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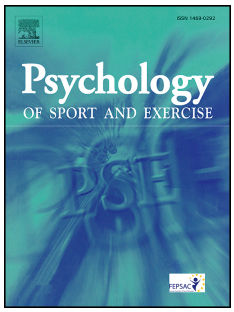

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A Person-Oriented Approach to Sport and School Burnout in Adolescent Student-Athletes: The Role of Individual and Parental Expectations

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A Person-Oriented Approach to Sport and School Burnout in Adolescent Student-Athletes: The Role of Individual and Parental Expectations

Combining an athletic career with education is demanding for talented student-athletes (Stambulova & Wylleman, 2015). Since only few athletes ever obtain a professional status, student-athletes need to strive for success in both school and sports in order to facilitate transition into labor market. It has been shown that junior elite athletes are susceptible to stress and burnout (e.g., Cresswell & Eklund, 2006; Hill, Hall, & Appleton, 2010; Raedeke & Smith, 2001), and that adolescents feel particularly pressured during the transition to upper secondary school (Salmela-Aro, Kiuru, & Nurmi, 2008). Examination of burnout in student-athletes is essential not only from the viewpoint of social costs associated with dropping out from school and sport, but also from the viewpoint of student-athletes' mental health and wellbeing. Thus far, sport[i] and school burnout has not, however, been examined simultaneously in a single study. Consequently, little is known about the co-occurrence of different types of burnout among student-athletes. Furthermore, although it has been suggested that athletes' and parents' success expectations in sport might be important predictors of sport burnout (Hill, Hall, Appleton, & Kozub, 2008; Lemyere, Hall, & Roberts, 2008), no empirical evidence exists where success expectations in school were investigated in relation to school burnout, nor have sport and school success expectations been investigated in a dual context. The present study aimed to examine what kind of burnout profiles based on both sport and school burnout symptoms can be identified among student-athletes at the beginning of upper secondary school. Moreover, student-athletes' sport and school success expectations, on the one hand, and parental success expectations of their child, on the other hand, were examined as predictors of the burnout profile of the student-athlete, after gender, grade point average (GPA), level of sport competition, and type of sport (individual vs. team sports) were controlled for.

Burnout among Student-Athletes

The pressure associated with competitive sports and progressively increasing training load may predispose talented and elite adolescent athletes to sport burnout (Gotwals, 2011; Gustafsson,

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Hill, Stenling, & Wagnsson, 2015; Hill et al., 2010). Sport burnout is defined as a multidimensional construct that encompasses emotional and physical exhaustion, sport devaluation, and a reduced sense of accomplishment (Raedeke & Smith, 2001). Whereas exhaustion is a stress-related variable, the other two components reflect a negative attitude towards one's ability to perform effectively as an athlete. Emotional and physical exhaustion occur as a result of the intense demands of competition and training. A reduced sense of accomplishment refers to an athlete's feelings of inadequacy in relation to his or her skills and abilities in sport. Sport devaluation refers to a situation where an athlete stops caring about the sport and his or her own performance.

Even though sport burnout has attracted the attention of researchers in the field of sport psychology, the causes of it are not fully understood (Gustafsson et al., 2015). According to Smith's (1986) cognitive-affective model, sport burnout develops as a result of chronic stress, when an individual constantly feels that his or her resources (e.g., social support; perceptions of competence) are inadequate to meet the situational demands (e.g., high training load; external pressure). Smith (1986) proposed that the development of burnout is process where burnout and stress evolve in parallel, under the influence of personality and motivational factors, leading finally to withdrawal from sport (see Smith, 1986). Although Smith's model has been criticized for not differentiating between sport burnout and sport withdrawal or drop out (Raedeke & Smith, 2001), the model provides a heuristic understanding of athletic burnout and has gained considerable empirical support in the context of sport (e.g., Gould, Uldry, Tuffey, & Loehr, 1996; Kelley, Eklund & Ritter-Taylor, 1999; Raedeke & Smith, 2004).

In addition to the athletic setting, burnout can also occur in the academic setting. School burnout has been described as a continuous phenomenon that starts with minor school-related stress and ends in major burnout (Salmela-Aro, Kiuru, Pietikäinen, & Jokela, 2008). According to Salmela-Aro, Kiuru, Leskinen, and Nurmi (2009), school burnout consists of three components that are similar to those in job burnout: school-related exhaustion (i.e., chronic fatigue due to overtaxing school work), school-related cynicism (i.e., distant or indifferent attitude towards school and loss of

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interest in school work), and feelings of inadequacy (i.e., reduced feelings of competence and less success in school). It has been shown that 10% of adolescents in Finland experience severe school burnout (Salmela-Aro & Näätänen, 2005). However, although some studies have examined school burnout in Finnish students (e.g., Salmela-Aro et al., 2009; Salmela-Aro et al., 2008; Salmela-Aro & Näätänen, 2005), none have examined school burnout among student-athletes. Moreover, to our best knowledge, no previous research has *simultaneously* investigated both sport and school burnout symptoms in student-athletes, even though both athletic and educational pursuits in upper secondary school have been separately shown to be stressful for adolescents (Hill et al., 2010; Salmela-Aro & Näätänen, 2005).

Drawing on Smith's (1986) assertion that burnout is a consequence of a mismatch between situational demands and available resources, it can be hypothesized that the dual career demands faced by adolescent athletes participating in elite sport training programs may be greater than the demands faced separately in school or sport, and therefore, the dual demands may result in more severe deprivation of resources in some individuals (see Ryba, Aunola, Kalaja, Selänne, Ronkainen, & Nurmi, 2016). It is also possible that situational demands and available resources in the domains of sport and school differ for different individuals, although no empirical evidence exists investigating this proposition. For example, some athletes may have access to more resources, such as social support or perceptions of competence, in one domain and fewer resources in another domain, and therefore show symptoms of burnout only in one domain. On the other hand, some other athletes may have access to resources in both domains and find the demands of both domains manageable, and therefore show no symptoms of sport or school burnout. However, because burnout has thus far been mainly examined using a variable centered-approach (i.e., the focus has been on the relationship between different variables; for a review, see Mäkikangas & Kinnunen, 2016), little is known about the possible individual differences in burnout profiles. It has been argued that the variable-oriented approach may have limitations for examining processes in individual functioning, since it is difficult to translate the description of variables into the properties

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of distinct individuals (Gotwals, 2011; Gustafsson et al., 2015). Hence, when examining burnout, a person-centered approach may be more appropriate than a variable-centered approach, as burnout has been identified as a phenomenon that affects individuals and not variables (Gotwals, 2011).Consequently, the first aim of the study was to determine what kind of burnout profiles based on sport and school burnout symptoms exist among student-athletes and how are these profiles distributed in the studied population. By applying a person-centered approach, we aimed to investigate different subgroups of student athletes who have similar symptom profiles.

Role of Athletes' and Parents' Success Expectations in Burnout

Previously**,** many individual characteristics have been examined as antecedents of sport burnout. For example, reduced intrinsic motivation, high perceptions of stress and anxiety, and avoidance-related goals have been associated with burnout symptoms in sport (Goodger, Gorely, Lavallee, & Harwood, 2007). In contrast, high self-expectations have been shown to be negatively related to burnout in sport (Hill, 2009). High athletic success expectations have been examined mainly in relation to multidimensional perfectionism: it has been proposed that when high success expectations and standards are imposed by one self (i.e., self-oriented perfectionism), they are negatively associated with sport burnout (Hill et al., 2008, 2008; Lemyere et al., 2008), but when they are imposed by others (i.e., socially prescribed perfectionism), they are positively associated with sport burnout (Appleton, Hall, & Hill, 2009; Hill et al., 2008), although some contradictory evidence also exists (Flett & Hewitt, 2005; Hill, 2009). Less is known about the relationship between success expectations and school burnout. Previous research has shown that higher grade point average (GPA) and growth-related goals are negatively associated with school burnout (Salmela-Aro et al.,l 2008; 2009; Tuominen-Soini et al., 2008). Therefore, it can be expected that high success expectations in school would be negatively associated with school burnout, although empirical evidence is needed to support this notion. Consequently, the second aim of the study was to examine how student-athlete's athletic and academic success expectations relate to their burnout profiles.

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In addition to athlete's own success expectations, it has been suggested that parents also play a role in an athlete's vulnerability to burnout (Gustafsson et al., 2015). Parents can be a source of pressure or a source of support, which can either provoke or buffer athletes against burnout (e.g., Gould et al., 1996; Gustafsson, Hassmen, Kenttä, & Johansson, 2008). In sport settings, high parental expectations about an adolescent's achievement have been assumed to pressure adolescents (as embedded in perfectionism) and, thus, be related to burnout symptoms (e.g., Flett & Hewitt, 2006; Hill, 2009). Similarly in school settings, parents have been shown to contribute to students' experience of stress (Aypay, 2011), although to our best knowledge only one study so far has examined the influence of parents specifically on school burnout (for a review, see Wahlburg, 2014). In this previous study, Aypay (2011) investigated the dimensions of school burnout in Turkish adolescents and found that in addition to three relatively equivalent dimensions of Salmela-Aro and Näätänen (2005), a fourth dimension of "burnout from the family" occurred. This "burnout from the family" was operationalized as pressuring family attitudes regarding school activities which lead to exhaustion, tension and depression.

In both athletic and academic settings, the role of parents in burnout has been mainly investigated from the viewpoint of pressure that parents put on their children to accomplish certain goals (e.g., Aypay, 2011; Gustafsson et al., 2008, 2015) and less is known about the role of parental expectations of success in the development of adolescent burnout. Even though success expectations from parents may be perceived as pressuring, past research demonstrates that parental expectations can also be supportive: that is, by having high expectations parents also express belief in the child's abilities to succeed (Aunola, Nurmi, Niemi, Lerkkanen & Puttonen, 2002; Ommundsen, Roberts, Lemyre, & Miller, 2006). More specifically, where pressure refers to what the parent expects the child "should do", success expectations refer to what the parent expects the child "can do". Consequently, the third aim of the study was to investigate how mothers' and fathers' expectations of their child's athletic and academic success are related to the burnout profiles

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of adolescent athletes. Parental expectations of success were conceptualized as the extent to which parents believe in their child's ability to achieve success in sport or school.

The Present Study

In the present study, the following research questions were examined:

1. What kind of burnout profiles based on symptoms of sport and school burnout exist among student-athletes at the beginning of upper secondary school and how are these profiles distributed throughout this population?
2. How do athlete's own expectations of success in sport and school predict the likelihood of a certain burnout profile?
3. How do mothers' and fathers' expectations of their child's success in sport and school predict the likelihood of a certain burnout profile?

Because previous studies have shown several background variables, such as type of sport (individual sport vs. team sport; Cremades & Wiggins, 2008), gender (Isoard-Gautheur, Guillet-Descas, Gaudreau, & Chanal, 2015; Salmela-Aro et al., 2008), academic achievement (Salmela-Aro et al., 2008), and level of sport competition (Goodger et al., 2007), to be related to burnout, these variables were controlled for in the analyses.

Method

Participants and Procedures

The present study is part of the ongoing Adolescent Dual Careers project in Finland that examines risk and resilience factors underpinning the dual career pathways of youth athletes attending elite athlete schools (see Ryba et al., 2016). This article is based on relevant data collected at Time 1 measurement point. The participants were 391 student-athletes (51% females) from six different upper secondary sport schools—two from Southern, two from Northern, and two from Central Finland—and 448 parents (58 % mothers). In Finnish educational system, after completing 9 years of basic education at the age of 15 to 16, adolescents must make a decision regarding their secondary education. Secondary education comprises upper secondary or vocational education, with

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upper secondary school functioning as a bridge to further, most likely higher, education. Currently there are 13 upper secondary *sport* schools in Finland, labeled elite athlete school by the Ministry of Education and Culture (‘urheilulukio’ in Finnish), which provide young talented athletes with structural support for combining high performance sport and education. The admission to upper secondary sport schools is competitive, and in addition to students’ grades in the secondary school report, the accepted students must demonstrate high potential in their own sport. Out of the participating student-athletes, 197 (50%) played individual sports (e.g., athletics or judo) and 194 (50%) played team sports (e.g., football or ice hockey) at various levels (i.e., regional, national, and international). The mean age of the student-athletes was 16 years (*SD* = 0.17). The participants practiced their sport or engaged in activities related to sport (e.g., transportation to training) for an average of 25 hours (*SD* = 8.99) a week and, on average, had been competing for 7 years (*SD* = 2.41) at least in the regional level. On average, the athletes' grade point average (GPA) in their latest school report was 8.85 (*SD* = 0.62), which is evaluated in Finland on a scale from 4 to 10.

The participating schools were contacted through the national network of sports academies. The data collection was undertaken at the beginning of the first year of upper secondary school during class hours. After the participants agreed to participate by signing an informed consent form, they were asked to fill in a set of questionnaires, including questionnaires about burnout and future expectations either electronically (58%) or on paper (42%) during a class. At the same time point, a battery of questionnaires, including a questionnaire regarding expectations for their child, was sent to both parents. The parents replied either electronically (96%) or via regular mail (4%). Of the 668 parents given the questionnaires, 448 (67 %) answered, consisting of 260 mothers (response rate being 66%) and 188 fathers (response rate being 48%). From all athletes, 133 had *both* mothers and fathers answering the questionnaire.

Measurements

Sport burnout. Sport burnout was measured using a modified version of the School Burnout Inventory (SBI; Salmela-Aro & Näätänen, 2005). The Sport Burnout Inventory (SpBI; Sorkkila,

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Ryba, Aunola, Selänne, & Salmela-Aro, submitted), modified based on SBI, shares its theoretical framework with the Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001). The new scale for sport burnout was created in order to have equal measurements of burnout in both the school and sport domains, and allow thus optimal investigation of burnout in a dual context. The scale consisted of 10 items measuring exhaustion when playing one's sport (4 items: e.g., *I feel overwhelmed by my sport)*, cynicism towards the meaning of one's sport (3 items: e.g., *I feel that I am losing interest in my sport*), and feelings of inadequacy as an athlete (3 items: e.g., *I often have feelings that I am not doing well in sport).* All items were rated on a 5-point Likert scale (1 = *completely disagree*; 5 = *completely agree).* The overall SpBI score was used as the indicator of sport burnout. The Cronbach alpha reliability for the total scale was 0.85. To ensure construct validity, the scale was correlated with the ABQ (Raedeke & Smith, 2001) in a sample of 20 athletes. Pearson's correlation coefficient was 0.726 ($p < .001$), which was considered acceptable. The SpBI scale has demonstrated to show good convergent and discriminant validity, as well as good item and scale reliability (Sorkkila et al., submitted). In the present study, one unit of standard deviation above the sample mean was considered to indicate an elevated risk for sport burnout, and two units of standard deviation above the sample mean was considered to indicate a severe risk for sport burnout. Such criteria were chosen because of the novelty of the scale and lack of standardized cut off-points in Finnish student-athletes. Standard deviations have been used as criteria of burnout risk also in previous studies (Oerlemans & Bakker, 2014).

School burnout. School burnout was measured using SBI (Salmela-Aro & Näätänen, 2005). The inventory consists of 10 items measuring exhaustion at school (4 items: e.g., *I feel overwhelmed by my schoolwork*), cynicism towards the meaning of school (3 items: e.g., *I feel that I am losing interest in my schoolwork*) and feelings of inadequacy as a student (3 items: e.g., *I often have feelings that I am not doing well in school*). All items were rated on a 5-point Likert scale (1 = *completely disagree*; 5 = *completely agree).* The Cronbach alpha reliability coefficient for the total scale was 0.88. One unit of standard deviation above the sample mean was considered to indicate an

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elevated risk for school burnout, and two units of standard deviation above the sample mean was considered to indicate a severe risk for school burnout. The criteria were chosen in order to gain equal criteria for evaluating the symptoms of burnout in both sport and school contexts.

Success Expectations in sport. Athletes' success expectations in sport were measured using the Success Expectations Scale, which is a subscale of the Strategy and Attribution Questionnaire (Nurmi, Salmela-Aro, & Haavisto, 1995). The scale measures the extent to which one expects to succeed in a task and is not overly apprehensive of failure. The scale was modified to fit the sports context, and it consisted of five items (e.g., *When I go into competitions, I usually expect that I will succeed*) rated on 4-point Likert scale (1 = *completely disagree*; 4 = *completely agree*). Cronbach alpha reliability coefficient for the Success Expectations Scale was 0.63.

Success Expectations in school. Athletes' success expectations in school were similarly measured using the Success Expectations Scale (Nurmi et al., 1995), which was modified for the school context. The scale consisted of five items (e.g., *When I go into exams, I usually expect that I will succeed)* rated on 4-point Likert scale (1 = *completely disagree*; 4 = *completely agree*). The Cronbach alpha reliability coefficient for the Success Expectations Scale was 0.77.

Parental Success Expectations in sport. Parental success expectations in sport were measured using a modified version of the parental beliefs questionnaires used by Frome and Eccless (1998). The scale consisted of three items (e.g., *How well do you think your child will do at sport later on?)* rated on a 4-point Likert scale (1 = *not very well*; 4 = *very well*). The Cronbach alpha reliability coefficient for the scale was 0.80 for mothers and 0.73 for fathers.

Parental Success Expectations in school. Parental success expectations in school were measured using a modified version of the parental beliefs questionnaires used by Frome and Eccless (1998). The scale consisted of two items measuring general school beliefs (e.g., *In general, how well do you think your child will do at school later on?*) and four items measuring skill-specific school beliefs (e.g., *How well do you think your child will do in math later in school?)* rated on a 4-point Likert scale (1 = *not very well*; 4 = *very well*). An overall score consisting of the sum of the

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general and skill-specific beliefs was used as an indicator of parental success expectations in school. The Cronbach alpha reliability coefficient for the overall scale was 0.89 for mothers and 0.91 for fathers.

Analysis Strategy

The statistical analyses were carried out using structural equation modeling (SEM) and latent profile analysis (LPA) with the M-plus package (Muthén & Muthén, 1999–2016). The analyses were carried out in four steps.

First, measurement models for school and sport burnout were constructed using burnout subscales, i.e., exhaustion, cynicism, and inadequacy, as indicators of latent burnout constructs. The parameters of the model were estimated using the full-information maximum likelihood (MLR) procedure. Goodness-of-fit was evaluated using three indicators: (1) χ^2-test, (2) Bentler's (1990) comparative fit index (CFI), and (3) and root mean square error of approximation (RMSEA). Based on the criteria of Hu and Bentler (1999), values above 0.95 for CFI and values below 0.08 for RMSEA were considered to indicate acceptable fit.

Second, LPA was used to identify groups based on latent sport and school burnout constructs. In the present study, the Akaike information criterion (AIC), Bayesian information criterion (BIC), Vuong-Lo-Mendell-Rubin likelihood ratio (VLMR), Lo-Mendell-Rubin adjusted likelihood ratio (LMR), bootstrap likelihood ratio (BLRT), and entropy were used as the statistical criteria for choosing the model with the best fit. The model with lower AIC and BIC values was considered to be a better fit to the data, and significant *p*-values for VLMR, LMR, and BLRT indicated that the model with one less class should be rejected in favor of the estimated model. Entropy indicates the precision with which the cases are classified into the different latent profiles: the larger the value and the closer it is to 1, the lesser is the classification error in the model. In addition to the statistical criteria, class sizes and theoretical interpretation of the classes were taken into account while choosing the final model.

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Third, athletes' and their parents' expectations were added to the final LPA separately to predict class membership through multinomial logistic regression. Multinomial logistic regression is an appropriate analysis to conduct when having a nominal dependent variable with two or more classes. In this analysis, the associations of athletes' and parents' expectations with the found latent classes were estimated in the logit scale. When predicting athletes' probability to show a certain profile, each latent class was used, in turn, as reference class.

Finally, the covariates, i.e., gender, GPA, type of sport, and level of sport competition, were included in the model to determine whether the results would remain the same after their impact was taken into account. The mean (*M*) and standard deviation (*SD*) values, as well as the bivariate correlations between all variables are shown in Table 1.

Results

Measurement Models

The measurement model used for evaluating school burnout was first tested using school-related exhaustion, cynicism, and inadequacy as indicators of latent school burnout. Due to a negative error variance, the residual of inadequacy was fixed at zero. The fit of the model was good (χ^2 (1) = 1.356, p = 0.244; CFI = 0.999; RMSEA = 0.030). Next, the measurement model for sport burnout was tested using sport-related exhaustion, cynicism, and inadequacy as indicators of latent sport burnout. The model was saturated, i.e. the fit of the model was perfect. Finally, the models for sport and school burnout were combined (χ^2 (9) = 87.115; p < 001; CFI = 0.878; RMSEA = 0.149). An inspection of the modification indices suggested that allowing (1) the residual terms of school-related exhaustion and sport-related exhaustion and (2) those of school-related cynicism and sport-related cynicism to correlate would increase the fit of the model. After these specifications, the model was found to fit the data relatively well (χ^2 (7) = 26.870; p < 0.01; CFI = 0.969; RMSEA = 0.085). The parameter estimates of the final model are presented in Figure 1.

Latent Profile Analysis

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Next, a series of LPAs with latent school and sport burnout constructs as criteria variables were conducted. The results showed that the four-class solution fit the data best (see Table 3 for the fit indices) based on statistical criteria and a theoretical interpretation of the classes. The five-class solution was supported by AIC, BIC, and the entropy values, but the solution was rejected in favor of the four-class solution based on the values of VLMR, LMR, and BLRT. Moreover, a theoretical interpretation of the solution and an inspection of the cluster sizes were in support of the four-class solution rather than the five-class solution. In the four-class solution, the individual probabilities for being assigned to a specific latent class were 0.921, 0.717, 0.916, and 0.997, which indicates that the four-class model provided clear classification. The four groups were labeled according to the mean standardized profile scores as (1) well-functioning, (2) mild sport burnout, (3) school burnout, and (4) severe sport burnout (see Figure 2).

As illustrated in Figure 2, the well-functioning group was the largest group (60%), as the student-athletes in this group had scores *below* the sample mean for both sport burnout (zM = -0.30; M = 1.58, *s.e.* = 0.08) and school burnout symptoms (zM = -0.32; M = 2.23, *s.e* = 0.10), this group showed no risk for school burnout. The mild sport burnout group was the second largest group (28%). The student-athletes in this group had sport (zM = 0.61; M = 2.64, *s.e.* = 0.11) and school (zM = 0.22; M = 2.74, *s.e.* = 0.17) burnout scores *above* the sample mean. However, according to the set criteria, they were not considered to be at an elevated risk for sport or school burnout. Since their sport burnout scores still exceeded 0.5 units of the standard deviation, a mild risk for sport burnout was recognized. The school burnout group was the third largest group (9.6%), and student-athletes in this group had sport burnout symptom scores *below* the sample mean (zM = -0.29; M = 1.70, *s.e.* = 0.11), and school burnout symptom scores *above* the sample mean (zM = 1.30; M = 3.62, *s.e.* = 0.22). Based on the set criteria, the group was considered to be at an elevated risk for school burnout. The smallest group was the severe sport burnout group (2.7%). In this group, the student-athletes had sport burnout symptom scores that were almost two standard deviations *above* the sample mean (zM = 1.98; M = 4.06, *s.e.* = 0.47), whereas the school burnout symptom scores

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were within one unit of standard deviation (z*M* = 0.50, *M* = 2.78, *s.e.* = 0.27). Based on the criteria set, this group was at a severe risk for sport burnout.

Role of Student-Athletes' Success Expectations

The student-athletes' own success expectations in sport and school were examined as predictors of the likelihood of a certain burnout profile. The results are presented in Table 3. The results showed that the higher success expectations in sport the athletes had, the more likely they were to belong to the well-functioning group than to the severe sport burnout group or the mild sport burnout group, and the higher success expectations in school the athletes reported, the more likely they were to belong to the well-functioning group than to the school burnout or mild sport burnout group. However, the higher success expectations in school the athletes reported, the more likely they were to belong to the severe sport burnout group than to the well-functioning group, and the higher success expectations in sport the athletes reported, the more likely they were to belong to the school burnout group than to the well-functioning group. The results further showed that the higher success expectations in sport the athletes had, the more likely they were to belong to the school burnout group or the mild sport burnout group than to the severe sport burnout group, and the higher success expectations in school the athletes reported, the more likely they were to belong to the severe sport burnout group than to the school burnout group or to the mild sport burnout group. Finally, the results showed that the higher the success expectations in sport, the more likely the athletes' were to belong to the school burnout group than to the mild sport burnout group, and the higher success expectations in school, the more likely the athletes were to belong to the mild sport burnout group than to the school burnout group.

Next, gender, type of sport, GPA and level of sport competition were included in the model as predictors of burnout profiles. The associations of individual expectations with burnout profiles did not substantially change after the covariates were added.

Role of Parental Success Expectations

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Finally, mothers' and fathers' success expectations as predictors of burnout profiles were investigated. First, mothers' success expectations in sport and school were examined as predictors of burnout profiles (see Table 3). The results showed that the higher success expectations in sport the mother had, the more likely it was that the athlete belonged to the well-functioning group than to the severe sport burnout group, and the more likely it was that the athlete belonged to the school burnout group than to the severe sport burnout group. Furthermore, the higher the success expectations in sport the mother reported, the more likely it was that the athlete belonged to the school burnout group than to the mild sport burnout group. The higher success expectations in school the mother had, the more likely it was that the athlete belonged to the well-functioning group than to the school burnout or mild sport burnout group. Moreover, the higher success expectations in school the mother had, the more likely it was that the athlete belonged to the severe sport burnout group than to the school burnout group or the mild sport burnout group.

Next, the covariates were included in the model as predictors of burnout profiles. The results showed that the associations of maternal expectations with burnout profiles did not substantially change after the covariates were added.

The results for fathers' success expectations (Table 3) showed that the higher the success expectations in school of the father, the more likely it was that the athlete belonged to the well-functioning group rather than the school burnout or the mild sport burnout group. After covariates were added to the model, it was found that high paternal success expectations in school still increased the likelihood of athletes belonging to the well-functioning group instead of the school burnout group, but the success expectations no longer increased the likelihood of the athletes belonging to the well-functioning group instead of the mild burnout group. Moreover, after the covariates were added, it was found that the higher the paternal success expectations were in school, the more likely it was that the athletes belonged to the severe sport burnout group than to the school burnout group (*estimate* = -1.527, *s.e* = 0.776, $p < .05$).

Additional analyses

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To ensure that the sample was not selective based on whether the parents participated or did not participate in the study, mothers', fathers' or both parents' participation was examined as a predictor of burnout profile. The results showed that the athletes' burnout profile did not depend on whether the mother, father, or both parents had participated in the study or not.

Finally, because the items of success expectations and inadequacy subscale of burnout are conceptually close to each other confirmatory factor analyses was used to investigate whether they are opposite ends of the same construct or two different constructs. The results comparing one factor (consisting of both expectations and inadequacy items) vs. two factor (consisting of two separate factors for expectations items and inadequacy items, respectively) model showed that the two factor model fitted the data significantly better than the one factor model in both sport (χ^2 (1) = 5.79; $p < 0.05$) and school (χ^2 (1) = -336.64; $p < 0.001$) context. Moreover, there were no modification indices over 10 in either domain. The results suggest that success expectations and feelings of inadequacy are two different, although strongly correlated constructs.

Discussion

The present study aimed to investigate the burnout profiles of student-athletes and to what extent athletes' and their parents' success expectations predict the likelihood of the athlete reporting a certain burnout profile. Four different burnout profiles were identified: well-functioning, mild sport burnout, school burnout, and severe sport burnout. Based on the cut-off points, athletes in the well-functioning group and mild sport burnout group were not at an elevated risk for school or sport burnout; athletes in the school burnout group were at an elevated risk for school burnout; and athletes in the severe sport burnout group were at a severe risk for sport burnout. Furthermore, athletes' and mothers' success expectations in sport and school, and fathers' success expectations in school were found to be significant predictors of the likelihood of the athletes to show a certain burnout profile. High individual and parental expectations in one domain seemed to increase the likelihood of the athlete to belong in the well-functioning group in the same domain, but the effect

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did not extend across domains. Moreover, high expectations in one domain seemed to even increase the likelihood of burnout in another domain.

Burnout Profiles

Our first research question was set to determine the profiles of burnout in student-athletes based on their reported symptoms of burnout in athletic and academic contexts, and to investigate how these profiles are distributed in the studied population. Four burnout profiles were identified: (1) a well-functioning profile, characterized by a low level of both sport and school burnout symptoms, which was shown by 60% of the student-athletes; (2) a mild sport burnout profile, characterized by a mild level of sport burnout symptoms, which was shown by 28% of the student-athletes; (3) a school burnout profile, characterized by a relatively high level of school burnout symptoms but a low level of sport burnout symptoms, which was shown by 9.6% of the student-athletes; (4) and a severe sport burnout profile, characterized by a high level of sport burnout symptoms, which was shown by 2.7% of student-athletes.

Based on the set cut off points for sport and school burnout, it was concluded that athletes showing a well-functioning profile were not at risk for either type of burnout. This indicates that at the beginning of upper secondary school, the majority of student-athletes did not experience burnout symptoms. The second largest group of athletes showed a mild sport burnout profile. Although they were not at an elevated risk for sport or school burnout, they still reported some symptoms of burnout in sport. Since the measurements were conducted at the very beginning of upper secondary school, it is possible that the symptoms in this group will increase with time. Therefore, it is particularly important to follow the development of sport and school burnout longitudinally, and pay attention to student-athletes with a mild risk of burnout too.

In the present study, two groups of student-athletes were found to be at risk for burnout: those showing a school burnout profile and those showing a severe sport burnout profile. The school burnout profile was typical for 9.6% of the student-athletes, which is in line with previous findings which suggested that 10% of upper secondary school students in Finland suffer from

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severe school burnout. The severe sport burnout profile, in turn, was typical in 2.7% of the student-athletes, which suggests that there is a small but still alarming group of student-athletes who are at risk for severe sport burnout. This finding is in line with previous research which has shown that young elite athletes are susceptible to burnout (Cresswell & Eklund, 2006; Raedeke & Smith, 2001), and that transition to upper secondary school is a particularly stressful time for adolescents (Salmela-Aro et al., 2008). However, it should be noted that sport and school burnout have previously not been investigated simultaneously in a single study. The findings of the present study highlight the need for continuous screening and early detection of burnout in student-athletes who are at risk for burnout, since it seems that severe burnout symptoms may appear even at the very beginning of upper secondary school in some individuals.

Role of Student-Athletes' Success Expectations

The second research question of the present study asked whether athletes' own success expectations in sport and school can predict their burnout profile. The results showed that athletes' expectations could predict their burnout profile even after the impact of gender, type of sport, GPA and level of sport competition were controlled for: the higher success expectations in sport the athletes had, the more likely they were to show a well-functioning profile than a severe sport burnout or a mild sport burnout profile, and the higher success expectations in school the athletes had, the more likely they were to show a well-functioning profile than a school burnout or a mild sport burnout profile. These results are in agreement with previous research which has suggested that high self-expectations protect against burnout (Appleton et al., 2009; Hill et al., 2008; Hill, 2009). According to Smith's (1986) cognitive-affective model, burnout is a result of chronic stress that occurs when the athlete's resources do not meet the situational demands. It could be assumed that student-athletes showing a well-functioning profile had access to more resources in *both* the school and sport domains, and perceived school and sport as less demanding than those who showed other profiles. It is possible that high success expectations are an indicator of confidence,

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which among other psychological needs has been found to be protective against burnout (Jowett, Hill, Hall, & Curran, 2016).

However, the protective effect of high success expectations appears to be domain-specific and may not extend *across* domains. In other words, although high success expectations in sport seemed to protect student-athletes from sport burnout, high success expectations in sport did not protect them against school burnout, and vice versa. Student-athletes with high success expectations in *school* were more likely to show severe *sport* burnout profile than other profiles, and student-athletes with high success expectations in *sport* were more likely to show *school* burnout profile than other profiles. This finding is significant, as it suggests that burnout is a context-specific phenomenon. The finding also highlights the need to investigate burnout in both the sport and school domain, as high expectations and low burnout in one domain may increase the burnout risk in another domain.

Role of Parental Success Expectations

The third research question asked whether the success expectations of mothers and fathers are related to athletes' burnout profiles. The results showed that mothers' success expectations were relatively in line with the athletes' expectations with regard to prediction of the burnout profiles: the higher success expectations in sport the mother had, the more likely it was that the athlete showed a well-functioning profile instead of a severe sport burnout profile; further, the higher success expectations in school the mother had, the more likely it was that the student-athlete showed a well-functioning profile than a school burnout or a mild sport burnout profile. Moreover, the higher success expectations in school the mother reported, the more likely it was that the student-athlete had a severe sport burnout profile than a school burnout or a mild sport burnout profile. Finally, the higher success expectations in school the mother reported, the more likely it was that the student-athlete had a school burnout profile than a severe sport burnout or a mild sport burnout profile. The results further showed that fathers' success expectations in sport were not related with the athletes' burnout profiles. However, fathers' success expectations in school were partly in line with mothers'

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and athletes' expectations with regard to predicting burnout profiles: The higher success expectations in school the father reported, the less likely it was that the athlete showed a school burnout profile than a well-functioning or a severe sport burnout profile.

Previous research embedded in perfectionism suggests that high athletic expectations from significant others increase the risk for sport burnout (e.g., Hill et al., 2008; Hill, 2009). Similarly, in the school context, previous research has shown that high parental pressure, in terms of family attitudes regarding school leading to exhaustion, tension and depression, is associated with school burnout (Aypay, 2011). Our results are contradictory to these findings, as they indicate that high success expectations in school from the mother and father increase the likelihood of the student-athlete to show a well-functioning profile instead of a school burnout profile.

The difference in our findings can be explained in a number of ways: First, instead of examining parental pressure, we examined parental success expectations, which can be positive and indicate parental support (e.g., Aunola et al., 2002). Whereas parental pressure refers to what parents think their children "should" do, parental success expectations may rather refer to what the parents think their children "can" do, and can therefore reflect encouragement instead of entrapment. Embedded in Smith's model (1986), it is possible that in additional to internal resources (high self-expectations) well-functioning student-athletes also have more external resources (nurturing environment) than other student-athletes, as mothers' high success expectations in sport were found to be a predictor of a well-functioning profile, as were mothers' and fathers' success expectations in school. Second, in the previous studies, adolescents' perceived parental expectations were investigated, whereas we only examined parents' self-reports. Third, in the present study, success expectations were investigated separately from perfectionism. The results did indicate, though, that high success expectations by the mother and father in one domain may increase an athletes' likelihood of burnout in *another* domain. The higher the success expectations in school of the mother and father, the more likely it was that the student-athlete had a severe sport burnout profile than a school burnout profile. Moreover, the higher success expectations in sport the

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mother had, the more likely it was that the student-athlete showed a school burnout profile than a severe sport burnout or mild sport burnout profile. This in an important finding that is similar to that obtained for student-athletes' success expectations and highlights the need to examine burnout in not only in a context-specific manner but also across context.

Based on Smith's (1986) model, it can be assumed that those showing a sport burnout profile had fewer resources and more demands in sport than in school. In line with this proposition, it was observed that the higher the individual and maternal success expectations in sport, the more likely it was that the athletes had a school burnout profile rather than profiles characterized by sport burnout symptoms. Moreover, athletes', mothers' and fathers' high success expectations in school decreased the likelihood of athletes showing a school burnout profile. This indicates that student-athletes showing a profile characterized by school burnout may be sport oriented, and feel more competent and supported in sport than in school.

Athletes showing a severe athlete burnout profile, on the other hand, may have few resources and experience a high level of demand in sport in particular. Since athletes showing this profile had specifically high success expectations in school, it is possible that these athletes are school-oriented and seek success in school. However, due to the high demands in sport, they may lack the time and energy required to focus on schoolwork to their satisfaction. It is also possible that athletes who showed a severe sport burnout profile aligned their own success expectations in school according to their parents' expectations, and consequently, felt pressured to live up to the expectations. Thus, trying to live up to high self and parental academic expectations, while simultaneously participating in high-level sport might come at a cost that exceeds the available resources.

Evaluation of the Study

The present study had several strengths. First, it was able to provide meaningful and novel information about the prevalence of sport and school burnout in the unique sample comprised of student-athletes on a dual career track at elite sport schools. Moreover, the study investigated burnout in the context of both sport and school simultaneously. Second, the sample was large and

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representative, and in addition to the student-athletes, data were gathered also from a large sample of mothers and fathers separately. Third, a person-oriented approach was used, which has been proposed to be appropriate for exploring burnout (Gotwals, 2011; Gustafsson et al., 2015; Mäkikangas & Kinnunen, 2016).

However, the study also has several limitations. First, the study was cross-sectional in nature, although it has been noted that burnout is a condition that develops over time and should therefore be investigated longitudinally (Chen, Kee, & Tsai, 2009). Furthermore, in cross-sectional studies causality between the variables cannot be assumed. Even though it seems like success expectations were protective from burnout within the domain, reverse direction is also possible (e.g., burnout profiles may influence success expectations). Future studies are therefore needed to examine the predictors and developmental trajectories of burnout across school years. Second, although set cut-off points were used to guide our interpretation of the burnout level, the study focused on burnout symptoms and not diagnoses, and therefore no clinical conclusions can be drawn from the results. Third, the group size for the severe sport burnout profile was small. Consequently, further studies are needed to explore the existence of this particular profile among student athletes. Fourth, Cronbach's alpha coefficient for athletes' success expectations scale in sport was not very high. One reason possibly reducing the reliability of the scale was the small number of items measuring athletes' success expectations (see Wells & Wollack, 2003). Consequently, there is a need to replicate the findings with a scale demonstrating higher internal reliability. Finally, the concept of success expectations is closely related with the concept of self-confidence or self-efficacy. This raises the question whether the association between being in a well-functioning group and having high success expectations is due to the fact that success expectations and feelings of inadequacy are indicators of the same construct. Although confirmatory factor analyses demonstrated that in the present study these two concepts were separate but highly related constructs, further longitudinal research is needed to investigate the relationship and direction between success expectations and the three burnout dimensions separately to further clarify these concepts.

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Conclusion

This study contributes to the current literature on burnout by adding new knowledge about the existence of different sport and school burnout profiles among student-athletes at the beginning of upper secondary school. Although at this time point a majority of the student-athletes seemed to be well-functioning, two profiles with elevated school burnout and elevated sport burnout risk were also identified. Moreover, a relatively large number of student-athletes were found to show mild symptoms of sport burnout even though they were not yet at risk of burnout. Across school years, however, these student-athletes may be prone to develop more severe burnout symptoms.

Athletes' success expectations in sport seem to protect them from sport burnout, and their success expectations in school seem to protect them from school burnout, but the protective effects cease to exist across domains. Moreover, the results indicated that in some individuals, high success expectations in one domain may increase the risk of burnout in another domain. Contrary to what was expected, it seems that mothers' success expectations in sport and school, and fathers' success expectations in school were mainly protective against burnout in the same domain; this suggests that parental expectations can be a supportive factor. However, similar to findings for athletes' expectations, it seems that high success expectations in one domain do not necessarily protect against burnout in another domain. These are novel intriguing findings which suggest that burnout is a context-specific phenomenon. Moreover, the findings highlight the need to investigate burnout within *and* across context by integrating sport and school in order to make holistic and comprehensive assumptions about athletes' wellbeing.

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Footnotes

[1] In the present article the term sport burnout was used instead of athlete burnout to refer to burnout symptoms in sport context. The term 'sport burnout' was selected because a) this term was grammatically consistent with the term school burnout used to refer burnout symptoms in school context; b) the participants in the present study were athletes and, thus, the term ' athlete burnout' may refer to burnout that athlete experiences also in another context than sport, such as school, whereas the term 'sport burnout' refers directly to athletes' experiences in the sport context; c) the term has consistently been used parallel to school burnout in the authors' previous work (incl. a sport burnout inventory validation article; Sorkkila, Ryba, Aunola, Selänne & Salmela-Aro, submitted).

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Table 1

Means (M), Standard Deviations (SD), and Bivariate Correlations between the Study Variables (n=391)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Sp Ex		.425***	.546***	.483***	.232***	.371***	-.483***	-.299***	-.014	-.001	-.023	-.065	-.156**	.038	. 021	.096
2. Sp Cy			.527***	.166**	.204***	.171**	-.331***	-.082	-.122*	.053	-.115	.023	-.070	.077	-.006	-.009
3. Sp In				.202***	.111*	.265***	-.588***	-.166**	-.222***	-.053	-.181*	-.017	-.120*	-.032	.067	-.068
4. Sc Ex					.367***	.605***	-.315***	-.540***	.035	-.159**	.082	-.159*	-.140**	.027	-.014	.026
5. Sc Cy						.672***	-.125*	-.382***	.132	-.305***	.077	-.259***	.172***	.053	-.306***	.023
6. Sc In							-.269***	-.623***	.100	-.407***	.087	-.357***	.029	.069	-.325***	-.007
7. A SpE								.336***	.175**	.064	.044	.015	.265***	.123*	-.059	-.011
8. A ScE									.000	.469***	-.146*	.428***	.174***	-.022	.415***	.098
9. M SpE										.117*	.230**	-.018	.087	.079	-.054	.217***
10. M ScE											-.075	.781***	-.059 -	.037	.676***	.099
11. F SpE												-.014	-.079	.093	.032	.179*
12. F ScE													-.060 -	.124*	.625***	-.002
13. G														.099*	-.228**	-.134**
14. TOS															-.058	-.221***
15. GPA																.005
16. CL																

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M	2.04	1.36	1.98	2.68	2.19	2.52	2.88	2.59	3.54	2.97	3.47	2.93	0.49	0.50	8.85	4.64
SD	0.72	0.55	0.82	0.83	0.74	0.81	0.46	0.53	0.50	0.63	0.46	0.65	0.50	0.50	0.62	2.67

Note. *$p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Sp Ex = Sport exhaustion; Sp Cy = Sport cynicism; Sp In = Sport inadequacy; Sc Ex = School exhaustion; Sc Cy = School cynicism; Sc In = School inadequacy; A SpE = Athletes 'success expectations in sport; A ScE =Athletes' success expectations in school; M SpE = Mothers' success expectations for her child in sport; M ScE = Mothers' success expectations for her child in school; F SpE = Fathers' success expectations for his child in sport; F ScE = Fathers 'success expectations for his child in school; G = Gender (female/male); TOS = type of sport (individual/team sport); GPA = Grade point average; CL = Competition level.

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Table 2

Information Criteria Values for Different Class Solutions

Number of classes	AIC	BIC	Entropy	VLMR	LMR	BLR
1	4626.880	4690.380				
2	4605.455	4680.861	0.660	0.0753	0.0851	0.0000
3	4600.177	4687.489	0.646	0.2920	0.3110	0.0404
4	4586.876	4686.094	0.828	**0.0000**	**0.0000**	**0.0400**
5	**4564.785**	**4671.974**	**0.875**	0.2677	0.2904	0.0909
6	4566.785	4677.066	0.871	0.2398	0.2398	0.1714

AIC = Akaike information criterion, BIC = Bayesian information criterion, VLMR = Vuong-Lo-Mendell-Rubin likelihood ratio, LMR = Lo-Mendell-Rubin adjusted likelihood ratio, BLR = bootstrap likelihood ratio

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Table 3

Athletes' and Parents' Success Expectations in Sport and School as Predictors of Burnout Class (Estimates and Standard Errors for Multivariate Logit Coefficients)

	Athlete		Mother		Father	
	Sport	School	Sport	School	Sport	School
Class	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
Well-functioning						
vs. Severe sport burnout	-6.891 (2.249)**	5.726 (1.271)***	-0.774 (0.337)*	0.527 (0.722)	-0.876 (1.281)	-0186 (0.644)
vs. School burnout	0.658 (0.570)	-4.067 (0.933)***	1.240 (0.740)	-2.815 (0.847)**	0.384 (0.636)	-1.916 (0.647)**
vs. Mild sport burnout	-3.083 (0.848)***	-2.420 (0.684)***	-0.122 (0.511)	-2.600 (0.733)***	-0.682 (1.532)	-1.093 (0.527)*
Severe Sport burnout						
vs. School burnout	7.549 (2.231)**	-9.793 (1.529)***	2.014 (0.820)*	-3.342 (1.223)**	-1.260 (1.401)	1.730 (0.942)
vs. Mild sport burnout	3.808 (2.095)	-8.146 (1.396)***	0.652 (0.641)	-3.127 (0.942)**	-0.194 (2.687)	-0.907 (0.805)
School burnout						
vs. Mild sport burnout	-3.741 (0.863)***	1.647 (0.743)*	-1.362 (0.556)*	0.215 (0.781)	-1.066 (1.667)	0.823 (0.568)

Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

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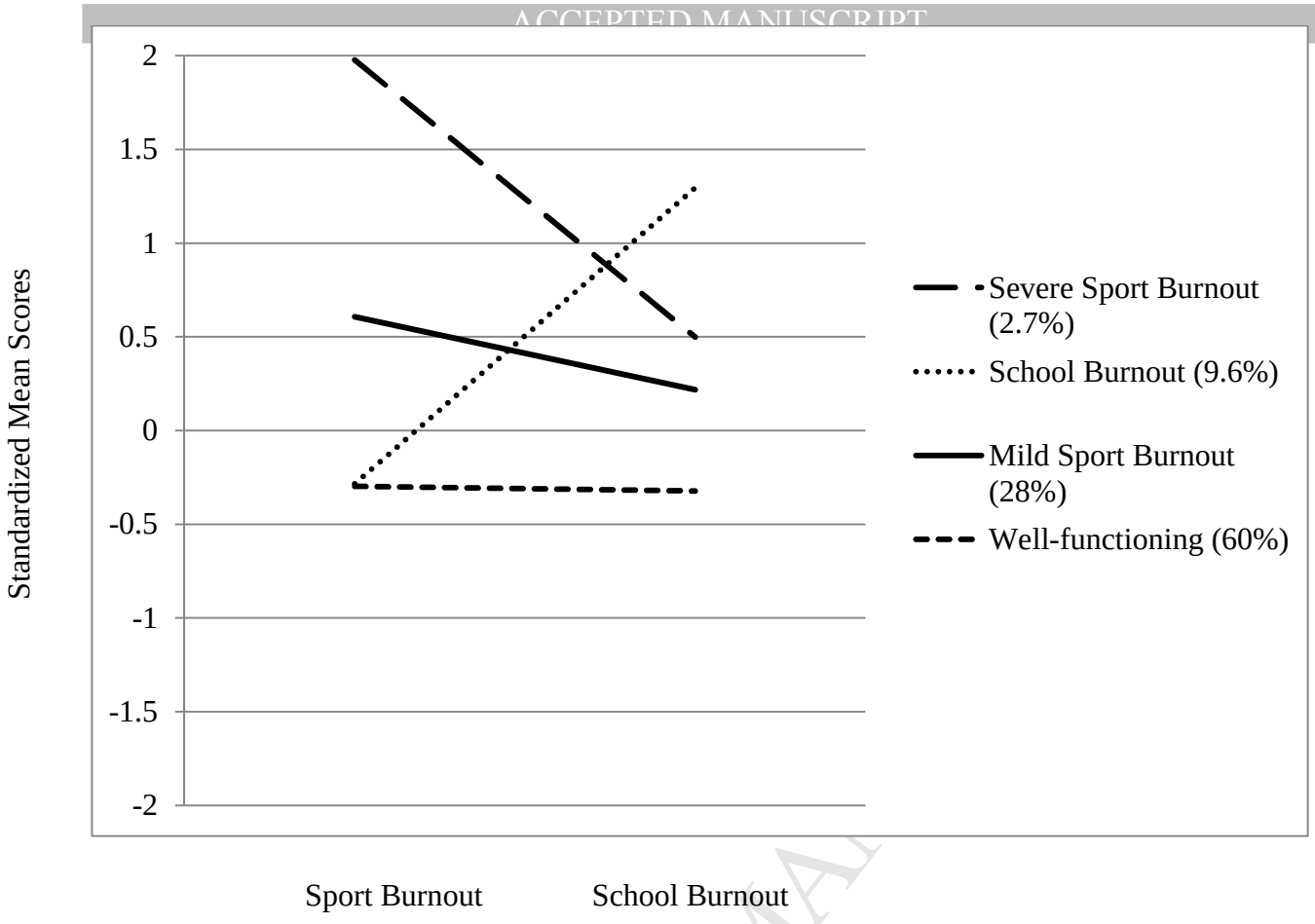

Figure 2. Identified burnout profiles among student athletes.

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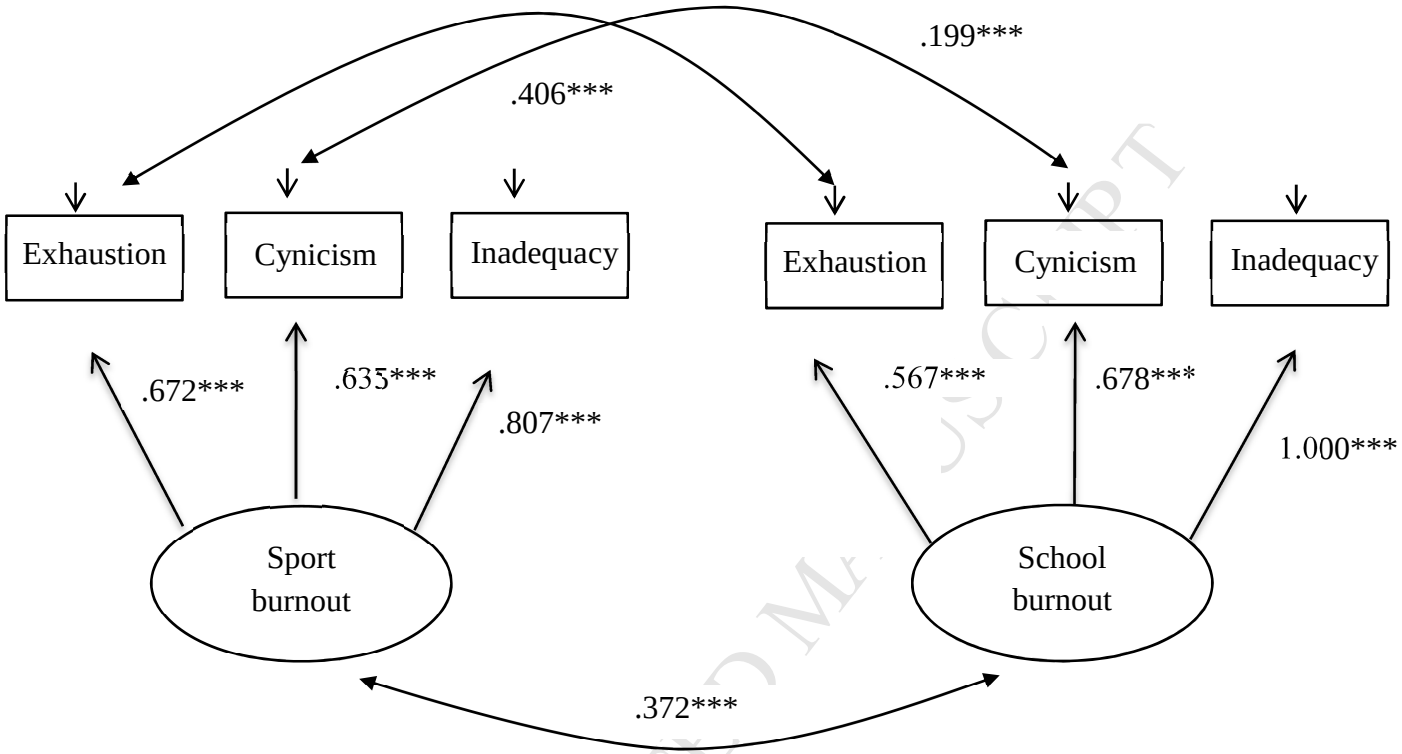

Figure 1. The parameter estimates of the final structural model.

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Highlights

- Four distinct burnout profiles were identified in student-athletes based on symptoms of sport and school burnout
- Athletes' and mothers' success expectations in sport, and athletes' and both parents' success expectations in school, predicted the likelihood to show certain kind of profile
- Success expectations in sport and school seemed to be protective from burnout in the same domain, but not across domain

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