EXPLORING ATHLETES’ PSYCHOSOCIAL ENVIRONMENT ON THRIVING IN SPORT

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The authors would like to extend a special thanks to Louise Davis for all her support during the work with this thesis. We would also like to thank Jeong Jin Yu for additional support during data analysis. Lastly, we would like to thank all participants in this study for helping us make this thesis possible.
Abstract

This study examined coach-athlete attachment as a contextual enabler for thriving (hedonic and eudaimonic well-being, and subjective performance) in sports, and the mediating effect of basic psychological needs satisfaction between coach-athlete attachment and thriving in sports. A total of 131 Swedish athletes from organized teams and individual sports were recruited (78% women, 22% men, ages between 15-41, $M = 18.99, SD = 4.31$). An online survey was used to collect data. Results indicated that the sample perceived their coach to fulfil basic attachment functions indicating that the coach can be seen as a context specific attachment figure. Mediation analysis revealed that insecure coach-athlete attachment was negatively associated with well-being. Anxious coach-athlete attachment was negatively associated with subjective performance. Secure coach-athlete attachment was found to be positively associated with well-being. Basic psychological needs generally mediated the association between attachment styles and thriving. Overall, the findings highlight the importance of further examination of coach-athlete attachment and the coaches’ role in supporting athletes’ basic psychological needs in order for them to thrive.

Keywords: Attachment, thriving, well-being, performance, sports, basic psychological needs

Abstrakt


Nyckelord: Anknytning, thriving, välmående, prestation, idrott, grundläggande psykologiska behov.
Exploring Athletes Psychosocial Environment on Thriving in Sport

In elite sports the physical health of the athlete is a self-written priority. Today it’s widely accepted and well established that the physical health of athletes has to be assessed, diagnosed and examined continuously (Åkersdotter, Kentää 2015). The psychological health of the athletes on the other hand has only recently become a subject of interest (Åkersdotter, Kentää, 2015). While performance has been openly evaluated and rewarded, the well-being of the athlete has not always been as overt. The topic of athletes’ well-being has started to gain momentum in addition to considering how well-being influences performance in sports. Specifically, what are the facilitators for athletes to perform well and feel good at the same time?

In elite sports, thriving is a word that has often been attributed to athletes to depict meanings of positivity, enjoyment, achievement and success (Brown, Arnold, Reid & Roberts, 2018). In research, thriving in sports has been defined as “a sustained high-level of performance and dimensions of well-being” (Brown et al., 2018 p. 1). Thriving has been examined across widespread contexts such as the military (e.g., Jarrett, 2013), in health (e.g., Wright & Birks, 2000), in work (e.g., Sumson, 2004), and in youth development (e.g., Gestsdottir, Urban, Bowers, Lerner, & Lerner, 2011). It has also been examined across the lifespan (i.e., from infants to the elderly; see, e.g., Haynes, Cutler, Gray, & Kempe, 1984). Given the connotations of positivity, enjoyment, achievement and success, thriving is understandably desirable in sports. Within the past decade the construct has gained attention from researchers in sports psychology (see, e.g., Gucciardi, Jackson, Hodge, Anthony, & Brooke, 2015; Gucciardi & Jones, 2012; Jones & Lavallee, 2009; Mahoney, Ntoumanis, Mallett, & Gucciardi, 2014). However, research on this topic in sport remains in its infancy. Brown, Arnold, Fletcher & Standage (2017a) suggests that there are both personal and contextual enablers that facilitates thriving, which is why the psychosocial environment of athletes is subject for further examination in this thesis.

Thriving

At the end of the 20-century, psychology research that placed emphasis on human positive functioning gained momentum (Brown et al., 2017a). This form of positive psychology was focused on factors that influence growth, development, learning, success and others, which stood in contrast to earlier psychological research that focused solely on psychopathology. Researchers were interested in examining how and why certain individuals thrived when facing new, unfamiliar situations (Brown et al., 2017a). However, human thriving had conceptual differences depending on which domain was examined. For example, within the developmental domain (e.g., youth), thriving was considered a growth and developmental process (Benson & Scales, 2009), while in the performance domain (e.g. business), thriving could be observed through someone’s prosperity, wealth and success (Brown et al., 2017a). In this contextual confusion, some scholars (e.g., Su, Tay, Diener, 2014; Spreitzer, Sutcliffe, Dutton, Sonenshein & Grant, 2005) argued that thriving is a state, described by Spreitzer et al. (2005 p. 538), as “The psychological state in which individuals experience both a sense of vitality and a sense of learning”. Others argue that thriving is a process, in which the interaction between an individual and its context, over time, enhances both the individual and his/her environment (Bundick, Yeager, King & Damon., 2010). Some also argue that it is both a state and a process (Benson & Scales, 2009), where thriving could be used to refer both to a current state of well-being, but also to the developmental path on which an individual is moving (Benson & Scales, 2009). The absence of a somewhat unified definition
of the construct has posed problems for scholars and researchers, when attempts of investigating “thriving” has resulted in studies exploring very different concepts.

In a literature overview and conceptual debate, Brown et al. (2017a) gathered and examined many earlier definitions of the term thriving that had been described across various domains, in an attempt to end the confusion surrounding its definition and conceptualization. Brown et al. (2017a) argued that many of the definitions have similarities that can be fused together under the broader definition of “the joint experience of development and success” (Brown et al., 2017a p. 168). Experiencing holistic functioning is a key factor in achieving development and success, and holistic functioning can be identified through an individual’s well-being and performance (Brown et al., 2017a). Well-being has in broad terms been described as doing well in life (Brown et al., 2017a), however Ryan, Huta and Deci (2013), proposes that the concept of well-being can be approached not only by looking at the outcomes of happiness (hedonic approach) but also by the process of living well (eudaimonic approach). If a person experiences high levels of well-being, that person can be said to show the level of social and personal functioning necessary for development (Ryan & Deci, 2001). High level of performance is viewed as an indicator of high functioning, and high functioning is needed to achieve success (Brown et al., 2017a).

**Thriving in Elite Sports**

In a qualitative study, Brown, Arnold, Reid and Roberts (2018) sought to bring clarity to the characteristics, perceived outcomes and factors that facilitate thriving in elite sports, from the perspective of those involved in it (e.g., athletes, coaches, and sports psychologists). Brown et al. (2018) found that thriving was suggested to involve a number of areas (e.g., being optimistic, being focused, possession of motivation, experiencing holistic development) that was considered to be related to the experience of eudaimonic well-being (i.e. being fully functioning; Ryan & Deci, 2001; Ryan, Huta, & Deci, 2008). Another part of thriving found in the study was a high level of performance. This finding aligned with earlier suggestions (Brown et al., 2017a) that high level performance is a fundamental requirement for thriving in sports, or other performance domains (e.g., emergency services, performing arts). Brown et al. (2018) concluded that the perception of thriving in elite sports was comprised by “a sustained high-level of performance and dimensions of well-being” (Brown et al., 2018 p. 1). This supports earlier conceptualizations of the construct where thriving has been defined as a holistic and multifaceted experience (see, e.g., Brown et al., 2017; Lerner, Dowling & Andersson, 2003; Spreitzer et al., 2005; Su et al., 2014). Since thriving in elite sports encompasses both elements of well-being and a sustained level of high performance, an athlete who performs well and suffers low levels of well-being (both hedonic and eudaimonic) cannot be said to be thriving (Brown et al., 2017a).

Brown et al. (2018) identified a variety of psychosocial variables that were perceived to facilitate or enable thriving. These variables have been suggested in line with earlier suggestions (Carver, 1998; Spreitzer et al., 2015, Brown et al., 2017) and divided into two categories, personal enablers and contextual enablers. Personal enablers are those which relate to an individual’s motivation, personality, perspective, beliefs and social competencies. Contextual enablers are those that exist within the individual’s environment such as those relationships that surround a person. Brown et al. (2018) identified a variety of personal enablers that include previous success, desire, motivation and a positive mental state. The contextual enablers were perceived to be both the social agents within the athlete’s environment (e.g., coach, parents) and the actual environment (e.g. facilities). A number of these enablers were earlier identified in thriving research within other contexts such as having a positive perspective as a personal enabler to thriving in high achievers (Sarkar & Fletcher,
2014), young people (Benson, Leffert, Scales, & Blyth, 1998), and teachers (Sumssion, 2004). Parental support was considered as a contextual enabler for adolescent thriving (see, e.g., Theokas, Almerigi, Lerner, Dowling, Benson, Scales & Von Eye, 2005; Weine, Ware, Tugenberg, Hakizimana, Dahnweih, Currie, Levin, 2013).

Earlier studies have found that the likelihood for an individual to be considered as thriving can be increased by interpersonal relationships (e.g., parents, friends, teachers) (Carver, 1998; Feeney & Collins, 2015; Spreitzer et al., 2005). These interpersonal relationships are characterized by attachment and trust, thus, for example, providing a secure base and a safe haven to be used for exploration (Bowlby, 1969; Carver, 1998). In the thriving review conducted by Brown et al. (2017a), they suggested that one of the contextual enablers for thriving has to do with the attachment bonds that a person develops within their context (e.g., parents and in the context of sports, coaches; Brown et al., 2017a). Brown et al. (2018) found, the social agents in the athlete’s environment (e.g. coach, parents) to be contextual enablers for thriving in elite sports. In the last decade, researchers have begun applying the theoretical framework of Bowlby’s (1969/82, 1988) attachment theory in sports contexts to investigate and further understand how interpersonal dynamics affect athletes in their respective sports (Carr, 2009b; Davis & Jowett, 2010; Davis, Jowett & Lafrenière, 2013; Davis & Jowett, 2014).

Attachment theory

Attachment theory (Bowlby, 1969/1982, 1988), provides a well-known psychological framework that in the last decades has contributed significantly to the understanding of the emotional bonds that are formed in close relationships. The basic human need to find close relationships and bonds with someone who can act as an attachment figure is the foundation of the theory (Bowlby, 1969/1982, 1988). In infancy, this attachment figure is often considered to be the caregivers, as the primary attachment figures. Ainsworth, Blehar, Waters and Wall (1978) recognized different types of attachment styles dependent upon the nature of the interaction from the infant’s primary attachment figures. For example, when attachment figures (i.e., a mother) is attentive, available and responsive to an infant’s attachment needs (the needs of comfort protection and reassurance in threatening/stressful situations) the infant develops a secure attachment style. The secure attachment pattern facilitates a feeling of closeness and safety enabling the infant to build positive schemas that they can rely on their attachment figure when needed. Ainsworth et al. (1978) further found that when an infant’s primary attachment figures are inconsistent or limited in their responsiveness to their infant’s attachment needs during threat/danger, the infant instead develops an anxious/ambivalent attachment style. This attachment pattern facilitates feelings of anxiety and insecurity and develops negative schemas that they are unable to rely on their attachment figures as a secure base. Finally, Ainsworth et al. (1978) recognized that when primary attachment figures are consistently neglectful and rejecting the infants develop an avoidant attachment style and a negative schema that expects their attachment figure not to provide comfort, reassurance or protection during times of need. These infants develop negative feelings of closeness and relationship dependency (Ainsworth et al. 1978).

Bowlby (1988) described these positive or negative schemas within the concept of internal working models (IWMs) of self and others that develops in response to the experiences with the primary attachment figures. Bowlby (1973) describes the developing process of the IWM’s by a repeated evaluation of the likelihood of the attachment person to be accessible and responsive. This evaluation contains one part in which the attachment figure is evaluated as to whether he or she is likely to be the kind of person who respond to calls for protection or support. The other part is, based on the responsiveness from the attachment figure, whether
the perception of the self is as a person who is worthy of love and support (i.e., likely to receive helpful response from anyone, specifically the attachment figure). This process results in IWM’s containing both a model of self and a model of others. A positive IWM of the self, meaning to feel worthy of the love, support and attention received by the attachment figure, tends to develop from a secure attachment. Those who have an insecure attachment pattern (anxious/ambivalent, avoidant) tend to have negative IWMs of the self, feeling unworthy of the love, support and attention they may, or may not receive. Bowlby states that these IWMs are developed as individuals grow, and influence patterns of cognition, affect and behavior, in subsequent relationships during adolescence and adulthood. (Bowlby, 1973, 1979, 1988).

Even though the original attachment research focused on infancy and the attachment styles formed in relation to the primary attachment figure, both Bowlby (1969/1982, 1988) and Ainsworth et al. (1978) acknowledged that these attachment patterns influence relations throughout life. Bowlby (1988) discussed that whilst a person’s IWM ‘s influence how they form relationships throughout life (i.e., they can remain relatively stable), they are also open to revision and can be influenced and altered by new relationships (Mikulincer and Shaver, 2007). Many studies have supported the idea that a person’s IWMs are open to revision across the lifespan, in changing life circumstances, and in important relationship experiences (Hamilton, 2000; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). Carrying the primary attachment-style and the IWM’s the infant becomes a toddler, a child, an adolescent and an adult, and during this time the relationship to the primary attachment figure renegotiates. In this developmental process, individuals are expected to developmentally form attachments to other individuals than their primary caregivers (e.g., peers, teachers, romantic partners) (Bowlby, 1988). Attachment in adolescent and adult relationships has been widely studied, including romantic and marital (Collins & Read, 1990; Hazan & Shaver, 1987), friendship (Granot & Mayseless, 2001), educational (Riley, 2011), therapeutic (Parish & Eagle, 2003), organizational relationships (Davidovitz, Mikulincer, Shaver, Izssak, & Popper, 2007) and sports (Davis & Jowett, 2010). Whilst these new relationships are formed, some are more close and important than others. Weiss (1991) stated “not all pair bonds, relationships of adults and their parents, relationships of patients to therapists, and parental relationships are attachments, nor is it impossible for friendships, work relationships, or kin ties to be attachments. However, some of these relationships are likely to be attachments, others unlikely. The question is whether the relationship displays attachment properties” (p. 67). To establish an attachment relationship, the attachment figure needs to fulfil three specific functions (a) proximity maintenance, (b) safe haven, and (c) secure base. When the attachment figure is in close proximity in times of need, proximity maintenance is fulfilled. When the attachment figure provides a source of comfort and security during times of need, the function of safe haven is fulfilled. When the attachment figure can be a secure base, from which to explore autonomous activities outside the relationship, the secure base is fulfilled (Ainsworth, 1989; Hazan & Shaver, 1987; Parish & Eagle, 2003). In the context of sports, the coach has been considered as a potential attachment figure. Recently the role of the coach-athlete attachment has been explored.

Coach-Athlete attachment

Davis and Jowett (2010) explored the role of attachment in sport and examined the coach as a potential attachment figure. Their justifications were that similar to parents, coaches are able to provide a secure base for their athletes for discovery, exploration and risk taking within their sport. They also provide a safe haven for their athletes, so they have a contextual person they can turn to especially in times of distress, and act as a source of proximity maintenance for athletes needing to seek a level of closeness with their coach. Their findings
indicated that the coach can act as an attachment figure and that the coach-athlete relationship can be studied through attachment theory. Following this initial study, Davis and colleagues continued to examine the role of coach-athlete attachment towards athletes’ well-being and performance satisfaction (Davis & Jowett, 2010, 2013b, 2014; Davis, Jowett & Lafrenière, 2013a). A series of studies (Davis & Jowett, 2010, 2014; Davis et al., 2013a; Felton & Jowett, 2013, 2015) have identified a link between athletes’ avoidant or anxious attachment to the coach, lower levels of well-being (hedonic and eudaimonic) and performance satisfaction. On the contrary secure coach-athlete attachment has been linked to greater feelings of sports satisfaction, relationship depth, social support, lower levels of interpersonal conflict and higher levels of well-being (hedonic and eudaimonic) (Davis & Jowett., 2010, 2014; Davis et al., 2013; Felton & Jowett, 2013, 2015). Davis and Jowett (2014) discussed their findings in relation to the perceived availability of support during threatening and challenging situations. They suggested that securely attached athletes’ tendencies to perceive availability of support during threatening and challenging situations may be explained by that their IWM’s have been formed by reassuring and supporting interactions (Mallinckrodt & Wei, 2005; Meyers & Landsberger, 2002). This aligns with Shaver and Mikulincer (2010) earlier findings on the link between secure attachment and support seeking. Freeman and Rees (2009) found that athletes who perceived high levels of esteem and support appraised a competition as a challenge, while those who perceived less esteem and support instead viewed it as a threat. They also found, supported by previous findings (Lazarus, 2000; Skinner & Brewer, 2002), that the appraisal of challenge led to better performance, while threat led to a lower performance.

In an additional study, Felton and Jowett (2013) examined whether basic psychological needs satisfaction (BPNS) could be seen upon as a mediator between athlete’s insecure attachment styles and levels of well-being. The basic psychological needs theory (BPNT; Deci & Ryan, 2000) is a sub theory within Ryan and Deci’s well known and thoroughly researched Self-determination theory (SDT; Ryan & Deci, 2000). BPNT proposes that there are three universal needs that when fulfilled, directs human behavior towards growth, wellness and integrity. These needs are autonomy (e.g., to act on one’s own volition and by inner motivation), competence (e.g., to feel confident that one’s efforts results in desirable outcomes) and relatedness (e.g., to feel connected with, and understood by, people around oneself) (Ryan & Deci, 2000; Deci, La Guardia, Moller, Scheiner, & Ryan, 2006; White, 1959; Baumeister & Leary, 1995). The social environment is influential in the perception of basic needs satisfaction that in turn affects eudaimonic well-being (e.g., Adie, Duda & Ntoumanis., 2008; Reinboth, Duda & Ntoumanis, 2004). One aspect of the social environment shown to influence well-being is autonomy support. (Deci & Ryan, 1987; Ryan & Solky, 1996). When an authority figure (e.g., coach, teacher) acknowledges others' feelings, promotes decision making and choices, takes others perspective into account, applies meaningful information and minimizes external demands, autonomy support is provided (e.g., Mageau & Vallerand, 2003). This behavior has proven to predict basic needs satisfaction across contexts like physical education (e.g., Standage, Duda, & Ntoumanis, 2006), exercise (e.g., Edmunds, Ntoumanis & Duda, 2008) and education (Ratelle, Larose, Guay & Senécal, 2005). In the context of sports, the coach’s autonomy supportive behavior has been found to predict basic needs satisfaction in athletes (e.g., Smith, Ntoumanis, & Duda, 2007). Studies have shown that basic psychological needs satisfaction are deeply connected to well-being, performance, motivation and thriving (Ryan & Deci, 2000; Ryan & Deci, 2017), and that psychological needs thwarting (when someone obstructs autonomy and/or competence and/or relatedness) is connected to lower levels of well-being, performance and motivation (Felton & Jowett, 2015). Felton and Jowett's (2013) findings indicate that BPNS could be a mediator between avoidant attachment style and
well-being, but not for anxious attachment style and well-being. In secure attachment, studies have found that relationships providing basic psychological needs satisfaction made securely attached individuals experience higher levels of well-being (La Guardia, Ryan, Couchman, Deci & Insko, 2000).

Exploring Coach-Athlete Attachment in Relation to Thriving

As described earlier it has been suggested that athletes’ close relationships may act as contextual enablers that influence their ability to thrive. Attachment theory has been proposed as a framework for examining this. Based on previous findings that have provided support for the coach as an attachment figure in the context of sport, the first aim of the study was to examine the coach as a context attachment figure that fulfil the basic attachment functions of (a) proximity maintenance, (b) safe haven, and (c) secure base (Shaver & Mikulincer, 2008, Davis & Jowett, 2010, 2013b). Therefore, the first hypothesis (H1) of the study is that the sample of Swedish athletes will perceive their coach to fulfil the basic functions of attachment that is, (a) proximity maintenance, (b) safe haven, and (c) secure base.

Thriving, as presented earlier, consists of both components of well-being and performance. In summary, secure attachment to the coach has been linked to higher levels of well-being (Davis et al., 2010, 2013; 2014; and Felton et al., 2013, 2015) and greater feelings of support, thus promoting more positive IWM, than those who experience insecure attachment. Additionally, athletes’ perceptions of support have been linked to higher levels of performance with less threat appraisal (Freeman & Rees, 2009; Mallinckrodt & Wei, 2005; Meyers & Landsberger, 2002, Davis & Jowett, 2014). Therefore, the second aim of the study was to examine the link between coach-athlete attachment and thriving (e.g., well-being and performance). Specifically, our second hypothesis (H2) outlines that athletes with secure attachment to the coach will experience higher levels of well-being and higher levels of performance (i.e., higher likelihood of thriving) than hypothesis three (H3) where insecure athletes (both attachment anxiety and avoidance) will less likely thrive (e.g., experience lower levels of well-being and performance).

Finally in consideration that basic psychological needs (BPNS) has been found in earlier studies (e.g., Felton & Jowett, 2013) to act as a mediator of attachment and well-being, and that basic psychological needs satisfaction is deeply connected to thriving (Ryan & Deci, 2000; Ryan & Deci, 2017) the third aim of the study was to further investigate the mediating role of BPNS between attachment and thriving (e.g., attachment and well-being and attachment and performance). Specifically, we hypothesis (H3) that basic needs satisfaction will mediate the relationship between coach-athlete secure and avoidant attachment and thriving, but not between anxious attachment style and thriving.

Method

Participants

A sample of 138 athletes from organized teams (53%) (e.g., football, basketball, floorball) and individual sports (47%) (e.g., skiing, gymnastics, track and field) in Sweden participated in the study. 7 athletes were excluded from the statistical analysis because of incomplete answers on the survey. The sample was comprised by 102 females (78%) and 29 males (22%), ranging between 15 to 41 years of age (M=18.99, SD=4.31) The participant’s level of competition ranged from junior level (21%), senior level (24%), regional level (9%) to international level (46%). Athletes reported practicing from 0 to 29 hours per week (M=10.53, SD= 6.65). The total of years active in their respective sport ranged from 2 to 28 years.
(M=10.43 SD=4.31) and the time with the current coach ranged between two months to 11 years (M=2.6, SD=2.56).

**Measures**

**Demographic questionnaire.** A demographic questionnaire was used containing questions about the participants' age, gender, level of competition, which sport they compete in, how long they have been practicing within their sport, how many hours per week they spend training, and for how long they had their head coach.

**Attachment. The Components of Attachment Questionnaire (CAQ; Parish, 2000):** The basic functions of attachment, namely, proximity maintenance, safe haven, and secure base was measured using a nine-item version of the Components of Attachment Questionnaire (CAQ; Parish 2000). The purpose of this inclusion was to investigate if Swedish athletes perceive their coach to be a sport specific attachment figure. Proximity maintenance was measured by 3 items (e.g., I look forward seeing my coach again). Secure base was measured by three items (e.g., I feel very safe with my coach). Safe haven was measured by three items (e.g., My coach helps me to explore new skills within my sport). Each item was measured using a 5-point likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The original construct validity and internal reliability has been supported (Parish, 2000) as well as the adapted version that is presented in this study (Davis & Jowett, 2010).

**Coach-Athlete Attachment Scale (Davis & Jowett, 2013b):** To measure athletes’ attachment to their coach the Swedish version of the Coach–Athlete Attachment Scale (CAAS) (Davis & Jowett, 2013b) was used. The CAAS contains 19 items to measure secure and insecure attachment. The instrument consists of three dimensions measuring avoidant, anxious and secure attachment style. The CAAS contains 19 items in total. Athletes’ avoidant attachment style was measured by 7 items (e.g., I do not turn to my coach for reassurance), athletes’ anxious attachment style was measured by 7 items (e.g., I worry that I won’t fulfil my coach’s expectations), and 5 items measured athletes’ secure attachment style (e.g., I know I can rely on my coach). Each item was measured using a 5-point likert scale ranging from 1 (strongly disagree) though to 5 (strongly agree). Davis and Jowett (2013b) have provided sound psychometric properties of validity and reliability.

**Well-being.** Due to the differentiated approach to understanding well-being presented by Ryan, Huta & Deci (2013) both hedonic and eudaimonic well-being was measured in this thesis.

**International Positive and Negative Affect Schedule Short Form (I-PANAS- SF; Thompson, 2007):** To measure athletes' hedonic well-being a Swedish version of the positive affect scale from I-PANAS- SF (Thompson, 2007) was employed. The original questionnaire was translated to Swedish independently by three persons. The translations were validated by the similarity of the three translation outcomes. The participants were asked to what extent they experienced five different emotional descriptors (determined, attentive, alert, inspired and active) during the last month on a likert scale ranging from 1 ”never” to 5 ”always” (Thompson, 2007). In this thesis the questions were reworded to consider to what extent they experienced these emotions during sports encounters over the last month. To measure athletes’ eudaimonic well-being a Swedish translation of the Subjective Vitality Scale (SVS; Ryan & Frederick, 1997) was used. The original questionnaire was translated to Swedish independently by three persons. The translations were validated by the similarity of the three translation outcomes. Four items (e.g., I felt alive and vital) were answered on a six-point likert scale ranging from 1 “not true at all” to 6 ”very true”. Cronbach’s alpha values for the positive affect and vitality scales to be used in this study is .66 and .86 (Brown, Arnold, Standage & Fletcher, 2017b).
Basic need satisfaction. Basic Needs in Satisfaction in Sport Scale (BNSSS; Ng, Lonsdale & Hodge, 2011): To measure athletes’ perceptions of the three basic psychological needs of competence, autonomy and relatedness a Swedish version of the 20-item Basic Needs Satisfaction in Sport Scale (BNSSS; Ng, Lonsdale & Hodge, 2011) was used. It is grounded in self-determination theory (Ryan & Deci, 2002, 2007), and consists of 20-item, in five-factors. BNSSS measured competence in five items (e.g., I feel I am good at my sport). Autonomy was measured in ten items separated into three different aspects; perceived choice (e.g., In my sport, I have a say in how things are done), an internal perceived locus of causality (e.g., In my sport, I really have a sense of wanting to be there), and volition (e.g., I feel I participate in my sport willingly). Relatedness was measured in five items (e.g., In my sport, I feel close to other people) (Ng, Lonsdale & Hodge, 2011). Participants responded to a 5-point likert scale ranging from 1 “not true at all” to 5 “very true”. Ng, Lonsdale & Hodge (2011) have provided support for the construct validity and reliability of the instrument with Cronbach’s alpha coefficients ranging from .80 to .87.

Performance. To measure athlete’s performance, a subjective evaluation was made. The participants were asked in one question how satisfied they are with their performance over the past month on a ten-point scale from 1 “totally dissatisfied” to 10 “totally satisfied”. This approach has been used frequently in previous research (see, e.g., Arnold, Fletcher, Daniels, 2017; Levy, Nicholls & Polman, 2011).

Threat appraisal. Challenge and threat appraisals was assessed using the two-item version of McGregor and Elliot’s (2002) task construal measures. The original questionnaire was translated to Swedish independently by three persons. The translations were validated by the similarity of the three translation outcomes. Participants were asked to answer four questions (e.g., I viewed the sporting encounters as a positive challenge; thought the sporting encounters represented a threat to me) on a likert scale ranging from 1 “not at all true of me” to 7 “very true of me”. Brown et al. (2017b) found in their study Internal consistencies of the scales .84 for challenge and .90 for threat.

Procedure

Teams and coaches from Sweden participating in high level competition were contacted via e-mail with information about the objectives of the study and an enquiry to participate. Upon reply, the link to the survey was sent to the club to convey to the athletes. The online survey contained the aims and objectives of the study, as well as information about confidentiality and anonymity. Participants were instructed that by completing the questionnaire, participants were providing informed consent. Participants were instructed to tick a box to confirm their understanding of this. In the beginning of the survey the participants were asked to choose a four-digit code for identification if they wanted to abort participation. Participants were asked to complete the questionnaire independently from their coach and from other athletes. Participants were also asked to contact the investigators if they had any questions they did not fully understand. The survey took approximately 10 minutes to complete. Upon completion the survey was closed, and the data was transferred to SPSS for analysis.

Ethical considerations

All participants were in text informed about the aim of the thesis, confidentiality, and that the data was going to be deleted after the study in accordance with Vetenskapsrådet (2002). Informed consent was collected from all participants by completing the survey. They were also informed of their right to abort their participation in the study at any time, just by contacting us with their unique code. Our contact information was provided at the end of the online survey.
We did not ask for personal information (e.g., name, birthdate, sports club) and therefore making it difficult to trace answers to any participant.

Data analysis

Descriptives, correlations and mediation analysis were conducted using SPSS. Mediation analysis were based on Baron and Kenny’s procedure (1986), stating that a variable \( M \) is considered a mediator if (1) \( X \) significantly predicts \( Y \) (i.e., \( c \neq 0 \)). (2) \( X \) significantly predicts \( M \) (i.e., \( a \neq 0 \)), and (3) \( M \) significantly predicts \( Y \) controlling for \( X \) (i.e., \( b \neq 0 \)) (Baron & Kenny, 1986). Mediation analysis were conducted using simple mediation macro by Preacher & Hayes (2004).

Results

Descriptive statistics

Table 1 presents the mean, standard deviations, alpha values and correlations of all the variables examined in this study. The athlete's means for proximity maintenance, safe haven and secure base were all above the midpoint of the response scale, indicating that they perceived their coach as fulfilling basic attachment functions (supports H1). Bivariate correlation analysis showed positive significant correlations between subjective performance, vitality and positive affect and (Thriving). Secure attachment positively and significantly correlated with well-being (both vitality and positive affect) (partially supporting H2) and challenge appraisal and significant yet negative correlations with threat appraisal. Anxious attachment style showed negative but significant correlations with positive affect (hedonic well-being) and significant positive correlation with threat appraisal. Avoidant attachment style showed negative correlations with subjective performance, vitality and positive affect (Thriving), and with challenge appraisal (partially supports H3). There was positive correlation between challenge appraisal and subjective performance, and there was negative correlation between threat appraisal and subjective performance. Autonomy, competence and relatedness all correlated positively with vitality, positive affect and subjective performance.

Mediation analysis

Since there were three independent variables (Secure, anxious and avoidant attachment) and three dependent variables (vitality, positive affect and subjective performance), a total of nine mediation analysis were conducted (See figure 1, 2 and 3) using simple mediation analysis (Preacher & Hayes, 2004). These mediation analyses are presented within Figures 1, 2 and 3. For the purpose of this study the following mediation steps were taken according to Baron and Kenny’s procedure (1986).

In figure 1 Basic Psychological Need Satisfaction (BPNS) was tested as a mediator of the relationship between attachment anxiety, avoidance and security and vitality. For the first step of examining mediation, attachment anxiety, avoidance and security was tested as a predictor of vitality. Results indicate that secure attachment was significantly related with vitality, whilst avoidant attachment was negatively yet significantly related with vitality. There was no significant relationship between anxious attachment and vitality. Secondly, each attachment style was tested as a predictor of \( M \) (BPNS), secure attachment was positively and significantly associated with BPNS and both anxious and avoidant attachment was negatively and significantly associated with BPNS. Finally, when controlling for \( X \) (the three independent variables), \( M \) (BPNS) positively predicted vitality in all three cases. When controlling for \( M \)
(BPNS), none of the independent attachment variables significantly predicted vitality. We can suggest from these findings and in consideration of Baron and Kenny's procedure (1986), BPNS only fully mediated the effects between secure and avoidant attachment and vitality. BPNS was unable to mediate the relationship between attachment anxiety and vitality.

In figure 2 Basic Psychological Need Satisfaction (BPNS) was tested as a mediator of the relationship between attachment anxiety, avoidance and security and positive affect. For the first step of examining mediation, attachment anxiety, avoidance and security was tested as a predictor of positive affect. Results indicate that secure attachment was positively and significantly associated with positive affect, and that both insecure attachment styles were negatively associated with positive affect. Secondly, each attachment style was tested as a predictor of \( M \) (BPNS). Since these results will be the same through all three mediation figures, the results for the second step of the analysis won’t be mentioned further (see results from the explanation of figure 1). Finally, when controlling for \( X \) (the three independent variables), \( M \) (BPNS) was positively and significantly associated with positive affect in all three cases. When controlling for \( M \) (BPNS), none of the independent attachment variables were significantly associated with positive affect. We can suggest from these findings and in consideration of Baron and Kenny's procedure (1986), BPNS was able to fully mediate the effects between all attachment styles and positive affect.

In figure 3 Basic Psychological Need Satisfaction (BPNS) was tested as a mediator of the relationship between attachment anxiety, avoidance and security and subjective performance. For the first step of examining mediation, attachment anxiety, avoidance and security was tested as a predictor of subjective performance. Results indicate that anxious attachment was negatively and significantly associated with subjective performance and that secure and avoidant attachment was not significantly associated with subjective performance. Secondly, each attachment style was tested as a predictor of \( M \) (BPNS) (see results from the explanation of figure 1). Finally, when controlling for \( X \) (the three independent variables), \( M \) (BPNS) was positively and significantly associated with subjective performance in all three cases. When controlling for \( M \) (BPNS), none of the independent attachment variables were significantly associated with positive affect. We can suggest from these findings and in consideration of Baron and Kenny's procedure (1986), BPNS was able to fully mediate the effects between anxious attachment style and subjective performance but was not able to mediate the effect between secure and avoidant attachment styles and subjective performance.
Figure 1: Mediation analysis between coach-athlete attachment styles and vitality. Note: * P significant on 0.05 level; ** P significant on 0.01 level; *** P significant on 0.001 level.
Figure 2: Mediation analysis between coach-athlete attachment styles and positive affect. Note: * P significant on 0.05 level; ** P significant on 0.01 level; *** P significant on 0.001 level.

Discussion

The overall purpose of this study was to examine the athlete’s psychosocial environment (i.e., attachment relationships with coach) in relation to athletes’ ability to thrive. Specifically, the first aim of the study was to examine the coach as a context attachment figure. We hypothesized that (H1) that the sample of Swedish athletes would perceive their coach to fulfill the basic functions of attachment that is, (a) proximity maintenance, (b) safe haven, and (c) secure base. The second aim of the study was to examine the link between coach-athlete attachment and thriving (e.g., well-being and performance). Specifically, we hypothesized (H2) that athletes with secure attachment to the coach would experience higher levels of well-being and higher levels of subjective performance (i.e. higher likelihood of thriving), and that insecure athletes (both attachment anxiety and avoidance) would less likely thrive (e.g., experience lower levels of well-being and subjective performance). Finally, the third aim of the study was to investigate the mediating role of Basic Psychological Needs Satisfaction (BPNS) between the relationship of attachment (secure, anxious and avoidant) and well-being (hedonic and eudaimonic). Specifically, we hypothesized (H3) that basic needs satisfaction would mediate the relationship between coach-athlete secure and avoidant attachment and thriving (well-being and performance), but not between anxious attachment and thriving. Each of these hypotheses will be separately discussed in the following sections.
Hypothesis One: The first hypotheses of the study was supported as the sample of athletes’ in the present study reported mean score values above midpoint of scale for proximity maintenance, safe haven and secure base. The first hypothesis supports previous findings (Shaver & Mikulincer, 2008, Davis & Jowett, 2010, 2013b) that athletes’ often perceive significant contextual figures such as their sports coach to fulfil the basic attachment functions of attachment, indicating that within the sporting environment, athletes’ are likely to turn to their coach (in times of distress), seek a level of closeness with the coach, and also to rely on the coach as a secure base in exploring and discovering their sporting environment. The findings also highlight the utility of attachment theory in exploring the coach-athlete relationship, and in addition to previous indications in sports psychology, the findings further demonstrate the coach’s central role for athlete’s psychosocial development (see Antonini, Philippe, & Seiler, 2006; Jowett & Cockerill, 2002). A pointer for future research would be for researchers to keep measuring the components of coach-athlete attachment, since it might be that in other samples, and within other coach-athlete relationships, the coach may not fulfil these roles.

Hypothesis Two: Results from mediation analysis indicates that secure attachment is positively associated with both types of well-being (hedonic and eudaimonic) measured in this study. This was expected based on previous findings of the link between secure attachment and well-being (Davis & Jowett., 2010, 2014; Davis et al., 2013a; Felton & Jowett, 2013, 2015). However, in contrast to earlier findings (Davis & Jowett, 2010), there was no significant association between secure attachment and subjective performance. Therefore, the first part of H2 can only be partially supported. Results varied between the avoidant and anxious attachment styles and their associations to thriving. Avoidant attachment was as expected, negatively and significantly associated with both types of well-being (hedonic and eudaimonic), but not significantly associated with subjective performance. Anxious attachment was negatively and significantly associated with both hedonic well-being and subjective performance but had no significant association with eudaimonic well-being. Earlier studies have found the link between insecure attachment and lower levels of well-being and performance satisfaction (Davis & Jowett., 2010, 2014; Davis et al., 2013a; Felton & Jowett, 2013, 2015), and thus, supporting these findings. Since thriving is comprised of both well-being and performance, and that one cannot be said to thrive without both of these components (Brown, et al., 2017a), the results indicate that athletes with insecure attachment to the coach are less likely to thrive. However, the second part of H2 is only partially supported since the insecure attachment styles did not have significant associations with all components of thriving measured in this study. These results indicate that the contextual enabler, coach-athlete attachment, cannot solely explain why some athletes thrive and others do not.

One way to further understand the connection between attachment style and components of thriving is by looking at challenge and threat appraisal (Brown et al, 2017a). Results from bivariate correlation analysis indicated that there was a negative association between secure attachment and threat appraisal, and a positive association between secure attachment and challenge appraisal. Further, the bivariate correlation analysis found a positive association between challenge appraisal and subjective performance, and a negative association between threat appraisal and subjective performance. The association between challenge appraisal and higher performance has been examined earlier (Freeman & Rees, 2009), and explored through attachment, support seeking, and the perception of available support (Lazarus, 2000; Skinner & Brewer, 2002; Shaver and Mikulincer, 2010; Davis & Jowett, 2014). Based on attachment theory, and previous findings (Davis et al., 2014; Mallinckrodt & Wei, 2005; Meyers & Landsberger, 2002) securely attached athletes are comfortable with closeness, value the relationship to the coach and positively perceive the
support offered from the coach. With the knowledge that someone (e.g., the coach) will be there for them, and support them, they might be more likely to take risks and rise to challenges in their sport (i.e., higher levels of challenge appraisal) and as a consequence, perform at a higher level. In total, this suggests that challenge and threat appraisal might be an important bridge in understanding the link between secure attachment and subjective performance. Further research is warranted to examine this direction. Moreover, bivariate correlation analyses showed a negative relationship between avoidant attachment and challenge appraisal and a positive relationship between anxious attachment and threat appraisal. Based on similar arguments for the connection between attachment style, challenge/threat appraisal, and performance, a similar explanation is suggested for the insecure attachment styles. Avoidant attachment is connected to lower levels of relationship satisfaction, discomfort with closeness, distrust to the coach, and lower perception of support from the coach (Davis et al., 2010; Davis et al., 2014). When not expecting that someone (e.g., the coach) will be there for them and support them, potential challenges might instead be perceived as threats. With the negative IWM’s of the self, feeling unworthy of love, support and attention, and the belief that others (e.g., coach) are not likely to be responsive, it is possible that avoidant athletes’ may not seek support, and not perceive it when offered.

Hypotheses three: In relation to the third and final hypothesis, mediation analysis revealed that basic needs satisfaction (e.g., autonomy, relatedness and competence) was able to fully mediate the relationship between secure attachment and both indices of well-being within the present study, and supports earlier research (La Guardia et al., 2000). However, basic need satisfaction was unable to mediate the relationship between secure attachment and athletes’ subjective performance. In the case of no mediation between secure attachment and subjective performance, these findings are explained by the fact that secure attachment had no significant association with subjective performance in the first step of the mediation analysis (Baron & Kenny, 1986). Overall, the results indicate that securely attached athletes’ levels of well-being can be understood through whether or not their basic psychological needs are fulfilled, which partly supports H3. Secure attachment associated positively with BPNS, indicating that athletes’ who are securely attached are also more likely to feel basic needs satisfaction. Since it has been proven that the coaches’ behavior is pivotal in creating an environment that promotes basic psychological needs satisfaction (Mageau & Vallerand; 2003; Reinboth et al., 2004), our findings highlight the importance of the coach’s role in supporting their athletes’ well-being and performance. With this in mind, securely attached athletes’ higher levels of satisfaction of basic needs could possibly be explained in consideration that securely attached athletes’ have been shown to be more likely to perceive social support and are also less likely to have conflicts with their coaches (Davis & Jowett, 2014).

BPNS did not mediate between anxious attachment and eudaimonic well-being, mainly because anxious attachment was not significantly associated with eudaimonic well-being in the first place. However, BPNS was able to fully mediate the relationship between anxious attachment and both positive affect and subjective performance. The association between anxious attachment and both positive affect and subjective performance were negative. In conclusion, this suggests that athletes’ who are anxiously attached may experience less positive affect and lower levels of subjective performance, whilst also experiencing a lower sense of basic needs fulfillment. Since anxious attachment was not significantly associated with both types of well-being measured in this study, BPNS could not be said to mediate the relationship between anxious attachment and well-being as a whole, which also supports H3. However, there is an important distinction to be made concerning this. While our results are in line with those of earlier studies (Felton & Jowett, 2013), Felton and Jowett (2013) proposes that there might be other complementary explanations other than BPNS for understanding anxious
athletes’ lower levels of well-being, since they did not find any significant association between anxious attachment and BPNS, which was one of the findings that gave birth to hypothesis three in this study.

Results from this study revealed no significant association between anxious attachment and eudaimonic well-being in the first place, making it harder to draw to any conclusions because the results suggest that anxious athletes’ lower levels of eudaimonic well-being might be a result of statistical chance. However, this is not the case when discussing anxious athletes’ in relation to hedonic well-being and subjective performance, which was fully mediated by BPNS, suggesting that anxiously attached athletes’ lower levels of hedonic well-being and subjective performance is caused by their lack of satisfaction in their basic psychological needs. Anxiously attached individuals have been shown to engage in overly “clinging”, behaviors (Bowlby, 1969/1982, 1988), which can indicate that they feel they need more support to fulfill their basic psychological needs. Therefore, anxiously attached individuals would find it difficult to report having their needs fulfilled (Felton & Jowett, 2013). Felton and Jowett (2013) argued that the coach might not have the time to put in the effort needed to meet the demands of anxiously attached athletes and proposed that others (e.g. parents) might be better suited to support basic psychological needs satisfaction for these athletes. This highlights the importance of psychological knowledge, in this case attachment theory and basic needs satisfaction, in the world of sports. From an applied perspective, supporting the athletes’ basic psychological needs would be an important consideration for the coach and for sport parenting. Addressing awareness of athletes’ attachment in sport through psychosocial education would allow a coach to respond and adapt their coaching behaviors based on the attachment needs of the athlete and thus support the opportunity for the athlete to thrive.

Finally, avoidant attachment was negatively associated with both hedonic and eudaimonic well-being in this study but was not significantly associated with athletes’ subjective performance. BPNS fully mediated the relationship between avoidant attachment and both indices of well-being, and thus only partly supporting H3. Avoidant attachment was negatively associated with BPNS. In total, this means that avoidantly attached athletes’ lower levels of well-being can be explained and understood through their tendencies to feel less satisfaction of basic psychological needs. As mentioned earlier, avoidantly attached individuals are often less likely to express needs because they do not expect help from others and as a result of that, have learnt to take care of themselves (Bowlby, 1969/1982, 1988), and that especially avoidantly attached athletes had trouble trusting their coaches and were less likely to feel satisfied with aspects of athletic and aspects of the sport relationship (Davis & Jowett, 2010). Later research from Davis and Jowett (2014) revealed that athletes with avoidant attachment tend to perceive lower levels of social support and lower levels of relationship depth. These earlier findings might help us understand why athletes’ who have an avoidant attachment to their coach can have difficulties in fulfilling their basic needs, and also in relation to this, experience lower levels of well-being.

Limitations of the present study

The findings of this study should be interpreted within the embodied limitations of the research design. Firstly, the relatively low number of participants (N=131) may affect the statistical precision of the results (Bryman, 2012). Another limitation was related to the unintentional and unexpected gender split. Specifically, within this study 78% of the sample were female. These numbers stand in contrast to the common theme in sports psychology literature, where samples are more often gender biased in the other direction (see. Brown & Fletcher, 2017). It can therefore also be regarded as a strength of this study by adding
women's experiences to the previous research. Of course, it was not our intention to collect data solely from a female population as the survey was randomly assigned to both male and female teams. However, it would be interesting to examine gender differences in future Swedish sport psychology research. Additionally, we may also consider the assessment of subjective performance as a potential limitation. Even though previous research frequently has used subjective performance as a measurement for performance (see, e.g., Arnold, Fletcher, Daniels, 2017; Levy, Nicholls & Polman, 2011), subjective measures might impact on validity and reliability (Elasy & Gaddy, 1998). Previous research has highlighted that whilst measuring objective performance is a challenge, given the complex nature of each sport and its performance measurement (Davis, Appleby, Davis, Wetherell & Gustafsson, 2018), a true measurement of actual performance would provide a stronger foundation for the consideration of actual thriving. The present cross-sectional study only provides a measure of subjective performance and well-being at one point, which limits causal conclusions. On that note, cross-sectional does not allow for the potential changes in an athlete’s global attachment style to be investigated over time while simultaneously exploring the impact of changes on needs satisfaction and well-being. Thriving, defined as “a sustained high-level of performance and dimensions of well-being” (Brown et al., 2017 p. 1), would therefore be better examined over time in order to ascertain whether the functioning of thriving is a long-term pattern, or if it is stable over time. For this purpose, longitudinal measures are necessary for consideration in future research (see e.g., Louvet, Gaudreau, Menaut, Genty, & Deneuve, 2007; Martinent & Nicolas, 2016). Finally, the present study may have been subjected to common method bias (when the instrument itself causes the variations in responses) since all of the data was collected in the same web-survey (Podsakoff, MacKenzie, & Podsakoff, 2012). In consideration of this, it is therefore suggested that future research to use a mixed-method approach (e.g., quantitative and qualitative, objective and subjective data).

In conclusion this study has examined coach-athlete attachment as a contextual enabler for thriving in sports, and basic psychological needs satisfaction as a mediator between athletes’ attachment-style to their coach and thriving. Overall, the results highlight the importance to further investigate the role of the coach-athlete attachment, and especially how to support BPNS in insecure athletes. Further on, guiding implementation, in order for coaches and athletes to benefit from the knowledge its essential to specify how the coach can be autonomy supportive and avoid controlling behaviors to enhance well-being and facilitate thriving for all athletes.
References


