. al., 2016; based on Wylleman & Lavallee, 2004).

DC approach has been implemented in student-athletes lives because earlier research shows that they need extra support in organizing studies and athletics (Adler & Adler, 1985). In a Canadian study (Miller & Kerr, 2002) it was found that with time restrictions athletes first eliminate their social activities rather than athletics or academics. Student-athletes are found to direct their attention more towards academics in the later stages of their educational path (Miller & Kerr, 2002). Athletic and academic career can also fuel each other. It was found that additionally to the safety-net notion of having an education, student-athletes also appreciate how academics give something productive to think about when their sporting career doesn't go as planned and this can alleviate the pressures to perform in both contexts (Aquilina, 2013).

In Finland DC studies have mainly been masters thesis's (Leivo, 1999). First six sporting high-schools (called Urheilulukio) were grounded in 1986 and due to research showing that they help student-athletes this network of schools was first expanded and then their role was made permanent by the Finnish Ministry of Education and Culture in 1994 (Leivo 1999). An example of this positive body of research comes from Leivo's (1999) study about former sport high-schoolers: 80% of them reported that sport high-school helped to combine sport and education a lot or greatly and 90% of participants reported that their sport-high-school had good or very good sporting possibilities. However, one in five participants reported being unsatisfied with their high-school grades (Leivo, 1999).

Identity

Since William James's work (1890) we have known individual properties to change our behaviour. One of these properties is identity. Identity is defined by Erikson (1958) as a set of personally meaningful characteristics combined of values and goals. Identity is about sameness and difference across different life domains (McLean & Syed, 2014). Marcia (1980) proposed identity to be constructed as an internal self-structure of abilities, beliefs and individual history. He then proposed that people with more developed forms of identities (i. e. moratorium or achieved) to be more aware of their uniqueness. Identity doesn't form in a vacuum rather it expresses the society and opportunities people have in their culture (Erikson 1968; Ronkainen, Kavoura & Ryba 2015). While these notions are agreed upon there is some contradiction within identity research and literature: Is there a universal developmental identity or do multiple identities form through group affiliation and social roles? To answer this question we must first look at how an identity is developed.

Erikson (1958, 1968) describes the formation of identity as a third birth where individuals start to find their own agency 'in the age between puberty and adulthood'. This starts when the family-provided identifications of self are no longer useful (Erikson, 1968). Thus begins a prolonged period where young individuals try to find their own place and voice through experiences and challenges individuals face. At least some individuals go through an identity crisis where one might lose a sense of personal sameness and historical continuity with the addition of inner agency all of which are assumed consequences of losing an ego identity (Erikson, 1968). Hence at this time young individuals are prone to norms and truths ideologies' offer (Erikson, 1958). The crisis itself is not a debilitating

one, rather describing a time period where social roles, personal traits and conscious self-images are created (Erikson, 1968). All these inner processes aim at attaining a healthy identity which is described by a sense of continuity and meaning of life (Kroeger, 2007) and as ‘an individual’s sense of control over subjectively important areas of personal development’ (Brandtstädter, 1989).

From these Erikson’s ideas, Marcia created a theory about four developmental stages of identity to make them scientifically more measurable (Marcia, 1966, 1980; Kroger, 2007). Marcia’s (1980) idea was that one builds their self-identity through exploration and commitment and it can be described to belong in one of those stages at all times. These stages are diffusion, foreclosure, moratorium and achievement: *Diffusion* means that a person has not committed to any type of identity and may or may not lack the exploring altogether, *foreclosure* is a state where commitment is present but the identity is externally given rather than explored, *moratorium* is when an individual is in crisis and tries to find out which values he or she wants to commit, finally *achievement* resembles a healthy identity which is formed through exploration and because of that have something to pursue. Marcia’s (1980) idea is that these stages are at the same time developmental phases people go through while constructing a healthy identity and stages that describe their current form of self-identity.

In a review by Kroger, Martinussen and Marcia (2010) they found that proportionally identity achievement was the most common stage with people in their thirties while foreclosure was most common with 13 year olds. Moratorium was evenly occurrent in both ends of the spectrum but it was the most common stage with adolescents giving proof to both lifelong development of identity and that it is most evident in adolescence. However it seems that large numbers of students graduate from tertiary education without achieved identity (Kroger, 2007). Aligning with that finding in a Finnish study it was found that majority of 27 year olds had not reached the achievement status on any domain of identity (Fadjukoff, 2007).

What is meant by the phrase any domain of identity dates back to the early 1980’s when the views of social roles and group affiliation began challenging the idea of unidimensional developmental identity. Stryker (1980) suggested that self is composed from multiple identities based on the different social identities that one internalizes from differing social roles. Examples of such identities can be “I am a student” or “I am an athlete”. Athletic identity is defined as the degree to which an individual identifies with the athlete role (Brewer et. al., 1993). For evaluating athletic identity Brewer and his colleagues (1993) developed an Athletic Identity Measurement Scale (AIMS) that has been validated and is used in studying athletic identity (Brewer & Cornelius, 2001). Athletic identity is a valuable construct to examine because of its potentially important psychological, social and behavioural ramifications (Martin, Eklund & Mushett, 1997). Greater athletic identity has been found to link to success in sport and increased self-confidence (Horton & Mack, 2000) as well as to

a higher level of competition (Murphy, Petitpas and Brewer, 1996). Additionally Ryska (2002) found athletic identity to be associated with vocational competence.

Student identity has very rarely been examined in these types of studies (Sturm, Feltz & Gilson, 2011). More often similar focus towards academics has been conceptualized as career maturity (Murphy et al., 1996) or motivation (Vallerand et. al., 1992). Recently Student-Identity Measurement Scale (SIMS) has been developed in order to assess a person's identification with the student role (Engström, 2011).

This view of the self being composed from multiple identities is a big shift from earlier Eriksonian unidimensional view of identity. In this study I use a view where different identities are constructed in different roles of life while keeping in mind that adolescence is a time of creating/finding your social roles through new experiences and challenges one faces. Based on a recent paper by Brewer and Petitpas (2017) this seems to be the current view of identity. After all even Erikson (1968) once wrote 'The final identity then includes all significant identifications but also alters them in order to make a unique and reasonably coherent whole of them.' These types of philosophical underpinnings were asked for in a recent review study (Ronkainen et. al., 2015).

Identity in Dual Career Settings

A body of research has shown athletes to have higher athletic identity than non-athletes (Chen, Snyder & Magner, 2010; Houle, Brewer & Kluck, 2010). There is contradiction in research whether identification to athlete role increases with higher levels of competition (Brewer & Cornelius, 2001) or it doesn't increase (Sturm, et. al., 2011).

Looking at student identity in DC setting Stambulova and her colleagues (2015) found that Swedish student-athletes found athletic, academic and social life as important in the beginning and the end of first year. In an earlier master's thesis supervised by Stambulova student identity shows to correlate with quality adjustment in DC life (Engström, 2011). Student identity has been found to be lower than athletic identity in high-school student-athletes (Engström 2011; Stambulova et. al., 2015). However, neither of those studies managed to study identity further than first year of high-school. Additionally Sturm and her colleagues (2011) found that student identity was inversely correlated with athlete identity.

Usually student and athletic identities are examined separately. In a novel study by Koivusalo (2018) she found Finnish high-school student-athletes to represent three different identity groups in their first year. First of the groups was characterized by high identity in both domains, second high in sports and low in school while third group had athletic identity that was low in comparison to the other groups and mediocre or low student identity. In the discussion of her master's thesis, Koivusalo (2018) calls for longitudinal studies to examine what factors affect identity groupings and whether this grouping change during high-school. This is exactly what this thesis aims for.

There are negative outcomes that appear together with high athletic identity, however. Athletics take a big part of student-athletes' time (Brown, Glastetter-Fender & Shelton, 2000) and student-athletes find themselves making compromises in attempting to manage their daily lives (Miller & Kerr, 2002). Research has constantly shown this to be a daunting task where student-athletes (EU Guidelines on Dual Careers of Athletes, 2012; Ryba et. al., 2016, Stambulova, 2015). From the three identified spheres of life (athletic, academic and social) the social ones are where these time demands seem to struck first, limiting social activities to other athletes (Miller & Kerr, 2002). Miller & Kerr (2002) found that time spent practicing sports hinders the time student-athletes have towards their studies meaning that athletics dictate their daily rhythm.

The nature of student-athlete lives bring time demands and expose individual to maladaptive identity foreclosure, which means that student-athletes don't present exploratory behaviours towards other areas of life (Brewer & Petitpas, 2017). Scientists have studied student-athletes career maturity and found out that student-athletes score lower in career maturity than non-athletic peers (Brown et. al., 2000; McQuown Linnemeyer & Brown, 2010) Additionally, both greater athletic identity (Murphy et. al., 1996) and identity foreclosure have been shown to decrease career maturity (Murphy et. al., 1996; Brown et. al., 2000). The interesting notion here is that in both aforementioned studies athletic identity didn't have a statistically significant correlation with identity foreclosure. In both of these articles (Murphy et. al., 1996; Brown et. al., 2000) the authors suggested that failure to explore alternative roles and strong athletic identity are two different things. Expanding the above, identity foreclosure is especially harmful if athletic career is terminated by any number of possible events such as injury or deselection (Brown & Potrac 2009). Even voluntary retirement appears to be tough on athletes' mental health, however (Kerr & Dacyszyn, 2000).

One major problem for student-athletes is burnout. Brewer's et al., (1993) idea that high athletic identity can lead even to burnout has been observed in multiple studies since (Gustafsson, Kenttä, Hassmén, Lundqvist & Durand-Bush, 2007; Sorkkila et. al., 2017). Latest advancement in this field was the finding by Sorkkila et al., (2017) who found that 40% of student-athletes express some levels of burnout symptoms and that burnout affects across sport and school domains The authors in that

article note that it's not just dropout from sport or education that is important to look for but also the holistic well-being of the student-athletes.

Background Variables Affecting Identity Development

Previous studies in identity formation have found multiple variables affecting changes regarding identity. Gender has been an important factor regarding identity development at least since Curry and Weiss (1989) noted differences between sexes in motivation towards competition. The authors concluded that gender is 'likely to be influenced by...the athletic and gender identities of the participant'. Usually athletic identity has been reported higher by boys (Brewer et. al., 1993; Brewer & Cornelius, 2001; Sturm et. al., 2011) but there are some studies that haven't found difference between the two sexes (i. e. Chen et. al., 2010). To make the question of gender even more complicated Sturm (2011) found out that while girls had lower athletic identity than boys the effect was reversed when student identity was examined. This is thought to be the result of girls focusing more towards their education (Sturm, 2011) but there is evidence that all student-athletes shift their focus regardless of gender (Miller & Kerr, 2002). Additionally it has been found out that girls will more likely than boys belong to identity group that is defined by high athletic and student identity while at the same time boys are overrepresented in group that represented strong and exclusive sport identity (Koivusalo, 2018). All this implies that more research is needed in order to complete the picture.

Grade point average (GPA) is used in this study to measure success in academic context. Success has been known to increase the time you spent on an activity and how much you enjoy it (Deci & Flaste, 1996) and in another study success in academics was found predict identity achievement (Fadjukoff, 2007). Aligning with that result Good & Adams (2008) found that personal skills mediated this effect of success in academics toward identity achievement. While that effect didn't differentiate these two sexes, female athletes have been found to have greater GPA than male athletes (Miller et. al., 2005). Lower GPA has been associated with a strong sport focused identity (Koivusalo, 2018). We also know that student-athletes begin investing more on academics towards the end of their education (Miller & Kerr, 2002). This thesis provides the opportunity to verify the result of Koivusalo (2018) while looking at whether there are signs of greater investment towards schooling.

Achievement goal theory assumes that all individuals are intentional, goal-directed organisms operating in a rational manner (Nicholls, 1984). Achievement goals are divided into mastery goals, where individual's focus is on the skill needed, and performance goals, where focus is on good results. So far studies regarding achievement goals and athletic identity have been very limited (Proios, 2012). Proios (2012) found in his study that performance orientation correlates with athletic identity dimensions, which links task involvement with enhanced motivation (i. e. Standage & Treasure, 2002). Ryska (2002) found out that differing orientations mediated the effects of athletic identity. In his study athletic identity combined with mastery orientation predicted greater competence in academic and vocational challenges. At the same time athletic identity combined with performance orientation produced less competence in both domains. While achievement goals report the general desire to succeed, mastery and performance goals have different profiles towards motivation and performance (Elliot & Church, 1997). The link towards identity is yet unclear but the effects of identity and achievement goals should be at least somewhat related because personal goals and behavioural styles are in the centre of both achievement goal and identity theory.

Career adaptability describes the strengths and capacities which people have to solve unfamiliar and complex problems (Savickas & Porfeli, 2012). Savickas and Porfeli (2012) report career adaptability to be constructed around four C's of Control, Confidence, Curiosity and Concern. Career adaptability is an interesting measurement as it is known that student-athletes have difficulties with adjusting to life after athletic career (Kerr & Dacyshyn, 2000). Career adaptability can provide information about the reasons behind this problem (Ryba, Chun, Huan, & Aunola, 2017). Previous research has shown career adaptability being positively correlated with identity exploration (Negru-Subtirica, Ioana Pop & Crocetti, 2015) and with sport and school task values (Ryba et. al., 2017). These results indicate that career adaptability should be correlated with healthy identity development, which is interesting to look with student-athletes who reportedly have difficulties developing healthy identities.

Multiple significant others effect the development of an athlete and his or her identity (Stevenson, 1990). One of those are coaches who have a strong impact on athletes' identity development (Chen et. al., 2010; Poux & Fry, 2015). However, coaching is rarely looked through the lenses of identity (Jones, Glintmeyer, McKenzie, 2005). It was recently highlighted in a DC review article that coaches play a relevant role in supporting to combine sport and education for student-athletes and this is a field where more research is needed (Guidotti et. al., 2015). What we already know is that caring coaching and mastery oriented climate might lead to healthier athletic identity while ego climate might limit student-athletes' exploration (Poux and Fry, 2015). Regarding this

thesis the interest towards perceived coaching climate focuses on whether empowering or disempowering climate is connected with any type of identity profile.

In this thesis the effects of type of sport and competition level are each examined in relation to identity. These variables have been linked to athletic identity (Chen et. al., 2010; Yukhymenko–Lescroart, 2014; Sturm et. al., 2011; Lupo et. al., 2017; Koivusalo, 2018) but a more thorough analysis of their role is needed. This is especially true because this study examines student identity for which a tool has been made only a few years ago (Engström, 2011) and has been scarcely studied before and after the creation of this tool.

Research questions

This study focuses on identity development of student-athletes over the first two years of Finnish dual career policy inducing sport high school system. Moreover, the background variables that might affect the level of athletic and student identities were examined. The research questions were:

- 1) What kind of identity profiles in terms of student and athletic identity student-athletes show during the first two years of high school?
- 2) How typical different profiles are among student-athletes?
- 3) To what extent these found profiles show stability over time?
- 4) How different background variables (school success, competition level, gender, type of sport, perceived coaching climate, achievement goals or career adaptability) contribute toward identity development?

Based on the earlier literature (Koivusalo, 2018) I assumed to find different groups of student-athletes demonstrating differing identity profiles. Furthermore, I expected statistically significant amount of student athletes to shift towards identities that can be interpret as achieved as student-athletes try to find the optimal balance during the second year of high school (Stambulova et, al., 2015). I expected these identity groupings to differ regarding multiple background variables. Based on earlier literature (Koivusalo, 2018; Fadjukoff, 2007) female student-athletes were hypothesized to belong less into unidimensional identity profile groups than male student-athletes. Similarly, more developed identities were thought to be linked with greater levels of career adaptability (Negru-Subtirica et. al., 2015). Regarding both student and athletic identity previous success in certain field was thought to account as higher identification for both contexts, separately (Deci & Ryan, 1985). I expected strong athletic identity to be linked with mastery and performance orientations in sport

(Elliot & Church, 1997). In some studies team and individual sport practitioners have reported different, and in others same amount of athletic identity (Chen et. al., 2010). Due to these mixed results it will be interesting to see which side this collection of student-athletes provide support for. Finally, empowering climate should appear together with higher athletic identity (Poux & Fry, 2015).

METHODS

Participants

This study was conducted as a part of Finnish Longitudinal Dual Career Study research project in the University of Jyväskylä (Ryba et al., 2016). This study follows student-athletes from six different sport high-schools located in different regions of Finland across their high-school years. Study started with 391 student-athletes of whom 199 (50.9 %) were girls and 192 (49.1%) were boys. The mean age of participants was 16 years ($SD = 0.17$) and they had been competing for 7 years on average ($SD = 2.41$) before this study began. On average the participants spent 25 hours ($SD = 8.99$) doing sports and sport related activities (e.g, traveling to trainings) every week. The student-athletes were evenly divided between individual (50%) and team sports (50%).

Procedure

Before the study begun ethical approval was received from university ethics board. Every student signed a written consent before they were allowed to participate in this study. The participating schools were contacted through the national networks of sport academics. The data collection was undertaken starting from the fall of the first grade (T1). The following measurement points were spring of first grade (T2) and the spring of the second grade (T3). The present study uses information gathered from all time points mentioned. In every measurement point student athletes answered to a McInterview online questionnaire or filled an identical paper questionnaire at their own school under the supervision of personnel working in this research project. In total 90,8% of participants (n=355, 51.8% girls) answered questionnaire at all three research points.

Measures

Athletic identity was measured with the Athletic Identity Measurement Scale (AIMS; Brewer et. al., 1993). It has been widely used from the turn of the century in studying identity in different sport contexts (Brewer & Cornelius, 2001). It has a 7-point Likert scale with a total of 10 items assessing different aspects of athletic identity: Social identity (4 items: e.g., *I consider myself as an athlete*) Exclusivity (3 items: e.g., *Sport is the most important part of my life*) and Negative affectivity (3 items: e.g., *I feel bad about myself when I do poorly in sports*). Mean score from all ten items was calculated to measure athletic identity. Cronbach alphas for this score at different time points (T1-T3) were .77, .77 and .79, respectively.

Student identity was measured with Student Identity Measurement Scale (SIMS) which is developed from the basis of AIMS to represent identity development in the academic context (Engström, 2011). The scale includes 10 items with 7-point Likert scale assessing the same aspects as does AIMS in academic context: Social identity (4 items: e.g., *I consider myself as a student*) Exclusivity (3 items: e.g., *Studies are the most important part of my life*) and Negative affect (3 items: e.g., *I feel bad about myself when I do poorly in school*). The Cronbach alphas for the mean score of student identity measure at different time points (T1-T3) were .77, .77 and .79, respectively.

Multiple background variables were also examined in this study as predictors of identity. Information from background variables was gathered at T1. One exception for this was perceived coaching climate, which was assessed exclusively in T3. Gender was enquired in the questionnaire by asking participants to report whether they are a boy or a girl (1 = girl, 2 = boy). Success in school was a self-report measurement based on what student-athletes reported their Grade Point Average (GPA) being in their last report card in comprehensive school. Grades range from 4 to 10 in Finnish school system. Participant's mean GPA was 8.85 with answers ranging from 7.25 to 10 ($SD = 0.62$).

Competition level was asked from student-athletes by self-reporting in which competitions they had participated during the last year and have they ended up with top three or top eight results in those competitions. The highest competition level asked was "The Olympic Games" while the lowest was "regional competitions/games". New dichotomic variable was created to describe whether athletes participated in international or adult's national events (55.7 % of student-athletes) or only junior or regional events (44.3 % of student-athletes).

Student-athletes reported their type of sport within the questionnaire. Participants chose their sport from a long list of alternatives. Participants were almost evenly divided between team sports

(52.6%) and individual sports (47.4%). A dichotomic measure was created from this item by dividing student-athletes on the basis of whether they practiced individual or team sports (1 = individual sport, 2 = team sport).

Achievement goals were measured with Perception of Success Questionnaire (POSQ) (Roberts, Treasure, & Balague, 1998) which has two subscales measuring mastery and performance orientation. This questionnaire was developed in sport context and it has been modified towards academic goals as well. Student-athletes were asked to which extent they agree to 10 different claims in a 4-point scale. 5 of these items measure performance goals (e.g., *I outperform my opponents*) and 5 items measure mastery goals (e.g., *I reach personal goals*). Sum variables were then calculated for both subscales by calculating the mean of every value individually. Cronbach alphas for performance orientation towards athletics and academics were .86 and .91, respectively. Cronbach alphas for mastery orientation towards athletics and academics were .74 and .88, respectively.

Career adaptability was asked from student-athletes via Career Adapt-Abilities Scale – Dual Career Form (CAAS-DC) (Ryba et al., 2017). CAAS-DC includes a total of 27 items where participants are asked to answer on a 5-point Likert scale (1 = not a strength; 5 = greatest strength). The scale includes five sub-dimensions: Concern (4 items e.g., *Thinking about what my future will be like*), Dual Career Concern (5 items e. g., *Concerned about combining my sport and education*), Control (6 items e. g., *Keeping upbeat*), Curiosity (6 items e. g., *Exploring my surroundings*) and Confidence (6 items e. g., *Performing tasks efficiently*). Reliability of the combined adaptability scale was .96.

Lastly student-athletes reported their perceived coaching climates through 32 questions long Empowering and Disempowering Motivational Climate Questionnaire for Coaches (EDMCQ-C) (Appleton et. al., 2015). It has five subscales; Task-involving (9 items: e. g., *My coach encouraged players to try new skills*), Autonomy-supportive (5 items: e. g., *My coach answered players' questions fully and carefully*), Socially-Supportive (3 items: e. g., *My coach could really be counted on to care, no matter what happens*), Ego-involving (7 items: e. g., *My coach substituted players when they made a mistake*) and Controlling coaching (8 items: e. g., *My coach was less friendly with players if they didn't make the effort to see things in his/her way*). Four questions were added in order to gather information specifically from dual career challenges so the number of questions in this setting was increased to 36.

In order to create variables describing different motivational climates a principal-factor analysis was done with varimax-rotation for all the 36 items measuring perceived motivational climate. A four-factor structure was to be the most theoretically consistent and, thus, it was selected as a final

solution. One item (Q2; My coach gave players choices and options) was left out from the final solution because it loaded over 0.30 on two separate factors.

The final perceived coaching climate scores were calculated as the means of items that loaded higher than 0.30 on a certain factor. These summary variables were: (1) *an empowering coaching climate* including 14 items reflecting exploration and need satisfying coaching, (2) *an outcome oriented coaching climate* including 7 items that reflected strong focus on winning and the quality of performance, (3) *a disempowering coaching climate* including 6 items which reflected need thwarting, and (4) *dual career supportive coaching climate* including 5 items reflecting how well the coach takes notice and supports challenges regarding schoolwork. The Cronbach alpha reliabilities for these variables were 0.91, 0.90, 0.80 and 0.74, respectively.

Data Analysis

The present study used a person-oriented approach in order to investigate different identity patterns that high-school student-athletes show, how stable these patterns are, and how big a proportion of student-athletes show a particular pattern. The ISOA (I-states-as-objects-analysis) procedure was used to analyse the data because it is suitable in studying short-term developments measured in multiple points with person-oriented view of developmental stability and changes (Bergman, Nurmi & von Eye, 2012). One major assumption in the ISOA is that the observed variable patterns are described as ‘states’, can be identified in a similar way at different measurement points (Bergman, Magnusson, & El-Khoury, 2003) and the developmental and stable nature of identity gives room to the assumption that identity in high-school constitute of such ‘states’. Accordingly, the cluster membership is first created independently at the time of the measurement and only later organized in a consecutive manner.

After the profile memberships were identified at all three measurement points log linear models were induced to examine the changes in and stability of individual memberships regarding both athletic and student identity with all three time points taken into account. This revealed no statistically significant changes in profile memberships so analysis could be carried out with taking only T1 into account. Finally a multinomial regression analysis was ran with using all the background variables mentioned (school success, competition level, gender, type of sport, coaching style and achievement goals) as predictors. All analyses were carried out with the IBM SPSS Statistics 24.0 program.

RESULTS

Identity Profiles

The main focus of this thesis was to find out what kind of different identity profiles student-athletes represent when both student and athletic identity are taken into account (research question 1), and how typical these profiles are among-student athletes (questions 2). In order to examine this a clustering analysis using ISOA procedure was carried out. First, student-athlete's identity values were coded as a separate case for every time point (T1-T3). First student and athletic identity scores were standardised in order for standard deviation distances not to affect the distances in forming clusters. Finally, two clustering methodologies (hierarchical Ward and non-hierarchical k-means) were used side by side in order to verify the emergent cluster solution (Hair, Black, Babin & Andersson, 2010). The optimal number of clusters was determined by using two criteria: relevance to theory and number of cases in each cluster. With those in mind, a three cluster solution was found to be the most representative of the data. The two clustering solutions chosen gave fairly similar clusters where Ward's method grouped 99%, 93% and 67% of individuals in same clusters as did k-means. Aligned with the previous research (Harwood, Cumming & Fletcher, 2004; Gucciardi & Jones, 2012) the clusters gathered through k-means procedure were selected. After finding the proper clustering solution, the data was then rearranged in a way that measurements 1-3 were again represented as successive measurements regarding same individual. The means and standard deviations of the found clusters are shown in Table 1.

Examining the results a standardized score of $\pm .50$ indicated high and low scores regarding both identities while values in between labelled as mediocre (Harwood et. al., 2004; Gucciardi & Jones, 2012). The first identity cluster was defined by relatively high athletic identity and low student identity scores (I-states N = 351). This cluster was labelled '*Sport identity*'. The second cluster was characterized by relatively high values regarding athletic identity and high values regarding student identity (I-states N = 451). This cluster was named '*Dual identity*'. The final cluster had low values regarding athletic identity mediocre values regarding student identity (I-states N = 313). Therefore this cluster was labelled '*Uncommitted identity*'.

Table 1: Means (*M*) and standard deviations (*SD*) of standardized identity variables for the three identity profiles, I-states (*N* = 1115)

Identity scores	Identity group		
	Sport identity (<i>n</i> = 351)	Dual identity (<i>n</i> = 451)	Uncommitted (<i>n</i> = 313)
AIMS			
<i>M</i>	0.50 ^a	0.43 ^a	-1.16 ^b
<i>SD</i>	0.69	0.67	0.70
SIMS			
<i>M</i>	-1.01 ^a	0.82 ^b	-0.06 ^c
<i>SD</i>	0.61	0.59	0.73

Note 1. Group means with different superscripts show a statistically significant difference ($p < 0.05$) when calculated with Bonferroni's test.

Note 2. Here, *n* describes I-states rather than number of student-athletes.

Profile Stability

The second and third research question concerned the number of student-athletes in each profile at different time points and how stable the identity group membership is through the first two years of Finnish sport high-school. To examine this log linear models were induced to examine the stability and change of successive measurement points. The results are shown in Figure 2.

At the first time point these student-athletes were almost evenly divided between groups with 138 (35%) individuals in Dual Identity group, 127 (32%) in Sport Identity and 126 (32%) individuals in Uncommitted group, respectively. Individuals shifted from one group to another but there were no statistically significant changes group wise. However there was a trend of more people moving into Dual motivated group (T1: 35% -> T3: 45%) while the other two got smaller in size (Sport: 32% -> 29%; Uncommitted: 32% -> 26%).

Background Variables

The last research question focused on the role of background variables regarding identity development. All interval scaled background variables were first examined individually with

ANOVA and their relations to found identity groups was examined with Bonferroni post hoc -test. Based on ANOVA six of the background variables examined were found to be significantly associated with identity profiles. Table 2 reports this data across identity groups. The results showed that six of the ten variables tested were significant predictors of identity group belonging. These variables were GPA, mastery orientation in school, performance and mastery orientation in sports, DC supportive coaching and career adaptability (Table 2).

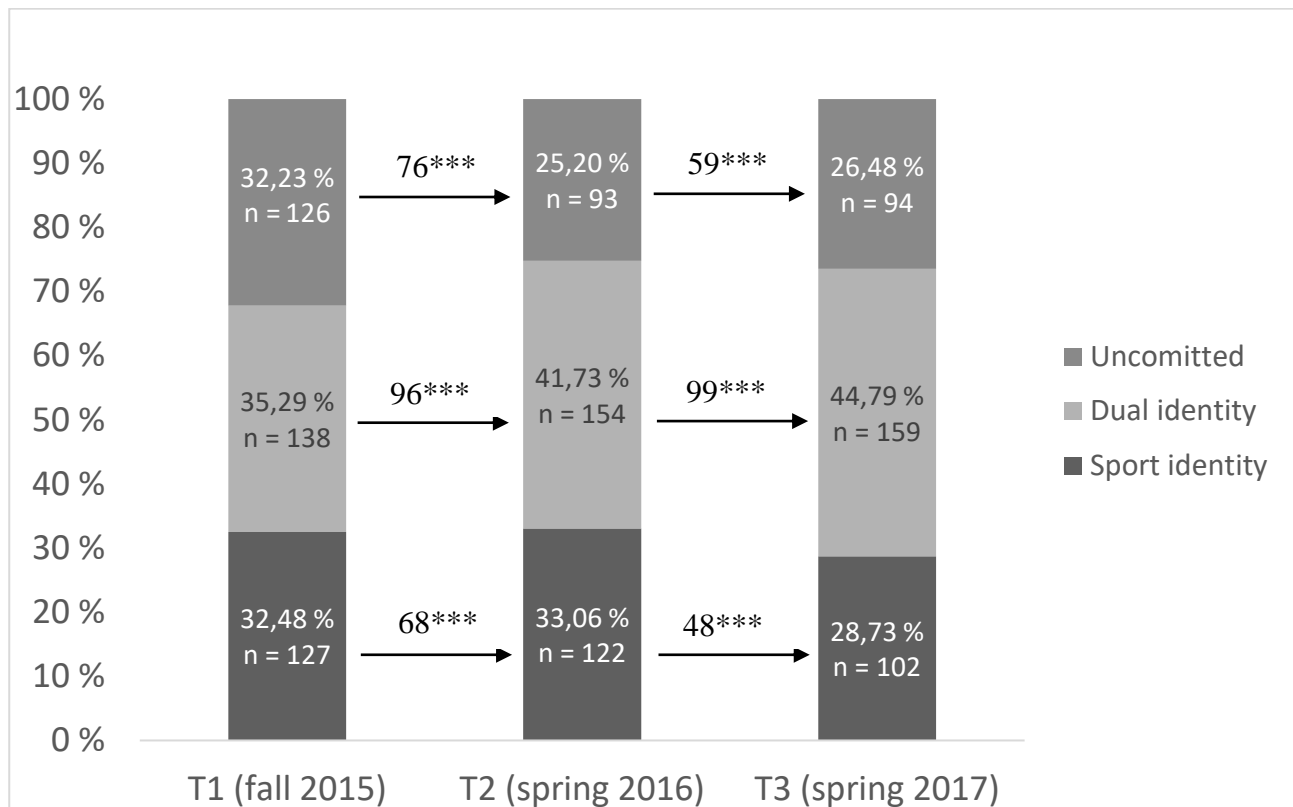


Figure 2. Distribution of different identity groups and the stability of these groups over all measurement points, ***p < 0.001.

Note 1. All other transitions between identity groups were statistically non-significant (p < 0.01).

Secondly, the associations of categorical variables (gender, type of sport and competition level) with identity profiles were examined separately through crosstabulation. Gender appeared to be differentiated statistically significantly related with identity group membership (Pearson $\chi^2 = 21.763$, p < .001): boys were overrepresented in Sport identity group (adj. res = 3.6, p < 0.01) while the reversed effect was present regarding Dual identity group (adj. res = -4.4, p < 0.01). No statistically significant effects were found regarding either type of sport (Pearson $\chi^2 = 1.758$, p = .415) or competition level (Pearson $\chi^2 = 3.156$, p = .206).

Table 2: Means, standard deviations (in parentheses) and significant differences of interval scaled background variables among the three identity groups in T1.

	Sport identity	Dual identity	Uncommitted	F
GPA	8.68 ^a (0.63)	8.97 ^b (0.55)	8.87 ^{ab} (0.66)	7,471
Sport Performance	4.26 ^a (0.68)	4.22 ^a (0.76)	3.98 ^b (0.85)	5,004
Sport Mastery	4.62 ^a (0.38)	4.72 ^a (0.33)	4.53 ^b (0.42)	8,263
School Performance	3.59 ^a (0.85)	3.82 ^a (0.90)	3.64 ^a (0.94)	2,404
School Mastery	4.09 ^a (0.62)	4.43 ^b (0.52)	4.25 ^a (0.59)	11,451
Empowering Coaching	3.75 ^a (0.69)	3.88 ^a (0.66)	3.84 ^a (0.54)	1,328
Outcome Oriented Coaching	2.91 ^a (0.85)	2.71 ^a (0.92)	2.64 ^a (0.84)	2,863
Disempowering Coaching	2.26 ^a (0.86)	2.02 ^a (0.77)	2.08 ^a (0.78)	2,646
DC Supportive Coaching	3.14 ^a (0.89)	3.35 ^{ab} (0.88)	3.42 ^b (0.69)	3,458
Career Adaptability	3.23 ^{ab} (0.60)	3.36 ^a (0.62)	3.07 ^b (0.60)	7,300

Note 1. Group means with different superscripts show a statistically significant difference ($p < 0.05$) when calculated with Bonferroni's test.

Next, a multinomial regression analysis was carried out by inducing all background variables as independent variables and identity profile group membership as dependent variable. Table 3 presents how these background variables were described in the multinomial regression analysis and the direction and strength of their effects. Table 4 assembles two previous tables together by giving a verbal descriptive summary of the results found.

Gender differentiated Dual identity group from the two other groups. Being a girl meant that the more likely you would belong to Dual identity group than in the other two groups. Reversely, being a boy meant that the more likely you would belong to Sport than in the two other groups. Secondly, higher GPA after upper secondary school was a statistically significant predictor of belonging to Dual identity rather than Sport identity group. It was the only significant difference regarding success in school, however p-value with comparing Sport identity and Uncommitted groups the data showed a statistically marginal effect ($p = .052$): the higher the GPA the more likely it was to belong to Sport identity than Uncommitted group.

Mastery orientation differentiated individuals regarding both school and sport contexts. First, the higher levels of reported mastery orientation in school context the more likely it was to belong to Sport identity group than in the two other groups. Second, the lower levels of reported mastery orientation in sport context the more likely it was to belong to Uncommitted identity group than in the two other groups. Final, while ANOVA procedure showed that performance orientation in sports

TABLE 3. Background variables as predictors of identity groupings at Time 1 (Multinomial Regression Analysis)

	Predictor Variable	b (SE)	Wald χ^2 (df = 1)	OR
Identity groupings T1				
Sport Identity ^a	Gender ^c	-1.02 (0.30)***	11.20	0.36
	GPA	-0.59 (0.24)*	5.72	0.56
	Mastery Sport	-0.17 (0.47)	0.13	0.84
	Mastery School	-0.56 (0.27)*	4.35	0.57
	DC Supportive	-0.27 (0.17)	2.49	0.76
	Career Adaptability	-0.28 (0.25)	1.22	0.76
Uncommitted Identity ^a	Gender ^c	-0.94 (0.30)**	9.62	0.39
	GPA	-0.11 (0.25)	0.22	0.89
	Mastery Sport	-1.15 (0.46)*	6.13	0.32
	Mastery School	0.14 (0.29)	0.23	1.15
	DC Supportive	0.23 (0.18)	1.64	1.26
	Career Adaptability	-0.66 (0.25)**	6.83	0.52
Identity groupings T1				
Dual Identity ^b	Gender ^c	1.02 (0.30)***	11.20	2.77
	GPA	0.59 (0.25)*	5.72	1.80
	Mastery Sport	0.17 (0.47)	0.13	1.19
	Mastery School	0.56 (0.27)*	4.35	1.75
	DC Supportive	0.27 (0.17)	2.49	1.31
	Career Adaptability	0.28 (0.25)	1.22	1.33
Uncommitted Identity ^b	Gender ^c	0.8 (0.31)	0.07	1.08
	GPA	0.47 (0.24)	3.79	1.60
	Mastery Sport	-0.98 (0.43)*	5.04	0.38
	Mastery School	0.70 (0.27)*	6.53	2.01
	DC Supportive	0.50 (0.18)**	7.61	1.65
	Career Adaptability	-0.38 (0.25)	2.23	0.69

^aReference group Dual Identity

^bReference group Sport Identity

^cFemale vs. Male

had its own statistically significant effect it vanished when other variables' effects toward group belonging were taken into account.

Coach created motivational climate differentiated these identity groups within the Dual Career Supportive Climate dimension while other dimensions didn't separate any individuals between identity groups. The higher levels of reported DC Supportive Climate the more likely it was to belong to Uncommitted identity group than in Sport identity group. The less abilities a student-athlete reported in assembling one's career, the more likely for an individual it was to belong to Uncommitted than Dual identity group.

TABLE 4. Differences in background variables of three defined identity groups

	Sport Identity	Difference to Dual Identity	Uncommitted
Sport Identity	X	Less women Lower GPA Less school mastery	More sport mastery Less school mastery Less DC supportive coaching
Dual Identity	More women Better GPA More school mastery	X	More women More sport mastery More abilities for career construction
Uncommitted	Less sport mastery More school mastery More DC supportive coaching	Less women Less sport mastery Less abilities for career construction	X

DISCUSSION

This was the first study that implemented a person-oriented view on student-athletes athletic and student identity development in longitudinal perspective. The main interest of this thesis was on the emerging identity profiles, their stability especially through second year of high-school and how

different background variables predicted identity group belonging. Three separate identity groups, Sport, Dual and Uncommitted identity groups, were found with distinctive characteristics. All of these groups were highly stable through the first two years with no new groups emerging. Multiple background variables such as gender, mastery orientation and career adaptability were found to have causal relations for identity group belonging.

The first research question examined the three different identity profiles that were found from the data: Sport identity, Dual identity and Uncommitted identity group. These three identity groups describe the same properties than those Koivusalo (2018) found by using only the first time point as a basis for her study. This means that no new types of identity profiles were to be found, when a longitudinal perspective was applied. Relating to this, there has been an ongoing conversation about whether one can identify themselves as both student and athlete at the same time. This thesis found a group identifying themselves as both students and athletes and the abundance of evidence from different eras and cultures support this finding (Snyder, 1985; Miller & Kerr, 2002; Lally & Kerr, 2005; Yukhymenko–Lescroart, 2014; Stambulova et. al., 2015). The present study then gives further proof that for a considerable portion of student-athletes simultaneous identification to both student and athlete role is possible. Furthermore, there is no evidence from this study or from the previous body of research which implies that some student-athletes would be incapable of identifying to multiple areas of life. All this coincides with the finding which illustrates that a vast majority of student-athletes seem to have a desire to achieve in both domains (McKenna & Dunstan-Lewis, 2004). However, a question arises that is this possible when one competes at a (super)elite level. Recent study found that six out of 18 elite student-athletes couldn't project their future beyond their athletic selves (Ryba, Stambulova, Selänne, Aunola & Nurmi, 2017) implying that elite student-athletes might differ from the body of student-athletes.

While athletic identity was at high levels in both Sport and Dual identity groups compared to the Uncommitted group, their athletic identity levels weren't high when comparing to other studies which have examined athletic identity (Britton & Cornelius, 2001; Stambulova et. al., 2015). In a similar sample of student-athletes from Sweden, Stambulova and her colleagues (2015) had higher AIMS values at baseline ($M = 5.87$; $SD = 0.72$), compared to this study ($M = 5.17$; $SD = 0.77$). Likewise, when Dual identity group members' athletic identity was compared to the mean value of student-athletes' athletic identity in AIMS norms (Britton & Cornelius, 2001) they were as close as it makes no practical difference. Additionally, to be called 'high' standardized values should be over $\pm.50$ (Harwood et. al., 2004) and neither Sport or Dual identity group fulfil this criteria. All this means that for some reason this sample has lower athletic identity than student-athletes seem to have in the US or in Europe. One possible explanation for this is due to the fact that Finnish students feel that

sports high school has helped in coupling with the demands of school and sport (Leivo, 1999). A study from UK found that one major difficulty of student-athletes is lack of support (McKenna & Dunstan-Lewis, 2004). It might be that student-athletes' concerns are better taken care of in Finnish DC environments and this might lower the identification to sports in Finnish student-athletes compared to other studies worldwide.

In literature two labels have been used for a strong attainment (or identification) to athlete role while having a low attainment (or identity) on student role: athlete and jock (Miller, Sabo, Melnick, Farrell & Barnes, 2006). However, to be labelled as a jock one needs to represent characteristics of jocks or to report identifying themselves as one. So far research on the matter recognizes that more boys than girls identify as jocks (Miller et. al., 2006), self-reported jocks have lower grades (Miller et. al., 2005) and jocks have more problem behaviour such as violence and binge drinking (Miller, 2008). Therefore, these labels shouldn't be used interchangeably (Miller et. al., 2006) and this is why Sport identity group found in this study wasn't called Jock identity. However, if individuals with that had a jock identity would be examined against individuals from Sport identity group, their AIMS and SIMS scores wouldn't probably look any different. What, therefore, is needed to separate these two groups is a set of qualitative data to support that individuals in this group would in fact label themselves as jocks. Furthermore, all of these student-athletes have high GPA after comprehensive school (which is needed to be qualified to sport high-school in Finland) and the standard deviation of their SIMS values isn't bigger than in the other two groups. All of this indicates that there might not be even a meaningful subpopulation of jocks in Sport identity group, however, without qualitative data one can't say this for certain.

The Uncommitted identity group is an interesting finding among student-athletes because they don't identify themselves strongly as either a student or an athlete. This supports previous research (Koivusalo, 2018) which also found a similar group within student-athletes. Here the group is named 'Uncommitted' because in the light of the data gathered, there is no evidence to show that they strongly identify themselves in any domain, thus, they have no strong personal commitments. It's possible that these individuals are in moratorium or diffusion stages of their identity development, but it is as likely that they have strong identification towards something else than school or sports. Possible reasons for choosing sport high school, where their daily lives concentrate around two paths they do not strongly identify to, are social ones (continuing to same school as friends do), gaining 3-4 years of extra time to think what occupational path to choose (Teikari, 2004) and fulfilling the values laid upon them by their parents and society.

Regarding identity development of the two remaining groups, the Dual identity group members were able to strongly identify themselves towards two spheres of life. This was complemented by

the fact that being a girl increases the probability of belonging to Dual identity group. This is in line with earlier research that shows girls to have stronger student identities than boys (Miller & Kerr, 2002; Sturm et. al., 2011). Likewise, being a boy increases the probability of belonging to Sport identity group indicating that this group might have a substantial amounts of foreclosed identities among them. This is based on the notion that high athletic identity is linked to identity foreclosure (Brewer et. al., 1993) and that male student-athletes seem to have higher athletic identities than girls (i. e. Brewer et. al., 1993; Sturm et. al., 2011). However, solely based on this data one can't assume all of the student-athletes in Sport identity group to have foreclosed identities, because they might have an achieved type of athletic identity or they might identify themselves strongly towards other areas of life (such as music or arts). However, based on these results, individuals in Sport identity group are the ones most in danger of developing a foreclosed athletic identity.

Based on the findings pointed out in the last chapter it would be easy to assume that all of the individuals belonging to Dual identity group would have achieved identities. Main reason for this is that they are not solely identified to one sphere of life meaning that they seem to be able to weigh alternatives and it's highly likely that they have done that. However, to assume that all of the individuals in Dual identity group have an achieved identity would mean that the amount of achieved identities found in this study would be more than what an earlier meta-analysis has found young individuals to have (Kroger et. al., 2010). This percentage of achieved identities among adolescents would be abnormally high. One possible explanation for this thought is that all of the student-athletes belonging to Dual identity group don't actually have achieved identities. Rather, the individuals in this category would be split in regards of identity status. Partly student-athletes in Dual identity group would in fact have developed an achieved form of identity. There could also be a group that represents the values attained from home which emphasize the importance of doing well in both school and sports. Thus, identifying to both domains doesn't necessarily mean that individuals have explored alternatives and committed to this path. Rather, it might be that they participate in school, sports or both in order to fulfil parental expectations or culturally given norms. Future research needs to further unveil the reasons why student-athletes decide to focus or not to focus on education when exploring the identities of high-school student-athletes.

The second research question looked at how typical different identity profiles are among student-athletes. This study found out that at baseline student-athletes were almost evenly divided between these three groups. This is in line with previous research on identity profiles among Finnish student-athletes (Koivusalo, 2018). Three separate identities were found among Finnish student-athletes with qualitative analysis as well (Ryba et. al., 2017) and those three identity styles are reminiscent with the identity profiles found in this study. However, when those elite level student-

athletes' identity was qualitatively examined it turned out that 12 out of 18 presented a mindset comparable to the one with Dual identity group while only five showing no interest towards education. It will be interesting to see whether this difference of elite student-athletes being overly represented with more holistic identity narratives and styles is evident in future studies.

The third focus of this thesis was on the stability of the found identity groups. Identity group membership was found to be highly stable through all time points. In fact, staying in the same identity group was statistically significant for a student-athlete between successive time points, while any other transition was found to be statistically non-significant. At first glance this seems to contradict the previous assumptions made by Stambulova and her colleagues (2015) who viewed that the increase of standard deviation in student-athletes' athletic and student identity during their first year would tell about changes made in searching for optimal balance. However, a change in the proportions of these identity profiles was evident. The number of student-athletes that represented Dual identity increased from 35% to 45% during the first two years of high-school. This might indicate about the changes student-athletes make in order to manage their involvement to both school and sports, simultaneously. In that sense the findings of this study confirm the assumptions made by Stambulova and her colleagues (2015). Furthermore, this might mean more student-athletes have formed an identity that can be labelled as achieved. This increase in achieved identity would be in line with earlier research that shows achieved types of identities to be more prevalent at the end of high-school than in the preceding or following year (Kroeger et. al., 2010).

Identity according to Erikson is the main developmental task of adolescence (Erikson, 1958), and while Dual identity group grows larger in size, this data shows no evidence on statistically significant changes from one group to another during the first two years of high-school. One explanation for this is that student-athletes might not face any crisis which makes them to think about their values and commitments (Erikson, 1968). Student-athletes still practice sports and their team mates and friends for the most part stay the same during this two year period so there might be no reason for a student-athlete to reflect his or her life choices. This reflection would be hoped for as identity foreclosure is more likely to change during adolescence than later in life (Kroeger et. al., 2010). By my own experience from Finnish high-school system, as sport high-school student-athletes have their own curriculum, they tend to spend time solely among other student-athletes and this might inhibit questioning of the athletic path. This observation is backed up by the research which tells that student-athletes for the most part spend time amongst other student-athletes (Miller & Kerr, 2002).

The fourth and final research question concerned background variables and their influence on identity group belonging. Gender had multiple effects which are in line with previous research with boys belonging more to identity groups with higher and more exclusive athletic identity (Brewer et.

al., 1993; Brewer & Cornelius, 2001; Sturm et. al., 2011). Girls have been found to be able to better handle the challenges of simultaneous participating to both sports and school (Murphy et. al., 1996) and in this study girls were more likely to belong to Dual identity group, and belonging to that identity group can emphasize this skill. All this might link to the earlier biological development of teenage girls and to the greater demands for girls to perform well in school and start a family (Ryba, Ronkainen & Selänne, 2015). Becoming a professional athlete can be harder for females (Ryba et. al., 2015) so doing well in school might be a choice that young females are more likely to make in order to secure their financial independence.

While all participants had a high GPA after preliminary school there was a significant effect with lower GPA predicted belonging to Sport identity group when compared to the Dual identity group. This confirmed the identical finding made by Koivusalo (2018) and indicates that GPA induced differences in group belonging between these groups are made during preliminary school and not in high-school. The effect of GPA might tell a tale about the identifications and values of the families than differences in identities that are constructed during high-school. The role of earlier academic success is a further illustration of the finding that high, elusive, athletic identity can lead to foreclosure (Brewer et. al., 1993) and therefore the student-athletes in this group are in danger of adopting parental identifications and an external locus of control (Marcia, 1993).

Achievement goals were found to be linked to identity profiles through multiple pathways. Mainly these effects were through mastery goals which have been found to increase intrinsic motivation (Standage & Treasure, 2002). In this study mastery orientation towards school-related tasks was found to be higher in Dual identity group than in the other two groups. This result is in line with the previous work by Ryska (2002) which shows that mastery orientation together with high athletic identity predict greater competence in academic and vocational challenges. Adding to the above, mastery approach towards athletics was lower in the Uncommitted identity group members than members in the two other groups which was according with the hypothesis that mastery orientation would be linked with greater athletic identity. That hypothesis also predicted higher performance orientation towards athletics to be connected with higher levels of athletic identity. While this connection was proven when the individual effect of performance orientation towards athletics was examined, it vanished when all other variables were taken into account. This finding does contradict the previous findings where performance orientation was found to correlate with athletic identity subscales (Proios, 2012) but, more intriguingly, this sheds new light on the relationship between athletic identity and performance orientation.

One possible explanation of this complex relationship is found in examining career adaptability, which was found to be lower with individuals within Uncommitted identity group than with

individuals in Dual identity group. This finding was in line with previous research (Negru-Subtirica et. al., 2015) and the hypothesis of this study. As mentioned, adding the influence of other variables diminished the statistically significant effect of performance orientation and I assume that the difference relates mostly to career adaptability. By describing the set of tools an individual owns in solving problems and obstacles (Savickas & Porfeli, 2012) career adaptability is highly likely to represent a set of skills which is likely to develop when focusing on task itself instead of only the outcome. Thus, focusing only to the outcome of the task might limit the development of wide range of different skills needed to handle a variety of tasks. It might be that individuals who don't present those tools, or yet have as good tools compared to age group, haven't yet been able to solve the puzzle of who they are. In other words, these student-athletes in Uncommitted identity group might simply be more immature in this regard. Individuals develop at highly different speeds in adolescence so it would be of no surprise to find more immature group among underaged student-athletes.

Finally, perceived coaching climate was reported and one factor, DC Supporting coaching, was found to differentiate individuals between Sport and Uncommitted identity groups. The more DC Supportive coaching was reported, the more likely for an individual it was to belong to the Uncommitted identity group. This result contradicts both the hypothesis and previous research (Poux & Fry, 2015), both assuming higher athletic identity to be connected to more empowering coaching climate. In this study empowering climate had no statistically significant relations in identity group belonging. Explanation for the missing connection between athletic identity and perceived empowering coaching climate might be that the pursuit to create better coaching climates and individual coaching has succeeded in Finnish youth sport settings. Previous research has highlighted that caring and task involving climate is beneficial for holistic development in student-athletes (Poux and Fry, 2015) and DC Supportive climate factor consists mainly from care-related questions. The reason that some student-athletes reported having experienced more supportive coaching might relate to their athletic skills. Although this study didn't find the link between higher competition level and higher athletic identity, one can assume that individuals from the same school who strongly identify to sports could be better at it than individuals who don't. Thus, it might be that individuals in Sport identity group are better athletes than individuals in Uncommitted identity group and coaches might then want to make sure that these student-athletes take care of their education, because the coach doesn't see them becoming a professional athlete. Another factor (Disempowering climate) described favoring and authoritarian coaching but had no significant effect towards identity group belonging. It might be that giving alternatives and positive reinforcement create greater effect toward identity development than need thwarting. This type of behavior by coach might be one reason why some student-athletes display this Uncommitted type of identity; they have moved from foreclosed athletic

identities into identity moratorium, one of the statistically significant trends an identity tends to develop (Kroger et. al., 2010), before the start of high-school. For a student-athlete realizing that they are not going to become a professional athlete this would be a sign of healthy identity development. Caring and task-involving coaching climate might ease beneficial identity development by giving individuals alternative strategies, skills and goals.

Student-athletes spend the majority of time among other student-athletes (Miller & Kerr, 2002) and they have privileges toward schooling in Finnish high-schools such as the possibility to accumulate up to one fourth of their total courses from training (Schildt high-school: Instructions about studies in sport high-school; <https://peda.net/jao/voionmaan-lukio/opinto-ohjaus/opiskelukiossa/yo>). Both of these can create more sense of unity and attainment to the athlete role among student-athletes. This is a good thing regarding athletics but it might harm their educational identification. In the Netherlands student-athletes' interest toward education has dropped in similar sport-focused high-school environments (van Rens, Elling & Reijgersberg, 2012). This illustrates that not all actions made to alleviate the stress and hardship of combining athletic and academic careers work, meaning that more research is needed to find out which actions are the ones that are most beneficial for student-athletes. While it is clear that DC policy makers should address the hardship of combining high levels of athletics and education by reducing the total amount of workload in one way or another, these decisions should be rooted on research. In a study by Scott, Paskus, Miranda, Petr and McArdle (2008) student-athletes were found to have better academic performance during off-season at different competition levels and the effect was more prevalent with sports that had high time demands during competitive season. One research rooted solution would be to give student-athletes the opportunity to do fewer courses at a time when they have their competitive season and focus on studies more when an individual doesn't experience the demands of their competitive season. As Stambulova and her colleagues (2015) cleverly noted in their title, for student-athletes high-school is all about finding the optimal balance.

Families' role in preventing identity foreclosure should be of one providing alternatives for their children without pressure and fixation to one path. In the same spirit, I hope coaches give understanding for non-athletic pursuits which might rarely limit their participation to training. This study confirmed the results by Poux and Fry (2015) about caring and task-involving climate being linked with higher athletic identity. Advice to all coaches working with student-athletes is to forget old ideals of authoritarianism and instead listen and care for student-athletes' personal views and opinions. All this is for the benefit of the holistic development of a person and, thus, an athlete.

It has to be said that it is hard to describe group level identity development even with longitudinal study protocol. A recent meta-analysis by Kroeger and her colleagues (2010) is possibly

the best study yet in emphasizing the slow development of identity during adolescence. When we look at the mean identity status development from 15 to 21 years of age there are trends of identity development to be seen, but differences are around one or two percent per year. This type of change might be very hard to detect with a two-year identity profile examination like the one used in this study. Putting together the findings from Kroeger's et. al (2010) and the present study implies that longer longitudinal paradigms are needed in order to further examine the mechanisms behind identity development. Adding to the above, it was Erikson who first stated that identity formation can last until individuals are in their thirties (Erikson, 1958). Hence, Arnett's (2000) idea about emerging adulthood is nothing novel and still something to keep in mind with future research.

There were some limitations to this study mostly involving the background variables used. The most drastic is that perceived coaching climate was measured at T3 while it was used to predict identity groupings at T1. Methodologically this can be done and while there are some coach-athlete relationships that carry from childhood to professionalism, the problem is that coaches, coaching groups and teams can change or evolve between T1 and T3. One, then, has to be extremely cautious about the interpretation of the results concerning coaches, meaning that more research needs to be done to verify the findings of this study. Second, the background variable competition level was constructed by separating student-athletes who reported competing in junior level from the ones competing in national or international level. Biggest problem with this is that the variable created didn't separate elite level student-athletes. Student-athletes in this sample spend 25h ($SD = 8.99$) a week in practicing sports or activities related to sports (i. e. travelling) and previous research shows that optimizing performance is descriptive of elite athletes (Gustafsson et. al., 2007). Combining these two emphasizes the immense commitment student-athletes face in order to gain elite sport performance. Therefore, elite athletes could be the most distinctive population of student-athletes and failure to differentiate them might be the reason that competition level didn't produce any results. Future studies must address this when studying the identities of student-athletes. The original aim in this study was to measure success in athletics, however, success is a tough concept to define properly and must be used with great care (Swann, Moran & Piggott, 2015). Third, achievement goals were studied by dividing answers to mastery and performance orientation. This, however, is an outdated way of researching achievement goals as a 2x2 (Elliot & McGregor, 2001) and later a 3x2 (Elliot, Murayama, Kobeisy, & Lichtenfeld, 2015) frameworks have been found to better illustrate the phenomena of achievement goals. While results concerning mastery orientation and it's links to identity development seem promising, more research is needed to further show which part of the achievement goal theory is linked to beneficial identity development of student-athletes. Fourth, although the situations were made as peaceful as possible and individual and truthful answering was

encouraged, the student-athletes might've lacked the motivation to thoroughly focus on making the questionnaire. This is especially true with successive measurements; the same questionnaire isn't as novel and intriguing for the third time as it was when presented for the first time. However, filling questionnaire with a possibility to ask questions from someone working in this project when problems arise and the possibility of filling the questionnaire online instead of paper version were actions specially aimed to make the answers more reliable. Final, there are very few studies that have used person-oriented view in studying student-athletes' identity development (Koivusalo, 2018) and none has studied this from longitudinal perspective. There are great cultural differences between American and European educational systems, but the small amount of European studies doesn't allow to base one's research solely on European research which makes it even harder to generalize results.

There were also strengths with this study. First, while several background variables had some limitations, all of the Cronbach alpha values regarding the stabilities of variables used in this study were extremely high throughout. This means that the scales itself worked well and reported what they were supposed to be reporting. Second, while multiple background variables lacked a strong support of previous research from them affecting identity development, it was reasonable to assume that all of them could affect identity development. Finally, producing mixed results compared to the earlier body of identity research tells more about uniqueness of this study than problems with the structure of the study plan itself, meaning that this thesis is more a platform for future research than one that confirms previous findings. This is especially true as studies concerning student-athletes in Europe and in high-school are both domains where more research is needed (Lupo et. al., 2017). Therefore, while the findings and suggestions of this study create new information, verify old results and create new ideas for future research, it must also be noted that these results and suggestions are preliminary and need verification by future studies.

This study focused around athletic identity in a novel perspective creating new information and direction for future research. Especially finding that there are three differing and highly stable identity profiles among high-school student-athletes is an important new illustration of the student-athletes' identity development. This is extremely true as these results were found in the age where personal identities are supposed to be most intensively under development. Additionally, to find a substantial group that doesn't identify themselves towards school or sports is an unexpected result which requires future examination. Mixed methods studies and qualitative methods in general are needed to complete our understanding of the reasons behind identity development. Positive attitudes towards education and approach to learn skills instead of focusing solely on performance compared to peers seems to be beneficial for healthy identity development of student-athletes. These can be fostered by significant others, mainly parents and coaches. Identity seems to develop slowly and the complete development

of a self-identity might take a better part of a decade. In the future studies concerning student-athletes' identities should be longitudinal with a longer interval between the first and last measurement. Holistic development can be assessed with simultaneously examining other aspects of student-athletes' lives, such as student identity. Successful identity development predicts a number of well-being characteristics, so this development should be a key thing to keep in mind with future research and working with student-athletes.

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