The role of teammate burnout on athlete burnout: The mediating effect of coach-athlete relationship quality
Jennica Haikarainen & Tove Stenberg

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Jennica Haikarainen and Tove Stenberg

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Supervisor: Louise Davis

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Abstract

Within organizational psychology, previous research has shown that there is a relationship between burnout on team-level and individual team members’ burnout, but little is known if this contagiousness of burnout is also relevant within sport contexts. Therefore, the first aim of the present study was to examine the effect of perceived teammate burnout on athletes perceptions of their own burnout. Furthermore, previous research has suggested that high-quality coach-athlete relationship has several positive outcomes for the athlete. Recently, researchers have found evidence that a high-quality coach-athlete relationship is linked with less symptoms of burnout in athletes. Therefore, the second aim was to investigate whether a high-quality coach-athlete relationship can mediate the relationship between perceived teammate burnout and individual burnout. Male and female athletes (N=102) performing five different competitive team sports at different levels participated in a cross-sectional study and completed questionnaires measuring individual athlete burnout, perceptions of teammates’ burnout and the quality of perceived coach-athlete relationship. The mediation regression analysis showed that the regression between perceived teammate burnout and individual burnout was significant. No mediation effect of quality of coach-athlete relationship was found when applying a Sobel test. The findings support the preliminary research on burnout contagiousness within the field of sport and to further examine the relationship between quality of coach-athlete relationship and athlete burnout more research is encouraged.

Keywords: athlete burnout, burnout contagiousness, coach-athlete relationship


Nyckelord: utbrändhet hos idrottare, smittsamhet av utbrändhet, tränare-idrottare relation
The role of teammate burnout on athlete burnout:
The mediating effect of coach-athlete relationship quality

Athlete burnout has been defined as a cognitive–affective syndrome comprised of emotional and physical exhaustion, a reduced sense of accomplishment and sport devaluation (Gustafsson, DeFreese & Madigan, 2017). Emotional and physical exhaustion are characterized by the perceived depletion of emotional and physical resources resulting from training and/or competition. Reduced sense of accomplishment is typified by an inclination to negatively evaluate one’s sporting abilities and achievements. Finally, sport devaluation reflects the development of a cynical attitude towards sport participation. An important contribution to the study of burnout was the development of the Athlete Burnout Questionnaire (ABQ), which was the first validated sport specific measure of athlete burnout (Raedeke & Smith, 2001; Gustafsson, DeFreese & Madigan, 2017). The ABQ was developed to assess the three sub domains of athlete burnout (i.e. exhaustion, reduced accomplishment, sport devaluation; Raedeke & Smith, 2001) and has since been used in several studies that have examined burnout in sport (Gustafsson, Madigan & Lundkvist, 2016).

Previous research has examined possible factors behind athlete burnout. For example, perceived psychological stress has shown to be associated with athlete burnout and is considered as one of the most consistent factor throughout research (Gustafsson, DeFreese & Madigan, 2017). This suggests that the athlete perceives high training loads or high expectations from coach, the team or him/herself as demanding. This perception causes stress, leading to coping responses such as burnout. Furthermore, other research states that a so called unidimensional athletic identity, that is only identifying oneself as an athlete and ignoring other aspects of life, combined with a lack of control, can cause the athlete to experience burnout (Coakley, 1992). The sport commitment is considered as another factor; participating in sport because athletes believe they ‘have to’ rather than ‘want to’, can lead to burnout (Schmidt & Stein, 1991). More recently, a theory known as Self determination theory (SDT) suggests that autonomy (perceptions of control and self-endorsement of an activity), competence (perceptions of proficiency), and relatedness (connection with others) need to be satisfied in order to reach psychological wellbeing and human functioning. If these needs are not met, it impacts wellbeing negatively and can lead to burnout (Ryan & Deci, 2000). Other possible explanation to athlete burnout has been found to be personality factors such as perfectionism (Gustafsson, DeFreese & Madigan, 2017).

Additional models and explanations of athlete burnout have been widely discussed throughout research which has lead to Gustafsson, Kenttä and Hassmén (2011) attempting to combine previous research and insights into one model, an Integrated Model of Athlete Burnout (see Figure 1). As seen in Figure 1, the model consists of major antecedents, early signs, entrapment, personality, coping and environment, key dimensions and maladaptive consequences (Gustafsson, Kenttä & Hassmén, 2011). Further on, for the purpose of this study the main focus will be environmental factors. These could include social factors such as impact from peers and coaches.

Impact from peers can be seen within team sports. Individuals will naturally empathize with the teammates’ feelings because this facilitates their ability to compete against other teams (Shearer, Holmes & Mellalieu, 2009). They also interact with each other on a regular basis. Alternatively, this social interactions between teammates causes an exchange of emotions and perceived demands of training (Appleby, Davis, Davis & Gustafsson, 2018). Appleby et al. (2018) found in their study that both athletes’ perceptions of teammates’ burnout and the team’s collective burnout are associated with athlete burnout. One possible explanation they discuss is that as a consequence of shared experiences, collective moods may develop between
teammates, whereby teammates develop similar feelings and influence others’ perceptions. In addition to this study, there has been no research that has looked at how perceptions of teammates’ burnout influences the athlete’s own feelings of burnout.

Additionally, outside of the sport domain, Bakker and Demerouti (2007) found that team-level burnout was related to individual team members’ burnout (i.e., exhaustion, cynicism, and reduced professional efficacy). Possibly a person’s stress generated at the workplace as a result from burnout may transmit to others in the work team (Bakker and Demerouti, 2007). Specifically, it has been found that individuals within a working team who share the same environment may start a crossover chain of stressors and strain among themselves (Bakker, Westman & Emerick, 2012). This burnout contagion hypothesis is relatively scarce and has only recently been identified as a consideration within the sport context (Appleby et al., 2018). Hatfield, Cacioppo and Rapson (1993) define the process of emotional contagion as “The tendency to automatically mimic and synchronize facial expressions, vocalizations, postures, and movements with those of another person and, consequently, to converge emotionally”. Bakker and Schaufeli (2000) found that among teachers who frequently talked with each other about work-related problems there was a positive impact on emotional exhaustion. They explain that one possible route to burnout contagion is that burnout symptoms are being communicated between colleagues. There is a willingness to show social support and social undermining by other colleagues (Westman and Vinokur, 1998). Bakker, Schaufeli, Sixma and Bosveld (2001) confirm this relationship of perceived burnout complaints among colleagues as being positively associated with emotional

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**Figure 1.** The Integrated Model of Athlete Burnout by Gustafsson, Kenttä and Hassmén (2011).
exhaustion. They also found that individual differences in susceptibility to emotional contagion are positively associated with emotional exhaustion. Further routes to contagiousness is those who experience burnout at the workplace are being imitated by others (Bakker and Schaufeli, 2000). Additionally, individuals perceive how others may feel or what they might do in a given situation, by imagining how they would respond if the same happened to them (Shearer, Holmes & Mellalieu 2009).

Burnout is a state that develops over time (Dale & Weinberg, 1990) and the Integrated Model of Burnout illustrates this consideration as well as demonstrates that athlete burnout can have various outcomes for the athlete (e.g. partial or complete withdrawal, impaired immune system, long term performance impairment; Gustafsson, Kenttä & Hassmén, 2011). Further, the model offers a wider view of athlete burnout and provides a holistic conceptual framework for participants within sport to better understand the concept and to potentially find a way to prevent this maladaptive phenomena (Gustafsson, DeFreese & Madigan, 2017). Specifically, the Integrated Model of Athlete Burnout illustrates that social factors can impact upon burnout (Gustafsson, Kenttä & Hassmén, 2011). Whilst peers can be a source that may impact burnout, the coach has also been found to play an important role in the athlete’s social environment and has been found to influence the development of stress and exhaustion in athletes (Gustafsson, Hassmén, Kenttä & Johansson, 2008; Davis, Appleby, Davis, Wetherell & Gustafsson, 2018; Isoard-Gautheur, Trouilloud, Gustafsson, & Guillet-Descas, 2016). Previous research has found that those athletes who experience supportive social interactions and a positive climate, benefit from positive outcomes including enhanced performance and development (Bianco & Eklund, 2001). On contrary, previous research has found that if the coach contributes to negative social interactions in terms of rejecting and neglecting behaviours, can lead to more negative outcomes including hindered progress and injurious athlete experience (Newsom, Rook, Nishishiba, Sorkin, & Mahan, 2005). These interactions between a coach and athlete can be viewed from the perspective of the coach-athlete relationship.

Jowett and Ntoumanis (2004) define the coach-athlete relationship as a unique interpersonal relationship in which coaches’ and athletes’ feelings, thoughts and behaviours are mutually and casually interconnected. Jowett (2007) integrated these feelings, thoughts and behaviours into one conceptual model, namely the 3 + 1Cs model. According to this model, the following constructs are considered: closeness, commitment, complementarity and co-orientation. Closeness is defined as the athlete’s feelings of being emotionally close with the coach (e.g. I like, trust and respect my coach). Commitment refers to the intention to maintain a long-term athletic partnership and Complementarity reflects coaches’ and athletes’ cooperative interactions which determine the efficient conduct of their interactions. Whereas commitment characterizes the cognitive (e.g., thoughts) element of the coach-athlete relationship, complementarity characterizes the behavioral element. There are two sets of complementarity behaviours that are thought to determine this efficient conduct of interactions between coaches and athletes; corresponding and reciprocal. The first, corresponding, reflects the same behaviours that coaches and athletes are expected to display in training and competition (e.g. responsiveness and openness), and the latter, reciprocal, refers to different behaviours that coaches and athletes are expected to display in training and competition (e.g. when the coach directs or instructs and the athlete follows or executes instructions). Together these 3Cs represent the quality of the coach-athlete relationship. The final construct in the 3 + 1Cs model, co-orientation, represents the shared perspectives of coaches’ and athletes’ and refers to the interpersonal perceptions regarding the quality of the coach-athlete relationship. According to Jowett (2007), there are two possible ways for the coaches and athletes to view and consider this relationship through; the direct perspective (e.g. “I like my coach”) and the
meta-perspective (e.g. “My coach likes me”). Together these two perspectives act as essential indicators of the quality of the coach-athlete relationship.

In addition to the 3 + 1Cs model, Jowett and Poczwardowski (2007) have constituted an integrated research model (see Figure 2) which explains the coach-athlete relationship through three different layers: antecedent variables (individual difference variables, social-cultural context and relationship characteristics), 3 + 1Cs (i.e. closeness, commitment, complementarity and co-orientation) and outcome variables (intrapersonal, interpersonal, and group outcomes). The 3 + 1Cs is in this model placed as the middle layer and is told to influence and be influenced by antecedent and outcome variables. Specifically, positive outcome variables influenced by the coach-athlete relationship have had a leading focus in previous research. For example, research has found consequent variables as an outcome of having quality coach-athlete relationships to include; sport and relationship satisfaction (Davis, Jowett, & Lafraniere, 2013; Jowett & Ntoumanis, 2004; Lorimer, 2009), motivation (Felton & Jowett, 2017; Adie & Jowett, 2010), well-being (Felton & Jowett, 2017) as well as performance, training and coach treatment (Jowett, 2009; Jowett, Shanmugam, & Caccoulis, 2012). On contrary, research has also examined negative outcome variables that have included interpersonal conflict (Wachsmuth, Jowett & Harwood, 2018) and athlete burnout (Isoard-Gautheur et al., 2016).

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**Figure 2.** Integrated research model by Jowett and Poczwardowski (2007).
Recently there has been of interest to examine the role of coach-athlete relationship quality against athlete burnout (Davis et al., 2018; Isoard-Gautheur et al., 2016). Specifically, it has been found that poor quality coach-athlete relationships characterized by lack of closeness, commitment and complementarity, are negatively linked with athlete burnout (i.e. exhaustion, reduced accomplishment, sport devaluation). On contrary, athletes who have perceived to have high quality relationships with their coach, have reported lower levels of burnout (Isoard-Gautheur et al., 2016; Davis et al., 2018). Specifically,Isoard-Gautheur et al.’s (2016) study showed that athletes who reported a good relationship in terms of high levels of closeness, commitment and complementarity with their coaches, also reported higher personal accomplishment and lower emotional and physical exhaustion in addition to reduced negative feelings toward their sport compared with athletes who experienced their coach-athlete relationship more negatively (Isoard-Gautheur et al., 2016). This was more recently supported by Davis et al. (2018). In their study, they specifically examined the associations between the quality of the coach-athlete relationship and athlete’s emotional and physical exhaustion, and in relation to the physiological and cognitive consequences of this. Their results indicated that a high quality coach-athlete relationship predicted better cognitive performance, less acute stress and was negatively associated with athlete exhaustion.

The present study

Previous research within work and organizational psychology domain considers that burnout at the workplace has the potential to influence individual burnout (Bakker and Demerouti, 2007) and that within sport there has been some preliminary evidence to suggest that athletes’ perceptions of teammates’ burnout is associated with athlete burnout (Appleby et al, 2018). In consideration of this, the aim of this study was to further examine and contribute knowledge about the nature of burnout within sport. Furthermore, given that a high quality coach-athlete relationship has been found to play a significant role in preventing athlete burnout (Isoard-Gautheur et al., 2016; Davis et al., 2018), it may be possible that the quality of the coach-athlete relationship can buffer the negative impact of perceptions of teammates burnout on athletes own perceptions of burnout. Therefore, we present the aims of our study.

The first aim of the study was to examine how perceived teammate burnout affect athlete's own burnout.

Hypothesis: Those athletes who perceive their teammates burnout as high, are more likely to show symptoms of burnout.

The second aim was to examine whether a high-quality coach-athlete relationship can mediate the relationship between perceived teammate burnout and individual burnout.

Hypothesis: We expect that a high quality coach-athlete relationship can mediate the relationship between perceived teammate burnout and individual burnout.

Method

Participants

A total of 102 athletes, including 72 males (70.6%) and 30 females (29.4%), participated in the study. The participants’ age ranged from 16 to 31, with a mean age of 19.72 years (SD = 2.81). All the athletes were actively competing in team sports; the sample was
The sample included athletes from five different sports: rugby union (n = 53, 52.0%), rugby league (n = 19, 18.6%), football (n = 14, 13.7%), volleyball (n = 9, 8.8%), and netball (n = 7, 6.9%). The participants trained on average for 9.66 hours per week (SD = 3.20), had on average played their sport for 9.56 years (SD = 4.86), and had been competing with their current team for 1.87 years (SD = 2.80).

**Measures**

**Athlete burnout:** The Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001) is a 15-item self-report measure. The questionnaire has five items assessing physical and emotional exhaustion (e.g., “I feel overly tired from my sport participation”), five items assessing reduced accomplishment (e.g., “I am not performing up to my ability in sport”), and five items assessing sport devaluation (e.g., “I don’t care as much about my sport performance as I used to”). The stem for each ABQ-item was “How often do you feel this way?”. Participants respond were measured on a 5-point Likert Scale ranging from 1 (“Almost Never”) to 5 (“Almost always”). Together, the questions provide a composite measure of athlete burnout. The ABQ has shown good psychometric properties regarding validity and reliability (Raedeke & Smith, 2001; Appleby et al., 2018).

**Team burnout:** The Team Burnout Questionnaire (TBQ) is an adapted version of ABQ (Raedeke & Smith, 2001) and is used to assess athletes’ perception of their teammates’ burnout (Appleby et al., 2018). Like ABQ, TBQ is a 15-item self-report measure. The questionnaire has five items assessing physical and emotional exhaustion (e.g., “My teammates feel overly tired from their sport participation”), five items assessing reduced accomplishment (e.g., “My teammates are not performing up to their ability in sport”), and five items assessing sport devaluation (e.g., “My teammates don’t care as much about their sport performance as they used to”). The stem for each TBQ-item was “How often do your teammates feel this way?”.

Participants responses were measured on a 5-point Likert Scale ranging from 1 (“Almost Never”) to 5 (“Almost always”). In this study, TBQ showed acceptable and good psychometric properties. Also Appleby et al. (2018) have found sound psychometric properties for TBQ but more research is needed to ensure further psychometric support.

**Coach-Athlete Relationship:** The 11-item Coach-Athlete Relationship Questionnaire (CART-Q; Jowett & Ntoumanis, 2004) measures athletes’ direct perception of the quality of the coach-athlete relationship. The questionnaire has four items assessing closeness (e.g., “I like my coach”), three items assessing commitment (e.g., “I am committed to my coach”) and four items assessing complementarity (e.g., “When I am coached by my coach, I am ready to do my best”). All the 11-items in CART-Q were measured on a 7-point Likert Scale ranging from 1 (“Strongly Disagree”) to 7 (“Strongly Agree”). CART-Q has shown to possess good psychometric properties of validity and reliability (Jowett & Ntoumanis, 2004).

**Demographic and background inventory:** Age, gender, sporttype, current level of competition, highest level of competition, and hours per week training were reported by participants.

**Procedure**

The current study used opportunistic sampling. Initially, the directors of sports clubs and head coaches of the sports teams were contacted in order to obtain permission to conduct the study at their respective clubs. Upon coaches’ consent, a convenient time prior to a training
session was determined to meet with the athletes and to discuss the purpose of the study, as well as to outline the confidentiality terms and to elicit the athletes’ participation. Information sheets outlining the aims of the study were provided to coaches and athletes prior to participants granting written consent. Arrangements were made for the athletes to complete a battery of questionnaires prior to a training session. Athletes were asked to complete the questionnaires independently from their coach and other teammates. Upon completion, participants were thanked for their participation and data was then entered into a SPSS data file ready for analysis.

**Data analysis**

IBM SPSS statistics version 24.0 was used to analyse data. Descriptive statistics including means (M), standard deviations (SD) and alpha reliability coefficients (α) were conducted and calculated for the main variables. To examine the relationship between the study variables, Pearson correlation coefficients were conducted. Furthermore, to test the hypotheses, mediation regression analysis were conducted using the guidelines set out by Barron and Kenny (1986) and using Preacher and Hayes (2004) Sobel test.

**Results**

**Descriptive statistics**

Means, standard deviations and cronbach's alpha for the study variables are presented in Table 1. The scores for ABQ’s subscales exhaustion and reduced accomplishment were moderate and for devaluation low, implying that the athletes felt higher levels of exhaustion and reduced accomplishment than devaluation. The overall scores for the composite variable ABQ in the study were moderate, indicating that many of the participants were experiencing some level of athlete burnout. The scores for the subscales within the TBQ (i.e. exhaustion, reduced accomplishment, devaluation) were moderate in the study, indicating that on average

<table>
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<th></th>
<th>Mean</th>
<th>SD</th>
<th>Cronbach’s α</th>
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participants perceived their teammates to experience some levels of exhaustion, reduced accomplishment and devaluation. The overall scores for the composite variable TBQ showed that athletes’ perception of team burnout was moderate, indicating that participants were experiencing their teammates as experiencing moderate levels of burnout. The scores for the CART-Q’s subscales closeness and complementarity were high moderate and for subscale commitment moderate, indicating that on average the athletes experienced some levels of commitment and stronger closeness and complementarity to their coach. The overall scores for CART-Q showed that many of the athletes reported to experience moderate levels of perceived coach-athlete relationship quality, showing that the athletes felt fairly satisfied with their relationship to their coach.

Bivariate correlations were computed to assess whether the ABQ, TBQ and CART-Q’s global scores could be used for further analysis (see Table 2). Correlational analysis indicated that there were several significant correlations between study variables. Specifically, each of the three dimensions of ABQ were positively and significantly correlated with each other, indicating that ABQ can be used as a whole measure of athlete burnout. Furthermore, the subscales of TBQ, as well as the subscales of CART-Q, were positively and significantly correlated, indicating that the global scores can be used as indicators of the perceived teammate burnout and the quality of the coach-athlete relationship. Additionally, the ABQ and TBQ were found to be positively and significantly correlated with each other, whereas ABQ and CART-Q were negatively and significantly correlated with each other. Also TBQ was found to be negatively and significantly correlated with CART-Q.

Regression and mediation analysis

According to this study’s hypotheses, it was proposed that athletes who perceive their teammates burnout as high are more likely to show symptoms of burnout and that a high-quality coach-athlete relationship could mediate the relationship between perceived teammate burnout and individual burnout. To test these hypotheses, mediation regression analysis by using a Sobel test (Barron & Kenny, 1986; Preacher & Hayes, 2004) was conducted to examine the effects of TBQ on ABQ through the mediating effect of CART-Q. As seen in Figure 3, the regression of TBQ on ABQ was significant. Additionally, the regression of the TBQ on the mediator (CART-Q) was found to be significant in this study (see Figure 4). Furthermore, the analyses showed that the mediator (CART-Q), when controlling for the TBQ, was not significant. However, controlling for the mediator (CART-Q), TBQ was still a significant predictor of ABQ. A Sobel test (Preacher & Hayes, 2004) was conducted and no significant mediation in the model was found (see Table 3).

![Diagram](image)

Figure 3. The regression between TBQ on ABQ. Note. *p < 0.01, **p < .001.
### Table 2

_Bivariate correlations for all variables_

<table>
<thead>
<tr>
<th></th>
<th>ABQ</th>
<th>Accomplishment</th>
<th>Exhaustion</th>
<th>Devaluation</th>
<th>TBQ</th>
<th>T. Accomplishment</th>
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<th>Complementarity</th>
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<td>TBQ</td>
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<td>0.304**</td>
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*Note.* *p < .01 **p < .001
The purpose of the present study was to firstly examine whether athletes perceived team burnout affected their own burnout and secondly to examine if a high-quality coach-athlete relationship could mediate the relationship between perceived teammate burnout and athletes’ perceptions of their own burnout. Two hypotheses were tested and the findings will be discussed in the following paragraphs.

The first hypothesis was that those athletes who perceive their teammates’ burnout as high, were more likely to show symptoms of burnout themselves. In relation to this hypothesis, the regression analysis indicated that perceived teammate’s burnout had a statistically significant positive relationship to athlete’s perceived individual burnout. This result could possibly indicate that athletes are influenced by their perceptions of their teammates’ burnout, suggestively through the process of contagion (Appleby et al., 2018). Research has shown that teammates share an exchange of emotions and perceived demands of training (Appleby et al., 2018), and perceived high demands of training is known to be one of the most consistent factor to influence burnout among athletes’ (Gustafsson, DeFreese & Madigan, 2017). These perceived demands are then shared around the team (Appleby et al., 2018), whereby individual team members begin to rethink their situation because of the new perspectives of others that they may not have reflected upon before (Shearer, Holmes & Mellalieu 2009). It is important to note that in these circumstances, the athletes actual situation does not change, instead it is their teammates that impact the athlete’s cognitive perception of the environment. This then
further has an impact on how they are evaluating the demands being more exhausting than before (Bakker and Schaufeli, 2000). The findings of the present study are in line with previous research within the domain of work and organizational psychology (Bakker and Demerouti, 2007). For example, it has been shown that team-level burnout in working groups is related to individual team members’ burnout (Bakker and Demerouti, 2007). Even though there is little existing research within the field of sport (Appleby et al., 2018), it is suggested that these findings within organisational psychology show tendencies that burnout contagiousness may also be present within sport teams. This study’s findings provide preliminary support to suggest that similarly to other context, teammates’ burnout can influence athletes’ burnout. This is quite expected since a sport team has a similar approach as any other working team: to work together toward common goals (Peralta, Lourenço, Lopes, Baptista & Pais, 2018). Team members share, discuss, and reflect on important issues, processes and outcomes with each other. Furthermore, interventions such as personal-disclosure/mutual-sharing exercises have been shown to improve team dynamics (Lehmann-Willenbrock, 2017), which means that sharing personal things is beneficial for the team. It is also possible that the more sharing culture there is in the team, the stronger the relationship becomes.

In relation to the second hypothesis, it was expected that a high-quality coach-athlete relationship would mediate the relationship between perceived teammate burnout and athletes perceptions of their own burnout. As discussed above, the previous research on burnout contagiousness within sport is limited and as far as known, the mediating role of coach-athlete relationship on the relationship between perceived teammate burnout and individual burnout has not been investigated before. Previous research has suggested that athletes with a high-quality coach-athlete relationship show less symptoms of athlete burnout (Isoard-Gautheur et al., 2016; Davis et al., 2018) and therefore it was expected that the quality of the coach-athlete relationship may buffer the negative impact of the perceptions of teammate burnout on athletes own perceptions of burnout. However, the findings of the present study show no mediating effect for coach-athlete relationship quality. These insignificant findings were unexpected given that previous research quite clearly suggests that high quality coach-athlete relationships may act as a possible mediator. In the present study, athletes reported a moderate level of coach-athlete relationship quality, indicating that they were experiencing some levels of closeness, commitment and complementarity to their coach. Previous studies have reported that high-quality coach-athlete relationships in terms of closeness, commitment and complementarity, have been shown to have several positive outcomes for the athlete (Davis, Jowett, & Lafrianiere, 2013; Jowett & Ntoumanis, 2004; Lorimer, 2009; Felton & Jowett, 2017; Adie & Jowett, 2010; Jowett, 2009; Jowett, Shanmugam, & Caccoulis, 2012), but it is not until more recently that the relationship between coach-athlete relationship quality and athlete burnout has become of interest (Davis et al., 2018; Isoard-Gautheur et al., 2016). Specifically, these recent studies have shown that athletes with high-quality relationships with their coach have experienced lower levels of burnout (Davis et al., 2018; Isoard-Gautheur et al., 2016). Again, it was a surprising result to find no mediating effect within the present study. Possibly the participants moderate level of perceived coach-athlete was not enough to indicate any effect and to further investigate this, a distinction between level of perceived coach-athlete relationship is suggested.

While the present study has added to the existing research within the context of sport, the study is not without its limitations. There is no validation that the relationship between teammates’ burnout and athletes’ burnout is of linear causality. There may be other factors affecting individual athlete burnout and therefore also the level of burnout within the team. The Integrated Model of Athlete Burnout (Gustafsson, Kenttä & Hassmén, 2011) illustrates that beside the contagiousness of teammates’ burnout symptoms, there are many other factors to be
suggested to impact stress and development of burnout among athletes such as personality, coping skills, climate etc. Furthermore, the global scores for each measure were used in this study and it may have given a more detailed description of how the study variables interacted with each other if the subscales for every composite variable (i.e. ABQ, TBQ and CART-Q) were used instead.

It is also difficult to state anything about whether the relationship with the coach can play a shielding role, as the descriptive findings of the study showed that participants had been part of their teams for different amount of times. It is possible that the shielding effect of the perceived quality of the coach-athlete relationship is stronger for those who have had the same coach longer than those who are relatively new in the team. In particular, previous research has indicated that athletes with a long-lasting coach-athlete relationship have higher level of performance and athletes with same-gender coach-athlete dyads are more likely to feel satisfied (Jowett & Nezlek, 2012; Rhind, Jowett, & Yang, 2012). The present study did not aim to examine any gender differences or time spent with the coach, but given to the previous research, it may be of interest to further investigate the role of gender and time interacted with the coach in future research related to similar topics as this thesis. Furthermore, little is known about the social interactions between teammates. Future research may benefit from using more specific athlete groups (i.e professional athletes, student athletes) rather than a heterogeneous sample used in the present study. Additionally, the sample size was relatively small (N = 102) which may also have had some impact on the mediation analysis (Preacher & Hayes, 2004). The study’s generalizability and a larger sample size might have delivered different findings. The choice of using a cross-sectional design can limit examination of causality and directionality of the effects between perceived teammates’ burnout and athletes’ perception of their own burnout. Therefore, to further investigate the directionality and causality of such effects, future research should consider longitudinal designs.

Due to the fact that there is already existing research on burnout contagiousness within other fields (Bakker and Demerouti, 2007), but limited amount within sport, it is of high importance to continue contribute research to the field of burnout within sport to further examine this relationship. This study’s results stresses the importance to take every individuals burnout seriously since it is then shared around the team similarly to any other disease. To investigate the burnout among team a good implication is to use both ABQ and TBQ measures and from there start interventions to reduce symptoms. Such interventions could be the team-based burnout intervention program Take Care! (Schaufeli, Taris & Peeters, 2007). When it comes to the relationship between coach-athlete relationship and athlete burnout, Isoard-Gauthier and colleagues (2016) suggest that it is of interest to improve the quality of coach-athlete relationship in order to prevent athlete burnout. It may be beneficial for the participants within sport to get a broader understanding of the importance of the quality of coach-athlete relationship in order to better help athletes to perform on top and interventions which aim to improve the coach-athlete relationship should be more closely integrated in the field of sport. It is suggested that for example a good communication can become a powerful vehicle for both coaches and athletes long-term development and personal growth (Jowett, 2017). Thus, by improving the communication, it is possible that even the coach-athlete relationship can be improved and further, development of athlete burnout be prevented.

In summary, the findings of the current study extend the previous yet limited research of the contagiousness nature of burnout within the field of sport. The findings of the present study strengthens the preliminary evidence brought by Appleby et.al (2018) which suggest that athletes´ perceptions of teammates’ burnout is associated with athlete burnout. Further, despite the fact that no mediating effect of coach-athlete relationship on the relationship between perceived teammate burnout and individual burnout was found in the present study, the
previous research (Isoard-Gautheur et al., 2016; Davis et al., 2018) suggest that this is the potential direction and therefore future research within this field is encouraged.
Reference list


Associations between the perceived quality of the coach–athlete relationship and athlete burnout: An examination of the mediating role of achievement goals. *Psychology of Sport and Exercise*, 22(210-217).


