

# Northumbria Research Link

Citation: Davis, Louise and Jowett, Sophia (2010) Investigating the Interpersonal Dynamics Between Coaches and Athletes Based on Fundamental Principles of Attachment. *Journal of Clinical Sport Psychology*, 4 (2). pp. 112-132. ISSN 1932-9261

Published by: Human Kinetics

URL:

This version was downloaded from Northumbria Research Link:  
<http://nrl.northumbria.ac.uk/5398/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)

[www.northumbria.ac.uk/nrl](http://www.northumbria.ac.uk/nrl)



# Investigating the Interpersonal Dynamics Between Coaches and Athletes Based on Fundamental Principles of Attachment

Louise Davis and Sophia Jowett  
Loughborough University

Grounded in Bowlby's (1969/1982, 1988) attachment theory, this study aimed to explore (a) the pervasiveness of the three main functions of attachment within the context of the coach-athlete relationship, (b) the associations of athletes' attachment styles with such important variables as satisfaction with the relationship and satisfaction with the sport, and (c) the process by which athletes' attachment styles and satisfaction with sport are associated. Data were collected through self-report measures of attachment functions and styles as well as relationship satisfaction and sport satisfaction from 309 student athletes (males = 150, females = 159) whose age ranged from 18 to 28 years ( $M = 19.9$ ,  $SD = 1.58$  years). Athletes' mean scores indicated that the coach was viewed as an attachment figure fulfilling all three functions of secure base, safe haven, and proximity maintenance. Bivariate correlations indicated that athletes' avoidant and anxious styles of attachment with the coach were negatively correlated with both relationship satisfaction and sport satisfaction. Mediation regression analysis revealed that athletes' satisfaction with the coach-athlete relationship may be a process that links athletes' attachment styles with levels of satisfaction with sport. The findings from this study highlight the potential theoretical and practical utility of attachment theory in studying relationships within the sport context.

**Keywords:** relationship, sport, satisfaction

The study of interpersonal relationships in sport has been a rapidly developing area of research since Wylleman (2000) recognized the paucity that existed within the sport psychology literature. One of the reasons for the paucity of research within this area has been the lack of theoretical models applied to the study of the coach-athlete relationship (Jowett & Wylleman, 2006; Poczwadowski, Barott, & Henschen, 2002; Wylleman, 2000). Although the multidimensional model (Chelladurai, 1993) and the mediational model (Smoll & Smith, 1989) of coach leadership have been the primary frameworks used to study the interpersonal dynamics involved between coaches and athletes, their general focus has been limited to the degree to which

---

The authors are with the School of Sport, Exercise, and Health Sciences, Loughborough University, Leicestershire, UK.

coaches' behaviors affect athletes' outcomes, including performance and satisfaction (e.g., Riemer & Toon, 2001) as well as self-esteem (e.g., Smith & Smoll, 1990).

Recently, the study of the interpersonal dynamics between coaches and athletes has shifted its focus from leadership to other relational and motivational models. For example, (a) Wylleman (2000) put forth a three-faceted conceptual model that examines athletes' perceived interpersonal behavior in the coach-athlete dyad in terms of acceptance-rejection and dominance-submission, as well as socioemotional factors; (b) Poczwadowski, Barott, and Henshen (2002) proposed a qualitative-interpretative framework to examine the context and process of coach-athlete dyads; (c) Mageau and Vallerand (2003) proposed a motivational model of the coach-athlete relationship that describes how personal orientations and perceived interpersonal behaviors impact athletes' intrinsic and self-determined types of motivation within the coaching context; and (d) Jowett and colleagues (Jowett, 2007, 2009; Jowett & Cockerill, 2003) proposed the 3+1Cs model and its accompanied Coach-Athlete Relationship Questionnaires (e.g., Jowett & Ntoumanis, 2004; Rhind & Jowett, in press) to explain the quality of the relationship and its functions via the constructs of closeness, commitment, complementarity, and co-orientation. These models and others (see Shepherd et al., 2006) have filled a conceptual and theoretical gap within the coach-athlete interpersonal dynamics literature.

While research applying the aforementioned conceptual models of the coach-athlete relationship has generated valuable information, there is need for further exploration, especially pertaining to the role of individual differences, such as trait characteristics/dispositional orientations, in developing and maintaining effective and successful coach-athlete relationships (Jowett & Poczwadowski, 2007). In line with Poczwadowski, Barott, and Jowett's (2006) suggestion that major theories from allied disciplines may be helpful in addressing the interpersonal complexities that underline interactions between coaches and athletes, the current study aimed to explore the interpersonal dynamics of the coach and the athlete by employing attachment theory (Bowlby, 1969/1982, 1988).

## Attachment Theory

First presented by John Bowlby in 1969, attachment theory provides a well-respected psychological framework that has contributed significantly to the understanding of the emotional bonds that are formed in close relationships. *Attachment* reflects the child's emotional connection to a figure upon whom the infant relies for comfort, protection, and reassurance during times of need (e.g., threatening and/or distressful situations). Bowlby (1988) stated that "to say of a child (or older person) that he is attached to, or has an attachment to someone means that he is strongly disposed to seek proximity to and contact with that individual and to do so in certain specified conditions" (p. 31). *Specified conditions* are essentially times of need when children or adults activate and regulate their attachment behavioral system; once activated, they are likely to seek proximity to survive or feel secure (Bowlby, 1982). Bowlby (1988) later described individual differences in terms of the functioning of the "attachment behavioral system," especially during times of threat and/or distress. Heavily influenced by Bowlby, Ainsworth and colleagues (Ainsworth, Blehar, Waters, & Wall, 1978) conducted a number of studies exploring individual differences in attachment. Through these studies, Ainsworth et al.

(1978) were able to categorize specific individual difference characteristics into concrete psychological constructs, known as “attachment styles.”

Ainsworth et al. (1978) referred to three primary attachment styles as *secure*, *anxious-ambivalent*, and *avoidant*, all of which are thought to reflect the type and strength of attachment experienced within a care-giving relationship. The *secure* attachment style is reflected by a child who is able to rely on a caregiver for comfort, reassurance, and protection when the need arises. Children with a secure attachment style direct few attachment-seeking behaviors (i.e., crying, clinging, and proximity seeking) when there are no threats to their surroundings. When feelings of threat or apprehension occur (i.e., on separation), securely attached children demonstrate overt yet appropriate levels of distress. Upon reunion, they direct their proximity-seeking behaviors toward their caregiver, while taking in the comfort, support, and reassurance offered to them. The *anxious-ambivalent* attachment style characterizes those children who display attachment behaviors such as proximity-seeking even during nonthreatened environmental conditions. Under threatened conditions such as separation, anxious-ambivalent children demonstrate excessive and unregulated signs of distress. Upon reunion with their caregiver, anxious-ambivalent children will seek proximity and cling to the caregiver but will not be calmed or comforted by caregiver contact; yet, once contact is made, these children typically withdraw in anger. Finally, children classified as having an *avoidant* attachment style demonstrate few signs of distress before or after separation from the caregiver. Avoidantly attached children tend to ignore the caregiver and make few efforts to promote or maintain direct contact.

Ainsworth et al.'s (1978) series of studies found that the attachment style developed during infancy is strongly influenced by the caregiver's behaviors. For example, the secure pattern of attachment is promoted by caregivers who are consistently available, attentive, and responsive to the infant when he or she seeks comfort and/or reassurance during times of need. The anxious-ambivalent pattern of attachment is promoted by caregivers who are inconsistent in their availability and responsiveness and who use separations and threats of abandonment as a form of control. The avoidant attachment style is promoted by caregivers who, when called upon for comfort, reassurance, and protection during times of need, consistently withhold forms of care giving.

Expectations about the availability and responsiveness of a caregiver were thought to reflect underlying differences in what Bowlby (1973) labeled “internal working models” or “internal representations” of oneself. These internal working models set the stage for individuals to perceive themselves as either worthy or unworthy of the love and support of others or perceive that others will be responsive or unresponsive to their needs. For example, those children who are securely attached tend to have positive “working models” of themselves (e.g., feel worthy of love) and of the attachment figure (e.g., as being responsive) due to the attachment figure previously providing attention, support, and reassurance during times of need. Those children who exhibit insecurity in the form of anxious-ambivalent and avoidant attachment styles tend to hold negative “working models” of the self (e.g., feel unworthy of love) and of the attachment figure (e.g., as being unresponsive) due to repeated interactions during which attachment figures were either inconsistent in their care giving behavior (anxious-ambivalent attachment style) or rejecting and dismissing during times of need (avoidant attachment style).

Although both Bowlby's (1969/1982, 1988) and Ainsworth et al.'s (1978) research primarily focused on infants and young children, they acknowledged that early attachment patterns remain influential beyond infancy. For example, Bowlby (1979) stated that attachment relations characterize "human behavior from the cradle to the grave" (p. 129). In Bowlby's view (1988), internal working models that develop as a result of caregiver-child interactions continue to impact one's attachment behaviors during adult relationships. However, Bowlby (1973) suggested that internal working models or attachment styles are not necessarily stable or fixed throughout life. While a person's initial working model can influence how one engages in various relationships across the lifespan, experiences in new relationships can potentially help revise these early working models. Hence, it is possible to develop attachment styles with other relationship partners that are outside/unrelated of those developed from childhood bonds with parents (Bowlby, 1988).

## Attachment Theory in Adulthood

Throughout childhood, adolescence, and adulthood, individuals are developmentally expected to form attachments with individuals other than their parents (Bowlby, 1988). This is not to say that parents are relinquished as attachment figures, or that relationships with them become unimportant. Instead, it is simply that normative developmental processes entail changes in the meaning and functioning of these relationships (Collins, 1996), allowing for the formation of affectional ties to significant others. Weiss (1991) noted that "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).

According to attachment theorists (Ainsworth, 1989; Hazan & Shaver, 1987; Parish & Eagle, 2003), an attachment relationship occurs when an attachment figure fulfills three specific functions: (a) proximity maintenance, (b) safe haven, and (c) secure base. *Proximity maintenance* is fulfilled when the attached person feels the need to be in close proximity to the attachment figure. *Safe haven* is fulfilled when an attachment figure acts as a source of comfort and provides security for the attached individual during times of need. Finally, *secure base* is fulfilled when the attachment figure provides a platform for the attached individual to explore autonomous activities outside of the relationship. According to Collins and Feeney (2004), an individual's ability to rely on an attachment figure to provide a safe haven and secure base during times of need is believed to be a key component of well-functioning attachment bonds and a predictor of healthy emotional development.

Relationship partners such as romantic partners, teachers, and close friends, as well as context-specific partners including organizational leaders, sport coaches, therapists, and counselors serve as attachment figures and can potentially fulfill the functions of proximity maintenance, safe haven, and secure base (see Mikulincer & Shaver, 2007). Attachment researchers (Collins & Read, 1990; Davidovitz, Mikulincer, Shaver, Izsak, & Popper, 2007; Hazan & Shaver, 1987; Parish & Eagle, 2003) have extended infant-caregiver attachment to such adult relationships. Although recent empirical research on adult attachment has focused on areas

such as leadership (Davidovitz et al., 2007), therapy (Parish & Eagle, 2003), and friendship (Granot & Mayselless, 2001; Wilkinson, 2008), most of the research conducted to date has focused on adult romantic relationships (see Mikulincer & Shaver, 2007, for a full review).

Adult attachment research began with Hazan and Shaver's (1987) seminal study in which they adopted Ainsworth et al.'s (1978) three attachment styles (secure, anxious-ambivalent, and avoidant) as a framework for conceptualizing and measuring how adults feel, think, and behave in romantic relationships. They found that the same three attachment styles that characterize childhood can characterize adult romantic relationships. In the years following Hazan and Shaver's (1987) adaptation of Ainsworth et al.'s infant typology to measure adult attachment, the literature surrounding measures of attachment has substantially increased. Although a review of the measures developed to assess attachment over the years is beyond the scope of this article, it is worth briefly stating that measurement of adult attachment has shifted from assessing three attachment styles in a categorical form (e.g., by asking subjects to describe which style best characterizes them) or in a dimensional form (e.g., to what extent they agree or disagree with a given style). One of the most popular measures of attachment styles in adult attachment is the Experiences in Close Relationships Scale (ECR) developed by Brennan, Clark, and Shaver (1998). The ECR assesses the two insecure attachment styles (anxious-ambivalent and avoidant). The *anxiety* attachment dimension of the ECR reflects the extent to which people worry about the availability and supportiveness of their partner during times of need, where their need for closeness and protection is hardly ever satisfied. The *avoidance* attachment dimension of the ECR reflects individuals' displays of discomfort with closeness and their attempt to remain behaviorally independent and emotionally distant from their partners; their independence and distancing reflect the extent to which they distrust their partner's good intentions. Individuals who score low on both of these two dimensions are said to be securely attached, reflecting a confidence that their partner will be both emotionally available and supportive during times of need (Brennan et al., 1998).

## **Theoretical Links Between Attachment Styles, Relationship Quality, and Well-Being**

Over the years, research has highlighted the importance of studying the link between adult attachment relationships and psychological well-being, including relationship quality (e.g., Collins & Read, 1990; Hazan & Shaver, 1987; Popper, Mayselless, & Castelnovo, 2000). Research findings indicate that secure attachment is positively associated with committed and satisfied relationships, while insecure attachment (a combination of anxious-ambivalent and avoidant attachment patterns) is positively associated with poorer quality relationships (Carnelley, Pietromonaco, & Jaffe, 1996; Collins, 1996; Collins & Read, 1990; Davidovitz et al., 2007; Simpson, 1990). Such research highlights that those with anxious-ambivalent and avoidant attachment patterns experience their relationships differentially, in that adults with avoidant attachment patterns report less commitment and satisfaction than adults with anxious-ambivalent attachment patterns. Moreover, it appears that adults

with anxious-ambivalent attachment patterns experience more negative emotions, such as anxiety and depression, than do adults with avoidant attachment patterns. In contrast, research focusing on the associations between attachment styles and psychological well-being has found that securely attached individuals report fewer negative emotions and lower levels of depression, anxiety, and loneliness compared with more insecurely attached individuals (Cooper, Shaver, & Collins, 1998; Davidovitz et al., 2007; Mickelson, Kessler, & Shaver, 1997).

These findings are grounded in Bowlby's (1988) original conceptualization of infant attachment and in more recent conceptualizations of adult attachment (Shaver & Mikulincer, 2008). According to Bowlby (1988), individuals who manifest a secure attachment style experience greater relationship quality and are more psychologically adjusted. In an attempt to explain the connections of attachment and psychological well-being, Shaver and Mikulincer (2008) applied Fredrickson's (2001) "broad and build theory" of positive emotions. Correspondingly, individuals who are securely attached are thought to feel less distress and experience such positive emotions as relief, joy, and gratitude ("broad" element of Fredrickson's theory); in turn, the experience of such positive emotions helps individuals develop and maintain quality relationships ("build" element of Fredrickson's theory). It has been purported that positive emotions allow individuals to recognize that their attachment figure is emotionally and physically available (Mikulincer & Shaver, 2007). Thus, unlike insecurely attached individuals (anxious-ambivalent and avoidant), securely attached individuals have a stronger capacity to remain relatively calm under stressful situations and are likely to experience positive affect as a result. In turn, this is believed to contribute to sustaining emotional well-being and overall mental health (Shaver & Mikulincer, 2008).

## Present Study

The application of well-respected theoretical frameworks from allied disciplines of psychology has been viewed as an important medium to advance our general knowledge and basic understanding of coach-athlete relationships (Poczwadowski et al., 2006). Recently, sport psychology researchers (Carr, 2009a, 2009b; Forrest, 2008) have highlighted the importance of employing attachment theory in studying diverse questions within the context of sport, such as the role of attachment in youth peer relationships and in experiencing competitive sport anxiety. Moreover, Shaver and Mikulincer (2008) have acknowledged that within the sport context, the coach may be an important relational context-specific attachment figure. There is indirect literature to support this possibility. For example, sport psychology literature has viewed the role of the coach as instrumental in enhancing athletes' performance, self-esteem, personal growth, and general well-being (e.g., Côté, 2002; Côté & Fraser-Thomas, 2007). In addition, research that focuses on examining the content and functions of the coach-athlete relationship has provided descriptions of coaches that resemble the basic attachment notions of "stronger and wiser" (e.g., leading, supporting, advising, comforting) and "security enhancing" (e.g., experiencing others as trusting, empathic, appreciative, allowing for exploration and discovery) caregivers (e.g., Jowett, 2003; Jowett & Frost, 2007). Moreover, such research suggests that athletes often rely and depend on their coaches for support in times

of need (e.g., Jowett & Cockerill, 2003). Overall, recent coach-athlete relationship research highlights that coaches and athletes develop an affective, cognitive, and behavioral bond. Subsequently, because coaches are expected to be sensitive and responsive to their athletes by providing a safe haven and secure base, as well as providing necessary proximity during times of need, our first hypothesis was the following:

Hypothesis 1. Athletes will perceive that their coach fulfils the basic functions of attachment figures, namely, (a) safe haven, (b) secure base, and (c) proximity maintenance.

Based on the “broad and build” theory (Fredrickson, 2001; see also Shaver & Mikulincer, 2008) and research findings indicating that the strength and type of attachment has implications for relationship quality and overall well-being (Collins & Read, 1990; Cooper, Shaver, & Collins, 1998; Simpson, 1990), it is further proposed that a coach’s degree of sensitivity and responsiveness may be linked to an athlete’s “broad and build” cycle of positive emotions. Thus, while athletes’ secure attachment with their coach is likely to help them develop a high quality and satisfying athletic partnership that is underlined by positive emotions, the reverse is likely to be true for athletes’ insecure attachments. Thus, our second hypothesis was the following:

Hypothesis 2. Insecure attachment patterns (anxious-ambivalent and avoidant) will be negatively associated with relationship quality and sport satisfaction.

Based on adult attachment research (see Mikulincer & Shaver, 2007), our third hypothesis aimed to explore a possible mechanism by which attachment styles are likely to be associated with positive outcomes and overall psychological well-being:

Hypothesis 3. Relationship satisfaction will mediate the link between athletes’ insecure attachment patterns (anxious-ambivalent and avoidant) with sport satisfaction.

## Method

### Participants

A total of 309 British student athletes representing a variety of individual (37%) and team (63%) sports (e.g., swimming, athletics, gymnastics, figure skating, tennis, badminton, golf, hockey, rugby, lacrosse, European football, and volleyball) participated in the study. The sample was comprised of 150 males (48.5%) and 159 females (51.5%), ranging between 18 and 28 years of age ( $M = 19.9$  years,  $SD = 1.58$ ). Different levels of sport performance were represented ranging from regional, national, and international (34%) to university (35.9%) and club (29%) levels, and athletes reportedly trained between 1 and 32 hr per week ( $M = 6.41$ ,  $SD = 5.48$ ). Finally, the relationship duration between athletes and their coach were reported to range from 1 month to 18 years ( $M = 2.6$  years,  $SD = 3.17$ ).



## Measures

**Experiences in Close Relationships Scale.** Athletes' attachment styles were assessed using the Experiences in Close Relationships Scale (ECR; Brennan et al., 1998). The ECR is a 36-item self-report instrument that measures an anxious-ambivalent attachment dimension (18 items) and an avoidant attachment dimension (18 items). While the statements on the original instrument concerned how one generally feels in close relationships, for the purpose of this study, we asked participants to think about the athletic relationship with their coach (instead of a close relationship partner) and rate the extent to which each item accurately described their feelings toward their coach on a seven-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item from the anxiety ambivalent attachment subscale is "When I do not have my coach around I feel somewhat anxious and insecure." A sample item from the avoidant attachment subscale is "I try to avoid getting close to my coach." The original ECR's psychometric properties have been demonstrated in a variety of contexts (e.g., romantic and leadership) as well as cultures and languages (see Brennan et al., 1998; Mikulincer & Shaver, 2007). In the present sample, Cronbach's alphas were scored above the suggested criterion value ( $> 0.70$ ; see Nunnally, 1978). Thus, both the anxiety items ( $\alpha = 0.82$ ) and the avoidance items ( $\alpha = 0.87$ ) were deemed internally consistent.

**Components of Attachment Questionnaire.** The basic functions of attachment, namely, proximity maintenance, safe haven, and secure base, were measured using a version of the Components of Attachment Questionnaire (CAQ; Parish, 2000). The original questionnaire consists of 45 items that measure a total of nine components of attachment, including proximity seeking, separation protest, secure base, safe haven, stronger/wiser, availability, strong feelings, particularity, and mental representations. For the purpose of the current study, we used three subscales that measure the basic three functions of attachment and adapted the statements to reflect how athletes felt toward the coach. Proximity maintenance contained three items (e.g., "I look forward to seeing my coach"), secure base also contained three items (e.g., "My coach provides me with a sense of security"), and safe haven contained four items (e.g., "I feel very safe with my coach"). Responses were rated on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The construct validity and internal reliability was supported in the validation of the CAQ (Parish, 2000) and has since been cross-validated in a study conducted by Parish and Eagle (2003). Cronbach's alpha for the three subscales within the current sample demonstrated satisfactory scores: proximity maintenance,  $\alpha = 0.85$ ; safe haven,  $\alpha = 0.72$ ; and secure base,  $\alpha = 0.83$ .

**Athlete Satisfaction Questionnaire.** Athlete satisfaction-related variables were measured using the Athlete Satisfaction Questionnaire (ASQ; Riemer & Chelladurai, 1998). The 56-item ASQ is a multidimensional measure that assesses 15 facets of athlete satisfaction. For the purpose of this study, three satisfaction facets were used to assess athletes' perceptions of satisfaction with sport. Participants responded to three items representing satisfaction with individual

performance (e.g., “I am satisfied with the improvement in my skill level thus far”), three items for satisfaction with training and instruction (e.g., “I am satisfied with the training and instruction I have received from the coach this season”), and five items for satisfaction with personal treatment (e.g., “I am satisfied with the level of appreciation my coach shows when I do well”). Participants rated the extent to which they felt satisfied with each item on a 7-point Likert-type scale ranging from 1 (*not at all satisfied*) to 7 (*extremely satisfied*). The reliability and construct validity of the ASQ items have been demonstrated in its original validation (Riener & Chelladurai, 1998) and in a number of coach-athlete relationship studies (e.g., Jowett, 2008; Lorimer & Jowett, 2008). Cronbach’s alphas with this sample were individual performance,  $\alpha = 0.87$ ; training and instruction,  $\alpha = 0.89$ ; and personal treatment,  $\alpha = 0.88$ .

**The Investment Model Scale.** Relationship satisfaction was measured using five items from the Investment Model Scale (IMS; Rusbult, Martz, & Agnew, 1998), which is a 22-item inventory designed to measure four constructs: commitment level, relationship satisfaction, quality of alternatives, and investment size. For the purpose of this study, the relationship satisfaction subscale was employed as an index of relationship quality. The questions were adapted to reflect satisfaction with the coach-athlete relationship. A sample item from the relationship satisfaction subscale was “I feel satisfied with our coach-athlete relationship.” Responses are noted on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*agree completely*). Rusbult, Martz, and Agnew (1998) found good internal consistency scores ranging from 0.82 to 0.98. Cronbach’s alpha for the items of the present sample were  $\alpha = 0.92$ .

## Procedure

Approval to conduct this study was granted by the university’s ethical committee before gaining participants’ permission to participate. Participants were informed verbally of the general nature of the study and the voluntary nature of participation was discussed before the start of a sports science lecture. Anonymity and confidentiality were guaranteed. After obtaining the participants’ informed consent, a multisection questionnaire was handed out and collected by the first author. The entire procedure lasted approximately 15 minutes.

## Data Analysis

Descriptive statistics such as means (*M*s), standard deviations (*SD*s), and intercorrelations (*r*s) among the main variables of the study were calculated. Mediation regression analyses were conducted following the guidelines set out by Baron and Kenny (1986). Accordingly, mediation is established when the following procedures are met: (a) a significant relationship is found between the independent variable (avoidant and anxious-ambivalent attachment dimensions) and the presumed mediator (relationship satisfaction); (b) a significant relationship is found between the independent variable (attachment dimensions) and the dependant variable (sport satisfaction variables); (c) a significant relationship is found between the presumed mediator (relationship satisfaction) and the dependant variable (sport satisfaction

variables). In the mediational model, the association between the independent variable (attachment styles) and the dependant variable (sport satisfaction variables) needs to be reduced after statistically controlling for the presumed mediator (relationship satisfaction) for partial mediation to occur. For full mediation, the association between the independent variable and dependant variable must be nonsignificant after controlling for the presumed mediator.

## Results

### Descriptive Statistics

Table 1 presents the means, standard deviations, and bivariate correlations for all variables investigated in this study. The means for proximity maintenance, safe haven, and secure base were above the midpoint of the response scale, suggesting that the current sample of athletes viewed their coach as fulfilling the basic attachment functions. Mean scores for the anxious and avoidant subscales were relatively low, indicating that on average, athletes were securely attached with the coach, while all mean scores were relatively high for relationship satisfaction and sport satisfaction variables, indicating that athletes were on average satisfied with the relationship with their coach and with their sport. Bivariate correlations were computed to assess the degree and direction of the relationship between the two attachment dimensions of anxiety and avoidance and the three sport satisfaction variables and relationship satisfaction. Statistically significant correlations were found among the two attachment styles, satisfaction with sport variables, and satisfaction with relationship. Furthermore, the directions of the correlations were as expected, as the insecure attachment dimensions of anxiety and avoidance were negatively associated with the sport satisfaction variables and relationship satisfaction.

### Mediational Analyses

Six mediational analyses were conducted, as there were two independent variables (avoidant and anxious attachment dimensions) and three dependant variables (satisfaction with individual performance, with training and instruction, and with personal treatment). The analyses are presented in two sections: tests for mediation concerning attachment anxiety and tests for mediation concerning attachment avoidance.

**Linking Attachment Anxiety and Sport Satisfaction Variables: Relationship Satisfaction as Mediator.** First, relationship satisfaction was tested as a mediator of the relationship between attachment anxiety and satisfaction with individual performance. For the first regression equation, attachment anxiety was tested as a predictor of relationship satisfaction. As expected, a significant negative relationship between attachment anxiety and relationship satisfaction was revealed,  $B = -0.23$ ,  $p = 0.02$ . Second, attachment anxiety was tested as a predictor of satisfaction with individual performance. This relationship was also found to be negatively significant ( $B = -0.25$ ,  $p = 0.03$ ). Finally, satisfaction with individual performance

**Table 1 Descriptive Statistics of Means, Standard Deviations, and Intercorrelations of All Main Variables**

<b>Variables</b>	<b><i>Ms</i></b>	<b><i>SDs</i></b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
1. Proximity maintenance	4.44	1.11	1								
2. Safe haven	3.87	1.15	0.65*	1							
3. Secure base	5.02	1.13	0.54*	0.49*	1						
4. Avoidant attachment	3.86	0.79	-.57*	-.61*	-.39*	1					
5. Anxious attachment	2.74	0.84	-.09	0.15*	-.03	0.07	1				
6. Performance satisfaction	4.74	1.24	0.34*	0.31*	0.45*	-.28*	0.18*	1			
7. Training satisfaction	4.93	1.29	0.49*	0.42*	0.58*	-.39*	-.16*	0.62*	1		
8. Treatment satisfaction	4.93	1.11	0.58*	0.46*	0.45*	-.48*	-.22*	0.55*	0.67*	1	
9. Relationship satisfaction	4.79	1.43	0.65*	0.56*	0.54*	-.53*	-.14*	0.46*	0.61*	0.75*	1

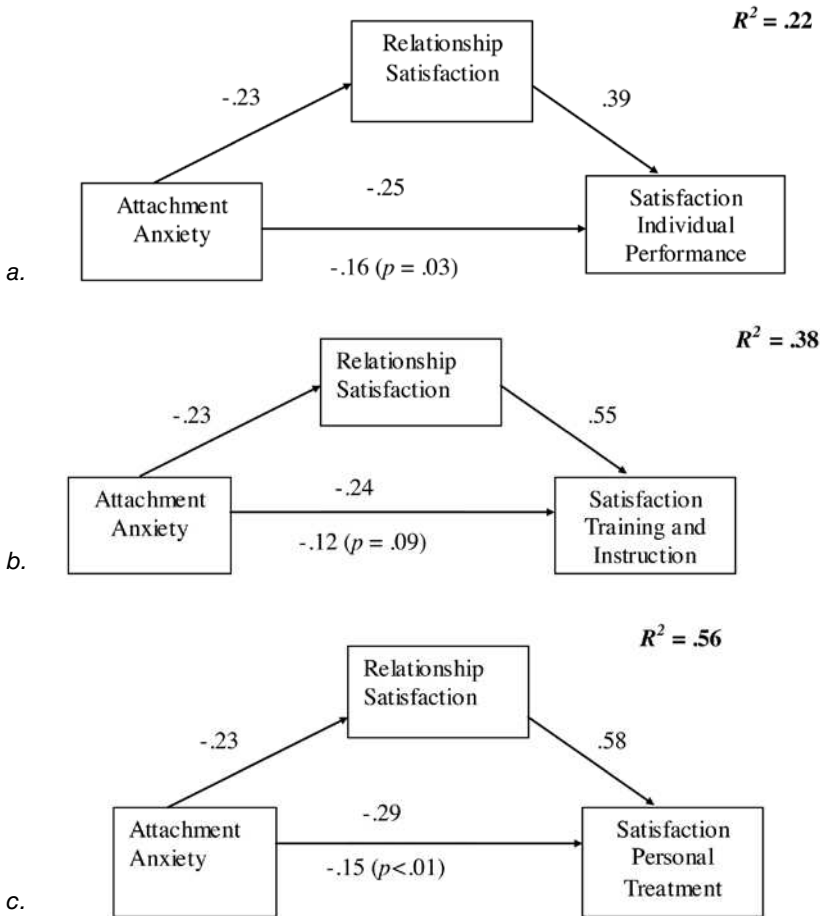
*Note.* \* Correlation is significant at the 0.05 (two-tailed).

was regressed on both attachment anxiety and relationship satisfaction. The relationship between satisfaction with individual performance and relationship satisfaction was positively significant,  $B = 0.39$ ,  $p < .01$  (after controlling for the effects of attachment anxiety). When relationship satisfaction was controlled, attachment anxiety was still a significant predictor, albeit negative, of satisfaction with individual performance,  $B = -0.16$ ,  $p = 0.03$ , thus supporting only partial mediation (see Figure 1a).

Next, relationship satisfaction was tested as a mediator of the relationship between attachment anxiety and satisfaction with training and instruction. As reported earlier, attachment anxiety was negatively associated with relationship satisfaction ( $B = -0.23$ ,  $p = 0.02$ ). In the second equation, the regression between attachment anxiety and satisfaction with training and instruction was also negatively correlated,  $B = -0.24$ ,  $p < 0.01$ . Finally, satisfaction with training and instruction was regressed on both attachment anxiety and relationship satisfaction. The relationship between satisfaction with training and instruction and relationship satisfaction was statistically significant,  $B = 0.55$ ,  $p < .01$  (while controlling for attachment anxiety). Further, after controlling for relationship satisfaction, attachment anxiety was no longer a significant predictor of satisfaction with training and instruction,  $B = -0.15$ ,  $p = 0.09$ , thus fulfilling requirements for mediation (see Figure 1b).

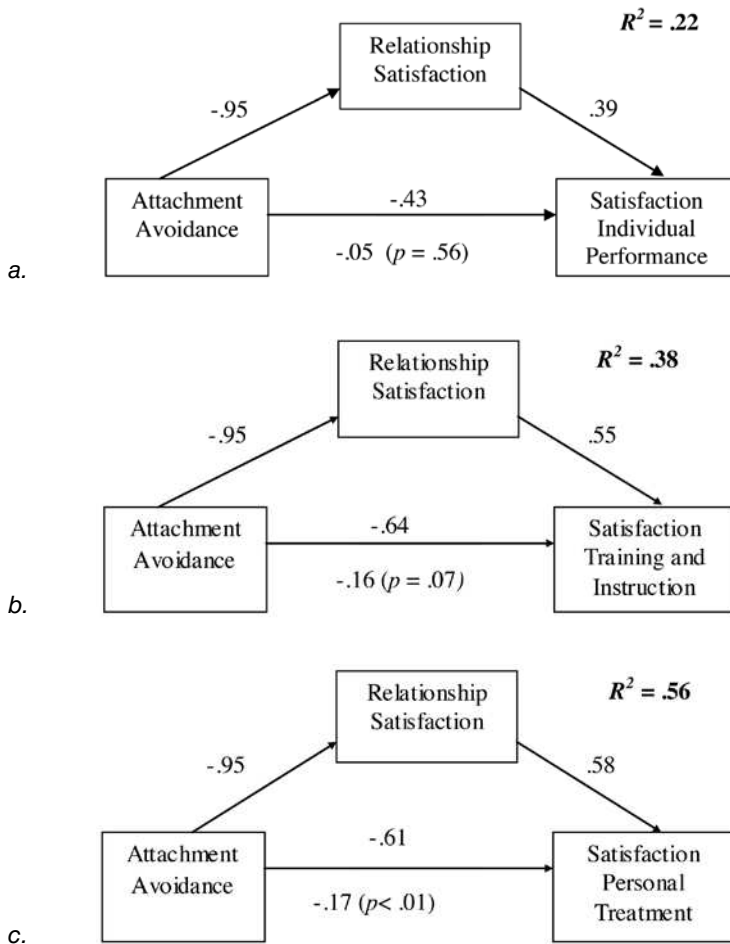
In this set of analyses, relationship satisfaction was tested as a mediator between attachment anxiety and satisfaction with personal treatment. As mentioned previously, attachment anxiety was a significant predictor of relationship satisfaction ( $B = -0.23$ ,  $p = 0.02$ ). The second regression between attachment anxiety and satisfaction with personal treatment was negative and significant,  $B = -0.29$ ,  $p < .01$ . Finally, satisfaction with personal treatment was regressed on both attachment anxiety and relationship satisfaction. The regression between satisfaction with personal treatment and relationship satisfaction was statistically significant,  $B = 0.58$ ,  $p < .01$  (while controlling for attachment anxiety). However, after controlling for relationship satisfaction, it was demonstrated that attachment anxiety was still a significant but negative predictor of satisfaction with personal treatment,  $B = -0.15$ ,  $p = 0.003$ . Partial mediation was evident (see Figure 1c).

**Linking Attachment Avoidance and Sport Satisfaction Variables: Relationship Satisfaction as Mediator.** Here, we first tested relationship satisfaction as a mediator between athlete avoidant attachment style and satisfaction with individual performance. As shown in Figure 2a, the relationship between athletes' avoidant attachment style and relationship satisfaction was negative and significant,  $B = -0.95$ ,  $p < .01$ . Athletes' avoidant attachment style was then tested as a predictor of satisfaction with individual performance. This step was also negatively significant,  $B = -0.43$ ,  $p < .01$ . Subsequently, in the mediational model, satisfaction with individual performance was regressed on both avoidant attachment and relationship satisfaction. The relationship between satisfaction with individual performance and relationship satisfaction was positively correlated,  $B = 0.39$ ,  $p < .01$  (while controlling for athletes' avoidant attachment style). It was demonstrated further that athletes' avoidant attachment style was no longer a significant predictor of satisfaction with individual performance,  $B = -0.05$ ,  $p = 0.56$  (when relationship satisfaction was controlled; see Figure 2a), therefore supporting mediation.



**Figure 1** — a. Relationship satisfaction as a mediator of the relationship between attachment anxiety and satisfaction with individual performance. b. Relationship satisfaction as a mediator of the relationship between attachment anxiety and satisfaction with training and instruction. c. Relationship satisfaction as a mediator of the relationship between attachment anxiety and satisfaction with personal treatment.

Next, relationship satisfaction was tested as mediator of the relationship between athletes' avoidant attachment style and satisfaction with training and instruction. As mentioned previously, the regression between avoidant attachment and relationship satisfaction was statistically significant ( $B = -0.95$ ,  $p < .01$ ). Avoidant attachment style was then tested as a predictor of satisfaction with training and instruction, in which a negative association was found,  $B = -0.64$ ,  $p < .01$  (see Figure 2b). In the mediational model, satisfaction with training and instruction was regressed on both avoidant attachment and relationship satisfaction. Analysis revealed a significant relationship between satisfaction with training and instruction and relationship satisfaction,  $B = 0.55$ ,  $p < 0.01$  (when athletes' avoidant



**Figure 2** — a. Relationship satisfaction as a mediator of the relationship between attachment avoidance and satisfaction with individual performance. b. Relationship satisfaction as a mediator of the relationship between attachment avoidance and satisfaction with training and instruction. c. Relationship satisfaction as a mediator of the relationship between attachment avoidance and satisfaction with personal treatment.

attachment style was controlled). After controlling for relationship satisfaction, however, it was demonstrated that avoidant attachment was no longer a significant predictor of satisfaction with training and instruction,  $B = -0.16$ ,  $p = 0.07$ , thus supporting mediation.

The final set of analyses tested relationship satisfaction as a mediator of the association between athletes' avoidant attachment style and satisfaction with personal treatment. As with previous analysis, the first regression equation that examined the relationship between athletes avoidant attachment style and relationship satisfaction was found to be statistically significant ( $B = -0.95$ ,  $p < .01$ ). The second regression

examined athletes avoidant attachment style and satisfaction with personal treatment; this relationship was negatively significant,  $B = -0.61$ ,  $p < .01$ . In the mediational model, satisfaction with personal treatment was regressed on both avoidant attachment style and relationship satisfaction. Analysis revealed a significant relationship between satisfaction with personal treatment and relationship satisfaction,  $B = 0.58$ ,  $p < .01$  (while controlling for avoidant attachment style). After controlling for relationship satisfaction, the regression between athletes avoidant attachment style and satisfaction with personal treatment still demonstrated inversely significant findings,  $B = -0.17$ ,  $p = 0.007$  (see Figure 2c). As with previous analyses, relationship satisfaction was only able to partially mediate the association between athletes' avoidant attachment style and satisfaction with personal treatment.

## Discussion

Although the role of attachment has been widely discussed within the mainstream psychology literature, there is relative paucity of theoretically driven research available on attachment as it relates to the sport context. Thus, the purpose of the current study was to explore the utility of attachment theory within the context of the coach-athlete relationship. Based on theoretical and empirical findings, three hypotheses were formulated: (a) the coach would fulfill the basic functions of an attachment figure within the athletic relationship; (b) athletes' attachment styles would be associated with such important variables as relationship satisfaction and sport satisfaction; and (c) relationship satisfaction would mediate the link between athletes' attachment styles and sport satisfaction.

The first hypothesis was supported, as the relatively high mean values recorded suggest that the coach was viewed by the sample of athletes in this study as a figure that is likely to fulfill the basic attachment functions of secure base, safe haven, and proximity maintenance. This finding indicates that athletes are likely to seek a level of closeness with their coaches; they are also likely to turn to them (especially during times of distress) as well as rely on them as a secure base to help them explore and discover important aspects of their sporting environment. This finding is in line with one of Bowlby's (1973) postulates that stated,

Human beings of all ages are found to be at their happiest and to be able to deploy their talents to best advantage when they are confident that, standing behind them, there are one or more trusted persons who will come to their aid should difficulties arise. The trusted person provides a secure base from which his (or her) companion can operate. (p. 359)

The findings from the current study add to the previous sport psychology literature that has demonstrated the central role of the coach for an athlete's psychosocial and physical development (see Antonini Philippe, & Seiler, 2006; Jowett & Cockerill, 2002). Moreover, the findings expand the broader attachment literature (Ainsworth, 1989; Bowlby, 1973; Hazan & Shaver, 1987) by highlighting the importance of studying the role of attachment in athletic relationships.

In relation to the second hypothesis, bivariate correlations of all the main variables of the study (i.e., attachment styles, relationship satisfaction, and facets of sport satisfaction) ranged from  $-.14$  to  $-.54$ , indicating low to moderate associations.



Moreover, although both insecure attachment styles (anxiety-ambivalent and avoidant) were negatively associated with all satisfaction variables, athletes' avoidant attachment style was more so. This finding appears to suggest that especially avoidant athletes who have a discomfort with closeness, distrust their coach, and remain both behaviorally and emotionally disconnected with their coach may be less likely to experience satisfaction with aspects of sport and aspects of the athletic relationship. Based on this finding, it is possible that attachment avoidance presents athletes with greater levels of dysfunctionality than does anxious attachment. While further research is necessary, we tentatively suggest that avoidantly attached athletes, because of their specific dispositional orientation, may view their involvement with the coach and their engagement in sport as a less positive endeavor than their anxiously attached counterparts.

According to adult attachment theorists (Mikulincer & Shaver, 2007; Reiss, 2006), perceptions of a relationship partner (in this case, the coach) as insensitive, disinterested, rejecting, or inconsistent can contribute to the development of an avoidant or anxious attachment orientation, potentially discouraging and interfering with both positive relationship development and stable beliefs about oneself. On the contrary, it has been suggested that an accepting, responsive, and supportive relationship partner (such as a coach) can help facilitate a perception of being understood, appreciated, cared for, and respected. Such positive beliefs and expectations may enhance perceptions of relationship quality and well-being and allow a person to become more involved in their relationship (cf. Fredrickson, 2001). It would thus be interesting to examine in future research whether coaches' interactions with their athletes contribute to the development of avoidant, anxious, or secure attachment styles.

For the third hypothesis, we speculated that relationship satisfaction would mediate the link between athletes' insecure attachment dimensions of anxiety-ambivalent and avoidance with sport satisfaction. Findings from the mediational analyses revealed that athletes' relationship satisfaction mediates (i.e., either fully or partially) the association between insecure attachment styles (i.e., anxious and avoidant) and satisfaction with individual performance as well as satisfaction with training and instruction and personal treatment. Based on these findings, it is possible that relationship satisfaction plays a role in transferring the effects of athletes' insecure attachment styles (especially avoidant attachment style) on their feelings of satisfaction with sport performance and training and instruction as well as personal treatment. Given that athletes' relationship satisfaction did not fully mediate all of the variables under investigation, it is important to consider alternative variables other than relationship satisfaction to influence the association between attachment and sport satisfaction.

Recent research within mainstream psychology has begun to explore a number of mediating variables, including interpersonal perception accuracy (Tucker & Anders, 1999), empathy (Burnette, Davis, Green, Worthington, & Bradfield, 2009) and interpersonal conflict (Cann, Norman, Welbourne, & Calhoun, 2008). While relationship satisfaction is a potential mediator between insecure attachment styles and aspects of sport satisfaction, there are numerous others that await exploration. Future research within sport psychology should consider investigating such potential mediators as empathy and conflict, as well as positive and negative outcome variables of attachment styles (e.g., depression, self-concept). Collectively, these

findings are consistent with adult attachment theory and reflect the “broad and build” cycle of attachment (see Mikulincer & Shaver, 2007). Especially in the context of sport, where figures such as the coach are paramount for an athlete’s growth and development, our findings supply preliminary evidence that highlights that athletes are more likely to benefit by “broadening” their perspectives in terms of including their coaches in their sport endeavors (as in the case of secure attachment style) rather than excluding them (as in the case of insecure attachment styles). This may be possible to achieve by focusing on developing interdependent coach-athlete relationships (e.g., close, committed, and complementary), that may in turn lead to partnerships that are satisfying (see Jowett & Nezlek, 2010; Jowett & Ntoumanis, 2004; Lorimer, 2009)

### **Future Directions**

It has been proposed that attachment is largely an unconscious process, and thus, unconscious aspects of attachment functioning may be more apparent in peoples’ narratives about attachment experiences (Crowell & Treboux, 1995; Shaver & Mikulincer, 2008). Coded interview techniques such as the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1996; Main & Kaplan, 1985) and the Current Relationship Interview (CRI; Crowell & Owens, 1996) could be of benefit in investigating athletes’ unconscious processes of attachment experiences. While acknowledging that adult attachment researchers (Feeney & Noller, 1996; Mikulincer & Shaver, 2007; West et al., 1998) have also outlined the disadvantages of employing such methodological techniques because they are time consuming and require specialized training, it is possible that they can add to our knowledge base. Experimental research is also capable of tapping into implicit unconscious mental processes of attachment by using such methods as cognitive (e.g., lexical decision tasks) and semantic priming tasks (see Mikulincer, Gillath, & Shaver, 2002). Such methodological approaches could prove very useful within the context of the coach-athlete relationship.

### **Limitations**

Although these findings represent a promising start to investigating the implications of attachment theory within the coach-athlete relationship, the present line of research is in its infancy and several limitations should be noted. First, we acknowledge that the instruments employed to measure the components of attachment (CAQ; Parish, 2000) as well as the two insecure attachment dimensions (ECR; Brennan et al., 1998) have not previously been employed to assess attachment within the context of the coach-athlete relationship. Future research that aims to examine attachment within sport should pay particular attention to the construct validity of the questionnaires employed in this study.

Secondly the current study did not include dyadic data. Sport psychology researchers (Jowett, 2005; Poczwadowski, Barott, & Henschen, 2002) have emphasized the importance of moving beyond the individual as a unit of analysis by examining both relationship members (i.e., the coach and the athlete). Therefore, future studies that employ attachment theory as their main theoretical framework within the coach-athlete relationship or other such dyadic relationships in sport,

should consider dyadic effects. For example, an interesting line of research would be to consider the extent to which athletes' attachment styles affect coaches' relationship quality, satisfaction, and well-being more generally (and vice versa). Finally, our study was cross-sectional and correlational, limiting the inferences we can make. Future longitudinal research studies could shed light on the extent to which coaches' attachment styles have the capacity to alter their athletes' attachment styles over time. Attending to these areas of research may help reveal the complex ways in which coach and athlete attachment systems influence interpersonal (e.g., relationship quality), intrapersonal (satisfaction with sport), and group (e.g., team cohesion) outcomes.

## Conclusion

The present study provided preliminary support for the theoretical and practical roles of attachment styles within the context of the coach-athlete relationship. Further examination of attachment styles within the current context is warranted before the true theoretical and applied significance of this area of research can be fully understood. The findings of this study point to new possibilities for research within the realm of sport psychology, and theoretical and practical knowledge in this area would help bridge the research gap that currently exists within it.

## References

- Ainsworth, M.D.S., Blehar, M.C., Waters, E., & Wall, S. (1978). *Patterns of attachment: Assessed in the strange situation and at home*. Hillsdale, NJ: Erlbaum.
- Ainsworth, M.D.S. (1989). Attachments beyond infancy. *The American Psychologist*, *44*, 709.
- Antonini Philippe, R., & Seiler, R. (2006). Closeness, co-orientation and complementarity in coach-athlete relationships: What male swimmers say about their male coaches. *Psychology of Sport and Exercise*, *7*, 159–171.
- Baron, R.M., & Kenny, A.D. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.
- Bowlby, J. (1982/1969). *Attachment and loss. Vol. 1: Attachment* (2nd ed.). New York: Basic Books (new printing, 1999, with a foreword by Allan N. Schore; originally published in 1969).
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation, anxiety and anger*. New York: Basic Books.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.
- Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. London: Routledge.
- Brennan, K.A., Clark, C.L., & Shaver, P.R. (1998). Self report measurement of adult romantic attachment: An integrative overview. In J.A. Simpson & W.S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford Press.
- Burnette, J.L., Davis, D.E., Green, J.D., Worthington, E.L., & Bradfield, E. (2009). Insecure attachment and depressive symptoms: The mediating role of rumination, empathy and forgiveness. *Personality and Individual Differences*, *46*, 276–280.
- Cann, A., Norman, M.A., Welbourne, J.L., & Calhoun, L.G. (2008). Attachment styles, conflict styles and humour styles: Interrelationships and associations with relationship satisfaction. *European Journal of Personality*, *22*, 131–146.

- Carr, S. (2009a). Adolescent-parent attachment characteristics and quality of youth sport friendship. *Psychology of Sport and Exercise, 10*, 653–661.
- Carr, S. (2009b). Implications of attachment theory for sport and physical activity research: Conceptual links with achievement goal and peer relationship models. *International Review of Sport and Exercise Psychology, 2*, 95–115.
- Carnelley, K.B., Pietromonaco, P.R., & Jaffe, K. (1996). Attachment, caregiving, and relationship functioning in couples: Effects of self and partner. *Personal Relationships, 3*, 257–277.
- Chelladurai, P. (1993). Leadership. In R.N. Singer, M. Murphey, & L.K. Tennant (Eds.), *Handbook of research and sport psychology* (pp. 647–671). New York: Macmillan.
- Collins, N.L. (1996). Working models of attachment: Implications for explanation, emotion, and behaviour. *Journal of Personality and Social Psychology, 71*, 810–832.
- Collins, N.L., & Feeney, B.C. (2004). Working models of attachment shape perceptions of social support: Evidence from experimental and observational studies. *Journal of Personality and Social Psychology, 87*, 363–383.
- Collins, N.L., & Read, S.J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology, 58*, 644–663.
- Cooper, M.L., Shaver, P.R., & Collins, N.L. (1998). Attachment styles, emotion regulation and adjustment in adolescence. *Journal of Personality and Social Psychology, 74*, 1380–1397.
- Côté, J. (2002). Coach and peer influence and children's development through sport. In J.M. Silver & D.E. Stevens (Eds.), *Psychological foundations of sport* (pp. 520–540). Boston, MA: Allyn & Bacon.
- Côté, J., & Fraser-Thomas, J. (2007). Youth involvement in sport. In P.R.E. Crocker (Ed.), *Introduction to sport psychology: A Canadian perspective* (pp. 266–294). Toronto: Pearson Prentice Hall.
- Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297–334.
- Crowell, J.A., & Owens, G. (1996). Current relationship interview and scoring system. Unpublished Manuscript, State University of New York, Stony Brook.
- Crowell, J.A., & Treboux, D. (1995). A review of adult attachment measures: Implications for theory and research. *Social Development, 4*, 294–327.
- Davidovitz, R., Mikulincer, M., Shaver, P.R., Izsak, R., & Popper, M. (2007). Leaders as attachment figures: Leaders' attachment orientations predict leadership-related mental representations and followers' performance and mental health. *Journal of Personality and Social Psychology, 93*, 632–650.
- Feeney, J.A., & Noller, P. (1996). *Adult attachment*. Thousand Oaks, CA: Sage.
- Forrest, K.A. (2008). Attachment and attention in sport. *Journal of Clinical Sports Psychology, 2*, 242–257.
- Fredrickson, B.L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *The American Psychologist, 56*, 218–226.
- George, C., Kaplan, N., & Main, M. (1996). *Adult attachment interview protocol* (3<sup>rd</sup> ed.). Unpublished manuscript, Department of Psychology, University of California, Berkeley.
- Granot, D., & Maysel, O. (2001). Attachment security and adjustment to school in middle childhood. *International Journal of Behavioral Development, 25*, 530–541.
- Hazan, C., & Shaver, P.R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*, 511–524.
- Jowett, S. (2003). When the “honeymoon” is over: A case study of a coach-athlete dyad in crisis. *The Sport Psychologist, 17*, 444–460.
- Jowett, S. (2005). On repairing and enhancing the coach-athlete relationship. In S. Jowett & M. Jones (Eds.), *The psychology of coaching* (pp. 14–26). Leicester: The British Psychological Society.

- Jowett, S. (2007). Interdependence analysis and the 3 + 1Cs in the coach-athlete relationship. In S. Jowett & D. Lavallee (Eds.), *Social psychology in sport* (pp. 63–77). Champaign, IL: Human Kinetics.
- Jowett, S. (2008). Moderators and mediator effects of the association between the coach-athlete relationship and physical self-concept. *International Journal of Coaching Science*, 2, 43–62.
- Jowett, S. (2009). Validating coach-athlete relationship measures with the nomological network. *Measurement in Physical Education and Exercise Science*, 13, 34–51.
- Jowett, S., & Cockerill, I. (2003). Olympic medalists' perspective of the coach-athlete relationship. *Psychology of Sport and Exercise*, 4, 313–331.
- Jowett, S., & Frost, T.C. (2007). Race/ethnicity in the all male coach-athlete relationship: Black footballers' narratives. *Journal of International Sport and Exercise Psychology*, 3, 255–269.
- Jowett, S., & Nezelek, J. (2010). *Relationship interdependence and satisfaction with important outcomes in coach-athlete dyads*. Manuscript submitted for publication.
- Jowett, S., & Ntoumanis, N. (2004). The coach-athlete relationship questionnaire (CART-Q): Development and initial validation. *Scandinavian Journal of Medicine & Science in Sports*, 14, 245–257.
- Jowett, S., & Poczwadowski, A. (2007). Understanding the coach-athlete relationship. In S. Jowett & D. Lavallee (Eds.), *Social psychology in sport* (pp. 3–14). Champaign, IL: Human Kinetics.
- Jowett, S., & Wylleman, P. (2006). Interpersonal relationships in sport and exercise: Crossing the chassism. *Psychology of Sport and Exercise*, 7, 119–123.
- Lorimer, R. (2009). Coaches' satisfaction with their athletic partnerships. *International Journal of Coaching Science*, 3, 55–64.
- Lorimer, R., & Jowett, S. (2008). Empathic accuracy in coach-athlete dyads who participate in team and individual sports. *Psychology of Sport and Exercise*, 10, 152–158.
- Mageau, G.A., & Vallerand, R.J. (2003). The coach-athlete relationship: A motivational model. *Journal of Sports Sciences*, 21, 883–904.
- Main, M., & Kaplan, N. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton, & E. Waters (Eds.), *Monographs of the Society for Research in Child Development*, 50, 66–104.
- Mickelson, K.D., Kessler, R.C., & Shaver, P.R. (1997). Adult attachment in a nationally representative sample. *Journal of Personality and Social Psychology*, 73, 1092–1106.
- Mikulincer, M., Gillath, O., & Shaver, P. (2002). Activation of the attachment system in adulthood: Threat-related primes increase the accessibility of mental representations of attachment figures. *Journal of Personality and Social Psychology*, 83, 881–895.
- Mikulincer, M., & Shaver, P.R. (2005). Mental representations of attachment security: Theoretical foundation for a positive social psychology. In M.W. Baldwin (Ed.), *Interpersonal cognition* (pp. 233–266). New York: Guilford Press.
- Mikulincer, M., & Shaver, P.R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- Nunnally, J.C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
- Parish, M. (2000). The nature of the patient's tie to the therapist (Doctoral dissertation Adelphi University, 1999). *Dissertation Abstracts International*, 60, 6378.
- Parish, M., & Eagle, M.N. (2003). Attachment to the therapist. *Psychoanalytic Psychology*, 20, 271–286.
- Poczwadowski, A., Barott, J.E., & Jowett, S. (2006). Diversifying approaches to research on athlete-coach relationship. *Psychology of Sport and Exercise*, 7, 125–142.
- Poczwadowski, A., Barott, J.E., & Henschen, K.P. (2002). The athlete and coach: Their relationship and its meaning. *International Journal of Sport Psychology*, 33, 116–140.

- Popper, M., Maysseles, O., & Castelnovo, O. (2000). Transformational leadership and attachment. *The Leadership Quarterly, 11*, 267–289.
- Reiss, H.T. (2006). Implications of attachment theory for research on intimacy. In M. Mikulincer & G.S. Goodman (Eds.), *Dynamics of romantic love: Attachment, caregiving, and sex* (pp. 383–403). London: Wiley.
- Rhind, D.J.A., & Jowett, S. (In press). Initial validation of the long versions of the direct and meta-perspectives of the Coach-Athlete Relationship Questionnaire. *European Journal of Sport Science*.
- Riemer, H.A., & Chelladurai, P. (1998). Development of the Athlete Satisfaction Questionnaire (ASQ). *Journal of Sport & Exercise Psychology, 20*, 127–156.
- Riemer, H.A., & Toon, K. (2001). Leadership and satisfaction in tennis: Examination of congruence, gender and ability. *Research Quarterly for Exercise and Sport, 72*, 243–256.
- Rusbult, C.E., Martz, J.M., & Agnew, C.R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357–391.
- Shaver, P.R., & Mikulincer, M. (2008). Augmenting the sense of security in romantic, leader-follower, therapeutic, and group relationships: A relational model of psychological change. In J.P. Forgas & J. Fitness (Eds.), *Social relationships: Cognitive, affective, and motivational processes* (pp. 55–73). New York: Psychology Press.
- Shepherd, D.J., Lee, B., & Kerr, J.H. (2006). Reversal theory: A suggested way forward for improved understanding of interpersonal relationships in sport. *Psychology of Sport and Exercise, 7*, 143–157.
- Simpson, J.A. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology, 59*, 971–980.
- Smith, R.E., & Smoll, F.L. (1990). Self-esteem and children's reactions to youth sport coaching: A field study of self-enhancement processes. *Developmental Psychology, 26*, 987–993.
- Smoll, F.L., & Smith, R.E. (1989). Leadership behaviours in sport: A theoretical model of research paradigm. *Journal of Applied Social Psychology, 19*, 1522–1551.
- Tucker, J.S., & Anders, S.L. (1999). Attachment style, interpersonal perception accuracy and relationship satisfaction in dating couples. *Personality and Social Psychology Bulletin, 25*, 403–412.
- Weiss, R.S. (1991). The attachment bond in childhood and adulthood. In C.M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life style* (pp. 66–76). New York: Routledge.
- West, W., Rose, S.M., Spreng, S., Sheldon-Keller, A., & Adam, K. (1998). Adolescent Attachment Questionnaire: A brief assessment of attachment in adolescence. *Journal of Youth and Adolescence, 27*, 661–673.
- Wilkinson, R.B. (2008). Development and properties of the adolescent friendship attachment scale. *Journal of Youth and Adolescence, 37*, 1270–1279.
- Wylleman, P. (2000). Interpersonal relationships in sport: Uncharted territory in sport psychology research. *International Journal of Sport Psychology, 31*, 555–572.