

DUALISTICALLY BURNED OUT?

The development of school and sport burnout symptoms and its relation to self-esteem among dual-career students in Finnish sport high schools

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ABSTRACT

Being involved in high-level sports alongside an intensive educational program is a challenging combination, yet a challenge that dual-career high school student-athletes are expected to face. As performing well in both domains requires a lot of physical and mental stamina, it is not unlikely that students might exhibit an increased amount of burnout symptoms. Burnout is widely studied in both the academic and athletic domain, but to investigate them together and assess how they are related has been left unstudied until recently. The main aim of the current study was to find out whether there is a difference between burnout symptom rates in the academic and athletic domain among Finnish dual-career students. We further investigated the development of this relation, as we assessed how similar or different burnout symptom rates were in the beginning and end of high school. In addition, we investigated how self-esteem is related to burnout symptoms in both domains. The current study is part of a longitudinal project called "Winning in the long run", which started in Finland in 2015. The aim of the project was to follow and get insight into the psychosocial development and academic orientation of dual-career students in high school. Extensive questionnaires were administered 5 times throughout the high school period assessing among other things motivation, identity, burnout and self-esteem. In total 228 dual-career students answered the questionnaires of our interest at the beginning (T1) and end of high school (T5). School and sport burnout symptoms were measured with an adapted version of SBI-9, while self-esteem was measured with an abridged RSES. The results indicated that initially youngsters had stronger school burnout symptoms than sport burnout symptom, but the gap between these diminished towards the end of high school. Negative correlations were found at both time points between burnout symptoms and self-esteem across domains. Severe burnout symptoms on a group level are nevertheless not found. Our results thus indicate that burnout symptoms for dual career youngsters slightly increase during high school years, may transfer from one domain to another and are associated with low self-esteem. These findings should be considered when planning the challenging route of a dual career. Most importantly, youngsters should be provided with enough information and guidance to balance between being a promising athlete as well as a successful student.

Keywords: burnout, self-esteem, domain-specificity, dual-career, high school, youngster

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1. INTRODUCTION

Combining high-level sports and studies is a challenge for both physically and mentally developing youngsters. However, this is a challenge that so-called dual-career student-athletes are expected to face. It is important to give support to these young student-athletes in order to help them succeed in both fields and find balance between the life of an athlete and a student. It is also important to investigate how to achieve the balance between the two domains and to determine the factors that could influence this balance. The risk is anyway that combining these two demanding domains predisposes to stress, and possibly in the worse cases also increase burnout symptoms or may even lead to burnout. The current study is concerned with possible burnout symptoms in both the academic and sport domain and in addition investigates the role of self-esteem in developing or avoiding burnout symptoms.

The study of dual careers has recently gained more attention and different countries have started to recognize the potential pitfalls of pursuing a dual career. For example, in Germany they have developed a system called “Verbundsysteme” (Borggreffe & Cachay, 2012) to facilitate the combination of school and elite sports. In Finland Ryba et al. (2016) carried out the first person-oriented longitudinal mixed method study focusing on student-athletes who had chosen to invest in their education as well as in their sports career. Other Finnish studies showed that burnout symptoms increase when youngsters pass from comprehensive school to upper secondary school and for dual-career youngsters this pertains to both the school and sport domain (Salmela-Aro & Tynkkynen, 2012; Aunola, Sorkkila, Viljaranta, Tolvanen, & Ryba, 2018). This already happens during the first year due to increasing demands in studies and training. Hence, it is crucial to help dual-career youngsters especially in the beginning of their high school journey by providing enough information and support on how sports high schools function and how to plan and start their academical career while being a goal-directed athlete (Stambulova, Engström, Franck, Linnér, & Lindahl, 2015). Warm parental support has a buffering effect helping to prevent burnout in both fields (Aunola et al., 2018).

The importance of education should not be underestimated among young athletes as careers in elite sports tend to end at a fairly young age (30-35 years in average) (Ryba et al., 2016). In addition, many aspiring young athletes never reach the professional level. Therefore, disregarding one's studies at a young age might result in negative outcomes later on. For young athletes who become professionals these negative outcomes may be felt in their life after the sport career. It has been found that dual-career athletes have more positive outcomes after their retirement from sports than solely sport-devoted athletes: a dual career was associated with higher education degree and higher income later in life (Barriopedro, López de Subijana, & Muniesa, 2018). In addition, retirement of sports is experienced as difficult (Carapinha, Mendes, Guedes Carvalho, Torregrossa, & Travassos, 2018) especially if the retirement was not planned (Alfermann, Stambulova, & Zemaityte, 2004), but less so for dual-career athletes than for solely sport-devoted athletes. Nevertheless, a dual-career pathway as such is not unproblematic and can be very stressful indeed.

It has been found that higher burnout in athletes is linked to lower self-esteem and vice versa that high self-esteem may work as a protective factor against anxiety and burnout (Markati, Psychountaki, Kingston, Karteroliotis, & Apostolidis, 2019). Especially performance-based self-esteem, when mainly achievements and setbacks validate self-worth, significantly increases the risk to run into a burnout in both the sports and academic domain (Dahlin, Joneborg, & Runeson, 2007; Gustafsson, Hassmén, Kenttä, & Johansson, 2008; Gustafsson, Martinent, Isoard-Gauthier, Hassmén, & Guillet-Descas, 2018). The relation between self-esteem and academic performance is not so straightforward though, as there is also evidence that low self-esteem could be associated with good academic performance (Pullmann, & Allik, 2008). Moreover, higher self-esteem might also correlate with higher level of trait anxiety if emotional control is low (Guil, Gómez-Molinero, Merchan-Clavellino, Gil-Olarte, & Zayas García, 2019). Then again, when both self-esteem and emotional control score high, higher self-esteem works as a protective factor against anxiety, as has been noted by Manna, Falgares, Ingoglia, Como and De Santis (2016).

The aim of this study is to find out whether dual-career students experience burnout symptoms and if so, whether they experience it in the same or in a different way in the sport and academic domain and in the beginning and towards the end of their school career. An additional topic of interest in this study is to investigate to what extent self-esteem is associated with burnout symptoms in both dual-career domains. Given the somewhat contradictory findings in earlier studies, it is important to get further insight into this relationship.

1.1. What is burnout?

General. Burnout is most often defined as a physical, behavioral and mental syndrome in reaction to stress which makes a person withdraw him/herself from formerly enjoyable actions (Smith, 1986). Often burnout occurs when the available resources (e.g. social support) are not sufficient to help to cope demanding situations (e.g. work amount at school). Emotional and physical exhaustion, reduced sense of accomplishment, leading to a negative evaluation of one's own abilities, and depersonalization resulting in a cynical attitude are the three main dimensions used to describe the symptoms (Maslach & Jackson, 1984; Maslach, Schaufeli, & Leiter, 2001; WHO, 2019). Even though the term burnout came up in the field of psychology already in 1974 (Freudenberger, 1974), the World Health Organization (WHO) included burnout in the International Classification of Diseases (ICD-11) only in 2019 (WHO, 2019). According to WHO, the term burnout describes solely an occupational phenomenon, although burnout symptoms might come up in other fields of life. More recently it has so been recognized that goal-oriented sportsmen can be subject to symptoms of burnout. Athlete burnout has not been a common study field before the 21st century mostly due to the lack of psychometrical measures for it (Raedeke & Smith, 2001).

Sports burnout. Based on Maslach's and Jackson's theory (1984) originally created to describe burnout in the work and organizational frame, Raedeke (1997) pointed out that reduced sense of accomplishment, depersonalization and emotional and physical exhaustion may also arise in the athletic domain. Exhaustion is a clear stress-related factor in burnout which can be a result of overtraining and extended physical as well as emotional effort (Sorkkila, Aunola, & Ryba, 2017a). What is referred to as

depersonalization in the client-worker context (Raedeke, 1997), in the athletic field is transformed into sport devaluation and refers to the decreased interest and caring about sports. A cynical attitude towards sports following sport devaluation and decreased interest is a notable subsequent symptom in athlete burnout (Gerber et al., 2019). The third aspect of burnout, reduced sense of accomplishment, describes the athlete's feeling of mismatch between the demands and his/her abilities in sports.

Beside Smith's (1986) cognitive-affective model view of chronic stress leading to burnout in sports, other theories have been proposed. Raedeke (1997) presented a theory of attraction-entrapment which supports the point of view that an athlete gets burned out more often if he/she feels that he/she *has* to be involved in sports rather than that he/she *wants* to be involved. Coakley (1992) wanted to broaden the concept of burnout beyond the stress model and argued that especially among youngsters the social surroundings have a big impact on the development of burnout. A strong unidimensional athlete identity that has been built among the social relationships in sports does leave little to rely on outside the sport surroundings. The feelings of insecurity in other domains might affect the performance in sports and due to that lead to withdraw from the athlete surroundings. Coakley also claims that if young athletes do not feel that they are in control of their life (more than the parents or coaches) it might lead to the quitting of their career despite the guilt they feel from letting their parents/coaches down. The view of unidimensional athletic identity that increases the risk of burnout has also gotten recent support (Gustafsson et al., 2018).

Ryan and Deci (2000) brought up a Self-Determination Theory (SDT) which emphasizes the role of autonomy, competence and relatedness. The unity of these three is vital for human well-being, both psychological and functional. The lack of any of these dimensions might lead to negative outcomes concerning health, even to burnout (Li, Wang, & Kee, 2013). Under the SDT the role of motivation is also thought to be significant. Ryan and Deci (2000) described motivation as a continuum from amotivation via extrinsic motivation to intrinsic motivation. Notable is, that in this theory extrinsic motivation included four degrees of regulation: 1) external, where only an outside demand is satisfied, 2) introjected, where a task is not felt as a part of self but the aim is

to avoid negative feelings such as guilt or anxiety, 3) identified, where a behavioral goal is consciously valued, and 4) integrated, where actions are in line with one's values and needs. The latter is seen very close to intrinsic motivation but differs in the fact that actions are not done just for pure enjoyment but to attain certain outcomes. Intrinsic motivation leads to actions done for interest and satisfaction and leads to greater feeling of autonomy. These again may lead to higher self-esteem, better performance, persistence and even general well-being. Related to this theory it has been suggested that burnout is more likely to occur when the level of amotivation or external regulation is high, and, related to this, when the level of autonomy is low (Lonsdale & Hodge, 2011). Also, burnout might lead to low self-determination. Sorkkila, Ryba, Selänne, and Aunola (2018b) discerned 4 different burnout profiles among student-athletes (non-risk, burnout risk, developed burnout and well-functioning) and noticed that student-athletes belonging to the non-risk group reported more social support and intrinsic motivation towards sports than the burnout risk -group.

In addition to the above mentioned amotivation (Ryan & Deci, 2000; Lonsdale & Hodge 2011) and commitment (Raedeke, 1997), other factors relate to burnout as well. Deci and Ryan (1987) noted that support of autonomy in behavior leads to more positively experienced actions, and for example, it is noted that autonomy-supportive parents tend to have intrinsically more motivated children. External control in turn might lead to a low level of intrinsic motivation and maladaptation to the surroundings. This supports Raedeke's (1997) view of burnout being more probable in the case of feeling of *having* to instead of *wanting* to. Perfectionist traits may also enhance burnout, which in turn overlaps with depression (Salmela-Aro, Savolainen, & Holopainen, 2009b; Bianchi, Schonfeld, & Laurent, 2015). Perfectionists, referring to people with strong need to strive for flawless performance, are also commonly found among athletes (Gustafsson, Hill, Stenling, & Wagnsson, 2016). In case perfectionism is maladaptive, that is, when perfectionistic traits awaken more concerns about performance than boosting performance and strivings to a higher level (Madigan, Stoeber, & Passfield, 2015), the risk for athletic burnout increases significantly. This phenomenon is even more present when parents and coaches emphasize the importance of winning and express substantial disappointment in case of failure. In general, personal and outside expectations have a

significant impact on burnout (Hill, 2009; Sorkkila et al, 2017a). However, the relation between perfectionism and burnout is multidimensional. Hill (2009) found that socially set goals, for example of parents and coaches, and perfectionism were positively correlated with burnout in sports, as when the pressure comes from outside the ultimate aim is more validation-seeking. In turn, self-set perfectionism that aims more at personal growth without outside pressure of for example parents is inversely correlated to burnout. These effects stand out already at a junior level (Appleton, Hall, & Hill, 2009) especially if the identity of the athlete is narrowly defined only by sports (Coakley, 1992). However, Sorkkila et al. (2017a) pointed out that high parental expectations do not necessary correlate with high burnout rates but may be a sign of confidence in the athlete's abilities; moreover, parents' expectations were often aligned with the athlete's own expectations. In the same study it was confirmed that the higher success expectations the athlete has, the less likely they are burned out in the field in question, sports or school. In addition, style of coaching has been noted to affect the development of a burnout not only in the sport domain (Into, Perttula, Aunola, Sorkkila, & Ryba, 2019). The influence of disempowering coaching in sports may also extend to school burnout, which demonstrates the importance of a supportive and understanding attitude from the social surroundings for the young student-athletes.

School burnout. Theories that are used in sport and work burnout context can also be applied and may be useful in the domain of school (Bask & Salmela-Aro, 2013; Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009a), as the symptoms of burnout are not exclusive for one specific domain. Burnout symptoms in school come out as exhaustion as a result of an increase in school demands, a cynical attitude towards studying and feelings of inadequacy at school. Eccles' and Wigfield's (2002) modern expectancy-value model could further explain the development of burnout. According to the model one's expectancy beliefs, i.e. the thoughts about the chances to achieve success, and the value given to the task, i.e. how worthy the task is considered in relation to personal goals, determine individual's engagement in a certain behavior. This model can actually be applied to the domain of sport as well.

A student's personally set achievement-related goals for internal reasons, such as personal growth goals, can help coping at school. They also increase the effort to achieve the goals as well as enhances the progress towards them (Vasalampi, Salmela-Aro, & Nurmi, 2009). When school engagement increases and goal-related progress is realized, the probability to develop a burnout decreases, especially among girls. Boys in turn do not show a link between goal progression and burnout. Salmela-Aro, Kiuru and Nurmi (2008) found that girls suffered more in general from academic burnout and that they also consider achievements in school more important than boys do. The development of burnout has also been found to be different in academic compared to vocational tracks (Salmela-Aro & Tynkkynen, 2012). In general, in vocational tracks burnout seems to decrease referring to a better demand-resources fit, but in academic tracks overall burnout seems to increase due to higher demands. Burnout is the highest among girls, especially in the subdomain of inadequacy, albeit that for boys overall burnout increases during their academic career, most notably in the subdomain of cynicism. The difference has been explained by girls reacting more via internal distress whereas boys react to disappointments more externally (Pomerantz, Altermatt, & Saxon, 2002).

Domain specificity and time influence. It has been suggested that burnout could be domain specific, such that burnout in sports does not necessarily entail burnout in school. Sorkkila et al. (2017a) found out that parents' success expectations, as well as athlete's own expectations, on a certain domain was in fact a protective factor of burnout in the domain in question. However, the expectations did not protect from burnout in the other domain, but actually increased the risk for burnout in that domain. Unlike earlier findings, which have been mostly done in a variable-oriented approach (reviewed by Mäkikangas & Kinnunen, 2016), a recent person-oriented longitudinal study suggests that burnout could generalize over domains (Sorkkila, Ryba, Selänne, & Aunola, 2018b) already at the end of the first school year. This has been explained for example by burnout starting to overlap with depression, which affects widely all domains of life (Bianchi et al., 2015). Sorkkila et al. (2018b) also found that student-athletes who were amotivated in sports reported more problems in managing their school projects. Vice versa, Sorkkila et al. (2018b) showed that intrinsic motivation for sport protected from burnout in the school domain. In sum, it seems that in initial stages burnout can be

domain-specific, but over time the burnout in one domain might shine off to the other domain. The current study assesses this issue by measuring burnout symptoms in both the academic and sports domain at two different time points, namely in the beginning and at the end of the sports high school period.

1.2. Self-esteem

Self-esteem often defines what people think and feel about themselves. Where good self-esteem may evoke positive feelings and strong belief in oneself, low self-esteem is often associated with negative beliefs about one's capabilities, discrepancies between the true and the ideal self and negative emotional states (Pelham & Swann, 1989). Self-esteem is often studied by using the RSES (*Rosenberg Self-Esteem Scale*) (Rosenberg, 1965), which measures global self-esteem. A good self-esteem guides people's actions significantly (Crocker & Park, 2004) and has motivational and emotional benefits. It is often thought that high self-esteem would have positive outcomes and a low self-esteem would lead to negative effects. However, this belief is not quite supported in the scientific literature (Baumeister, Campbell, Krueger, & Vohs, 2003) and no evidence for high self-esteem leading to for example a better job performance or low self-esteem causing violent behavior or intoxicant use is found. What is known though is that self-esteem can be easily boosted but also may decrease within a short time (Crocker & Park, 2004). The mechanism behind this is related to the need to continuous self-evaluation and is referred to as performance-based self-esteem. When one is to validate one's own self-worth based on one's success, the need to succeed gets bigger. Hence, when the outcome is not the desired one, the reaction to the disappointment can be even self-destructive. Failures and success are not interpreted as a mean of learning but as an occasion of performing certain outcomes. Also, when performing is interpreted as a mean of self-validation and if certainty for success is small, it increases negative affectivity which makes the probability to success even smaller and might lead to for example procrastination and more probable failure. In general, the instability of self-esteem is a probable factor to cause depression (Roberts, Kassel, & Gotlib, 1995; Crocker, Karpinski, Quinn, & Chase, 2003), which in turn is linked to burnout (Salmela-Aro et al., 2009b; Bianchi et al., 2015). These mental processes can be observed in both the sports and academic domain. I will discuss them both in more detail in the subsequent sections.

Self-esteem in sports. In sports the term performance-based self-esteem comes up fairly often. Gustafsson et al. (2018) found that high performance-based self-esteem, measured with a four item PBSE (Performance-based self-esteem) scale, is linked to high burnout rates among athletes. It might indeed explain why athletes keep on pushing themselves even when experiencing symptoms of burnout with their self-esteem being dependent on good performance, even though sometimes for instance taking it easier and more resting would be a better option (Gustafsson et al., 2008). Even former athletes might face a drop in their self-esteem especially if the set goals in their sport career were not met and if quitting of the career was non-voluntary (Erpič, Wylleman, & Zupančič, 2004).

Performance dependent self-esteem could also support Raedeke's (1997) entrapment theory; athletes continue because they feel that they *have to* continue in order to maintain their self-esteem, even though in principle they do not *want to*. In addition, in feeding performance-based self-esteem, the benefits of success might be very short-termed and, anyhow, the fear of failure linked to performance-based self-esteem seems to define self-esteem more in the long run (Crocker & Park, 2004). Gustafsson et al. (2008) concluded that - despite that research on the topic is quite scarce still - it is already clear that strong performance-based self-esteem in combination with a strong athletic identity do make young athletes vulnerable to burnout. Moreover, a recently conducted study (Markati et al., 2019) found that high burnout in sports is linked to low self-esteem as well as a low level of satisfaction about performances and a high level of amotivation and fatigue.

Self-esteem in the academic domain. Often it is thought that good self-esteem boosts better performance. In a large review of the benefits of a good self-esteem, Baumeister et al., (2003) found that high self-esteem is not a predictor of good academic achievements. Vice versa, good performance in the academic field might actually lead to the increase of the self-esteem. Some studies have found a correlation between self-esteem and academic performance, but no evidence for strong causality (Maruyama, Rubin, & Kingsbury, 1981). Sometimes even a negative correlation between self-esteem and academic performance has been found, low self-esteem being associated with good academic performance (Pullmann & Allik, 2008). This has been explained by successful students being critical towards themselves and wanting to compensate their low self-esteem with better performance, whereas academically less successful students might protect

themselves by lifting their general self-esteem. Also, expectancy beliefs relate to self-esteem; the more students consider the subject important, the more likely performance in this subject affects their self-esteem (Gerber et al., 2019). However, if the feeling of inadequacy gets stronger, a student might start to devalue the significance of the subject in order to protect his/her self-esteem as a coping strategy. As a long-term strategy it is anyhow not reasonable, and it might lead to a decrease in motivation and increase of cynical attitude – a dimension of burnout. Some studies have assessed the relation between gender, burnout and self-esteem. For instance, Salmela-Aro et al. (2008) found in a large meta-analysis that burnout prevailed more among girls in the academic domain even though there was no difference between men's and women's academic self-esteem (Gentile et al., 2009). Yet, there are gender-based differences in self-esteem anyway. For example, in a Finnish longitudinal study good school performance was linked to an initially higher self-esteem (measured with RSE) (Kiviruusu, Huurre, Aro, Marttunen, & Haukkala, 2015) especially for men, although women's self-esteem grew faster.

Performance-based self-esteem is studied quite often in the academic field. Dahlin et al. (2007) found that burned out medical students, who scored especially high on exhaustion, scored also high on performance-based self-esteem. Crocker et al., (2003) found that students who were more contingent on grades in college had lower self-esteem than students who were less dependent on their academic performance. Contingent students' self-esteem fluctuated more depending on the grades; poor grades caused a substantial drop in self-esteem. They also disengaged themselves more from their major subjects and, interestingly, subsequent good grades did not lift their self-esteem significantly anymore in comparison to the bad grades. This grade-dependent self-worth and vigilance for failure might lead to overall negative affect and thus a great risk to develop depressive symptoms. As fear of experiencing shame and embarrassment is related to experiencing more burnout (Gustafsson, Sagar, & Stenling, 2017), and low self-esteem is in turn connected to negative affects such as shame (Gustafsson et al., 2008), it can be argued that low self-esteem is a risk factor for burnout. Manna et al., (2016) found among Italian youngsters of 11-14 age that low self-esteem significantly predicted anxiety and burnout. The effect was observed also the other way around, though not as strongly. They also found that older preadolescents were more depressed than younger ones, which implies

that in high school, burnout and depression rates are likely to be higher than at an earlier age.

Domain specificity and time influence on self-esteem. Global self-esteem is seen as a fundamental construct of the self, but it is also seen as the sum of different domain specific self-esteems, for example academic, physical, and athletic self-esteem (von Soest, Wichstrøm, & Kvalem, 2016). Self-esteem grows from adolescence to mid-adulthood (Erol & Orth, 2011; Kiviruusu et al., 2015; von Soest et al., 2016), the growth being slower in adulthood. One theory used to explain the steady increasing tendency of global self-esteem is the maturity principle: when a social role in society is being adapted, it leads to better emotional stability and confidence, and especially adolescence and young adulthood is the time of identity development (Trzesniewski, Donnellan, & Robins, 2013). The theory could be used to explain domain-specific self-esteem development as well: when a stronger social role is being composed, self-esteem would increase also in specific domains – especially in those where the developmental tasks are carried out successfully (von Soest et al., 2016). Moreover, the sense of mastery and emotional stability, which both develop with age, are positively related to self-esteem (Erol et al., 2011). Some findings suggest that women's self-esteem tends to grow faster, but commonly men seem to have a higher self-esteem (Kiviruusu et al., 2015; von Soest et al., 2016). However, some studies do not find differences between genders even in adolescence (Erol et al., 2011). The inconsistent findings could be accounted for by the way self-esteem is measured and to what extent specific domains are taken into consideration.

In the early stages of psychology self-esteem was conceptualized by two theoretical perspectives including an intra- and interpersonal view. The intrapersonal view referred to a person's own view of adequate performance in a certain domain, while the interpersonal view takes into consideration the social perspective and others' evaluations of one's performance (von Soest et al., 2016). Nowadays domain-specific self-esteem has been established as an existing entity and particularly the domains considered important are believed to highly affect global self-esteem. Interestingly though, for example Harter (2012) did not find a strong correlation between athletic competence and global self-

esteem. Also, Pullman et al. (2008) suggested a weak relationship between academic achievement and global self-esteem. This was explained by sport, as well as school competence, being very context specific and nonsocial unlike for example appearance or behavior which are subjected to interpersonal evaluation. Anyhow, von Soest et al., (2016) found in their large longitudinal study that global and most of the domain-specific self-esteem (measured with Self-perception profile for adolescents (SPPA) including 8 specific domain questionnaires and 1 for global self-esteem) increased over time, and for example physical, social, romantic appeal were strongly correlated with global self-esteem, supporting the interpersonal perspective. They also found that men's athletic self-esteem was higher than women's which was explained by clear differences in sporting skills between genders.

1.3. Research objectives

For a developing youngster a dual-career can be very stressful despite its possible positive outcomes. Not much studies are done on dual-career students, especially longitudinal ones, hence the trajectory and evolving of burnout symptoms in a sport high school is fairly unknown. However, prevalence of burnout symptoms is thought to increase during high school years. This is understandable, as the mental and physical load that the young student-athletes are confronted with is such that the risk to develop burnout symptoms is reasonably high. In addition, the role of self-esteem in high school as well as sports and its impact on mental health is still under debate. The longitudinal and mixed method design of this current study allows us to assess important questions concerning the trajectory and development of burnout symptoms in the school and sport domain and the impact of self-esteem in the beginning of high school and just before graduation. In sum, in this study we are interested in how burnout symptoms develop in Finnish sport high schools in both the sport and school domain, in the relation between the two domains and in how self-esteem is connected to burnout symptoms.

Given that burnout has similar symptoms across domains, and given that it has been found to be domain-specific (Aunola et al., 2018, Sorkkila et al., 2017a) as well as domain-general (Sorkkila et al., 2018b), our hypothesis is that the difference in burnout symptoms between the sports and school is larger in the beginning of the high school

period than at the end. If this turns out to be the case, we would ascribe it to the increasing academic demands in the course of the high school curriculum and perhaps also to an increase in sport devaluation, i.e. cynical attitudes arising towards sport (Isoard-Gauthier, Guillet-Descas, & Gustafsson, 2016) - the key component of developing athlete burnout. We also assume that higher self-esteem would be related to a lower level in burnout symptoms in both the school and sport domain in line with previous studies (for example Manna et al., 2016; Markati et al., 2019).

In sum, in the current MA thesis I would like to answer the following research questions:

- 1) Are burnout symptom rates in the school and sports domain similar or different among dual career students?
 - 1b) Does the similarity/difference remain the same at T1 compared to T5?
- 2) Is higher self-esteem related to lower burnout symptom rates in both the school and sports domain?

2. METHODS

This thesis is based on the longitudinal mixed methods study project of Ryba et al. (2016) called “Winning in the long run”. Their aim was to investigate the psychosocial processes and development of youngsters that are enrolled in one of Finland’s sport high schools and who are dedicated to pursue a dual career. In order to comprehend the underlying processes and challenges combining high level sports and studying, they administered questionnaires and interviews regarding both the athletic and academic domain, covering psychological wellbeing (e.g. motivation, identity, burnout and self-esteem) as well as expectations, goals and success. The first measurements were done in the fall of 2015. The analysis of this study is based on the data gathered from these first measurements at time point 1 (T1) and the one at time point 5 (T5) in the spring of 2018, which was the spring term of the 3rd year. For students who took the decision to complete their studies in 3,5 or 4 years, an additional set of questionnaires were sent in the autumn or spring term of the following year (T6). This time point was not included in this study.

2.1. Participants

There were 391 student-athlete participants in the study at T1, 51% girls and 49% boys, all rather successful in their school career the mean average grade of their upper comprehensive school being 8.8, $SD = 0.62$. They were selected from 6 of the 12 sport high schools in Finland - 2 from the northern part, 2 from the Central Finland and 2 from the Southern part. The quantitative data was gathered via internet-based surveys by MrInterview software, all in Finnish. Half of the participants (50%) practiced individual sports and 50% team sports. In the beginning of the high school most of the student-athletes (76.7%) strived for a professional career in sports and 61.2% were expecting to compete at the international level (i.e. world championships or Olympic Games). At T5 228 from the original 391 participants performed the same set of questionnaires and these are the student-athletes included in the current data analyses. The notable dropout has several reasons (e.g., T5 taking place during the matriculation examination) and will be discussed further in section 4.4.

2.2. Measurements

Burnout symptoms were measured separately in the athletic and academic field. To measure academic burnout symptoms, the Academic School Burnout Inventory (SBI-9) developed by Salmela-Aro (2009) was used. The original inventory includes 9 statements/items, but in this study one item was added. To measure athletic burnout symptoms, the SBI-9 was modified to the sport context and likewise one item was added. The 10 items were divided over 3 subscales: exhaustion (e.g. *I worry a lot about things concerning school/sports during my free time*), cynicism (e.g. *I feel like I am losing my interest towards school/sports*) and sense of inadequacy at school/sports (e.g. *I often have the feeling that I am not doing well at school/sports*). The added item belonged to the latter subscale (*I feel like I cannot do my best at school/sports*). The three-dimension solution has been found to be more reliable than a one- or a two-dimension solution in measuring burnout (Salmela-Aro et al, 2009a). The statements in this study were responded to on a Likert scale from 1 to 5 (1= completely disagree, 5= completely agree), whereas the original study had a scale from 1 to 6. Higher scores are thus associated with more burnout symptoms. The original study designated 20 points for men and 21 points for women as the upper limit for not being at risk to have or develop burnout. As the

maximum amount of points in that study was 54 (9*6) and here it is 50 (10*5) for both burnout inventories, we cannot directly compare the scores from the studies with each other, only by approximation. In order to compare the academic and the athletic BI in this study, we report means rather than raw scores. The current versions of the BI proved to be reliable in this study as Cronbach's alpha for school as well as sport burnout was 0.87.

Self-esteem was measured with an abridged RSES (*Rosenberg Self-Esteem Scale*) (Rosenberg, 1965). It is a scale with 10 items measuring global self-esteem by both positive and negative question about oneself. From the original 10 statements 5 were chosen in the present study to measure general self-esteem (e.g. *I take a positive attitude towards myself.*). In the original RSES statement number 3, 7 and 9 (e.g., *I am a person of worth.*) measure general self-appreciation and statement 4 and 5 in turn measure appreciation of achievements (e.g., *I feel I do not have much to be proud of.*). The feeling of insufficiency is evaluated in statement 2 and 6 (e.g., *I certainly feel useless at times.*). Statement 1, 8 and 10 represent independently one feature: satisfaction, self-respect and attitude toward self, respectively. In this study one statement of each category was chosen excluding the item questions of 4 and 5. Also, the original RSE had a scale with 4 response possibilities (1= strongly disagree, 2= disagree, 3= agree, 4= strongly agree) whereas in this research a 5-point scale was adapted including "something in between" between "disagree" and "agree". In this study's questionnaire statement 2 and 4 were negative (higher scores indicating lower self-esteem) so in order to calculate the sum for self-esteem the answers for these were reversed. Hence a higher score indicated higher self-esteem. Finally, the current version of the RSES proved to be reliable, as Cronbach's alpha was 0.82.

2.3. Statistical analyses

The data analyses were conducted with IBM SPSS 25 software. Shapiro-Wilk test for normality for the full sample indicated that the dependent variables are not normally distributed ($p < .05$), but the skewness and kurtosis were relatively low (below 1) and given the large sample size at both time points, parametric analyses are justified.

General linear models for repeated measures (GLM) were used to assess the effect of domain (school and sport) and time point of investigation (T1 vs T5) on burnout

symptom scores. Both variables were within-variables. In addition, gender was included as a control variable. The main interaction was the two-way interaction between domain and time, but also the two-way interactions with gender will be reported. Subsequent analyses examined in more detail the difference in burnout symptom scores as a function of domain in the beginning of high school (T1) and towards the end of the high school period (T5). In these separate T1 and T5 analyses, gender was again included as a between subject control factor. This time also self-esteem at T1 was included as a covariate in the T1 analyses, and self-esteem at T5 was added as a covariate in the T5 analyses. As self-esteem had changed over time (from T1 to T5), it was not included in the big model with domain and time point both included as factors. The connection between self-esteem and burnout symptoms in both school and sport domain at both time points was further assessed by Pearson's correlation coefficient.

3. RESULTS

The descriptive statistics of school and sport burnout at T1 and T5 as well as self-esteem at T1 and T5 are presented in Table 1. The general linear model for repeated measures showed that there was a significant difference between domains. School burnout symptom scores were significantly higher than sport burnout symptom scores ($F(1, 226) = 204.51, p < .001, \eta^2 = .48$). The effect of time point on burnout symptoms in school and sport domain was also significant ($F(1, 226) = 69.03, p < .001, \eta^2 = .23$), burnout symptoms scores being in general higher at T5. Gender was not significant ($F(1, 226) = 1.12, p = .29, \eta^2 = .01$) in these analyses. Also, the interaction of time and gender ($F(1, 226) = 2.76, p = .10, \eta^2 = .01$) as well as domain and gender proved to be non-significant ($F(1, 226) = 0.23, p = .63, \eta^2 = .001$). Interestingly, the interaction of time and domain did prove to be significant ($F(1, 226) = 28.27, p < .001, \eta^2 = .11$). The interaction implies that the difference between school and sport burnout symptoms was different at T1 (school burnout $M = 2.46$, sport burnout $M = 1.76$) in comparison to T5 (school burnout $M = 2.60$, sport burnout $M = 2.21$), the difference being larger at T1 than at T5. This interaction is depicted in Figure 1.

Table 1. Estimates of school burnout, sport burnout and self-esteem means, standard deviations and 95% confidence intervals for the full sample and for girls and boys separately in T1 and T5.

	School burnout					Sport burnout					Self-esteem					
	T1		T5		T1	T1		T5		T1	T1		T5			
	<i>M</i>	<i>CI</i>	<i>M</i>	<i>CI</i>		<i>M</i>	<i>CI</i>	<i>M</i>	<i>CI</i>		<i>M</i>	<i>CI</i>	<i>M</i>	<i>CI</i>	<i>M</i>	<i>CI</i>
Girls (<i>n</i> = 122)	2.43 (0.67)	2.31- 2.55	2.67 (0.80)	2.53- 2.82	1.80 (0.56)	1.70- 1.90	2.26 (0.67)	2.14- 2.38	3.66 (0.59)	3.55- 3.76	3.50 (0.75)	3.36- 3.63	3.65- 3.92	3.78 (0.71)	3.63 (0.74)	3.53- 3.73
Boys (<i>n</i> = 106)	2.50 (0.63)	2.38- 2.62	2.52 (0.68)	2.39- 2.65	1.71 (0.51)	1.61- 1.81	2.18 (0.70)	2.04- 2.32	3.90 (0.57)	3.79- 4.01	3.78 (0.71)	3.65- 3.92	3.78 (0.71)	3.63 (0.74)	3.53- 3.73	3.63 (0.74)
Total (<i>n</i> = 228)	2.46 (0.65)	2.38- 2.55	2.60 (0.75)	2.50- 2.70	1.76 (0.54)	1.69- 1.83	2.22 (0.69)	2.13- 2.31	3.77 (0.59)	3.69- 3.85	3.63 (0.74)	3.53- 3.73	3.63 (0.74)	3.53- 3.73	3.63 (0.74)	3.53- 3.73

M = mean, *SD* = standard deviation, *CI* 95% = confidence interval of 95%

As follow-up analyses, GLM analyses were conducted separately for T1 and T5 to further assess whether burnout symptom scores vary as a function of domain at different time points. In a first round these separate analyses were conducted with gender as a control factor but without self-esteem as a covariate, conform the big model. In a second round, self-esteem was added to the model to assess whether possible domain effects would survive when taking the role of self-esteem into account, and to what extent self-esteem itself would account for variance in burnout symptom scores. Without self-esteem as a covariate, T1 school burnout symptom scores were clearly higher than T1 sport burnout symptom scores ($F(1, 226) = 223.29, p < .001, \eta^2 = .50$); a similar difference was found at T5 ($F(1, 226) = 56.57, p < .001, \eta^2 = .20$). When self-esteem was added to the model as a covariate, the effect of domain remained significant at T1: school burnout symptom scores were higher than sport burnout symptom scores ($F(1, 225) = 6.60, p = .011, \eta^2 = .03$). In contrast, when self-esteem was added to the model at T5, the effect of domain became non-significant ($F(1, 223) = 1.84, p = .176, \eta^2 = .01$).

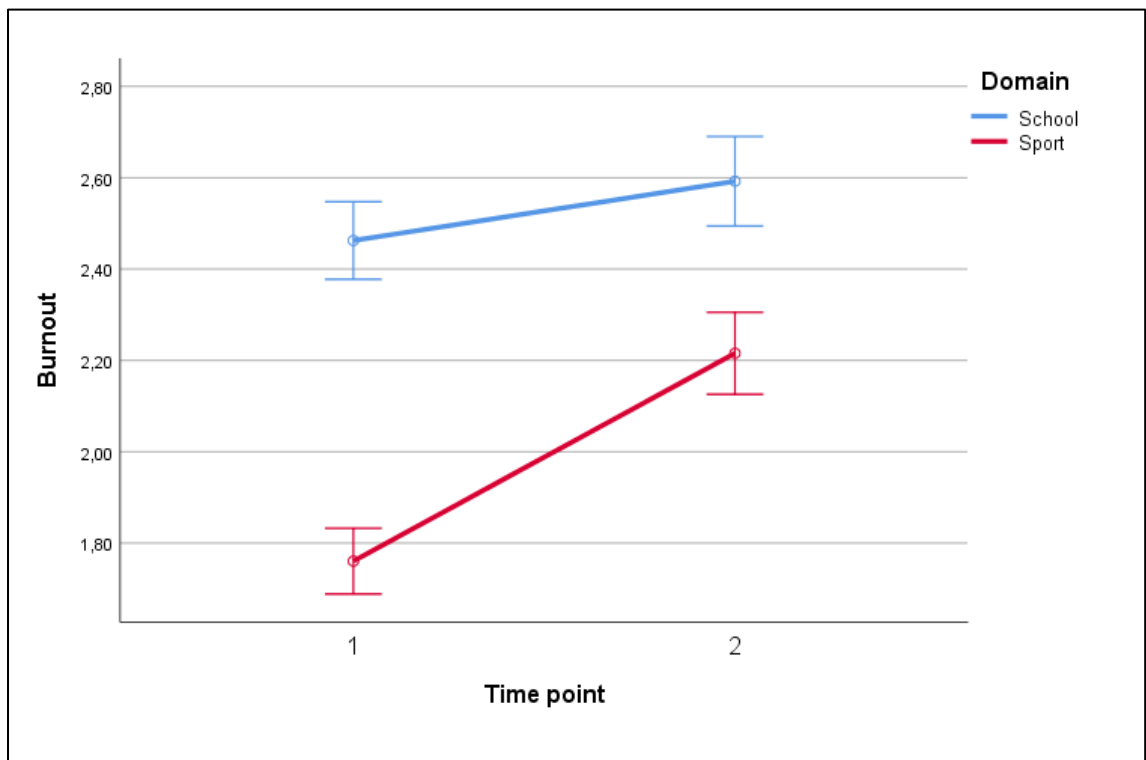


Figure 1. Estimate of burnout symptom means and 95% confidence intervals for school and sport domain in T1 and T5.

The aim in this study was also to assess the connection between self-esteem and burnout symptoms. In the GLM conducted for T1 separately there was a main effect of self-esteem ($F(1, 225) = 53.16, p < .001, \eta^2 = .19$). Similarly at T5 self-esteem remained a significant predictor of burnout ($F(1, 223) = 48.81, p < .001, \eta^2 = .18$). There was neither a significant interaction between burnout domain and self-esteem at T1 ($F(1, 225) = 0.09, p = .763, \eta^2 = .00$) nor at T5 ($F(1, 223) = 0.01, p = .918, \eta^2 = .00$). This implies that there is a connection between burnout symptoms and self-esteem independent of domain.

Additionally, Pearson's correlation coefficient analyses were performed to further assess the correlation between self-esteem and school burnout symptoms as well as self-esteem and sport burnout symptoms. Correlations of self-esteem and burnout symptoms in both domains are depicted in Figures 2 and 3. At T1 self-esteem was negatively correlated with school burnout symptoms, ($r(226) = -.32, p < .001$) and sport burnout symptoms ($r(226) = -.38, p < .001$), so the higher the school or sport burnout symptom scores are, the lower is the self-esteem. Both correlations were of moderate strength. The same pattern was demonstrated at T5. Self-esteem and school burnout symptoms ($r(226) = -.35, p < .001$) and self-esteem and sport burnout symptoms ($r(226) = -.38, p < .001$) were negatively correlated. In addition to these correlations, the connection of school and sport burnout symptoms were inspected. At T1 school burnout symptoms were positively correlated with sport burnout symptoms ($r(226) = .31, p < .001$) and this positive correlation was also present at T5 ($r(226) = .45, p < .001$). This implies that when school burnout symptoms increase, so do sport burnout symptoms and vice versa. Values of both time points were of moderate strength, the r -value being somewhat higher at T5, in line with the GLM analyses reported above.

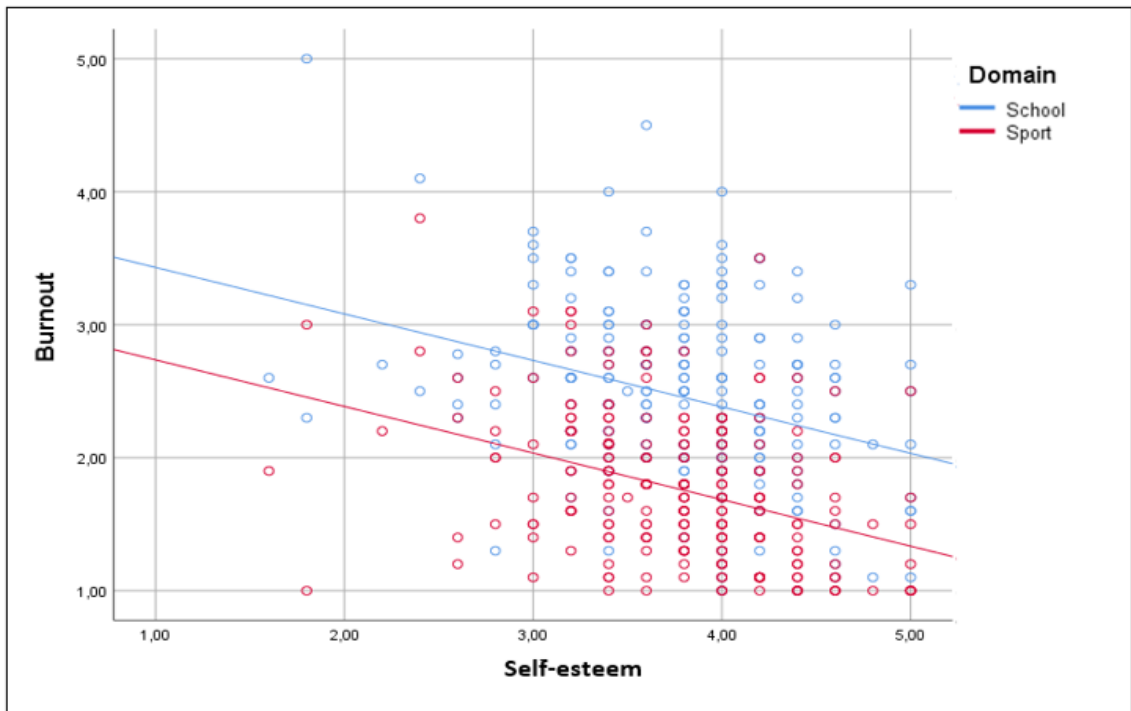


Figure 2. Correlations between self-esteem and school burnout symptoms & sport burnout symptoms at T1.

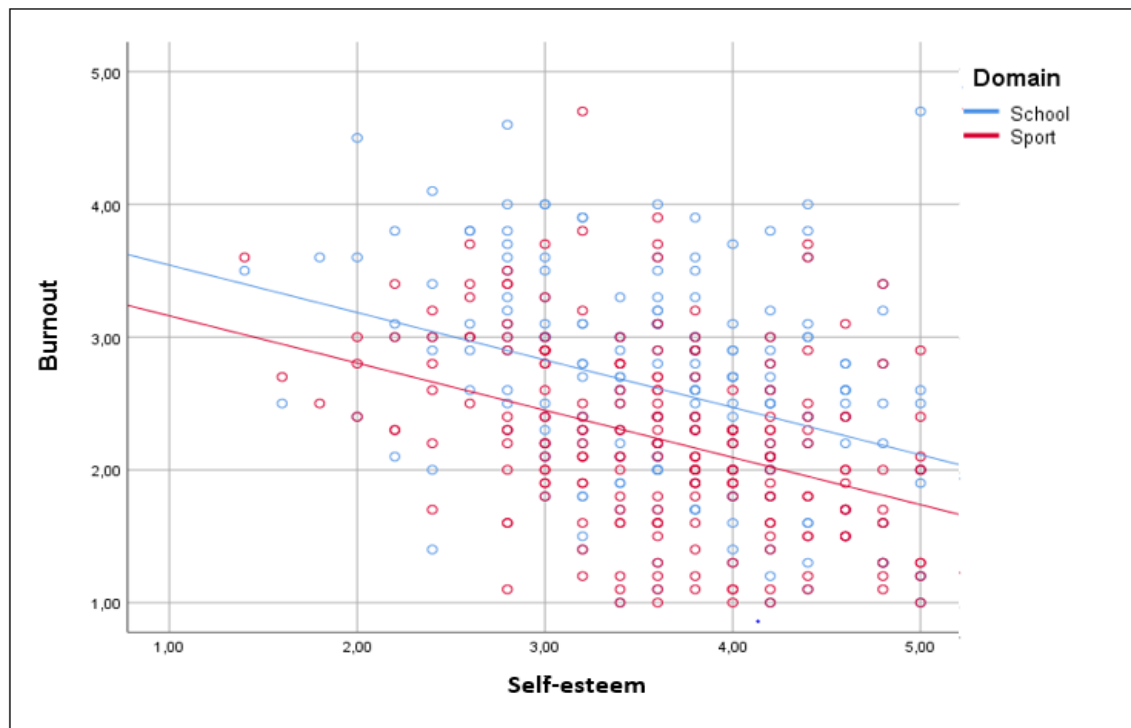


Figure 3. Correlations between self-esteem and school burnout symptoms & sport burnout symptoms at T5.

4. DISCUSSION

In the current study the aim was to find out whether burnout symptom scores were the same or different in the academic and sports domain among dual career students and how this relation develops from the first year at a Finnish sport high school (T1) to the last year (T5). Furthermore, our goal was to investigate how self-esteem is connected to burnout symptom rates of the student-athletes in both domains and how it evolves. The results revealed that school burnout symptom scores were in general higher than sport burnout symptom scores regardless of gender. Moreover, burnout symptom scores were also higher at T5 than at T1. The interaction between time point and domain proved to be significant, which indicated that the difference between school and sport burnout symptoms was larger at T1 than at T5. Follow-up analyses showed that school burnout symptom scores were clearly higher than sport burnout symptom scores at T1, but the difference was also significant at T5. When, however, self-esteem was taken in consideration as a covariate, the effect of domain remained significant only at T1, not at T5. Taken together, one can conclude that the difference between sport burnout symptoms and school burnout symptoms becomes smaller at T5. In both domains burnout symptoms increase over time, but more so in the sport domain than in the school domain. In addition, self-esteem predicted burnout symptoms across time points and across domains. This was confirmed by the correlational analyses, which showed that self-esteem displayed negative correlation with both school and sport burnout symptoms at both time points.

4.1. School and sport burnout symptoms

In our study school burnout symptom rates were significantly higher than sport burnout symptom scores which supports domain specificity of burnout symptoms. This is in line with the studies of for example Salmela-Aro and Tynkkynen (2012), Sorkkila et al., (2017a) and Aunola et al., (2018) where it was found that in the beginning of high school burnout profiles are different across domains. The effect of domain may be – in part at least – explained by the difference between academic and athletic identity. There has been an increasing amount of studies assessing the association between identity and burnout, and high school is a time when the development of youngsters' identity and

independency is the strongest. A Swedish study (Stambulova et al., 2015) proposed that dual career students have more often an athletic than a student identity which could explain the higher school burnout symptom scores. That is, a very strong unidimensional athletic identity has been found to be related to lower academic success (Koivusalo, Aunola, Bertram, & Ryba, 2018), which in turn implies a higher risk for burnout (Gustafsson et al., 2018) as well as depression (Killeya-Jones, 2005). More specifically still, as identity often defines what is important to oneself (Stambulova et al., 2015), an athletic identity emphasizes the significance and motivation for sport, which may be at the expense of motivation in other domains. Ryan and Deci (2000) stated the importance of motivation for the feeling of autonomy in their SDT model and concluded that amotivation, external and introjected regulation and the lack of autonomy leads more often to burnout. Regulation that is guided by intrinsic motivation (i.e. pure enjoyment) or own values and needs to attain separable outcomes supports autonomy and thus keeps the interest and pleasure alive, for example for studying or sports. The role of intrinsic motivation and integrated regulation in protecting from burnout symptoms in both the school and sport domain is supported in other studies as well (e.g. Coakley, 1992; Lonsdale & Hodge, 2011; Sorkkila et al., 2018b) and their effect to lower the risk of dropout is also recognized (Vallerand & Bissonnette, 1992). Yet, given the stronger athletic than academic identity of youngsters at this age, it may be expected that intrinsic motivation is higher and through that burnout symptom rates lower in the sport than in the school domain. School burnout symptoms being higher than sport burnout symptoms is also in line with Raedeke's (1997) attraction-entrapment theory, which entails that students might feel more *wanting to* towards sport and *having to* towards school – sport has been a choice of free will whereas education is compulsory to some extent. Also, it is often the case that student-athletes consider developing in sports to be more important than developing in the academic field (Gröhn & Riihivuori, 2008). Nevertheless, if the study is experienced to be interesting and meaningful, combining school and sport might not be a problem, and studies can even be a conducive factor to develop in sports. It has been suggested that this positive academic impact may be related to forcing the athletes into smart and efficient time consumption as well as helping them to develop discipline (Yrjölä, 2011).

It is reported that for about 10% of student-athletes in Finland there is a moderate and for about 3% a severe risk to develop a burnout (Sorkkila et al., 2017a). Also, in this study the vast majority of student-athletes did not seem to have moderate or severe burnout symptoms. This implies that the majority of the students has a broad multidimensional identity, rather than a unidimensional identity which may lead to undesired consequences (see Koivusalo et al., 2018). Nevertheless, there is a significant increase in burnout symptoms over time, and relatively more in the sport than academic domain. Possible reasons for this increase in both domains are discussed in the next section.

4.2. Time effect on burnout symptoms and its interaction with domain

Only a few longitudinal studies on dual career students have been conducted and their time frame has been relatively short compared to the current one, so there are not many studies to compare our results to. In this study burnout symptom rates in both domains increased from the first to the fifth measuring point. Dual career students are often training several times a day and have their competition season in the middle of semesters (Gröhn & Riihivuori, 2008) which means that the lack of time to socialize, recover and study at the same time is very limited. The social life outside school and sports is often very narrow among dual career students (Sorkkila et al., 2018b), as they often study and train with the same people, and hard training and recovery are prerequisites in competitive sports. This augments the probability of forming a unidimensional identity and risk in time to develop problems and burnout symptoms in other fields as it might be hard to find the optimal balance between all the domains of life. In time it can build a feeling of entrapment where the athlete is no longer intrinsically motivated to do sport but outside reasons make them continue. For example, the only social contacts might be from the sport environment (Coakley, 1992) and the athlete might have derived his/her identity only via the sports domain, so quitting sports could be a very life-changing choice concerning the routines and social relationships. This could in worst cases lead to loneliness and depression. On the other hand, Coakley's (1992) view of burnout being a social problem, is also supported when the lack of time inhibits the athletes of being with significant people outside the sport domain, like it was studied in Norway (Kjørmo & Halvari, 2002). It would seem that finding the balance is a way to decrease the risk to evolve burnout symptoms and support for this should be provided.

In time, student-athletes might also become aware of the fact that competition gets tougher when moving on from age group level to the master level. It is known that a competitive situation might increase the amount of the stress hormone cortisol, and cortisol during competition itself can promote a good performance (e.g. Lautenbach & Lobinger, 2018). But in a long run a competitive situation that constantly keeps the stress level high increases the risk of burnout (e.g. Penz et al., 2018). This could be applicable in school as well. Students in sport high schools must have done well in comprehensive school compared to the general level, whereas in sport high school where a certain grade average is required, the students might face the fact that they no longer are “automatically” the best and get the feeling of competition. This might be a reason why burnout symptoms might also increase in the academic domain especially when the time to study is limited due to the amount of increasing training. The negative effects of competition in both school and sport might increase especially if only achievement and performance themselves are highly rated, and not the mastery of a subject or personal growth (Vasalampi et al., 2009; Sorkkila et al., 2018b).

Even though the gap between burnout symptom scores between academic and athletic domain indicated that there would be a significant difference also at the end of high school, when self-esteem was added in the model, the significance disappeared. This supports Sorkkila et al.’s (2018a & 2018b) finding that domain-specificity of burnout symptoms diminishes over time and that they trickle into all domains of life, so that for example exhaustion in school would be linked to exhaustion in sport. This could be explained by burnout overlapping with depression which in turn starts to generalize over all domains of life (Bianchi et al., 2015). Also, students’ as well as their parents’ expectations might influence the generalization of burnout symptoms (Sorkkila et al., 2017a). Student-athletes might have higher expectations doing well in sports which diminished the energy left to put effort on school projects. After realizing that succeeding in sports is a tough competition, their focus might shift to school and investing in sports becomes more burdensome and burnout symptoms might arise significantly also in the sport domain. Notably, intrinsic motivation for one domain has noted to protect from burnout in the other domain but the finding works also the other way around (Sorkkila et al., 2018b). Amotivation in one domain reflects as problems in the other one. It could be

possible that for example students who are motivated in school do not feel studying as energy-consuming as unmotivated students, and hence have more enthusiasm left in the trainings. When the motivation disappears and studying becomes more demanding, energy levels are low to begin with also in the trainings. This hypothetical pattern could be applicable also vice versa. Also, stable social surroundings might alleviate the probability to develop burnout symptoms. For example, the warm and affectional role of mothers without psychological control (i.e. room for the youngster's independency and autonomy) protected from school burnout and in a similar way fathers protected their children from burnout in sports (Aunola et al., 2018). The coaches' play also a very important role in the athletes' life and might affect the athlete's feeling of autonomy in the long run negatively by controlling them too much. But if the coaching style is involving and understanding, the results are often much better (e.g. Hill, 2009; Into et al., 2019). Therefore, it would be very important to give the athletes a feeling of participation in the planning of the training, meet the current level of the athletes, listen to their feedback and feelings and also understand that high school is very demanding at the same time. This understanding could relieve the stress not only in the trainings, but it could extend to school tasks and diminish the risk to burn out.

To conclude, the development of burnout symptoms can be a consequence of many factors. It could be useful to discuss with the young athletes about their goals and wishes for their future in both fields to map out their level of motivation (from unmotivation to intrinsic motivation) and possible risk factors in their future career in order to react early enough to possible symptoms.

4.3. Self-esteem and burnout symptoms

Self-esteem was negatively correlated with both domains' burnout symptom rates and significantly predicted burnout symptoms across time points and domains. When comparing these results to earlier studies, we need to be aware that not all the studies have measured general self-esteem. This is discussed more thoroughly in section 4.4. A high performance-based self-esteem has been noted to correlate positively with burnout rate among athletes (Gustafsson et al., 2018), whereas global self-esteem correlates negatively with burnout (Markati et al., 2019), as it did in our study. So, when athletes

believe in their abilities, do not take setback as a notion of failure of the self and aim to develop instead of solely performing, the risk to display burnout symptoms is smaller. Nevertheless, we should study how student-athletes boost and evaluate their self-esteem in both domains and how stable they experience it, as those aspects are thought to be more informative than the effect of global self-esteem (Crocker & Park, 2004; Gustafsson et al., 2018). In the domain of sport, a strong dependency on performance is a risk to experience burnout symptoms and the same can be found in the school domain (Crocker et al., 2003). If grades define how the student feels about him/herself, big fluctuation in self-esteem is probable, and in the long term the risk to get burnout symptoms increases. Therefore, in future studies the correlation between dual career student's self-esteem in different domains could be an interesting aspect to study, as here it is impossible to evaluate the impact of athletic self-esteem to the global feeling of the self.

Some additional factors that should be investigated more in relation to self-esteem are gender and cultural differences. In fact, there have been contradictory findings on gender differences in self-esteem (Sakellari et al., 2020), which shows how complicated and delicate the study field of self-esteem is. In our study no gender differences were found, but again if also domain-specific self-esteem would have been assessed, the outcome could have been different. Some studies have shown that boys have a higher self-esteem in the sport domain compared to girls as they often are stronger and faster (von Soest et al., 2016). This might be different in Finland, though, by the virtue of the existing equality between genders.

As a solution to keep up or increase self-esteem, in addition to the physical training, mental training would be very valuable. A good method to enhance athletes' belief in themselves could be found for example in mindfulness (Li, Zhu, Zhang, Gustafsson, & Chen, 2019), that has been shown to be effective in preventing the development of a burnout. Also, as mentioned above, the coaches' role in building the feeling of autonomy of the student-athletes is significant not only by preventing from burnout but building a strong and steady self-esteem (e.g. Hill, 2009) by giving athletes enough of room to participate in planning their own goals.

4.4. Strengths and limitations

The current study offers important novel information regarding dual career students' well-being with respect to burnout symptoms in sport high schools in Finland. There is ample research concerned with adult athletes but much less concerned with youngsters who are in a big developmental phase including identity search and future planning. School and sport burnout symptoms have been studied separately in an increasing fashion in psychology, in fact examining these two phenomena together has been almost non-existing, especially not in longitudinal studies. The simultaneous inspection of school and sport burnout symptoms in transition to high school is important as the transaction itself between these two can be very demanding due to big changes in daily routines. Also, when investigating the two domains simultaneously, the increasing demands in high school and training load as well as the interaction are taken in consideration as a whole. In addition to the dynamics between the two domains over a longer period of time, the role of general self-esteem as a possible protective factor related to burnout symptoms got support. Anyhow, there are several factors that should be taken into account when interpreting the above reported results.

First, the burnout questionnaire SBI-9 may not be a fully reliable instrument to assess burnout symptoms in the current study. That is, the questionnaire (Salmela-Aro, 2009) is developed for higher level institutions (Universities and Universities for applied sciences), not for high schools. In addition, in this study burnout symptom rates were calculated via a modified version of the SBI-9 questionnaire with an additional question regarding inadequacy. Also, a different rating was applied. Instead of a scale from 1-6, in the current study a scale of 1-5 was used. As a consequence, several issues need to be considered. First of all, there was no baseline group to compare to. The SBI-9 has rating norms for men and women as well as for Universities and Universities for applied sciences, but not for high schools. It is possible though that students in high school experience stress differently from students in Universities. One big difference is that university students have chosen the subject they want to study, whereas in high school there are still more mandatory subjects to carry out. High school students are also in the middle of their identity development and might not know what to do after high school, while student in Universities have already made big choices concerning their future.

Secondly, the scores obtained from a different scale cannot be straightly compared to the original ones. Moreover, the data to measure sport burnout symptoms was collected with the SBI-9 modified to sport context. Nevertheless, a first study with high school students indicated the burnout questionnaires to be reliable for high school students as well (Sorkkila, Ryba, Aunola, Selänne, & Salmela-Aro, 2017b). As this was the first time that the questionnaire was used, the evaluation and analysis of the results need to be taken with caution. Coming back to the scoring criterions, the original study with university students (Salmela-Aro, 2009) designated 16 points for men and 18 points for women as the limit for no risk at all to develop burnout. For men 17-25 points and women 19-28 points implied an average level of burnout symptoms. In case men scored 26-33 points and women 29-36 points they had an increased risk to develop a burnout; more than 33 for men or 36 points for women would imply a severely increased risk to develop a burnout. Note that the maximum amount of points here was 54 (9 questions * 6 points). In comparison, the maximum amount of points in the current study is 50 (10 questions * 5 points). So, for our study one could extrapolate that about 25 points for men and 28 points for women would be the borderline beyond which a risk to develop a burnout gets increased. In the current study the averages at T1 and T5 for academic burnout symptoms were around 2.5 (which means $10 * 2.5 = 25$ points), and for sport burnout symptoms at least at T5 the score was around 2.2 (which means 22 points). On a group level we can therefore conclude that the dual career students do not have an increased risk to develop a moderate not to mention a severe burnout. The average scores do imply though that mild symptoms may not be uncommon on a group level. In addition, Figures 2 and 3 give us the chance to examine the individual level of burnout symptom scores. Here we see that there are scores around or above 40 ($10 * 4$). This implies that a few youngsters seem to be already suffering from burnout symptoms at T1 and - by eye - this amount has clearly increased at T5. Subsequent studies should be done to examine how burnout symptoms appear and develop on the individual level, especially for those who have an increased or severely increased risk to develop a burnout.

In the current study general self-esteem was measured with an abridged version of RSES. A question of each scale item, except one, was chosen and formed a questionnaire of 5 items. Also, similarly to the case of SBI, in the original questionnaire there were 4

response options per statement but to the current study one option was added. There is evidence that a questionnaire with only 2 response options works equally as a questionnaire with four options (Eklund, Bäckström, & Hansson, 2018), but neither the use of a questionnaire with 5 response options nor an abridged version of 5 items, that was used in the current study, has been used before. Hence, also conclusions about the results regarding self-esteem should be made with caution. It should also be noted that many studies concerning athletes deal with performance-based self-esteem, and this typically yields opposite results to general self-esteem's influence on burnout. Another issue is that the sample of the current study is homogenous to begin with. Students need to have a high average grade in upper secondary school to get access to sport high schools in Finland. Accomplishing that may require certain managing skills, personality and/or motivation.

The current study also faced a substantial dropout of participants from T1 to T5. From the 391 students who participated in T1, 228 had answered all the questionnaires in T5. There are several possible reasons for this. Some of the students had answered only to school-related questionnaires perhaps thinking they do not need to answer to the sport-related questions after quitting competing. Some had only answered the sport-related questions perhaps thinking that in the end of their high school, questions concerning school would no longer be relevant. As mentioned earlier, matriculation examinations took place during T5, which probably led to students feeling the need to focus on their exams rather than on filling in non-consequential questionnaires. Moreover, for some students important sport competitions demanded all the possible attention, also leading to less interest and motivation to fill in questionnaires. A simple growing dislike to fill in so many questionnaires may be another possible reason of dropouts. Finally, a natural dropout of participants in a longitudinal study must have partly contributed to the dropout. However, it is nevertheless relevant to reflect on the possibility that the youngsters who did not answer the questionnaires in T5 are from a different population than the ones who stayed in the study. For instance, it is possible that the dropouts were the ones that were most burned out, not having the energy to fill in the questionnaires. After all, under these circumstances it takes a significant effort to stop and contemplate on one's thinking, motivation, attitudes and perception of one-self. In other words, this

might feel too burdensome to a youngster suffering from burnout symptoms. On the other hand, the effect could be the opposite: youngsters feeling well-balanced and not stressed out might think that questionnaires related to burnout do not concern them. Nevertheless, it would be very important to assess the dropout phenomenon in more detail and not straightforwardly trust the statistical results acquired with a substantially decreased number of participants.

There are several other factors that may have influenced the results of this study that were not possible to take in account, for instance outside stressors concerning private life (social relationships, deceases in the family, sicknesses etc.). In addition, matriculation examinations at the end of high school might be a big stress factor itself and could possibly increase the stress and not only affect the dropout rate but also increase burnout symptom rates from those that did participate in the last measuring point. Also, in many sports the competition season often occurs at the same time with the exam period, which might temporarily increase students' stress significantly. Other external factors might also affect students' stress level. Parents' financial situation as well as parents' education and attitudes might significantly affect how stressful students experience the dual career. In Finland it is also common to work during high school to maintain the financial balance, especially if the student is not living with his/her parents. This diminishes even more the free time and time for recovery especially among dual-career students. To advance in some sports, travelling might be a requirement (e.g. downhill skiing) and this might be not only financially demanding but also even more time-consuming. On the whole, the development of burnout and the mechanisms behind it might not be straightforward and clear-cut, so in order to get a wider and more comprehensive image on what affects students' burnout symptoms development, several of the above-mentioned factors should be taken into account in future studies on dual career students. Also, burnout symptoms as a phenomenon are exhibited in both the academic and sport domain, but the main symptoms might be different. For example, exhaustion may be more present in academics (Dahlin et al., 2007) and cynicism more in sports (Isoard-Gauthier et al., 2016). In this study we examined burnout symptoms as a whole and did not – due to time limitations - examine the three dimensions separately which could have yielded novel details about specific burnout symptoms among high school students. We

also based our main conclusions on variable-oriented analyses concentrating on burnout symptoms at the group level, leaving the more detailed assessment of individual differences to other studies. One more important issue to point out is the usage of the 'burnout' term in several studies that are not concerned with occupational domains, which is against the recommendation of WHO. This study wanted to follow the guidelines of WHO and, hence, uses the term 'burnout symptoms' rather than 'burnout'. This also complies with the notion that no participant has been officially diagnosed with having a burnout.

4.5. Conclusions

Longitudinal studies on dual career students' burnout symptoms and its relation to self-esteem have not been a common topic in psychology. Therefore, this study provides a valuable source of information on these issues and how they develop within the Finnish dual career system. The ability to combine sport and high school demands a lot of devotion, will and planning from a young student-athlete, as well as understanding and support from the surroundings. To focus on both fields is very time-consuming and might be very stressful for some and lead to the increase of burnout symptoms in both the school and sport domain. It is important to understand what may affect students' stress in order for the institutions to be able to diminish those factors. In order to avoid falling behind in school, quitting sport or to burn out, enough help and a clear framework needs to be provided to dual career students. High school time is also a period when identity and self-esteem development is usually strong which brings in one more factor increasing the mental load. Lower self-esteem might increase the possibility to develop burnout symptoms, hence it is important to help the student-athletes to get the sense of mastery and self-determination to increase their belief in themselves. It is essential that the student-athletes feel that they are in charge of their own choices and are provided with sufficient information on all the options open for them. The dual career program is a good way to invest in the future without eliminating athletic or academic possibilities, but organizational and mental support is needed to face the potentially stressful demands of the program and avoid burnout. This study revealed us that the vast majority of the currently examined population did not suffer from severe burnout symptoms. This gives hope that developing the dual-career system in Finland is on the right track. Importantly

though, this study also shows that during high school time burnout symptoms clearly increase for many students especially in the field of sports. As at least some students are clearly at risk to develop a burnout, attention to the existence and developing of burnout symptoms on an individual level should be taken seriously.

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