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Title: The role of parental affection and psychological control in adolescent athletes' symptoms of school and sport burnout during the transition to upper secondary school

Year: 2018

Version: Accepted version (Final draft)

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Please cite the original version:

Aunola, K., Sorkkila, M., Viljaranta, J., Tolvanen, A., & Ryba, T. V. (2018). The role of parental affection and psychological control in adolescent athletes' symptoms of school and sport burnout during the transition to upper secondary school. *Journal of Adolescence*, 69, 140-149. <https://doi.org/10.1016/j.adolescence.2018.10.001>

Running Headline: PARENTING BEHAVIORS AND BURNOUT AMONG
ADOLESCENTS

The Role of Parental Affection and Psychological Control in
Adolescent Athletes' Symptoms of Burnout

Abstract

Introduction: The transition from compulsory school to upper secondary school is a challenging period for adolescents. Especially challenging it can be for adolescents who aim to integrate two domains of achievement, such as an athletic career and academic education. The pressure from two intertwined achievement domains may make student-athletes vulnerable to symptoms of burnout. The study examined the role of mothers' and fathers' affection and psychological control as possible risk or protective factors in the symptoms of school and sport burnout among 15-16 year olds adolescent athletes in Finland. **Methods:** The adolescents' ($n = 391$) burnout symptoms in the two domains were measured using questionnaires at the beginning and at the end of the first grade of upper secondary school. Mothers ($n = 258$) and fathers ($n = 191$) filled in questionnaires concerning their parenting behaviors at the beginning of the school year. **Results & Conclusions:** The results showed that the athletes' symptoms of both school and sport burnout increased across the school year. Maternal affection buffered against the increase of school burnout, but only when not combined with simultaneous psychologically controlling mothering.

Key words: parenting, psychological control, athletes, upper secondary school, school burnout, sport burnout

The Role of Parental Affection and Psychological Control in Adolescent Athletes' Symptoms of Burnout

Symptoms of school burnout, such as exhaustion, cynicism, and feelings of inadequacy (Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009; Shih, 2015), are an increasing problem among adolescents in modern society (Salmela-Aro, 2017; Yusoff & Khan, 2013). Academic stress and school-related burnout are serious risk factors for various internalized problems (Salmela-Aro, Savolainen, & Holopainen, 2009; Silvar, 2001; Walburg, 2014), as well as lowered school engagement and achievement (Tuominen-Soini & Salmela-Aro, 2013; Vasalampi, Salmela-Aro, & Nurmi, 2009), increased school dropout rates (Salmela-Aro, 2017; Silvar, 2001), and difficulties in the transition to working life and higher education (Vasalampi et al., 2009). Consequently, understanding of both the possible risk factors and the factors that protect adolescents from burnout is needed. The present study aimed to examine the role of parental affection and psychological control as possible risk or protective factors in the development of burnout in a subsample of adolescents, specifically adolescent athletes who had recently started their academic track (i.e., secondary education that prepares them to apply for higher education in university) in upper secondary school. Recent studies suggest that talented athletes tend to be highly motivated to do well in both the sport and academic domains (Lupo et al., 2015). These students might thus be assumed to be vulnerable to symptoms of school burnout during their transition to an academic track after comprehensive school, as well as being prone to sport burnout (AUTHORS, 2017) as they struggle to integrate their athletic careers with their education (AUTHORS, 2016).

1.1 Burnout among Adolescents

School burnout has been defined as a psychological syndrome or an emotional state that occurs as a result of chronic school-related stress and overload (Walburg, 2014). It is manifested as emotional exhaustion due to academic demands, a cynical and detached

attitude towards schoolwork, and feelings of incompetence as a student (Kiuru, Aunola, Nurmi, Leskinen, & Salmela-Aro, 2008; Schaufeli, Salanova, González-Romá, & Bakker, 2002; Walburg, 2014). According to Kiuru and her colleagues (2008), school burnout is caused by a dissonance between the student's internal resources for schoolwork and his or her own expectations for success, or those held by other people such as teachers, peers, and parents. Interestingly, symptoms of school burnout seem often to go hand in hand with high school engagement and thriving: in up to one quarter of Finnish upper secondary school students, high engagement coincided with symptoms of exhaustion and even depression (Tuominen-Soini & Salmela-Aro, 2014).

After comprehensive school, students have different possibilities to continue their studies. In Finland, these possibilities include either upper secondary (an academic track that prepares students to apply for higher education in university) or vocational school (a vocational track that prepares students for working life). Previous research has shown that symptoms of school burnout are an increasing problem particularly among students in academic track (Bask & Salmela-Aro, 2013; Salmela-Aro, 2017; Salmela-Aro & Tynkkynen, 2012). This is understandable since study demands are significantly higher in academic track than in vocational tracks (Salmela-Aro, 2017). Although the transition to upper secondary school is a challenge for any adolescent (Grolnick, Kurowski, Dunlap, & Hevey, 2000; Salmela-Aro et al., 2008), it can be especially challenging for young students who aim to integrate two domains of achievement, such as an athletic career and academic education. Not only do student-athletes need to adapt to increasing study demands and a new social environment at school, but they are also under competitive pressure and a constantly increasing sport training load (AUTHORS, 2016; Stambulova & Wylleman, 2015). This pressure from two intertwined achievement domains may make student-athletes particularly vulnerable to symptoms of burnout, not only at school but also in sport.

Sport-related burnout is exhibited as exhaustion, cynicism, and a feeling of inadequacy as an athlete (AUTHORS, 2017). Sport burnout has been shown to be valid (AUTHORS, in press) and distinct construct from school burnout (AUTHORS, 2017), suggesting that symptoms of burnout are—at least to some extent—domain-specific. In a 2017 study, AUTHORS et al. found that 30% of student-athletes reported mild and 3% reported severe sport burnout symptoms at the beginning of upper secondary school. High-level achievements are demanded of these athletes so they are often prone to perfectionism (Hill & Curran, 2016), characterized as overly high personal standards and critical self-evaluations (Flett & Hewitt, 2005; Hill & Curran, 2016). The overly high standards perceived to be set by others—that is, socially prescribed perfectionism (Hill, Hall, Appleton, & Kozub, 2008)—may be particular triggers for feelings of lack of control. These feelings can result in achievement-striving being perceived as threatening, and thus make a student prone to the symptoms of burnout (Appleton, Hall, & Hill, 2009; Hill et al., 2008).

1.2 The Role of Parental Affection and Psychological Control

The role of parenting in adolescents' well-being has been a widely investigated topic. Based on Baumrind's (1966) traditional parenting style paradigm, the two most often examined characteristics of parenting have been parental affection (e.g., responsiveness, warmth, involvement, acceptance, supportiveness) and control (e.g, maturity demands, monitoring, limit setting)(Aunola & Nurmi, 2005). In Baumrind's (1966) traditional parenting style typology parental control was mainly defined as the level of demandingness typical for the parent. Later, however, indirect and manipulative form of control (discussed already by Baumrind (1966)) —referred in the literature as psychological control (Barber, 1996; Baumrind, Larzelere, & Owens, 2010) —has been investigated as unique form of control separate from more directive type of control (i.e., behavioral control).

There seems to be consensus that parental affection—that is, the degree to which parents emotionally support their children and provide them with warmth and love (Wouters, Doumen, Germeijs, Colpin, & Verschueren, 2013)—has positive consequences for healthy child and adolescent development (Harter et al., 2003), as well as their educational and career success (Upadaya & Salmela-Aro, 2013; Wang & Eccles, 2012). In contrast, psychological control—that is, attempts to control adolescents' thoughts and emotions by psychological means—has more negative outcomes, such as internal distress and problem behaviors (Barber & Harmon, 2002; Soenens, Park, Vansteenkiste, & Mouratidis, 2012). According to self-determination theory (SDT), environmental support, including support from parents, for adolescents' innate psychological needs for relatedness (the need to feel connected and loved), autonomy (the need to feel self-determined and self-directed), and competence (the need to feel capable and personally effective), is crucial in order to achieve optimal psychological growth and health (Deci & Ryan, 2000). From this perspective, parental affection can be assumed to support adolescents' well-being by supporting feelings of relatedness and competence, in particular, whereas psychological control exercised by parents can be assumed to have negative consequences as it thwarts adolescents' need for autonomy (Soenens & Vansteenkiste, 2010).

Recently, Shih (2015) used SDT to explain the evolution of adolescents' symptoms of burnout in the context of school and student-teacher interaction. According to SDT, adolescents' feelings of autonomy can be considered a crucial psychological resource for dealing with stressful demands (Deci & Ryan, 2000). As suggested by Shih (2015), such a resource may help the individual interpret stressors as challenges rather than threats, and thus use effective ways of coping when dealing with stressful situations and a heavy workload. Following this line of reasoning, social contexts (including family) that thwart adolescents' sense of autonomy—for instance, by using psychological control—might be assumed to

make adolescents more prone to symptoms of burnout. However, surprisingly few studies have been carried out to examine the role of parents in the development of adolescent burnout (Gustafsson, Hill, Stenling, & Wagnsson, 2016; Marion, Laursen, Kiuru, Nurmi, & Salmela-Aro, 2015). Because of this, little is known about the possibly protective role of parental affection and support against the development of such symptoms (Marion et al., 2015) or, alternatively, the role of parental psychological control as a risk factor for the development of burnout.

Although parental support and affection have, in general, been assumed to protect adolescents from maladaptive developmental outcomes (Grolnick et al., 2000), there is increasing evidence that the beneficial and protective effects of parental affection are lost when affection is combined with psychologically controlling parenting (Aunola & Nurmi, 2004, 2005; Kanat-Maymon & Assor, 2010; Wouters et al., 2013). In fact, several studies suggest that the combination of high psychological control with high parental affection may be the most detrimental combination of parental behaviors for children's and adolescents' well-being (Aunola & Nurmi, 2004, 2005; Wouters et al., 2013). For example, Aunola and Nurmi (2005) found in their longitudinal study that a high level of psychological control exercised by mothers combined with high affection predicted increases in children's levels of both internal and external problem behaviors. Similar results were reported by Wouters et al. (2013) among adolescents. In their study, the positive effect of psychological control on adolescents' contingent self-esteem increased when combined with high levels of parental responsiveness.

According to Aunola and Nurmi (2005) the joint effect of affection and psychological control may be due to the fact that the combination communicates an inconsistent message of parental approval and love to a child. This parental discrepancy or double message then impacts negatively on the child's adjustment. The joint effect may also mirror the effects of

parental conditional regard, that is, the provision of affection to a child depending on the child's compliance with parental expectations (Assor, Roth, & Deci, 2004; Kanat-Maymon, Roth, Assor, & Raizer, 2016). If the emotional bond with parents is strong, the child's fear of losing parental approval and love might also be strong (Wouters et al., 2013).

Because no studies thus far have examined the joint effects of affection and psychological control in adolescent burnout, the present study examined not only the unique but also the joint effects of these parenting behaviors on the development of symptoms of school and sport burnout among a sample of student-athletes starting upper secondary school. Because adolescent athletes struggle to integrate the two domains of achievement—an athletic career and education—they might be assumed to be particularly prone to symptoms of burnout in both these areas.

1.3 Research Questions

The research questions of the present study were:

1. To what extent are mothers' and fathers' parenting behaviors, in terms of affection and psychological control, associated with the level and change of student athletes' symptoms of school burnout, on the one hand, and those of sport burnout, on the other, during the first grade of upper secondary school?
2. To what extent do parental affection and psychological control show joint, rather than unique, effects on athletes' symptoms of school and sport burnout?

Method

The present study was carried out in Finland. In Finnish educational system, after completing nine years of basic education at the age of 15 or 16, adolescents make a decision regarding their secondary education. Secondary education comprises upper secondary (an academic track that prepares students to apply for higher education in university) or vocational school (professional preparation after which students typically transit to work or continue in

polytechnic schools). In Finland, elite youth athletes often apply to upper secondary sport school ('urheilulukio' in Finnish) that structurally enables the construction of a dual career pathway by, for example, collaborating with athletic clubs and sport federations to arrange morning practices for athletes, giving some study credits for sport, and offering the possibility to extend a three-year academic curriculum to three and half or four years. Currently there are 13 upper secondary sport schools in Finland. 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.

Participants and procedure

The present study is part of the ongoing Finnish Longitudinal Dual Career Study (AUTHORS, 2016) in which talented student-athletes from six elite sports upper secondary schools in Finland and their parents are followed throughout upper secondary school. Two schools from each of the Northern, Central, and Southern parts of Finland are participating in the study. The procedure of the Finnish Longitudinal Dual Career Study was approved by the ethics committee of the XXX on June 2015. All participating athletes and parents gave informed written consent of their willingness to participate in the study. At the beginning of the study, the students were 15-16 years old ($M = 16.00$, $SD = 0.17$). Fifty percent of them represented individual sports and the other half were involved in team sports. Twenty percent of the athletes participated in Winter Olympic sports, such as alpine skiing, cross country skiing, and ice hockey, 52% in Summer Olympic sports, such as athletics, football, and swimming, and 28% in non-Olympic sports such as orienteering, floorball and Finnish baseball. The athletes practiced their sport or engaged in activities related to it, for example transportation to training, for an average of 25 hours ($SD = 8.99$) a week. Forty-four percent of them had competed at national level, 38% at European level, and 9% at international level. At the end of comprehensive school, the athletes' grade point average (GPA), rated with the

scale from 4 (the lowest possible grade) to 10 (the highest possible grade), was on average 8.85 ($SD = 0.62$).

Self-reported questionnaires administered during school hours were used to assess athletes' symptoms of school and sport burnout twice in the first year of upper secondary school: at the beginning (September, T1; $n = 391$) and at the end (March, T2; $n = 368$). Mothers' and fathers' parenting behaviors, including affection and psychological control, were assessed with parent-rated questionnaires once, at the beginning of the school year (T1). A total of 252 mothers (65%) and 183 (48%) fathers filled in and returned the questionnaire.

Attrition analyses showed that athletes whose mothers participated in the study did not differ from athletes whose mothers did not participate in terms of either their GPAs ($p = 0.45$, $p = .42$) or symptoms of school ($p = .27$, $p = .51$) and sport burnout ($p = .30$, $p = .37$) at T1 and T2, respectively. Athletes whose fathers participated in the study showed lower levels of school burnout at T2 ($M = 2.52$, $SD = 0.71$) than athletes whose fathers did not participate ($M = 2.69$, $SD = 0.76$; $t(364) = 2.67$, $p = .03$). The non-participation of fathers was not, however, related to athletes' GPAs ($p = .52$ at T1 and $p = .81$ at T2) or symptoms of sport burnout ($p = .52$ at T1 and $p = .44$ at T2).

Measurements

Symptoms of school burnout. Symptoms of school burnout were measured by using student-rated School Burnout Inventory (SBI) (Salmela-Aro et al., 2009). The SBI scale consists of 10 items measuring three dimensions of school burnout: *Exhaustion at school* (four items, e.g., I often sleep poorly because of matters related to my schoolwork); *Cynicism towards the meaning of school* (three items, e.g., School doesn't interest me anymore); and *Feelings of inadequacy as a student* (three items, e.g., I often feel like I'm not doing my best in school). All items were rated on a five-point Likert scale (1 = *completely disagree*, to 5 = *completely agree*). Because burnout by definition is not pure exhaustion but rather exhaustion

combined by other symptoms of burnout, that is, feelings of inadequacy and cynicism reflecting a crisis of meaning or values (Maslach & Leiter, 2016), the total SBI-score was used as an indicator of school burnout. The Cronbach alpha reliability coefficient for the total scale was .88 at T1 and .89 at T2. The scale has previously been shown to be a valid and reliable instrument for assessing school burnout (Salmela-Aro et al., 2009).

Symptoms of sport burnout. Symptoms of sport burnout were measured by using student-rated Sport Burnout Inventory-Dual Career Form (SpBI-DC) (Sorkkila et al., 2017). The SpBI-DC is a modified version of the SBI (Salmela-Aro et al., 2009), and it has been developed to have equal measurements for burnout in the school and sport domains. The scale consists of 10 items measuring three dimensions: *Exhaustion at one's sport* (four items, e.g., I often sleep poorly because of matters related to my sport); *Cynicism towards the meaning of one's sport* (three items, e.g., Sport doesn't interest me anymore); and *Feelings of inadequacy as an athlete* (three items, e.g., I often feel like I'm not doing my best in sport). All items were rated on a five-point Likert scale (1 = *completely disagree*, to 5 = *completely agree*). Because burnout by definition is not pure exhaustion but rather exhaustion combined by other symptoms of burnout, that is, feelings of inadequacy and cynicism (Maslach & Leiter, 2016), the total SpBI-DC score was used as an indicator of sport burnout. The Cronbach alpha reliability for the total scale was .85 at T1 and .87 at T2. The scale has previously been shown to be a reliable and valid instrument for measuring sport burnout in a dual career context (Sorkkila et al., 2017).

Parental affection and psychological control. Mothers' and fathers' affection and psychological control were measured using a Finnish version (Aunola & Nurmi, 2005) of Block's Child Rearing Practices Report (CRPR) (Roberts, Block, & Block, 1984), which includes items tapping into child-rearing attitudes, values, and behaviors. Summary scores for parental affection and psychological control were calculated separately for mothers and

fathers. The score for affection included ten items reflecting the parent's positive relationship with the adolescent (e.g., I often tell my child that I appreciate what he/she tries out or achieves; I often show my child that I love him/her). The score for psychological control included four items that reflected parental attitudes appealing to guilt and expressing disappointment (Barber, 1996; Schaefer, 1965) (e.g., I believe a child should be aware of how much I have done for him/her; My child should be aware of how much I sacrifice for him/her). Parents' responses were rated on a 5-point Likert Scale (1 = *not like me at all*, to 5 = *very much like me*).

The respective Cronbach's alpha coefficients for maternal affection and psychological control were .69 and .69, and for paternal affection and psychological control were .62 and .72.

Analysis Strategy

The analyses for symptoms of school and sport burnout were carried out separately using Latent Growth Modelling for two time points (LGM for two time points; Duncan, Duncan, & Strycker, 2011). This method made it possible to investigate the changes in the level of burnout across two time points (i.e., changes across the school year) taking account both the group level changes (average change in the sample) as well as individual changes (individual variation in the change around the group mean). First, unconditional LGMs were tested to investigate whether the level of a particular type of burnout changed across the two measurement points—that is, across the first school year—and whether there is individual variation in the level and change of burnout. The models included two latent components: (a) Level (the factor describing the intercept of burnout), and (b) Change (the factor describing the change in burnout across the two measurement points). The model was constructed by fixing the loadings of the observed burnout variables at T1 and T2 to 1 on the intercept factor (level) and to 0 and 1, respectively, on the change factor. In order to have an identifiable

model, the residual variances of the observed burnout variables were fixed at zero. Second, conditional LGMs were carried out by including predictor variables—that is, parental affection, psychological control, and the interaction term Affection X Psychological Control—in the previous models as predictors of the individual variation in the latent level and change components. In order to control for the impact of the level on the change of burnout, the path from the level to change was also estimated. Separate conditional models were carried out for variables describing mothers' parenting and those describing fathers' parenting. To test whether identical models would fit for boys and girls, a multi-sample procedure was used in all analyses. After the main analyses described above, additional supplemental analyses were carried out to test whether the pattern of results would remain the same after adding type of sport (individual vs team sport), hours spent for sport during a week, and school achievement in terms of student-reported grade point average (GPA) at T1, as covariates to the models.

All analyses were performed using the Mplus statistical package (version 7.3; L. K. Muthén & Muthén, 1998-2016). The parameters of the models were estimated using a full information, maximum likelihood estimation with standard errors that are robust to non-normality (MLR estimator; L. K. Muthén & Muthén, 1998-2015). This method allowed all the available data to be used in the estimation of the parameters of the models. When evaluating the model fit of the data, the following results were assumed to indicate that the model fits the data well: Nonsignificant χ^2 -test value; comparative fit index (CFI) greater than .95; and root mean square error of approximation (RMSEA) lower than .06 (Muthén, & Muthén, 1998-2015). The means (*M*) and standard deviations (*SD*), as well as correlations between study variables, are shown in Table 1.

Results

The Change in the Symptoms of School and Sport Burnout

To find out whether the symptoms of school and sport burnout among athletes changed across the first grade of upper secondary school and whether there was individual variation in the level and change components of burnout symptoms, separate unconditional change models (i.e., models without any predictors) for school and sport burnout across the two measurement points were created. In these models, the means and variances of the latent level and change components, as well as their covariance, were set to be equal across gender groups.

The fit of the model for the symptoms of school burnout was good ($\chi^2(5) = 1.73, p = .89$; CFI = 1.00; RMSEA < .001), suggesting that the same model fitted both boys and girls. The results showed that, at the mean level, athletes' symptoms of school burnout increased during the first school year (mean of change = 0.14, *s.e.* = 0.03, $p < .001$). Further, the results showed that there was statistically significant individual variation both in the level ($Var = 0.45, s.e. = 0.03, p < .001$) and in the change ($Var = 0.38, s.e. = 0.04, p < .001$) of symptoms of school burnout.

The fit of the model for the symptoms of sport burnout was: $\chi^2(5) = 12.07, p = .04$; CFI = 0.85; RMSEA = 0.09. Inspection of modification indices suggested that the fit of the model would be improved by estimating the mean of the level component separately for boys and girls. After this modification, the fit of the model was good: $\chi^2(4) = 3.90, p = .42$; CFI = 1.00; RMSEA < .001. The results showed first that the level of sport burnout was slightly higher among girls ($M = 1.91, s.e. = 0.04, p < .001$) than among boys ($M = 1.73, s.e. = 0.04, p < .001$). Second, symptoms of sport burnout increased, on average, during the first school year among both girls and boys (mean of change = 0.09, *s.e.* = 0.03, $p = .004$). The results also showed that there was statistically significant individual variation both in the level ($Var = 0.32, s.e. = 0.02, p < .001$) and in the change ($Var = 0.33, s.e. = 0.04, p < .001$) of sport burnout.

The Role of Mothers' Parenting in Athletes' Symptoms of School and Sport Burnout

Next, separate conditional change models for school and sport burnout were carried out by adding predictor variables to the previous models. First, models including mothers' variables as predictors were constructed.

School burnout. The fit of the conditional model for the symptoms of school burnout was good ($\chi^2(11) = 9.69, p = .56; CFI = 1.00; RMSEA < .001$), suggesting that the same model fitted both girls and boys. Because the interaction term Affection X Psychological Control was not a significant predictor of the level component, this path was excluded from the final model ($\chi^2(12) = 10.17, p = .60; CFI = 1.00; RMSEA < .001$). The results of the final model are presented in Figure 1.

The results showed, firstly, that maternal affection was negatively associated with the level of school burnout: the higher the maternal affection, the lower the level of school burnout at the beginning of the first grade of upper secondary school. Secondly, mothers' psychological control was positively associated with the change of athletes' school burnout: the higher the level of psychological control reported by mothers, the greater the increase of school burnout shown by athletes. However, also the interaction term Affection X Psychological Control was found to be statistically significantly associated with the change in school burnout. Further inspection of this result (Figure 2) showed that maternal affection protected against the increase in school burnout but only when not combined with psychological control. When mothers reported a high level of psychological control, maternal affection provided no protective effect against athletes' development of school burnout.

Sport burnout. The fit of the initial model for the symptoms of sport burnout and maternal variables was: $\chi^2(10) = 19.26, p = .04; CFI = 0.91; RMSEA = 0.07$. Because the interaction term Affection X Psychological Control was not associated with the level or change components of sport burnout, the interaction term was excluded from the final model

($\chi^2(8) = 14.32, p = .08$; CFI = 0.94; RMSEA = 0.06). The results showed that neither maternal affection, psychological control, nor their interaction, were statistically significantly associated with the level or change of sport burnout.

The Role of Fathers' Parenting in Athletes' Symptoms of School and Sport Burnout

School burnout. Next, similar kinds of conditional models were carried out using paternal variables as predictors. The fit of the conditional model for the symptoms of school burnout was good ($\chi^2(11) = 12.20, p = .35$; CFI = 0.99; RMSEA = 0.02), suggesting that the same model fitted both girls and boys. Because the interaction term Affection X Psychological Control was not a significant predictor of the level or change components, the interaction term was excluded from the final model ($\chi^2(9) = 9.48, p = .39$; CFI = 1.00; RMSEA = 0.02). The results of the final model showed that fathers' affection or psychological control did not have any statistically significant associations with athletes' level or change of school burnout.

Sport burnout. The fit of the model for the symptoms of sport burnout was good ($\chi^2(10) = 12.79, p = .24$; CFI = 0.98; RMSEA = 0.04), suggesting that the same model fitted both girls and boys. The results showed that neither paternal affection, psychological control, nor their interaction, were statistically significantly associated with the change of sport burnout. However, the results showed that the interaction term Affection X Psychological Control was associated with the level of sport burnout (standardized estimate = .14, $p = .03$). The results (Figure 3) showed that paternal affection was associated with a low level of sport burnout but only when combined with a simultaneous low level of psychological control. When fathers reported a high level of psychological control, paternal affection was associated with a higher level of sport burnout.

Additional Analyses

Because it is possible that type of sport, time spent for sport, and level of school achievement play a role in the development of athletes' symptoms of burnout, additional analyses were carried out to examine whether the results of main analyses reported above would remain the same after controlling for the impacts of these variables on the level and change components of burnout constructs. The results of these additional analyses showed that adolescents' level of school achievement (GPA) was negatively associated with the level of school burnout (standardized estimate = $-.18$, $p = .02$), whereas the time spent for sport (average time spent for sport during the week) was positively associated with the change of school burnout (standardized estimate = $.09$, $p = .05$): the lower was the level of school achievement, the higher was the level of school burnout. Moreover, the more amount of time students spent for sport during the typical week, the more increase there were in their symptoms of school burnout across the school year. Type of sport, in turn, was associated with the change of sport burnout (standardized estimate = $-.11$, $p = .02$): student-athletes involved in team sports reported less increase in sport burnout across the school year than those involved in individual sports (see also, AUTHORS, 2017). The results showed further, however, that after adding covariates to the models the associations of parental affection, psychological control, and the interaction term Affection X Psychological Control, with the levels and changes of school and sport burnout remained the same as was reported in the main analyses above.

Discussion

The present study aimed to examine the role of mothers' and fathers' parenting behaviors regarding affection and psychological control on the symptoms of school and sport burnout experienced by adolescent athletes during the critical transition from compulsory school to upper secondary school. The results showed that, on average, athletes' symptoms of both school and sport burnout increased across the school year. However, the results also

showed that a high level of maternal affection buffered against this increase in the case of school burnout, but only when not combined with simultaneous psychologically controlling mothering. Although mothers' and fathers' parenting behaviors did not predict the development of sport burnout, a high level of paternal affection was associated with a low level of sport burnout, if not combined with simultaneous psychologically controlling fathering. Overall, the results suggest that mothers' parenting behaviors play a role in student athletes' symptoms of school burnout during the transition to upper secondary school, whereas fathers may have a more important role when it comes to symptoms of burnout in the sports domain.

Symptoms of burnout have been shown to be increasing among adolescents in modern society (Salmela-Aro, 2017; Yusoff & Khan, 2013). The present study focused on the development of burnout symptoms across the first year of upper secondary school among a sample of adolescent athletes (AUTHORS, 2017). The finding that symptoms of burnout, on average, increased among athletes across the first school year both in the domains of school and sport is not surprising, as during the transition to upper secondary school young athletes have to adapt not only to increasing study demands, but also to a constantly increasing training load (AUTHORS, 2016). Consequently, this may lead to a dissonance between the students' internal resources to simultaneously handle schoolwork and sport, and their own motivation and expectations for success in these two domains.

It has been suggested that parents may play a role in the development of symptoms of burnout (Gustafsson, Hill, Stenling, & Wagnsson, 2016; Salmela-Aro, Tynkkynen, & Vuori, 2011; AUTHORS, 2017). Specifically, warm and supportive parenting has been shown to buffer against the general decline in school engagement during the secondary school years (Wang & Eccles, 2012) and is suggested to protect against the symptoms of burnout during adolescence (Marion et al., 2015). In line with this argument, the results of the present study

of school burnout showed that maternal affection was negatively associated with the adolescents' level of school burnout: the higher the maternal affection, the lower the level of adolescents' school burnout at the beginning of the first grade of upper secondary school. However, the results of the present study also showed that the protective impact of maternal affection against the increase in school burnout during the first grade of upper secondary school was evident only when not combined with psychologically controlling mothering. In other words, when mothers reported a high level of psychological control, maternal affection did not have a protective effect against athletes' development of burnout symptoms. Overall, this pattern of results accords with previous results concerning the negative joint effects of high parental affection and psychological control on the well-being of both children (Aunola & Nurmi, 2005) and adolescents (Kanat-Maymon & Assor, 2010; Wouters et al., 2013) in the general population.

One explanation for the results is that a high level of affection combined with a high level of psychological control communicates an inconsistent message of maternal approval to the adolescent, as suggested previously by Aunola and Nurmi (2004, 2005). This kind of conditional affection or double message can provoke anxiety, diminish an adolescent's sense of control (Aunola & Nurmi, 2005) and, in this way, increase the symptoms of school burnout during a dual career. It is also possible that athletes whose mothers show both affection and psychological control may have positive relationship with their mothers, but may at the same time perceive their mothers as setting extremely high standards. This may resemble socially prescribed perfectionism (Hill et al., 2008), which has previously been systematically shown to be associated with athletes' symptoms of burnout (Appleton et al., 2009; Hill et al., 2008).

From the SDT point of view it can be assumed that, whereas high affection without psychological control supports adolescents' basic psychological needs for relatedness,

competence, and autonomy, high affection with high psychological control is especially thwarting for a sense of autonomy. In 2015, Shih found that school-teachers' control attempts characterized by guilt-induction or love withdrawal were positively related to students' feeling of being depleted of emotional resources and an increase in their cynical response to schoolwork. In line with these previous results, the findings of the present study suggest that psychological control (characterized by guilt-induction) when evident in the home environment may increase the risk of school burnout among adolescents. However, the fact that in the present study a low level of maternal psychological control did not protect from the symptoms of school burnout when combined with low maternal affection, suggests that a low level of maternal psychological control is not enough to prevent the trend toward school burnout among adolescents during the first grade of upper secondary school. It seems that in order to support student athletes' well-being both are needed: support for the need of relatedness in terms of high maternal affection *and* support for autonomy in terms of low psychological control (see also, Grolnick et al., 2000).

Although mothers' affection, when not combined with psychologically controlling mothering, was found to protect against an increase in the symptoms of school burnout, mothers' affection and psychological control were not found to be associated with student-athletes' symptoms of burnout in the sporting domain. Instead, fathers' parenting was found to play a more important role in sport burnout. The results showed that paternal affection was associated with a low level of sport burnout but only when combined with a low level of psychological control. When fathers reported a high level of psychological control, paternal affection was instead associated with a high level of sport burnout. This joint effect of paternal affection and psychological control was similar to that found among mothers regarding school burnout, and thus the same mechanisms previously discussed could underlie the phenomena.

The finding that fathers' parenting was associated with sport burnout, whereas mothers' parenting was associated with school burnout may be explained by the fact that fathers are more involved with their adolescents' sport. They participate more in coaching, for example (Graham & Dixon, 2014), whereas mothers may be more involved in adolescents' schooling (Jeynes, 2015). Interestingly, fathers' parenting was related to the level of adolescents' symptoms of sport burnout rather than the change in these symptoms during the first grade of upper secondary school. This result suggests that a fathers' role in the evolution of sport burnout may be crucial before the transition to upper secondary school, whereas other social agents (e.g., coaches, peer group; Amorose et al., 2016) as well as internal pressures (perfectionism, competitive goals) may play a more important role in the development of sport burnout during upper secondary school when athletes simultaneously experience a transition in their competition level from junior to senior. Further research is needed to address not only the unique role of different socializing figures in the development of symptoms of burnout but also the possible combined effect of different social agents (Amorose et al., 2016; Gaudreau et al., 2016).

The present study has some limitations. First, the study examined the development of burnout across only one year and with two measurement points. In order to shed light on different growth trajectories of burnout symptoms, a longer follow up period and more measurement points are needed. Secondly the study assessed athletes' symptoms of school and sport burnout only, so no conclusions of clinical diagnoses can be drawn. Third, parenting behaviors were assessed once only. Thus, it was not possible to examine the effect of adolescents' symptoms of burnout on the support parents provided. It is possible, for example, that parents change their way of supporting their athletes as a reflection of their perceptions of their adolescents' well-being. Fourth, the response rate of fathers was low and, consequently, the sample was relatively small. Also, the found effect sizes were relatively

small. Accordingly, the findings on the role of fathers should be considered tentative. It is possible that, with a more representative sample of fathers, results could show fathers' parenting to contribute more significantly to athletes' symptoms of school burnout. Research with a higher response rate, particularly from fathers, is needed to replicate the results reported here. Fifth, the measure of psychological control focused specifically on parental guilt-induction. Other aspects of psychologically controlling parenting or parental autonomy-granting were not assessed. Consequently, further studies are needed to examine the relative role of different aspects of psychological control, as well as autonomy granting, in adolescents' symptoms of burnout. Sixth, the reliabilities of the scales measuring mothers' and fathers' affection and psychological control were quite low. Finally, the study was carried out in a special cultural setting—that is, Finland. Because school systems, values, and provided support for dual careers may be different in different cultures, further studies in different cultural settings are needed to add to our understanding of the development of symptoms of burnout among young athletes and the role of parents in this process.

Overall, the results of the present study demonstrate that parents play a role in adolescent athletes' symptoms of school and sport burnout during the transition to upper secondary school. Although parental affection and support seem to protect athletes from the symptoms, this protective association is evident only if not combined with high parental psychological control. Interventions aiming at increasing parental knowledge of beneficial and harmful ways to be involved in athletes' lives could be useful.

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Table 1*Correlations, Means (M) and Standard Deviations (SD) of the Variables Used in the Study*

	1.	2.	3.	4.	5.	6.	7.	8.
1. School burnout T1	1.00							
2. Sport burnout T1	.39***	1.00						
3. School burnout T2	.62***	.29***	1.00					
4. Sport burnout T2	.32***	.56***	.49***	1.00				
5. Maternal affection T1	-.16*	-.11	-.13*	-.15*	1.00			
6. Maternal Psychological control T1	.08	-.06	.22**	.03	.04	1.00		
7. Paternal affection T1	-.03	-.03	-.02	-.03	.23*	.07	1.00	
8. Paternal psychological control T1	.06	.05	.10	-.05	.00	.12	-.06	1.00
<i>M</i>	2.49	1.82	2.61	1.90	4.56	2.84	4.17	2.85
<i>SD</i>	0.67	0.57	0.74	0.65	0.48	0.72	0.59	0.62

Note. T1 = Time 1, T2 = Time 2* $p < .05$; ** $p < .01$; *** $p < .001$.

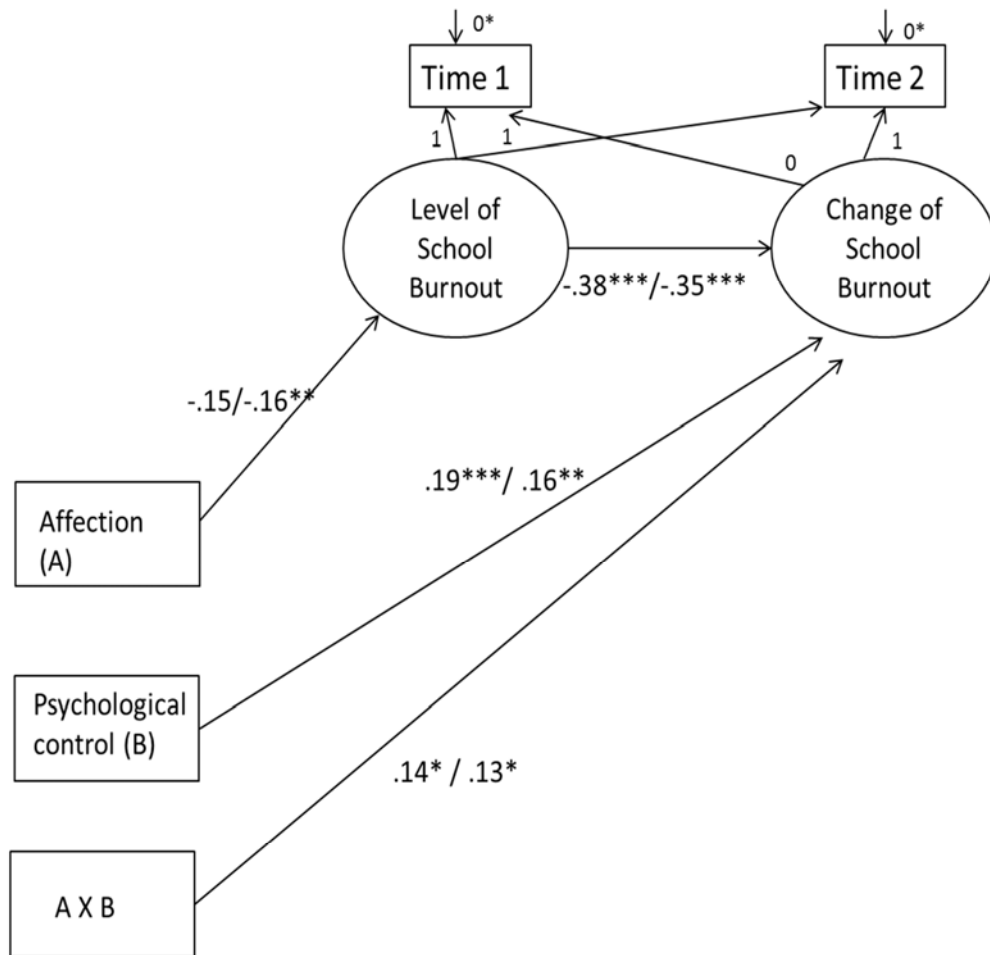


Figure 1. *The Role of Mothers’ Affection and Psychological Control in Adolescent Athletes’ Symptoms of School Burnout during the First Grade of Upper Secondary School (Standardized Estimates). Note. *** $p < .05$, ** $p < .01$, * $p < .05$.*

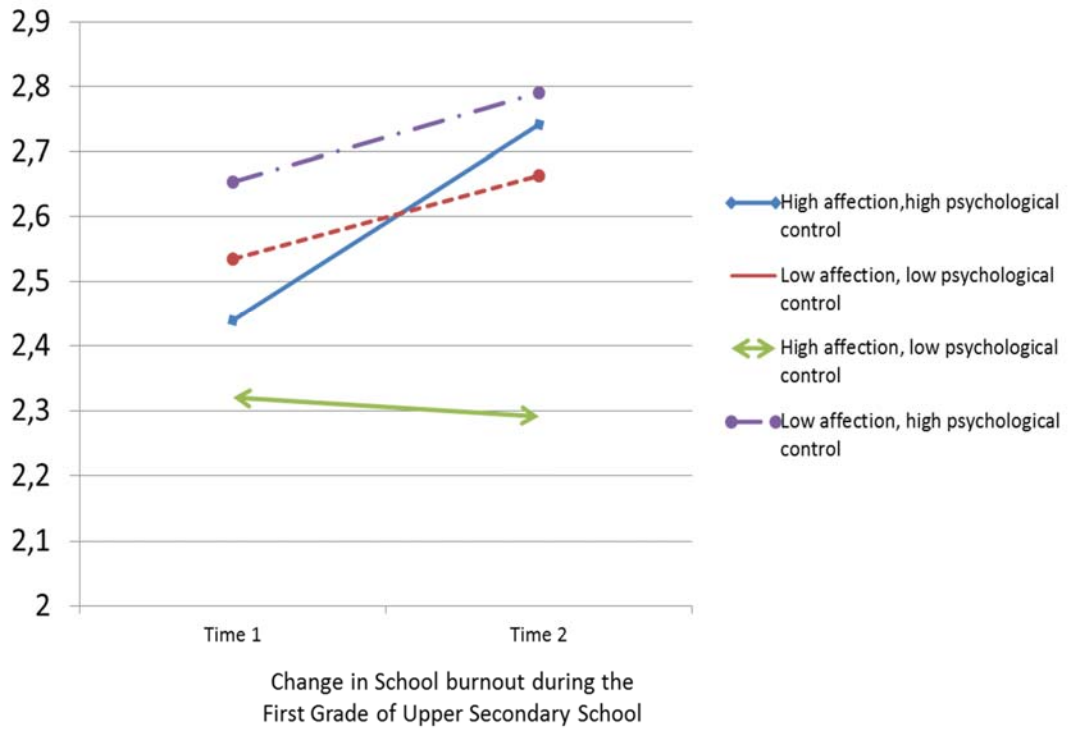


Figure 2. Joint effect of maternal affection and psychological control on the trend of student athletes' school burnout during the First Grade of upper secondary school.

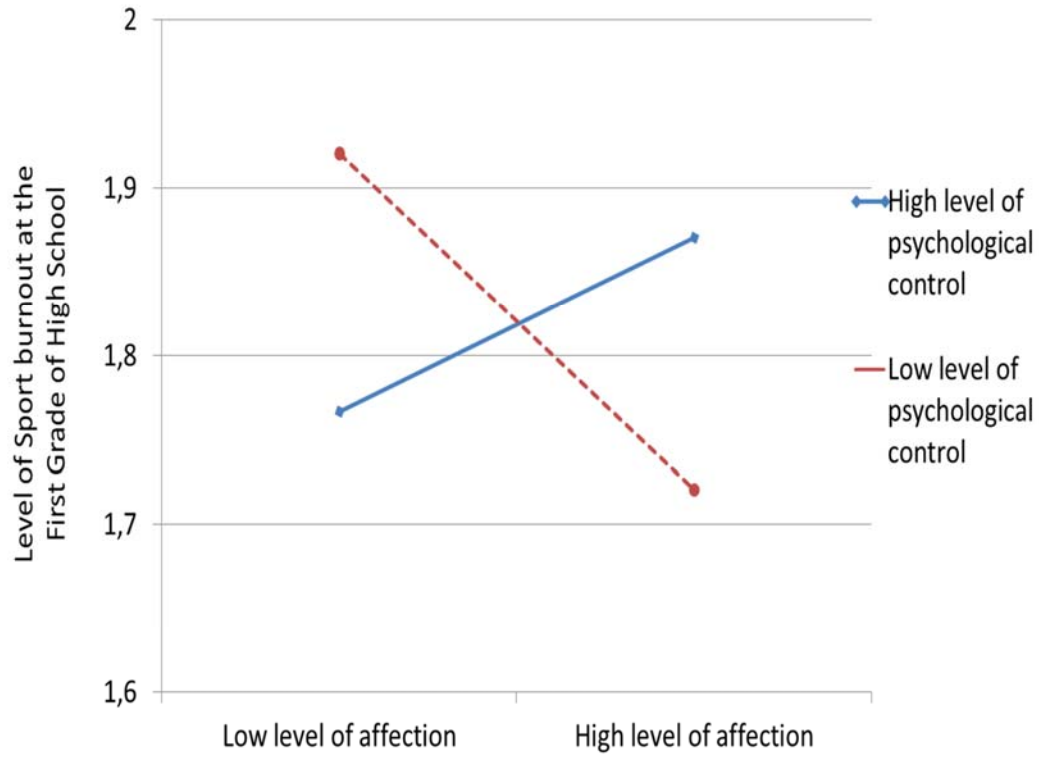


Figure 3. Joint effect of paternal affection and psychological control on the level of student athletes' sport burnout during the First Grade of upper secondary school .