

An Exploration about how Passion, Perceived Performance, Stress and Worries Uniquely Influence Athlete Burnout.

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Abstract

This article looks at how harmonic and obsessive passion, perceived performance, positive and negative stress, and worry uniquely predict athlete burnout in sport. A sample of 318 junior elite athletes from different sports participated in the investigation. Our results from a multiple regression analysis show that all variables, except for obsessive passion, uniquely and significantly contributed to explain the variance in athlete burnout. Together these independent variables explained 47% of the variance in athlete burnout. The results are discussed in regard of applied implications and possible future research.

Keywords: passion, performance, stress, worries, athlete burnout

1. Introduction

Young athletes who are passionate about their sports are often exposed to loads that increase their risk of developing symptoms caused by stress such as athlete burnout (Fernet et al., 2014; Gold, Marx, Soler-Baillo & Sloan, 2005). Athlete burnout is experienced as emotional and physical exhaustion resulting from high stress loads and inadequate coping skills (Raedeke & Smith, 2004). Disturbingly for sports, research suggests that the number of athletes who are suffering from burnout seem to be rising (Cresswell & Eklund, 2005; Cresswell & Smith, 2007; Moen, Federici & Abrahamsen, 2015).

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Interestingly, in contrast to experiencing athlete burnout, research claims that to succeed in elite sports, being highly motivated to the extent of feeling passionate is very important (Deci & Ryan, 2002; Vallerand, 2015).

Athletes at the highest competitive level in sports are described as “being on fire” (Mallet & Hanrahan, 2004). This might explain why successful athletes are found to sustain at least 10-years of high-quality goal-oriented training to succeed in their sports (Ericsson, Krampe & Tesch-Römer, 1993; Gustafsson, Kenttä & Hassmén, 2011). Passion is here defined as a strong inclination toward a specific sport that an athlete loves (or at least strongly likes), highly values and is willing to invest time and energy in on a regular basis (Vallerand, 2015). Thus, for passionate athletes their sports become part of their identity. However, in this perspective the flip side of being passionate about their sports is to cope with possible performance impairments over time and to handle the negative stress that develops as a consequence (Fernet et al., 2014; Hardy, Mullen & Martin, 2001).

Importantly, in competitive sports only a very few athletes experience performance enhancements over time. Performance impairments might be experienced as threats to athletes’ identity and therefore stimulate a negative stress response (Ursin & Eriksen, 2004). When athletes are exposed to negative stress, they have the potential to elucidate intrusive thoughts and worries (Gold et al., 2005). A possible consequence of ineffective coping skills in training and competitions over time might be the development of overreaching loads from negative stress (emotions) and worries that ultimately might lead to athlete burnout (Black & Smith, 2007). Thus, passion, performance, stress and worries should be natural predictors of the athlete burnout syndrome. One purpose of this study is therefore to explore relations between these variables and athlete burnout among Norwegian junior athletes in sport.

Theoretical framework

Research on athlete burnout has historically focused on overtraining and too much physical training and on the psychological stress in association with situational pressure (Gould, Tuffey, Udry, & Loehr, 1996; Goodger, Gorely, Lavalley & Harwood, 2007; Gustafsson et al., 2011). This study will focus on the psychological strain related to the situational pressure the athletes are exposed to in their sports.

Athlete Burnout

The cognitive affective model has historically guided much of the athlete burnout research (Smith, 1986). This model claims that athlete burnout develops as a result of chronic exposure to stress because of a long-term perceived inability to meet situational demands (Gustafsson et al., 2011; Moen & Wells, 2016). Three dimensions are central in the athlete burnout construct: 1) Emotional and physical exhaustion, 2) Reduced sense of accomplishment, and 3) Sport devaluation (Raedeke, 1997). The most obvious manifestation of athlete burnout is feelings of emotional and physical fatigue associated with training and competitions, defined as emotional and physical exhaustion (Raedeke & Smith, 2009).

Exhaustion appears to be the core component in burnout as well as an early sign of the burnout syndrome (Gustafsson et al., 2011). Reduced sense of accomplishments is a feeling of inefficacy and negative evaluations of themselves in terms of their sports. Athletes, who experience this phenomenon, perform below expectations and are unable to achieve personal goals (Raedeke & Smith, 2009). Sport devaluation is defined as a detached attitude towards the sport, reflected by negativity and a lack of concern regarding the sport itself and the performance quality (Raedeke & Smith, 2009). The most common consequence of high levels of burnout is lack of motivation (Goodger et al., 2007), which may lead to the unwanted outcome of dropout from sports (Moen, 2013).

Passion

Two distinct types of passion are proposed by the dualistic model of passion; harmonious and obsessive (Lafrenière et al., 2011; Vallerand, 2010; Vallerand et al., 2003). Harmonious passionate (HP) activities typically occupy a significant space in the athlete's identity, and are in harmony with other aspects of the athlete's life (Vallerand, 2015). HP should lead to greater positive affect and less negative affect than obsessive passion (OP) during task engagement, because the autonomous internalization of the activity leads the athlete to engage in the task in a more flexible manner and thus to experience task engagement more fully. With HP athletes are in control of the activity, and they can decide to engage or not and when. By contrast, OP results from a controlled internalization of the activity and occupies a significant and overpowering space in the athlete's identity.

Although OP athletes will like the activity, they feel compelled to engage in it because of these internal contingencies that come to control them. The OP athletes cannot help but to engage in the activity and an internal compulsion leads the athlete to engage in the activity even when he or she should not.

Thus, OP athletes may cause conflict between the passionate activity and participation in other tasks. The athlete may therefore experience negative emotional experience once engagement in the passionate activity is terminated (Vallerand et al., 2003).

Performance and Stress

The Cognitive Activation Theory of Stress (CATS) explains stress as an alarm that will occur in situations that are considered novel, when there is a homeostatic imbalance, or when the athlete perceives a threat (Ursin & Eriksen, 2004). CATS is a cognitive theory since physiological and psychological consequences all depend on the cognitive evaluations of the situation and what an athlete can do about it (Reme, Eriksen & Ursin, 2008). If the athlete expects to have the resources to cope with the situational demands, the stress can be defined as positive (Moen, Federici & Abrahamsen, 2015).

However, if the athlete does not expect to have the necessary coping resources, the stress can be negative. Researchers have found that the body responds differently to the two different kinds of emotional stress (Crawford & Henry, 2004). The positive stress response (eustress) results from situations where athletes have the resources to cope with the demands and believe they can control the situation (Lazarus & Folkman, 1984). On the contrary, negative stress (distress) in sports is the kind of stress that results from situational demands that athletes cannot control because of inadequate coping resources. Athletes who are highly passionate and invest heavily in their sports might develop a one-dimensional identity (Gustafsson et al, 2007a).

When highly passionate athletes feel that their resources (ways of coping) are adequate to attain desired outcomes in training and competitions, the positive stress response will increase.

Interestingly, when such athletes feel that the situation is beyond their control and their coping resources are inadequate, the negative stress response will increase. However, highly passionate athletes might be stimulated to work even more intense and hard in such situations, often despite the feeling of exhaustion and low enjoyment (Gustafsson et al, 2007b). Research has also shown that athletes that develop burnout also demonstrate an extreme motivation that leads them to ignore signs of exhaustion (Gustafsson et al., 2008a).

Especially, a strong motivation combined with an inflexible approach to sport (obsessive passion) may constitute an elevated risk of developing burnout.

Worry

Worry can be defined as “a chain of thoughts and images, negatively affect-laden and relatively uncontrollable”. It is assumed that the worry process represents an attempt to engage in mental problem-solving on an uncertain issue containing the possibility of one or more negative outcomes (Borkovec, Robinson, Pruzinsky & DePree, 1983, p. 10). Negative stress has the potential to stimulate intrusive thoughts and negative emotions (Gold et al., 2005). On the basis of the meta cognitive theory of psychological disorders, the style of thinking called the Cognitive Attention Syndrome (CAS) is claimed to be responsible for psychological disorders (Wells, 2008). This style is linked to internal Meta cognitions that control thinking and attention and lock the individual into persistent patterns of negative thinking that are difficult to control. CAS can contribute to negative emotions such as anxiety and depression (Wells, 2008). Seen in a performance perspective, the flip side of high ambitions might be performance anxiety, ruminations and worries when faced with challenges in their training and competitions (Hardy et al., 2001).

Some resemblance also seems to be present between worry and obsessions. Both are uncontrollable, intrusive and repetitive but they also seem to be distinct as worry is experienced as less senseless than obsessions. Also, worry is not so greatly resisted as obsessions and the content of worry relates more to normal daily experiences compared to obsessions (Wells, 1994).

Passion, performance, stress, worries and athlete burnout

Research indicates that the prevalence of burnout in adolescent competitive athletes is between 1% and 9% (Gustafsson et al., 2007a). It is natural to believe that the number is higher among junior athletes in sports. Curran et al., (2011, 2012) made an attempt to examine the relationship between the type of passion (harmonious and obsessive) and burnout in sport. The results revealed that harmonious passion was inversely correlated with the latent athlete burnout factor (Curran et al., 2011, 2012). Contrary to their expectations, obsessive passion was uncorrelated with the latent athlete burnout factor.

However, whether passion- obsessive and/ or harmonious- is part of the explanation why some athletes suffer from burnout while others do not, is claimed to be uncertain (Gustafsson et al., 2011; Gustafsson, Hassmèn & Hassmèn, 2011). Research confirms that negative stress is an important antecedent to athlete burnout (Kenttä, Hassmèn, & Raglin, 2001; Silva, 1990). Thus, in accordance with CATS, athletes might experience eustress when they have the resources to cope with situational demands regarding their training and competitions, and distress when they do not. Vallerand et al. (2003; 2006) have found that negative affect has been shown to predict burnout among elite athletes (Lemyre, Treasure, & Roberts, 2006). Negative affect is one of the main symptoms in burnout, which is associated with being depressed and moody (Schaufeli & Buunk, 2003) and also found in burned-out athletes (Coakley, 1992; Gustafsson, Hassmèn, Kenttä, & Johansson, 2008). Depressed mood is also considered the main psychological marker of negative training stress (Halsen & Jeukendrup, 2004; Raglin, 1993).

The present study

The purpose of the present study is to explore possible relations between passion, perceived performance, stress, worries and burnout among junior athletes in sport, and more specifically to examine if the variables can uniquely explain the variance in athlete burnout in a cross-sectional study. We expect that harmonic passion predict athlete burnout negatively, and that obsessive passion predicts burnout positively. We further expect that perceived performance and eustress predict burnout negatively, and that distress predicts burnout positively. Finally, we expect that worry predicts burnout positively.

Method

Participants and procedure

Five hundred and twenty nine junior athletes from seven different Norwegian high schools for elite sports were invited to voluntarily participate in an online questionnaire measuring psychological variables such as passion, perceived performance, stress, worry and athlete burnout. The schools are specialized for elite sports and the athletes have to document both talent and ambitions to start at these schools.

Thus, the athletes in this study have ambitions to develop their potentials at elite senior level and were from different sports such as cross country skiing, biathlon, Nordic combined, shooting, ice-hockey, ice skating, ski jumping, alpine skiing, cycling, track and field, football, orienteering, handball, football and volleyball. Training is on the schedule at school every day of the week and the athletes normally practice their sports after school some of the days during weekdays and in the weekends.

From the 529 participants, 318 (173 males and 145 females) completed the data collection, which gives a response rate of 60%. The sample had a mean age of 18.2 years, ranging from 17 to 20 years.

The general variables

The variables examined here include items and inventories such as age, gender, type of sport, performance level and type of school. All measurements used in this study were based on previously developed scales proven to hold both satisfactory validity and reliability. The measurements were originally in English and were translated into Norwegian by the authors if a Norwegian version did not already exist.

Passion Scale

To assess athletes' level and type of passion for their sports, the Passion Scale (Vallerand et al., 2003; Vallerand et al., 2006) was used. This scale has two subscales that contain seven items for each of the two types of passion: harmonious and obsessive.

The athletes were asked to consider their interest for- and experiences with their sports, and for each item respond on a seven-point Likert scale ranging from 1 (*do not agree at all*) to 7 (*completely agree*). A sample item from the obsessive passion subscale is "*I have difficulties controlling my urge to engage in my activity*", while a sample question for harmonious passion would be "*My activity is in harmony with other things that are part of me*". The Cronbach's alpha for the measurement was .68 (harmonic) and .85 (obsessive).

Perceived satisfaction with progress in sport

Individual performance from the Athlete Satisfaction Questionnaire was used to measure athletes' perceived satisfaction with their own progress in sport (Riemer & Toon, 2001). This subscale seeks to measure the athlete's perceived satisfaction with his/her own task performance. Task performance includes a perception of absolute performance, improvements in performance and goal achievement. An example of item "*I am satisfied with the degree to which I have reached my performance goals during the season*". The athletes were asked to consider 4 items and how satisfied they were with their own progress in sport during the last year on a 7-point scale ranging from 1 (*not at all satisfied*) to 7 (*extremely satisfied*). The Cronbach's alpha for the measurement was .91.

The Positive and Negative Affect Schedule (PANAS)

The Positive and Negative Affect Schedule (PANAS) comprises two scales that measure positive affect (eustress) and negative affect (distress). The athletes were asked to rate the extent to which they have experienced each particular emotion within the last week as an athlete, with reference to a 5-point scale rating from 1 (*not at all*) to 5 (*very much*). Ten descriptors are used for each scale and to define their meanings. The PANAS has strong reported validity with such measures as general distress and dysfunction, depression, and state anxiety (Watson, Clark & Carey, 1988). The PANAS was designed to assess affective responses for daily living where emotions such as anger and anxiety tend to converge to form negative affect, while excitement and happiness converge to form positive affect. The Cronbach's alpha for the measurement was .83 (eustress) and .85 (distress).

The Penn State Worry Questionnaire (PSWQ)

The Penn State Worry Questionnaire (PSWQ) was used to measure worry and consists of 16 items, each rated on a five-point scale ranging from 1 (*not at all typical*) to 5 (*very typical*). The athletes were asked to rate how typical or representative each of the different items were for them. An example of an item is: "*If I don't have enough time to do everything, I don't worry about it*". Another item is: "*When I'm under pressure, I worry a lot*." An important aspect of the PSWQ is that the instrument is not related to any specific worry domain or content (Meyer et al., 1990) in contrast to other worry measures (e.g., Worry Domains Questionnaire, WDQ; Tallis, Eysenck & Mathews, 1992). Research shows that the reliability and validity in the Norwegian version of the PSWQ are in line with former studies conducted with the PSWQ (Molina & Borkovec, 1994, Davey, 1993; Mayer et al., 1990; Pallesen et al., 2006). The Cronbach's alpha for the measurement in this study was .93.

The Athlete Burnout Questionnaire

The Athlete Burnout Questionnaire (ABQ) was used to measure athlete burnout (Raedeke & Smith, 2001, 2009). The stem for each question was "*How often do you feel this way?*". Athletes were requested to rate the extent to which the items address their participation motives on a five-point Likert scale anchored by (1) "*Almost Never*" and (5) "*Almost Always*". The original ABQ has three five-item subscales assessing the three key dimensions of burnout: 1) Emotional and physical exhaustion, 2) Reduced sense of accomplishment, and 3) Sport devaluation. Our reduced version had 4, 3 and 5 items respectively. Examples of items covering these dimensions are respectively: "*It seems that no matter what I do, I don't perform as well as I should*", "*I feel so tired from my training that I have trouble finding energy to do other things*", and "*I have negative feelings toward sports*". The reliability for each dimension was .84, .82, and .76 for emotional and physical exhaustion, reduced sense of accomplishment and sport devaluation respectively, and .78 for the complete measure.

Data analysis

The data were first analyzed by examining the correlations between variables by using Pearson correlation coefficient.

In order to examine to what extent passion (harmonious and obsessive), perceived performance, stress (positive and negative) and worry uniquely can explain variance in athlete burnout, a hierarchical multiple regression analysis was applied. Level of athlete burnout was used as the dependent variable. In the first step, sex was entered to control for potential gender differences. In the second step both types of passion (harmonious and obsessive) were entered since the first aim of the study was to examine to what extent types of passion can predict levels of athlete burnout. In the third step the other independent variables (perceived performance, positive and negative stress and worry) were entered simultaneously, in order to examine to what extent they could explain variance in athlete burnout independently. P-values < 0.05 were considered statistically significant.

Results

Correlations and descriptive statistics

Table 1 shows the correlations between the study variables as well as the possible maximum scores, statistical means, standard deviations, and Cronbach's alphas.

Table 1: Pearson correlations and descriptive statistics of the study variables

Variable	1	2	3	4	5	6	7	8	9	0	1
1. Sex	-										
2. Passion-H	.17*	-									
3. Passion-O	.21*	.38**	-								
4. Perceived performance	-.18*	.31**	.20**	-							
5. Stress-E (positive)	-.08	.45**	.39**	.40**	-						
6. Stress-D (negative)	-.16*	-.31**	-.07	-.29**	-.19**	-					
7. Worry	.39**	-.28**	-.14*	-.21**	-.15**	.43**	-				
8. ABQ- exhaustion	.13*	-.46**	-.09	-.19**	-.26**	.47**	.43**	-			
9. ABQ- accomplishment	.17*	-.42**	-.13*	-.52**	-.38**	.34**	.40**	.48**	-		
10. ABQ- devaluation	.10	-.47**	.31**	-.25**	-.37**	.36**	.31**	.62**	.49**	-	
11. ABO-sum	.16*	-.54**	-.21**	-.39**	-.41**	.47**	.45**	.85**	.79**	.85**	-
Maximum possible score	2	7	7	7	5	5	5	5	5	5	5
Number of items	1	7	7	4	10	10	16	5	5	5	15
Mean	1.46	6.10	4.58	4.75	3.77	2.26	2.62	2.31	2.49	2.10	2.30
Standard deviation	.50	.62	1.20	1.03	.56	.69	.84	.75	.74	.75	.62
Cronbach's alpha		.68	.85	.91	.83	.85	.93	.84	.82	.76	.78

Note. ** p< .000, *p< .01. The estimates are based on the observed data.

The zero order correlations between the study variables vary from zero (+/- .07 to .19) to strong (+/- .40 to .85) positive and negative relationships. The Cronbach's alphas of the variables in this study varied from excellent to acceptable. One approach that is used to interpret burnout scores is to develop norms by dividing the distribution into thirds with scores in the upper third defined as high burnout, those in the middle third as average burnout, and those in the bottom third reflecting low burnout (Raedeke & Smith, 2009). The mean scores in this investigation are found to be average burnout (in the middle third) compared to Raedeke and Smith's (2009, p.51) data collection of burnout scores and distribution into thirds.

A four stage hierarchical multiple regression analysis was conducted to test our research question and investigate if the passion-, perceived performance-, stress- and worry variables uniquely predicted athlete burnout. Thus, athlete burnout was the dependent variable in the investigation.

Regression analysis

Table 1 above shows the inter correlations between the multiple regression variables in the investigation and table 2 below shows the regression statistics from the 3-step hierarchical regression analysis. In our study, the sex variable was entered at step 1 (Model 1), the Passion variables (harmonia and obsessive) at Step 2 (Model 2), and the performance variable, the stress variables (eustress and distress) and the worry variable were added at Step 3 (Model 3).

Table 2: Summary of hierarchical regression analysis for variables predicting Athlete Burnout (N=318)

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Sex	.20	.07	.005**	.09	.06	.14	-.06	.06	.27
Passion- Harmonia				-.53	.05	.000**	-.32	.05	.000**
Passion- Obsessive				.00	.03	.935	.02	.02	.48
Perceived performance							-.08	.03	.007**
Stress-E (positive)							-.17	.06	.002**
Stress-D (negative)							.19	.04	.000**
Worry							.18	.04	.007**
R2		.03			.29			.47	

Note.** $p < .01$, * $p < .05$. The estimates are based on the observed data.

A summary of the hierarchical multiple regression analysis is given in Table 2. Sex was significantly associated with levels of athlete burnout in step 1 indicating that females exhibited significantly higher burnout scores compared to males. However, there were neither gender differences when harmonious and obsessive passion were entered into the equation in step two, nor when the other variables were entered in step three.

Harmonious passion was significantly and negatively associated with levels of athlete burnout (step 2) and remained significant even when the other variables were entered in step 3. Obsessive passion was on the other hand not significantly related to levels of athlete burnout neither in step 2 nor 3. Perceived performance and positive stress were significantly and negatively related to levels of athlete burnout, while negative stress were significantly and positively related to levels of athlete burnout. Together the independent variables explained 47% of the variance in athlete burnout. Harmonious passion alone explained 34% of the variance.

Discussion

The purpose of the present study was to explore possible unique relations between passion, perceived performance, stress, worries and athlete burnout among Norwegian junior athletes attending high schools specialized for sports. The findings with our sample of high-level junior athletes seem to corroborate with our hypothesis and previous research. Harmonic passion seems to predict athlete burnout negatively, and explains alone 34% of the variance in athlete burnout (see Table 2). Perceived performance in sport explains 5% of the variance in athlete burnout alone, and seems to predict athlete burnout negatively.

Further, positive stress seems to predict athlete burnout negatively, whereas negative stress seems to do the opposite. Stress alone seems to explain 10% of the variance in athlete burnout. Worry seems to predict athlete burnout positively and explains 4% of the variance alone. In total, the overall model explains 48% of the variance in athlete burnout and all predictions are significant. Our hypothesis that obsessive passion was expected to predict athlete burnout positively was not confirmed.

This study confirms that passion seems to play a role in explaining the burnout syndrome in sport. Our findings show that harmonious passion predicts athlete burnout negatively and it appears that this form of passion may ameliorate the burnout syndrome for athletes as it does in other groups (Carbonneau et al., 2008; Vallerand et al., 2010). Thus, the more athletes identify with harmonious passion, the less likely they report symptoms of athlete burnout. This finding supports a growing body of research that has evidenced the adaptive role of harmonious passion in sport (Vallerand & Miquelon, 2007).

However, highly passionate activities, such as the athletes' sports, are incorporated in their identity since their sports are highly valued by themselves (Aron, Aron, & Smolan, 1992; Csikszentmihalyi, Rathunde & Whalen, 1993). Therefore, the athletes' sports become central features of their identity to the extent that they define who they are. Thus, such passionate activities are part of who the athletes are. Since passion is described as being highly motivated, it is expected that passion negatively predicts athlete burnout as our results show (Vallerand, 2015). Interestingly, the highest correlation between the variables in our study is the negative correlation between harmonious passion and athlete burnout (Table 1).

However, the flip side of passion, and especially obsessive passion, has the potential to result in an identity crisis if the athletes over time don't succeed in their sports and influence athlete burnout positively. Importantly, sport is in harmony with other aspects of a harmonious passionate athlete's life, whereas sport occupies an overpowering space in an obsessive passionate athlete's identity. Contrary to this expectation, our findings show that obsessive passion was unrelated to athlete burnout in the current study. One possible explanation of this finding is that this form of passion may not fully capture the "motivational signature" of the burnout syndrome in sport (see Eklund & Cresswell, 2007; Gould, 1996).

Instead, obsessive passion may be best considered as an indicator of poorer motivational quality in tandem with high motivational quantity. This possibility is supported by Vallerand and colleagues (2003), who have found that obsessive passion energizes high levels of behavioural investment, even when it is not sensible to do so. In other words, despite many other negative outcomes relative to harmonious passion (see Vallerand & Miquelon, 2007), obsessive passion may not necessarily encompass a pattern of motivation that predisposes athletes to burnout (Curran et al., 2011).

Nevertheless, it is notable that obsessive passion did not inversely predict athlete burnout. Therefore, unlike harmonious passion, obsessive passion does not seem to actively mitigate the athlete burnout syndrome. Importantly, our study does not have the data to analyse and discuss how passion relates to the burnout syndrome when a passionate athlete, both harmonious and obsessive, experience performance impairments over time.

In this case, our finding that perceived performance uniquely predicts athlete burnout negatively is interesting. One dimension in the burnout syndrome that develops during the whole burnout process is reduced sense of accomplishments (Gustafsson et al., 2011; Leiter, 1993). Interestingly, our results show a large negative correlation between perceived performance in sport and reduced sense of accomplishments (see Table 1). A possible explanation might be that these athletes in general are passionate about their sport and therefore sport is a central part of their identity. Experienced performance enhancements should therefore prevent the development of athlete burnout while performance impairment should not. Again, our results cannot answer how these relationships develop over time, and longitudinal studies should investigate this further in the future.

Our results also show that eustress correlate negatively with athlete burnout and positively with performance, and uniquely predict athlete burnout negatively (see Table 1 and 2). Distress on the other hand correlate positively with athlete burnout and negatively with perceived performance, and uniquely predict athlete burnout positively (see Table 1 and 2). All relationships are significant. A possible explanation of this finding is that performance impairments, especially in an activity that an athlete feel passionate about, eustress is a natural response because the athletes might feel that they don't have the resources to cope with situational demands (Ursin & Eriksen, 2004).

On the other hand, performance development responds opposite with eustress because the athletes feel they can cope with the situation. Since accumulated stress over time can become chronic (McEwen, 1998; Semmer, McGrath, & Beehr, 2005), small, daily hassles with training and competitions can ultimately lead to burnout (Cresswell, 2009; Gustafsson, 2007; Gustafsson et al., 2008; Rowbottom, 2000).

Our results also show that worry correlate negatively with perceived performance and eustress, and positively with distress (large correlation, see Table 1). Further, worry is found to uniquely predict athlete burnout positively (see Table 2).

A possible explanation of these findings is that distress stimulates cognitive activation such as worry, as claimed by CATS (Ursin & Eriksen, 2004). Worrying can be exhaustive for an athlete and might therefore contribute to athlete burnout (Hardy, Mullen & Martin, 2001).

Conclusions and limitations

Importantly, actions that can prevent burnout among junior athletes are required, since burnout inhibit regeneration and development of athletes' potential. This study indicates that burnout prevention is a complex endeavor. First of all, athletes should have more in their life than purely sport, so that their identity not purely relies on their performance development in their sport. Secondly, passionate athletes need to feel that they can cope with the demands they meet in training and competitions. The feeling of coping with situational demands also seems to be necessary to prevent distress and stimulate eustress. In addition, preventing distress will be positive for preventing worry. Thus, patently quality work with a harmonious attitude seems to bekey to prevent athlete burnout (Ericsson et al., 1993).

Although the results in the study are interesting, the present study has several limitations. Longitudinal studies are needed to investigate both direct and indirect relationships and how they develop over time. In addition, the collected data is constituted by self-reporting measures, and one does not know to what extent these self-report instruments accurately reflect the variables under study.

Conducting studies that combine self-reported data with data obtained in a more objective manner could further develop this line of research, for instance, by longitudinal studies that incorporate both quantitative and qualitative methods.

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