

**THE IMPACT OF TWO-DIMENSIONAL PERFECTIONISM ON BURNOUT
AND EATING DISORDERS IN YOUNG FINNISH ATHLETES: COMPARISON
BETWEEN MALES AND FEMALES**

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ABSTRACT

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Even though it has been argued that perfectionistic strivings might be adaptive and perfectionistic concerns might be maladaptive in sports, only few studies have viewed these dimensions in relation to athletes' mental health. Two mental health problems that have been found in elevated amounts in young elite athletes are burnout and eating disorders. It has been proposed that perfectionism might impact the development of these conditions, but traditionally the construct has been seen as one-dimensional. In order to make accurate conclusions, perfectionistic strivings should be differentiated from perfectionistic concerns. It is also essential to explore males and females separately, as the two genders might respond differently to the dimensions of perfectionism.

The purpose of the study was to research the impact of two-dimensional perfectionism on burnout and eating disorders in a sample of young athletes, and compare the results across gender. It was also of interest to explore the relationships between two-dimensional perfectionism, burnout, and eating disorders, as the three variables have not been explored in a single study.

Sixty elite athletes (26 males and 34 females) filled in questionnaires of burnout, eating disorders, and two-dimensional perfectionism. The results showed that a positive relationship existed between burnout and eating disorders, but this relationship was mediated by perfectionistic concerns. Perfectionistic concerns predicted burnout and eating disorders in females, but not in males. Perfectionistic strivings also predicted eating disorders in females, but protected both males and females from burnout.

It was concluded that regarding burnout and eating disorders, two-dimensional perfectionism might be mostly adaptive for males, but maladaptive for females, and interventions should be designed accordingly. Limitations and suggestions for future research are also discussed.

Keywords: two-dimensional perfectionism, eating disorders, burnout, athletes

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1 INTRODUCTION

Perfectionism is a common characteristic in competitive athletes, particularly in those who compete at high levels (Gould, Dieffenbach, & Moffett, 2002). Perfectionism can be broadly defined as a personality trait characterized by setting extremely high standards for performance and striving for flawlessness, accompanied by critical and harsh self-evaluations (Flett & Hewitt, 2005). It has been highly debated how perfectionism affects performance in sports. While some researchers argue that perfectionism is an adaptive characteristic that creates Olympic medalists (Gould et al., 2002), others argue that perfectionism is a maladaptive characteristic that undermines performance (Flett & Hewitt, 2005). Flett and Hewitt (2005) suggest that a “perfectionism paradox” exists in sports: even though many sports require absolute perfection, unhealthy behaviors and self-defeating outcomes are present in athletes who seek for perfection.

Contradictory results regarding perfectionism in sports might result from the fact that perfectionism has been seen as one-dimensional construct, and perfectionistic strivings have not been differentiated from perfectionistic concerns (Stoeber, Otto, Pescheck, Becker, & Stoll, 2007). Perfectionist strivings, characterized by having high personal standards for performance and striving for perfection, might be mostly adaptive for athletes, whereas perfectionistic concerns, characterized by fear about failing to meet other’s expectations, negative reactions to imperfectionism (not being perfect), and concern over mistakes, might be mostly maladaptive for athletes (Gotwals, Dunn, Stoeber, & Stoll, 2012; Stoeber et al., 2007; Stoeber, 2011). Therefore, some researchers argue that reducing perfectionistic concerns should not come at cost of reducing perfectionistic strivings, particularly since succeeding in elite sports often require performance that is nearly perfect (Gotwals et al., 2012).

Even if perfectionistic strivings were adaptive in the sports field, continuous pressure of being perfect might have its cost on athletes’ overall wellbeing and mental health, and manifest in symptoms of burnout and eating disorders (Flett & Hewitt, 2005; Van Staden, Myburgh, & Poggenpoel, 2009). In elite sports the requirements to succeed are constantly high, and a perfectionistic athlete might feel like s/he is chronically unable to

meet the acceptable standards. Chronic stress of not meeting the standards in an appearance-focused environment might make the achievement contexts threatening, which in a long run results in a risk for eating disorders and burnout (Flett & Hewitt, 2005; Smith, 1986).

It has been argued that young elite athletes are particularly susceptible to burnout (Hill, Hall, Appleton, & Kozub, 2008). Young athletes are under constant pressure to achieve, and those who do not perform according to high standards are systematically moved on (Hill et al., 2008). Young elite athletes also seem to be at high risk for eating disorders, particularly in sports where leanness and weight are considered as an important part of performance (Cresswell & Eklund, 2006; Cumming & Duda, 2012). However, little research has examined to what extent perfectionistic strivings and perfectionistic concerns impact these serious and disabling conditions. It would be also important to explore male and female athletes separately, as they might respond differently to different dimensions of perfectionism (Haase, Prapavessis, & Owens, 2002).

2 LITERATURE REVIEW

2.1 Perfectionism

The differentiation between the two dimensions of perfectionism seems to be essential in understanding perfectionism in sports. Even though the two dimensions often correlate strongly with each other, as most athletes who show high amount of perfectionistic strivings also show high amount of perfectionistic concerns, the two dimensions are often differently associated with other variables (Stoeber, 2011).

Perfectionistic strivings have been associated with positive outcomes, such as positive affect (Stoeber, 2011), high self-esteem (Hall, Hill, Appleton, & Kozub, 2009; Siobhain & Duda, 2008), unconditional self-acceptance (Hall et al., 2009; Hill et al., 2008; Lundh, 2004), active coping (Hill, Hall & Appleton, 2010), higher satisfaction with progress (Stoeber & Otto, 2006), competitive self-confidence (Koivula, Hassmen, & Fallby, 2002), mastery-approach, and performance approach goals (Stoeber, Stoll, Salmi, & Tiikkaja, 2009; Stoeber, Stoll, Pescheck, & Otto, 2008). Perfectionistic concerns on the other hand have been associated with negative characteristics, such as negative affect (Stoeber, 2011), fear of failure (Ellison & Partridge, 2012; Stoeber &

Otto, 2006), shame (Ellison & Partridge, 2012) competitive anxiety (Koivula et al., 2002), avoidant coping (Hill et al., 2010), low satisfaction with progress (Stoeber et al., 2009), self-depreciating attributions of success and failure (Stoeber et al., 2009), mastery-avoidance, and performance avoidance-goals (Stoeber et al., 2009; Stoeber et al., 2008).

Negative associations of perfectionistic concerns often suppress the positive associations of perfectionistic strivings (Stoeber, 2011). Stoeber et al. (2007) found in four samples of athletes, that when perfectionism was viewed as one dimensional (overall perfectionism), it was associated with higher somatic and cognitive anxiety. However, when overall perfectionism was differentiated to perfectionistic strivings and negative reactions to imperfectionism, only the latter was related to higher anxiety. Similarly, Stoeber and Becker (2008) showed among female soccer players, that overall perfectionism was related to both adaptive characteristics (hope for success) and maladaptive characteristics (external attribution of success). However, after differentiating perfectionistic strivings and negative reactions to imperfection, negative reactions to imperfection correlated positively with fear of failure, and striving for perfection correlated positively with hope for success.

Despite the strong body of evidence suggesting that perfectionistic strivings are mainly adaptive in sports, perfectionistic strivings might not always result in positive outcomes. A wide review of Gotwals et al. (2012) showed that even when perfectionistic concerns were controlled for, perfectionistic strivings correlated positively with anger reactions (Dunn, Gotwals, Causgrove Dunn, & Syrotuik, 2006) and negatively with body-weight satisfaction (Ferrand, Ferrand, Magnan, Rouveix, & Filaire, 2007) and unconditional self-acceptance (Hall et al., 2009). These findings indicate that despite the fact that perfectionistic strivings are generally associated with adaptive characteristics in sports, they might be detrimental to athletes' mental wellbeing. More research is needed to explore two-dimensional perfectionism in relation to maladaptive outcomes in athletes (Cresswell & Eklund, 2006; Cumming & Duda, 2012).

The previous studies have had some limitations. Firstly, apart from the studies of Stoeber and others (e.g. Stoll, Lau, & Stoeber, 2008; Stoeber et al., 2007; Stoeber et al., 2008) perfectionism in sports has been mainly measured with general measures, instead

of sport specific measures. To capture perfectionism in sports, it is important to use sport-specific measures because perfectionism seems to be domain specific, and athletes show significantly greater perfectionism in relation to sports than in relation to general life or school (Dunn, Gotwals, & Dunn, 2005). Moreover, in order to capture both dimensions of perfectionism accurately, it is strongly encouraged in the literature to use multiple measures for each dimension (e.g., Gaudreau & Antl, 2008; Stoeber et al., 2009; Zarghmi, Ghamary, Shabani, & Varzaneh, 2010). According to Stoeber (2011), in order to measure perfectionistic strivings valid indicators are personal standards of Sport Multidimensional Perfectionism Scale (Sport-MPS; Dunn et al., 2006) and perfectionistic strivings of Multidimensional Inventory of Perfectionism in Sports (MIPS; Stoeber et al., 2007). In order to measure perfectionistic concerns, valid indicators are concern over mistakes of the Sport- MPS, and negative reactions to imperfection of the MIPS (Stoeber, 2011). In addition, perfectionism in sports has been mainly explored as two facets: strivings for perfection and negative reactions to perfectionism (Stoeber et al., 2007; Stoeber et al., 2008; Stoeber & Becker, 2008). This might not capture all aspects of the two dimensions. For example, perfectionistic strivings alone does not include personal standards, which is a defining feature of perfectionistic strivings dimension, and negative reactions to perfectionism does not include evaluative concerns, which is a defining feature of perfectionistic concerns dimension (Stoeber et al., 2009). It is important to take these limitations into account in future research.

Finally, most literature regarding perfectionism in sport and exercise has focused on characteristics within the sports settings, not on consequences outside the sport settings. To be able to decide whether multidimensional perfectionism is actually adaptive or not for athletes, it is essential to take into account athletes' mental wellbeing.

Perfectionistic athletes might focus solely on achieving their standards, and neglect their emotional, social, and physical needs in order to continue progressing and stay competitive (Van Staden et al., 2009). Two serious conditions that are evident in athletes but have received only little attention in the field are athletic burnout and eating disorders (Martinsen, & Sundgot-Borgen, 2012; Cresswell & Eklund, 2006; Gustafsson, Hassmen, Kenttä, & Johansson, 2008). However, two-dimensional perfectionism, athletic burnout, and eating disorders have not been explored in a single study. This is

an important task for the future research in order to understand the nature of two-dimensional perfectionism better.

2.2 Burnout and perfectionism

Athletic burnout has been defined in a psychosocial framework including three dimensions: physical and emotional exhaustion, sport devaluation and reduced sense of athletic accomplishment (Raedake & Smith, 2001). This definition has gained empirical support both in occupational settings and in sport settings (e.g. Cresswell & Eklund, 2006; Schaufeli & Taris, 2005). According to Smith's (1986) cognitive affective model, athletic burnout develops from chronic stress, when an athlete constantly appraises his or her resources as inadequate to meet achievement demands. Particularly in elite sports where requirements to success are constantly increasing, an athlete might feel like s/he is chronically unable to meet acceptable standards. Chronic stress of not meeting the required standards makes the achievement contexts become threatening, which in a long run results in burnout (Smith, 1986).

One personality trait that has been found in several studies to impact one's appraisal processes in the development of burnout, is perfectionism (Gotwals, 2011; Flett & Hewitt, 2006; Hill et al., 2008). In perfectionism, an athlete has excessively high standards and often unrealistic goals for oneself (Hill et al., 2008; Stoeber et al., 2008). When perfectionists are not meeting the excessively high standards and goals, strong negative emotions such as anxiety and self-blame take place (Hill et al., 2008). When the pattern of failing to meet own standards and blaming oneself continues, the experience of anxiety might lead to chronic levels of distress and result in the development of burnout (Hill et al., 2008).

Considering Smith's (1986) model, perfectionistic concerns and perfectionistic strivings might predispose differently athletes to burnout. One primary difference between two dimensions of perfectionism is how achievement contexts are perceived (Lundh, 2004). Athletes with perfectionistic concerns focus on mistakes and feel like they are not able to meet the unrealistically high standards that are set by others. This might lead to chronic stress and achievement contexts are perceived as threatening to one's self-worth (Lundh, 2004). Athletes with perfectionistic strivings might be protected from burnout, because are not dependent and sensitive to socially-based criticism, which means that

they are able to maintain their level of self-acceptance even when not meeting other's expectations (Lundh, 2004). Also, those with perfectionistic concerns are dependent on standards set by others over which one has no control, and therefore achievement striving might be constantly perceived as threatening and result in burnout (Hill et al., 2008). Perfectionistic strivings on the other hand might be a resiliency factor against distress, as the standards are set by oneself and can be controlled (Hill et al., 2008). Those with perfectionistic strivings might thus perceive achievement contexts as challenging where as those with perfectionistic concerns might perceive achievement contexts as threatening (Lundh, 2004). According to Smith's model (1986), achievement orientation based on threat makes burnout more likely.

The few studies that have differentiated between perfectionistic strivings and perfectionistic concerns when exploring athletic burnout support this hypothesis. Chen, Kee, and Tsai (2009) found among student athletes, that perfectionistic concerns moderated the effect between perfectionistic strivings and burnout. Those athletes who were high on perfectionistic strivings reported higher levels of burnout, but only if they were high on perfectionistic concerns as well. Hill et al. (2008) similarly showed among young soccer players, that socially prescribed perfectionism (perfectionistic concerns) was positively related to burnout, but self-oriented perfectionism (perfectionistic strivings) was not. A recent study done with inter-collegiate students also showed that healthy perfectionists had significantly lower level of athletic burnout than non-healthy perfectionists (Gotwals, 2011).

To the best knowledge of the authors, no research exists investigating whether the two dimensions of perfectionism affect similarly the development of burnout in males and female athletes. Females seem to be overall more perfectionistic than males (Hopkinson & Lock, 2002), and therefore it could be expected that they also experience more burnout than males. Indeed, a recent survey showed that female trainers showed significantly higher levels of burnout than male trainers (Naugle, Behar-Horenstein, Dodd, Tillmann, & Borsa, 2013). However, the response rate of the survey was relatively low, and certified trainers are not directly comparable to elite athletes. Gustaffson Kentta, Hassmen and Lundqvist (2007) investigated the prevalence of burnout in 980 young Swedish athletes, and found that 2-6% of males experienced burnout, and 1-9% of females. This indicates that there might be slight gender

differences in athletic burnout. Some studies oppositely suggest that there might not be differences in burnout levels between male and female athletes (Goodger, Gorey, Lavalley, & Harwood, 2007; Lai & Wiggins, 2003). More research is needed to clarify these contradicting findings.

2.3 Eating disorders and perfectionism

The relationship between eating disorders and perfectionism has been well established in the literature (e.g. Davis, 1997; Hewitt, Flett, & Ediger, 1995), but only little research has been done with athletes. This is surprising, since athletes seem to be significantly more at risk for developing eating disorders than non-athletes (Martinsen, & Sundgot-Borgen, 2012). In a normal Western population, prevalence of anorexia and bulimia are estimated to be around 0.3 % and 0.5-1% in females and 0,00005% and 0.5% in males (Hoek & Hoeken, 2003), where the prevalence of eating disorders in sports is estimated to be around 6-45 % in female athletes, and 0-19 % in male athletes (Bratland-Sanda & Sundgot-Borgen, 2013).

These alarming figures might result from the fact that athletes are often exposed to weight and body shape pressures. Particularly sports where specific weight and leanness are considered essential for either appearance or performance are risky for developing eating disorders (e.g. Haase et al., 2002; Sundgot-Borgen, 1994). Eating disorders seem to be particularly a risk for females, in both clinical populations and in sports (Bratland-Sanda & Sundgot-Borgen, 2013; Davis, 1997; Haase et al., 2002). This is not surprising, since from a young age girls tend to be more praised for their physical appearance than boys, and boys tend to be more praised for their athletic skills and physical functioning than girls (Striegel-Moore & Kearney-Cooke, 1994). Females might also be more perfectionistic than males, and therefore experience more eating disorders. One study found that the greatest predictor for disordered eating for female athletes was perfectionism, where males showed no significant results (Hopkinson & Lock, 2004).

Since individual's drive for flawlessness seems to be the core for perfectionism (Flett & Hewitt, 2005), perfectionism in sports can be easily extended to perfectionism in body shape, weight control, and eating (Cumming & Duda, 2012). When athletes with maladaptive perfectionism pursue rigorous training in an appearance-focused environment, they might be particularly susceptible to feel inadequacy or “under

threat", which results in experiences of exhaustion and health problems, such as disturbed eating (Van Staden et al., 2009). One study indeed found, that perfectionism impacted negatively evaluations of own physical appearance (Van Staden et al., 2009). Athletes might also share many critical psychological factors that are critical for developing eating disorders in clinical populations, such as high emphasis of control, high competitiveness, and perfectionist tendencies (Haase et al., 2002). Some researchers even argue that athletics in itself is a protective factor towards eating disorders, and only those athletes who exhibit perfectionistic tendencies are at risk for eating disorders (Forsberg & Lock, 2006).

Only few studies exploring eating disorders and perfectionism in sports have differentiated between perfectionistic strivings and perfectionistic concerns. It might be that only perfectionistic concerns are maladaptive regarding the development of eating disorders in athletes. Haase et al. (2002) found a strong positive relationship between negative perfectionism and social physique anxiety. Similarly Quested and Duda (2011) showed that dancers who reported high social physique anxiety also behaved for non-internalized or external reasons. It might also be that those who are high on both, perfectionistic strivings and perfectionistic concerns are particularly susceptible to have concerns over their body. Cumming and Duda (2012) found in their person-oriented study which investigated different profiles of perfectionism, that dancers who were high on both perfectionistic strivings and perfectionistic concerns (mixed profile perfectionism) and those who were high only on perfectionistic concerns (evaluative concerns perfectionism) experienced more negative affect, emotional and physical exhaustion, and more anxiety over their physical appearance than those who were high only on perfectionistic strivings or who were not perfectionistic at all. Those who were high only on perfectionistic strivings did not only report significantly less body-related concerns and more positive affect than those with mixed profile perfectionism or those with perfectionistic concerns, but also more positive affect than non-perfectionists. This supports the view of Stoeber et al. (e.g. Stoeber et al., 2007; Stoeber et al., 2008; Stoeber et al., 2009) that striving for high standards is not damaging, but when the standards are accompanied by critical evaluations and concerns maladaptive functioning and unhealthy outcomes take place.

Two-dimensional perfectionism might impact males and females differently regarding the risk for eating disorders. Haase et al. (2002) explored positive and negative perfectionism, social physique anxiety, and disturbed eating in male and female athletes. No difference was found in positive and negative perfectionism scores between males and females. For females, negative perfectionism and social physique anxiety together contributed positively to disturbed eating. Interestingly, for males positive perfectionism contributed negatively to disturbed eating. The authors speculated that positive perfectionist males self-regulate their eating behavior in a healthier manner than non-perfectionist or negative perfectionist males. The authors highlighted that more research is needed to understand the role of positive perfectionism in males, not only in relation to eating disorders but also in relation to other psychopathologies. Similarly to other studies (e.g. Shanmugam, Jowett, & Meyer, 2012), a significant limitation of the study of Haase et al. (2002) was that only very small proportion of the sample were at risk for eating disorders, and therefore the results might be hard to generalize to the population (Haase et al., 2002).

Overall, it might be difficult to detect people with eating disorders in non-clinical settings. Screening methods for detecting the risk for eating disorders have been developed (e.g. EAT-40; Gardner & Garfinkel, 1979; The BITE; Henderson & Freeman, 1987), but they have been criticized for being too lengthy and too difficult to interpret for a non-specialist (e.g. Lähteenmäki et al., 2009; Morgan, Reid, & Lacey, 1999). To overcome these limitations, the SCOFF questionnaire was developed (Morgan et al., 1999). The SCOFF is a memorable and simple instrument consisting of five questions, which intend to raise suspicion of excising eating disorder. The acronym SCOFF is developed from the five questions. The scale was recently validated in Finland in a random sample of young adults and showed to be appropriate for ruling out eating disorders (Lähteenmäki et al., 2009).

2.4 Eating disorders and burnout

Even though it has been shown in the literature that eating disorders and burnout are separately connected to perfectionism (e.g. Chen et al., 2008; Flett & Hewitt, 2006; Forsberg & Lock, 2006, Haase et al., 2002; Hill et al., 2008), the two conditions have not been explored in a single study. To the best knowledge of the authors, no study has investigated whether an independent positive relationship exists between eating

disorders and burnout in athletes. However, since the two conditions show similar relationship patterns regarding perfectionism; those who are perfectionistic seem to suffer from more eating disorders (Forsberg & Lock, 2006; Haase et al., 2002) and from more burnout (Chen et al., 2008; Flett & Hewitt, 2006; Hill et al., 2008) than those who are not perfectionistic, it is expected that perfectionism might mediate the relationship between the two conditions. Moreover, the few studies that have differentiated between perfectionistic concerns and perfectionistic strivings have shown that only perfectionistic concerns predict both eating disorders (Haase et al., 2002; Quested and Duda, 2011) and burnout (Chen et al., 2008; Hill et al., 2008) and perfectionistic strivings do not. Therefore, if a positive relationship was detected between eating disorders and burnout, it might be mediated by perfectionistic concerns only. However, empirical evidence is needed to verify this hypothesis.

2.5 Aims of the present research

The first aim of the present research is to explore how perfectionistic concerns and perfectionistic strivings are related to the risk of eating disorders and athletic burnout in young elite athletes. Young elite athletes were chosen as the sample, because they might be particularly at risk for eating disorders (Cumming & Duda, 2012) and burnout (Hill et al., 2008).

The second aim is to investigate, whether two-dimensional perfectionism impacts burnout and eating disorders differently in male and female athletes. To the authors' best awareness, only one study has compared male and female athletes in two-dimensional perfectionism (Haase et al., 2002). It seems like in relation to eating disorders, males and females might respond differently to different dimensions of perfectionism, as perfectionistic strivings might be adaptive to males, and perfectionistic concerns might be maladaptive to females (Haase et al., 2002). It is essential to explore this finding further, not only because of early risk-detection, but also in designing appropriate interventions for the two genders.

The third aim is to explore, whether an independent positive relationship exists between risk of eating disorders and burnout, or whether this relationship is mediated by perfectionistic concerns. To the best knowledge of the authors, two-dimensional perfectionism, eating disorders, and burnout, have not been explored in a single study.

2.6 Hypotheses

Hypothesis 1: Perfectionistic concerns are positively connected to burnout.

Hypothesis 2: Perfectionistic strivings are not connected to burnout.

Hypothesis 3: Perfectionistic concerns are positively related to eating disorders.

Hypothesis 4: Perfectionistic strivings are not related to eating disorders.

Hypothesis 5: No difference exists in over-all burnout scores between males and females.

Hypothesis 6: Females are significantly more at risk for eating disorders than males.

Hypothesis 7: For both males and females, perfectionistic strivings do not predict burnout.

Hypothesis 8: For both males and females, perfectionistic concerns predict burnout.

Hypothesis 9: Perfectionistic concerns predict eating disorders positively in females.

Hypothesis 10: Perfectionistic strivings predict eating disorders negatively in males.

Hypothesis 11: A positive relationship exists between burnout and eating disorders, but the relationship is mediated by perfectionistic concerns.

3 METHOD

3.1 Participants

The participants were 60 young athletes (26 males and 34 females). Ages ranged from 16 to 30 years, with an average of 19.72 ($SD=3.60$). Forty-six of the participants were students at a sport high school (26 males and 20 females) aging from 16 to 19 years ($M=18.08$, $SD=0.92$). The students were selected to the high school based on their athletic success, and coach and teacher recommendations. The students were practicing sports in the following areas: football, swimming, ice hockey, athletics, track and field, dancing, and gymnastics. Most of the students were competing on a regional or national level.

Fourteen of the participants were patients at an eating disorder support network in Central Finland, who were regularly attending eating disorders (ED) peer support group meetings. All of the participants were females, aging between 18 and 30 years ($M=25.08$, $SD=3.95$). The participants had been referred to the ED peer support group either by a doctor or a therapist, and they had been diagnosed with anorexia nervosa or

bulimia nervosa. All of the participants had received hospital treatment. The participants were active athletes in the areas of bodybuilding, gymnastics, fitness, or long distance running.

3.2 Materials

Perfectionism. To measure perfectionism, two scales were used: one was measuring perfectionistic strivings and the other perfectionistic concerns. The scales were composed and translated into Finnish by Stoeber et al. (2009) from two measures of multidimensional perfectionism in sports: the Sport Multidimensional Perfectionism Scale (Sport-MIPS; Dunn et al., 2006) and the Multidimensional Inventory of Perfectionism in Sport (MIPS; Stöber et al., 2004). Both of the measures have shown good reliability and validity in a number of studies (e.g., Dunn et al., 2006; Stoeber et al., 2007; Stoeber et al., 2008). Twelve questions were measuring perfectionistic strivings, which were capturing either individual differences in striving for perfection (e.g. “I strive to be as perfect as possible”) or perfectionistic personal standards (e.g. “It is important to me that I be truly perfect in everything I do in my sport”). Thirteen questions were measuring perfectionistic concerns, capturing either perfectionistic concerns (e.g. “if a teammate or opponent pays better than me, I feel like I failed to some degree”) or negative reactions to imperfection (e.g. “I feel extremely stressed if everything does not go perfectly”). All of the statements were presented under title “My personal standards in my sport”. The participants indicated how much they agreed with each statement on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present study the internal validity of both of the scales was excellent, with Cronbach alpha’s of .93 for perfectionistic strivings and .91 for perfectionistic concerns.

Burnout. To measure burnout, Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001) was used. ABQ is a 15-item measure including three 5-item subscales: emotional and physical exhaustion (e.g. “I feel so tired from my training that I have trouble finding energy to do other things”); sport devaluation (e.g. “It seems that no matter what I do, I don't perform as well as I should”); and reduced sense of accomplishment (e.g. “The effort I spend participating in my sport would be better spent doing other things”). The scale has also been used to calculate a global burnout index, where the mean has been calculated from the three subscales (e.g. Raedeke & Smith, 2004). In the present study ABQ was used as one global scale, and all of the statements were placed under title

“The emotions you experience in your sport”. The participants rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*) how much they agreed with each statement. Two of the items were reversed. ABQ has been found psychometrically sound in a number of studies, whether it has been divided into three subscales, or whether it has been used as one scale (e.g. Cresswell & Eklund, 2006; Raedeke & Smith; 2001; Raedeke & Smith; 2004). Since the scale has never been used in Finnish before, it was translated from English to Finnish by the author who is a native Finn, but has completed her education in English in Australia. Validity of the scale was excellent, with Cronbach alpha of .94.

Eating disorders. To measure risk for eating disorders, SCOFF scale (Morgan, Reid, & Lacey, 1999) was used. The scale contains five questions, which capture the core features of anorexia nervosa and bulimia nervosa (e.g. “Do you believe yourself to be fat when others say that you are too thin?”). The participants then indicate yes or no. If the participant replies “yes” to two or more questions, the person can be considered at risk for an eating disorder. With the threshold of two or more yes answers, SCOFF has provided 100% sensitivity for anorexia and bulimia and 87.5% specificity for controls, and can be seen as a simple and effective tool for suggesting a likely case (Morgan, Reid, & Lacey, 1999). In the present study, risk for eating disorder was observed as a dualistic variable (at risk/not at risk), and also as a continuous variable (ED symptoms) on a scale from 0 to 5, higher number indicating more symptoms. SCOFF was translated into Finnish and validated in a large Finnish young adult population by Lähtenmäki et al. (2009). In the present study Cronbach’s alpha was .70, which is considered appropriate. A Finnish version of the full questionnaire is presented as an Appendix.

3.3 Procedure

The 46 student athletes completed the questionnaire at the end of a class at their high school. An informed consent was provided to the students and to the parents of the under-aged students one week earlier, and it was informed that participation to the study was completely voluntary and anonymous. Those who chose not to participate were free to leave the class.

Fourteen of the participants were reached from ED peer support group meetings. During a six month period, after each meeting the patients were asked if any of them were athletes and if they would be interested participating in a study. It was emphasized that participation to the study was completely voluntary, and not related to the meetings themselves. An informed consent was provided to those who were interested in participating, and they filled in the questionnaire after the others had left. All of the participants were over 18 years old, and thus no parental consent was required.

4 RESULTS

4.1 Descriptives

Out of the 60 participants, 20 were at risk for eating disorders (33%). From the 46 high school students 7 were at risk for eating disorders (15%), and from the 14 ED patients 13 were at risk for eating disorder (93%). Descriptive statistics for all variables are presented in table 1.

Table 1

Descriptive Statistics for All Variables in a Sample of Young Athletes (N=60)

	Minimum	Maximum	Mean	SD
ED symptoms	0	4	1	1.33
Perfectionistic Strivings	1.25	4.83	3.12	0.83
Perfectionistic Concerns	1.15	4.54	2.75	0.78
Burnout Symptoms	1.13	4.80	2.48	0.86

4.2 Group differences

By ED risk group. Those who were at risk for eating disorder were significantly more likely to exhibit ED symptoms, $F(1,58)= 290.671, p<.001$ than those who were not at

risk. Those who were at risk also showed more perfectionistic strivings ($F(1,58)=30.528, p<.001$) and more perfectionistic concerns ($F(1,58)=35.492, p<.001$) than those who were not at risk. However, no difference was detected in burnout symptoms between the two risk groups. Means and standard deviations for the risk groups are presented in table 2.

Table 2

Descriptive Statistics for All Variables According to Eating Disorder Risk Group

	Risk Group								
	At Risk			Not at Risk			All		
	Mean (SD)	N		Mean (SD)	N		Mean (SD)	N	
ED symptoms	2.70	0.80	20	0.15	0.36	40	1	1.33	60
Perfectionistic Strivings	3.80	0.74	20	2.78	0.64	40	3.12	0.83	60
Perfectionistic Concerns	3.43	0.76	20	2.41	0.55	40	2.75	0.70	60
Burnout Symptoms	2.76	1.01	20	2.33	0.75	40	2.48	0.86	60

By gender. Females showed significantly more ED symptoms than males, $F(1,58)=23.439, p<.001$. Out of the 34 females, 19 were at risk for eating disorders (56%). This group included 13 of the 14 ED patients (93%). Out of the 20 female high school students, 6 were at risk for eating disorders (30%). From the 26 male students, 1 was at risk for eating disorders. Females were also significantly more likely to show perfectionistic tendencies, both strivings ($F(1,58)=7.168, p=.01$) and concerns

($F(1,58)=12.083, p=.001$), than males. However, there were no gender differences in burnout symptoms. Means and standard deviations for the variables according to gender are shown in table 3.

Table 3

Descriptive Statistics for All Variables According to Gender

	Gender								
	Male			Female			All		
	Mean (SD)	N		Mean (SD)	N		Mean (SD)	N	
ED symptoms	0.19	0.49	26	1.62	1.44	34	1	1.33	60
Perfectionistic Strivings	2.80	0.64	26	3.35	0.88	34	3.12	0.83	60
Perfectionistic Concerns	2.38	0.58	26	3.03	0.81	34	2.75	0.78	60
Burnout Symptoms	2.24	0.81	26	2.66	0.87	34	2.48	0.86	60

By setting group. When high school students were compared to ED patients, significant group differences were found in all variables: The high school students exhibited less ED symptoms ($F(1,58)=73,789, p<.001$), less perfectionistic strivings ($F(1,58)=24.830, p<.001$), less perfectionistic concerns ($F(1,58)=22.640, p<.001$), and less burnout symptoms ($F(1,58)=8,051, p=.006$) than the ED patients. The means and standard deviations for both setting groups are presented in table 4.

Table 4

Descriptive statistics for All Variables According to Setting Group

	Setting Group								
	High school students			ED patients			All		
	Mean (SD)	N		Mean (SD)	N		Mean (SD)	N	
ED symptoms	0.46	0.81	46	2.79	1.21	14	1	1.33	60
Perfectionistic Strivings	2.87	0.66	46	3.93	0.80	14	3.12	0.83	60
Perfectionistic Concerns	2.52	0.64	46	3.49	0.77	14	2.75	0.78	60
Burnout Symptoms	2.31	0.72	46	3.02	1.08	14	2.48	0.86	60

4.3 Correlation and regression analysis

As can be seen in Table 5, a positive correlation was detected between ED symptoms and perfectionistic strivings ($r=.604, p<.001$) and between ED symptoms and perfectionistic concerns ($r=.627, p<.001$). This means that the more one exhibits perfectionism, the more s/he exhibits ED symptoms. A positive correlation was also detected between burnout and perfectionistic concerns ($r=.445, p<.001$), but not between burnout and perfectionistic strivings. This indicates that the more person experiences perfectionistic concerns, the more likely s/he is to have symptoms of burnout. A positive correlation was also found between ED symptoms and burnout ($r=.365, p<.001$), showing that the more one exhibits ED symptoms, the more likely s/he is to show symptoms of burnout.

Table 5
Pearson Correlation Matrix among All Variables

	Perfectionistic Concerns	Burnout Symptoms	ED Symptoms
Perfectionistic Strivings	.822**	.191	.604**
Perfectionistic Concerns		.445**	.627**
Burnout Symptoms			.365**

** $p < 0.01$

Perfectionistic strivings, perfectionistic concerns, and ED symptoms were used in a standard multiple regression analysis to predict burnout. The model was statistically significant, $F(3,56)=8.875$, $p < .001$, and accounted for 32% of the variance of burnout ($R^2=.322$, adjusted $R^2=.286$). Perfectionistic strivings and perfectionistic concerns were both significant predictors of burnout ($t=-3.046$, $p=.004$; $t=3.935$, $p < .001$). However, perfectionistic strivings predicted burnout negatively, which indicates that perfectionistic strivings predict lower levels of burnout. Perfectionistic concerns on the other hand predicted burnout positively, indicating that perfectionistic concerns predict higher levels of burnout. In the presence of two types of perfectionism, ED symptoms were no longer a significant predictor.

ED symptoms and perfectionistic strivings alone were then used in a standard multiple regression to predict burnout. The model was statistically significant, $F(2,57)=4.443$, $p=.016$, and accounted for around 14% of the variance in burnout ($R^2=.135$, adjusted $R^2=.105$). ED symptoms was a significant predictor of burnout, $t=2.547$, $p=.014$, but perfectionistic strivings was not. Then ED symptoms and perfectionistic concerns alone were used in a standard multiple regression model to predict burnout. The model was statistically significant, $F(2,57)=7.574$, $p=.001$, and accounted for 21% of the variance

in burnout ($R^2=.210$, adjusted $R^2=.182$). Perfectionistic concerns was a significant predictor of burnout, $t=2.349$, $p=.022$, but ED symptoms was no longer a significant predictor. This suggests that perfectionistic concerns might mediate the relationship between burnout and ED symptoms.

Perfectionistic strivings, perfectionistic concerns, and burnout were then used in a standard multiple regression analysis to predict ED symptoms. The model was statistically significant, $F(3, 56)=014.831$, $p<.001$ and accounted for 44% of the variance of ED symptoms ($R^2=.443$, adjusted $R^2=.413$). However, none of the variables were significant predictors on their own.

Perfectionistic strivings, perfectionistic concerns, and ED symptoms were used in a standard multiple regression analysis to predict burnout separately for females and males. For females, the model was statistically significant, $F(3,30)=6.715$, $p=.001$, and explained around 40% of the variance in burnout ($R^2=.402$, adjusted $R^2=.342$). Perfectionistic strivings and perfectionistic concerns were both significant predictors of burnout ($t=-2.065$, $p=.048$; $t=3.215$, $p=.003$). Again, perfectionistic strivings predicted burnout negatively and perfectionistic concerns predicted burnout positively. For males, even though the full model was not statistically significant, perfectionistic strivings predicted burnout significantly, $t=-2,313$, $p=.030$. Similarly to females the relationship was negative, indicating that perfectionistic strivings might decrease the risk of having burnout in males.

Then perfectionistic strivings, perfectionistic concerns, and burnout were then used in a standard multiple regression analysis to predict ED symptoms in females. The model was statistically significant, $F(3,30)=8.032$, $p<.001$, and accounted for around 45% of the variance in eating disorders ($R^2=.445$, adjusted $R^2=.390$). However, none of the variables were significant predictors on their own. For males, the model was not significant.

5 DISCUSSION

The first aim of the study was to explore how two-dimensional perfectionism is related to burnout and eating disorders in young athletes. As anticipated, perfectionistic concerns were positively related to burnout (hypothesis 1) and perfectionistic strivings were not related to burnout (hypothesis 2). Hypotheses 1 and 2 were thus confirmed. These findings are consistent with the previous research suggesting that perfectionism is related to burnout only because perfectionistic strivings are not separated from perfectionistic concerns (Chen et al., 2008; Gustafsson et al., 2008; Hill et al., 2008; Lemyere et al., 2007). It was expected that perfectionistic concerns would be positively related to eating disorders (hypothesis 3), and that no relationship would exist between perfectionistic strivings and eating disorders (hypothesis 4). Unlike anticipated, both perfectionistic strivings and perfectionistic concerns were positively connected to the risk of eating disorders. Therefore, hypothesis 3 was confirmed, but hypothesis 4 was not. These findings are opposite to the results of Haase et al. (2002) and Quested and Duda (2011), who found that perfectionistic concerns were related to eating disorders, but perfectionistic strivings were not. The present findings are however partly in line with the results of Cummings and Duda (2012) who showed that athletes who were high on both, perfectionistic strivings and perfectionistic concerns (mixed profile perfectionism) or high on only perfectionistic concerns reported more body related concerns than other types of perfectionists. Nevertheless, it needs to be noted that Cummings and Duda (2012) used a person-oriented approach where cluster analysis is used to identify subgroups of individuals, whereas in the present study a variable-oriented approach was used, which focuses on the dimensions of perfectionism and their correlates. Therefore the results are not directly comparable.

The second aim of the study was to investigate, whether two-dimensional perfectionism impacts burnout and eating disorders differently in male and female athletes. As expected (hypothesis 5), there were no differences in overall burnout scores between males and females. Similar results have been found in other studies done with athletes (Goodger, et al., 2007; Lai & Wiggins, 2003). As anticipated (hypothesis 6), females were significantly more at risk for eating disorders than males. This result is in line with a strong body of empirical evidence (e.g. Davis, 1997; Haase et al., 2002; Hewitt et al., 1995). It was anticipated that for both genders, perfectionistic strivings would not

predict burnout (hypothesis 7). However, for both males and females, perfectionistic strivings predicted burnout, but the prediction was negative. Hypothesis 7 was thus not confirmed. Negative prediction indicates that perfectionistic strivings might protect athletes from burnout. This effect has not been found in the previous research (Chen et al., 2008; Gotwals, 2011; Hill et al., 2008). One reason for this novel finding could be that all of the athletes in the present study were elite level athletes. Research has shown that it is important to explore elite athletes instead of non-elite athletes, as their self-regulatory patterns might be very different (Kitsantas & Zimmerman, 2002).

There might be several reasons why perfectionistic strivings make an athlete less likely to be at risk for burnout. When athlete's perfectionism consists of mainly high self-standards for performance and striving for perfection, s/he may be resilient to burnout even when confronting failures (Hill et al., 2008). This might be partly explained by the idea that in perfectionistic strivings one sets his or her own standards and is in control of them, and therefore experiences less anxiety and chronic stress that might result in burnout (Hill et al., 2008). Falling short on performance might also have less impact on the self-worth of those with perfectionistic strivings (Lundh, 2004), because they are not afraid of mistakes or doubt the level of their performance similarly to those with perfectionistic concerns (Stoeber & Otto, 2006). Athletes with perfectionistic strivings might have more realistic and rational expectations for themselves (Hamachek, 1978). They might also be less sensitive for social criticism and maintain their level of self-acceptance even when not meeting the expectations of others (Lundh, 2004). Those who are high on perfectionistic strivings seem to have a higher self-esteem and more love and respect towards themselves than those who are high on perfectionistic concerns (Koivula, Hassmen, & Fallby, 2002). In addition, their self-worth might not be linked to achievement, which makes them feel "excited, clear about what needs to be done, and emotionally charged" (Hamachek, 1978, p.28) in achievement context. As a result achievement might be perceived as challenging instead of threatening (Gotwals, 2011).

It was anticipated that unlike perfectionistic strivings, perfectionistic concerns would predict burnout positively in both genders (hypothesis 8). However, perfectionistic concerns predicted burnout positively only in females and no effect was found for males. Therefore, hypothesis 8 was only partially confirmed. Since no previous research has investigated the gender differences in two-dimensional perfectionism and burnout, it

is unclear why perfectionistic concerns would predict burnout only in females. It might be, that females are overall more sensitive to criticism from other people than males (Van Staden et al., 2009) and therefore are more prone to find achievement context as threatening, which in long run results in burnout (Lundh, 2004). Females might also be overall more perfectionistic than males (Hopkinson & Lock, 2006), and therefore engage in more self-punitive and exhausting behaviors when not meeting acceptable standards, which elicits burnout (Flett & Hewitt, 2005). Indeed, in the present study females showed significantly more perfectionistic strivings and perfectionistic concerns than males.

Overall, it seems like for females, perfectionistic strivings are adaptive and might protect from burnout, but perfectionistic concerns are maladaptive, and might elicit burnout. For males on the other hand perfectionism in relation to burnout seems to be mostly adaptive. Perfectionistic strivings might protect males from burnout, and perfectionistic concerns might not have impact on males' burnout. From an intervention point of view, it might be useful to teach females how to avoid perfectionistic concerns and to teach both males and females how to maintain and develop perfectionistic strivings, as this might be a resiliency factor against burnout.

Regarding two-dimensional perfectionism and eating disorders, it was expected that perfectionistic concerns would predict eating disorders positively in females (hypothesis 9). Hypothesis 9 was confirmed, as perfectionistic concerns predicted eating disorders in females, but no effect was found for males. This finding was in line with the results of Haase et al (2002). However, in addition to perfectionistic concerns also perfectionistic strivings predicted eating disorders in females. This finding is not in line with the previous research (Haase et al., 2002). The contradiction might be at least partly explained by differences in the sample. The sample of Haase et al. (2002) contained only few females who were at risk for eating disorders, and even those females who were at risk were relatively healthy. In the present research more than half of the females were at risk for eating disorders, and the sample included patients with existing diagnosis of anorexia nervosa and bulimia nervosa. Therefore, our results might more generalizable to female athletes with existing eating disorders (Haase et al., 2002; Shanmugam et al., 2012).

It was expected, that perfectionistic strivings would predict eating disorders negatively in males (hypothesis 10). Hypothesis 10 was not confirmed, as no effect was found for males for perfectionistic strivings. This result is opposite to the finding of Haase et al. (2002), which indicated that perfectionistic strivings might protect males from disturbed eating. This contradiction can be at least partly explained with the fact that in the present study only one male was found to be at risk for eating disorders, and therefore finding an overall effect would have been impossible. To explore this further, a larger sample with more males with risk for eating disorders should be investigated.

There are several reasons why two-dimensional perfectionism might predict eating disorders in females, but not in males. First of all, females in the present study were significantly more perfectionistic than males, which might directly make them more susceptible to self-punitive thoughts and behaviors, such as restricted eating (Flett & Hewitt, 2005). Secondly, females might be in general more prone than males to expand their perfectionism in sports to body shape, weight control, and eating (Cummings & Duda, 2012) because they are valued from young age based on their appearance (Haase et al., 2002). The training environments of females might also be more appearance-focused than the training environments of males, and females with perfectionistic tendencies might therefore be more susceptible to feel inadequacy over their body-figure (Van Staden et al., 2009). For future research, it would be interesting to explore males with high levels of perfectionistic concerns and perfectionistic strivings, and see whether they are also at risk for eating disorders, or whether perfectionism simply manifests differently in males.

The final aim of the study was to explore whether an independent relationship exists between eating disorders and burnout in athletes, or whether this relationship is mediated by perfectionistic concerns. As expected (hypothesis 11), a significant positive relationship existed between ED symptoms and burnout, but relationship disappeared when perfectionistic concerns were controlled for. Hypothesis 11 was thus confirmed. Similar effect was not found for perfectionistic strivings. This suggests that perfectionistic concerns might mediate the relationship between eating disorders and burnout. In other words, ED symptoms predict burnout in an athlete only, if the athlete has perfectionistic concerns.

The relationship between eating disorders, burnout, and two-dimensional perfectionism has not been explored before in a single study, and therefore this is an important novel finding. The result is in line with previous findings done separately about perfectionism and eating disorders, and perfectionism and burnout. Perfectionistic concerns have been significant predictor of eating disorders (e.g. Cumming & Duda, 2012; Haase et al., 2002; Quested & Duda, 2011) and burnout (e.g. Chen et al., 2008; Hill et al., 2008; Lundh, 2004) in athletes. The novel finding indicates that both eating disorders and burnout can be found in elevated amounts in athletes who experience perfectionistic concerns, even though these two conditions might not be directly linked. From an intervention point of view, perfectionistic concerns of athletes should be minimized in order to prevent the development of these disabling conditions.

There might be several reasons why perfectionistic concerns mediate the relationship between eating disorders and burnout in athletes. Considering Smith's model (1979), when athletes with perfectionistic concerns pursue rigorous training in an appearance-focused environment they might be particularly susceptible to feel “under threat”, which results in experiences of exhaustion and inadequacy, leading to symptoms of burnout and eating disorders (Van Staden et al., 2009). Athletes with perfectionistic strivings on the other hand might be protected from these damaging conditions, because they do not experience “threat” as they are not sensitive to socially-based criticism, which means that they are able to maintain their level of self-acceptance even when not meeting other's expectations (Lundh, 2004). Considering the theory of Flett and Hewitt (2005), athletes with perfectionistic concerns might focus on mistakes and their own imperfection, which then results in anxiety and self-blame. The athletes might then end up chronically punishing themselves for not meeting the overly high standards and therefore engage in both excessive exercising and restricted eating which results in burnout and eating disorders (Flett & Hewitt, 2005).

5.1 Limitations and future suggestions

Despite the novel findings of the study, some limitations were faced. First of all, the sample was small and therefore the results can be seen only as preliminary. Future research should replicate the study with a larger sample to confirm the findings. Nevertheless, the present research included participants with actual eating disorders, and therefore unlike in the previous research (Haase et al., 2002; Shanmugam et al., 2012) it

was possible to investigate the relationships between the variables in the population of interest.

Secondly, some regression analyses of the study were ambiguous. When burnout, perfectionistic concerns and perfectionistic strivings were placed in a standard multiple regression model to predict eating disorders, a large over-all effect for the three variables was detected, but none of the variables were significant predictors on their own. It seems like burnout, perfectionistic strivings, and perfectionistic concerns predict eating disorders only if all of them are present together, but none of the variables give individual contribution. However, when males and females were separated, individual contributions of the variables were detected. These unusual findings might be due to the small sample and inadequate power, and the results might be clearer with more subjects.

A third limitation of the study was that the sample was collected from two separate groups, high school student athletes and athletes from an eating disorder support network. This makes it harder to generalize the results to one specific population. One third of the females were diagnosed with an existing eating disorder, and their results were more extreme than the results of those who did not have an eating disorder diagnosis. Therefore, the results of all females as a whole might be exaggerated. However, also in real life 6-45% of female athletes are estimated to suffer from eating disorders (Bratland-Sanda & Sundgot-Borgen, 2013), and therefore the results might not be far from reality.

Because finding enough athletes with a diagnosis of eating disorders is hard, one option for future research would be to explore this specific population with qualitative methods in addition to quantitative methods. With qualitative methods the limitations of a small sample and inadequate power would not play a role, and more specific and enriching information could be gathered by conducting for example in-depth interviews. For future research it would be also interesting to explore male athletes with eating disorders as very little is known about this population. It is not clear, whether two-dimensional perfectionism impacts male athletes with eating disorders similarly than female athletes. It could be that negative outcomes of perfectionism manifest differently in males, or that perfectionism is not maladaptive for male athletes at all. The results of

the present study point to this direction, and more research is needed to investigate this interesting hypothesis.

5.2 Conclusion

In conclusion, regarding burnout in sports, it seems to be essential to differentiate between perfectionistic strivings and perfectionistic concerns. Perfectionistic strivings might protect athletes from burnout, and perfectionistic concerns might lead athletes, particularly females, to burnout. This finding is in line with Gotwals et al. (2012) who argued that reducing perfectionistic concerns in sports should not come at the cost of reducing perfectionistic strivings, particularly since high-level sports require performance that is nearly perfect. Moreover, when investigating two-dimensional perfectionism in sports, males and females should be differentiated. Perfectionism seems to be mostly adaptive for males, as perfectionistic strivings might protect males from burnout and perfectionistic concerns have no impact on males' burnout. Also, neither type of perfectionism was connected to eating disorders in males. However for females, even though perfectionistic strivings were protective in relation to burnout, perfectionistic concerns predicted burnout. Also, both types of perfectionism predicted eating disorders in females. Therefore, any interventions designed to create, maintain or prevent perfectionism should be gender-considerate, and it would be particularly important to teach females how to reduce perfectionistic concerns and critical self-evaluations.

Even though both burnout and eating disorders are found in young elite athletes in elevated amounts (Cresswell & Eklund, 2006; Siobhain & Duda, 2008), there does not seem to be a direct relationship between these two conditions. Rather, the two conditions are mediated by perfectionistic concerns. From an intervention point of view, athletes should be encouraged to have high standards for themselves, but not to link their self-acceptance to these standards or to standards of other people (Hill et al., 2010). In the future, in addition to replicating our study with a larger sample, it would be interesting to investigate athletes with eating disorders with qualitative methods in order to gain more specific and enriching information. Particularly investigating eating disorder-diagnosed male athletes would be fruitful, as very little is known about this population.

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APPENDIXES

**TUTKIMUS HENKILÖKOHTAISISTA STANDARDEISTA,
SUORITUSTAVOTTEISTA, TUNTEMUKSISTA JA SYÖMISKÄYTTÄYTYMISESTÄ
URHEILUSSA****ETUSIVU****Taustatietoja**

Tämän kyselyn päämääränä on tutkia sinun henkilökohtaisia pyrkimyksiäsi ja suoritustavoitteitasi omassa urheilulajissasi. Kyselyyn sisältyy myös kysymyksiä urheilutuntemuksistasi ja syömiskäyttäytymisestäsi. Kysely koostuu kolmesta sivusta ja niihin vastaamiseen menee enintään 10 minuuttia. Kysely on luottamuksellinen eikä yksittäistä vastaajaa voida tunnistaa, joten vastaa kaikkiin kysymyksiin mahdollisimman rehellisesti.

Henkilötietoja

Mikä on syntymäaikasi (päivä, kuukausi, vuosi)?

Mikä on sukupuolesi (nainen/mies)

HENKILÖKOHTAISET STANDARDISI URHEILULAJISSASI
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Ohjeet. Alla on lista väittämiä, jotka koskevat henkilökohtaisia standardejasi urheilussa ja urheilusuorituksessa. Lue jokainen väittämä ja päätä, missä määrin tämä väittämä luonnehtii **sinun henkilökohtaisia standardejasi omassa urheilulajissasi**. Jos olet vahvasti samaa mieltä, ympyröi 5; jos olet vahvasti eri mieltä, ympyröi 1; jos tunnet olevasi jossain näiden kahden välissä, ympyröi 2 tai 4. Jos tunnet olevasi neutraali väittämän suhteen tai et osaa päättää, keskikohta on 3.

1	2	3	4	5
Vahvasti eri mieltä	Eri mieltä	Neutraali	Samaa mieltä	Vahvasti samaa mieltä

Oman urheilulajini suhteen...

1. Minulle on tärkeää, että olen taysin pätevä kaikessa, mitä teen.	1	2	3	4	5
2. Mitä vähemmän teen virheitä, sitä enemmän ihmiset pitävät minusta.	1	2	3	4	5
3. Minulle on tärkeää olla täydellinen kaikessa mitä yritän.	1	2	3	4	5
4. Masennun, jos en ole ollut täydellinen.	1	2	3	4	5
5. Minulla on tarve olla täydellinen.	1	2	3	4	5
6. Turhaudun, jos en täytä korkeita odotuksiani.	1	2	3	4	5
7. Asetan itselleni korkeampia tavoitteita kuin suurin osa muista samaa lajia pelaavista urheilijoista.	1	2	3	4	5
8. Vaikka epäonnistuisin vain hieman, minulle se on yhtä paha asia kuin täydellinen epäonnistuminen.	1	2	3	4	5
9. Olen täydellisydentavoittelija omien tavoitteideni suhteen.	1	2	3	4	5
10. Jos jokin asia ei onnistu täydellisesti, olen tyytymätön koko suoritukseni suhteen.	1	2	3	4	5
11. Ihmiset todennäköisesti arvostavat minua vähemmän, jos teen virheitä.	1	2	3	4	5
12. Jos en aseta mahdollisimman korkeaa vaatimustasoa itselleni, päädyn todennäköisesti kakkosluokan pelaajaksi.	1	2	3	4	5
13. Jos pelaan hyvin, mutta teen yhden ilmiselvän virheen, olen pettynyt suoritukseeni.	1	2	3	4	5
14. Inhoan olla vähemmän kuin paras kaikissa urheilulajiini liittyvissä asioissa.	1	2	3	4	5
15. Pyrin olemaan niin täydellinen kuin mahdollista.	1	2	3	4	5
16. Tulen äärimmäisen stressaantuneeksi, jos kaikki ei mene täydellisesti.	1	2	3	4	5
17. Jos joukkueeni jäsen tai vastustaja (joka pelaa samanlaisella paikalla kuin minä) pelaa minua paremmin, tunnen että olen epäonnistunut jossain määrin.	1	2	3	4	5
18. Minun kuuluu olla pahoillani, jos teen virheen urheillessani.	1	2	3	4	5

19. Raivostun täysin, jos teen virheitä.	1	2	3	4	5
20. Toiveeni on tehdä kaikki täydellisesti.	1	2	3	4	5
21. Mielestäni odotan parempaa suoritusta ja suurempia tuloksia urheilulajissani kuin suurin osa muista pelaajista.	1	2	3	4	5
22. Tunnen, että toiset pelaajat yleensä hyväksyvät itselleen matalamman suoritustason kuin minä.	1	2	3	4	5
23. Jos epäonnistun lajissani, tunnen olevani epäonnistunut ihmisenä.	1	2	3	4	5
24. Minulle on tärkeää olla täydellinen kaikessa mitä yritän.	1	2	3	4	5
25. Jos en suoriudu hyvin koko ajan, tunnen että ihmiset eivät kunnioita minua urheilijana.	1	2	3	4	5

URHEILUUN LIITTYVÄT TUNTEMUKSESI

Ohjeet: Lue tarkasti seuraavat toteamukset ja mieti tunnetko samalla tavoin tällä hetkellä harrastamasi urheilun suhteen. Tällä hetkellä harrastamallasi urheilulla tarkoitetaan kaikkea tämän kauden aikana toteutunutta harjoittelua. Arvioi kuinka usein olet kokenut näitä tunteita tai ajatuksia tällä kaudella, ja ympyröi numero 1 ja 5 välillä. 1 tarkoittaa ”en juuri koskaan tunne näin” ja 5 tarkoittaa ”tunnen näin lähes aina”.

1	2	3	4	5
En koskaan	Joskus	Harvoin	Usein	Lähes aina

1. Saan aikaan monia merkittäviä asioita lajissani.	1	2	3	4	5
2. Olen niin väsynyt harjoittelustani, että minun on vaikea löytää energiaa muille asioille.	1	2	3	4	5
3. Panostus minkä käytän urheilulajiini, olisi parempi käyttää muihin asioihin.	1	2	3	4	5
4. Tunnen olevani liian uupunut harjoittelustani.	1	2	3	4	5
5. En saavuta paljoakaan lajissani.	1	2	3	4	5
6. En välitä enää suoritustasostani yhtä paljon kuin aikaisemmin.	1	2	3	4	5
7. En suoriudu kykyjeni tasoisesti lajissani.	1	2	3	4	5
8. Olen aivan poikki lajistani.	1	2	3	4	5
9. En ole enää yhtä kiinnostunut lajistani kuin ennen.	1	2	3	4	5
10. Olen fyysisesti loppuun kulunut lajistani.	1	2	3	4	5
11. Välitän vähemmän kuin ennen siitä menestykö lajissani.	1	2	3	4	5
12. Olen uupunut lajini henkisten ja fyysisten vaatimusten vuoksi.	1	2	3	4	5
13. Tuntuu siltä että mitä tahansa teen, en suoriudu niin hyvin kuin minun pitäisi.	1	2	3	4	5
14. Tunnen olevani lajissani menestykseks.	1	2	3	4	5
15. Minulla on negatiivisia tunteita lajiani kohtaan.	1	2	3	4	5

SYÖMISEEN LIITTYVÄ KÄYTTÄYTYMISESI JA USKOMUKSESI
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Ohjeet: Seuraavassa osiossa kysytään syömiseen liittyvää käyttäytymistäsi ja uskomuksiasi. Vastaa kysymyksiin kyllä tai ei.

Kysymykset:	Kyllä	Ei
1. Yritätkö oksentaa, koska tunnet olevasi epämiellyttävän kylläinen?	<input type="checkbox"/>	<input type="checkbox"/>
2. Huolestuttaako sinua ajatus, ettet enää pysty hallitsemaan syömisestäsi määrää?	<input type="checkbox"/>	<input type="checkbox"/>
3. Oletko laihtunut lähiaikoina yli kuusi kiloa kolmen kuukauden aikana?	<input type="checkbox"/>	<input type="checkbox"/>
4. Uskotko olevasi lihava, vaikka muut väittävät, että olet laiha?	<input type="checkbox"/>	<input type="checkbox"/>
5. Hallitseeko ruoka mielestäsi elämääsi?	<input type="checkbox"/>	<input type="checkbox"/>

Paljon kiitoksia tutkimukseen osallistumisesta!