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ORIGINAL RESEARCH

## An Attachment Theory Perspective in the Examination of Relational Processes Associated With Coach-Athlete Dyads

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The aim of the current study was to examine *actor* and *partner effects* of (a) athletes' and coaches' attachment styles (avoidant and anxious) on the quality of the coach-athlete relationship, and (b) athletes' and coaches' quality of the coach-athlete relationship on relationship satisfaction employing the actor-partner interdependence model (Kenny, Kashy, & Cook, 2006). Coaches ( $N = 107$ ) and athletes ( $N = 107$ ) completed a questionnaire related to attachment styles, relationship quality, and relationship satisfaction. Structural equation model analyses revealed (a) actor effects for coaches' and athletes' avoidant attachment styles on their own perception of relationship quality and coaches' and athletes' perception of relationship quality on their own perception of relationship satisfaction, and (b) partner effects for athletes' avoidant attachment style on coaches' perceptions of relationship quality and for coaches' perceptions of relationship quality on athletes' perceptions of relationship satisfaction. The findings highlight that attachment styles can help us understand the processes involved in the formation and maintenance of quality relational bonds between coaches and athletes.

**Keywords:** insecure attachment, coach-athlete dyads, relationship quality, actor effects, partner effects

The coach-athlete relationship has been recognized as a vehicle for success and satisfaction within organized sport (Jowett, 2005). The practical significance of this relationship for sport and coaching has been documented in the plethora of conceptual frameworks that have been put forward over the last decade, including the motivational model of the coach-athlete relationship (Mageau & Vallerand, 2003), the qualitative-interpretative framework of coach-athlete dyads (Poczwadowski, Barott, & Henschen, 2002), the three-dimensional interpersonal behaviors model (Wylleman, 2000), the application of reversal theory to the study of relational processes (Shepherd, Lee, & Kerr, 2006), and the 3+1Cs model of the coach-athlete relationship (Jowett, 2007a). These conceptualizations supply distinct yet complementary explanations about the content and functions of the complex interpersonal relations and interactions of coaches and athletes (see Jowett & Poczwadowski, 2007).

Among these conceptual frameworks, the 3+1C model of the coach-athlete relationship has attracted considerable attention (Jowett, 2007a). According to this

model, the coach-athlete relationship is viewed as a situational context that is characterized by a coach's and an athlete's closeness (i.e., emotional connection reflected in trust, like, care, respect), commitment (i.e., motivation to maintain a close-tied relationship over time), and complementarity (i.e., collaboration reflected in interactions that are responsive, relaxed, and friendly). In addition, co-orientation contains two distinct perceptual platforms or levels from which coaches and athletes are likely to view, consider, and assess the quality of the relationship (Jowett, 2006, 2007b, 2009a). These perceptual platforms include the direct perspective and the metaperspective. The direct perspective reflects a relationship member's personal thoughts and feelings for the other member (e.g., "I am committed to my coach/athlete"). The metaperspective reflects a relationship member's effort to perceive the relationship from the other member's perspective (e.g., "My coach/athlete is committed [to me]"). Both the direct and metaperspectives are important perceptual angles capable to shape the quality of the coach-athlete relationship (Jowett, 2007b).

The development of coach-athlete relationship questionnaires (CART-Qs; Jowett, 2009a, 2009b; Jowett & Ntoumanis, 2004) have supplied a means to assess the quality of the coach-athlete relationship. For example, research has examined gender, relationship length, performance level, and sport type as potential determinants and moderators of the quality of the coach-athlete relationship (see, e.g., Jowett, 2008a; Jowett & Nezlek, 2012;

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Jowett & Clark-Carter, 2006). Moreover, research has examined important correlates of the quality of the coach–athlete relationship, including team cohesion (Jowett & Chaundy, 2004), athletes’ physical self-concept (Jowett, 2008a), motivation (Adie & Jowett, 2010), passion for sport (Lafreniere, Jowett, Vallerand, Donahue, & Lorimer, 2008; Study 1), empathic accuracy (Lorimer & Jowett, 2009), satisfaction with sport (Lorimer, 2011), and efficacy beliefs (Jackson, Grove, & Beauchamp, 2010).

Despite the conceptual and methodological advancements made within the coach–athlete relational context by sport psychology researchers (see e.g., Jowett & Wylleman, 2006; Wylleman, 2000), research investigating personality-like characteristics that are likely to shape relational experiences and interpersonal bonds still remains limited. Davis and Jowett (2010) were among the first to acknowledge the lack of research in this area. This research has highlighted that personality-like characteristics such as attachment styles affect athletes’ satisfaction with both relationship and sport. Moreover, research findings by Jackson, Dimmock, Gucciardi, and Grove (2011) have revealed associations between personality factors (e.g., agreeableness, conscientiousness, extraversion) and relationship quality (e.g., commitment). Thus, exploring the potential effects of both athletes’ and coaches’ attachment orientations on their own and other’s perceptions of relationship quality is an important avenue of inquiry that can extend research in this area. With that in mind, the discussion that follows aims to provide an overview of attachment theory.

## Attachment Theory

Bowlby’s (1969/1982) attachment theory is one of social development that describes the origins of interpersonal bonds with significant and caring others, particularly those who offer the promise of security. The type and strength of an attachment bond has been found to be dependent upon the caregiver’s availability, sensitivity, and responsiveness when the infant’s proximity needs are high. Ainsworth, Blehar, Waters, and Wall (1978) conducted observational studies utilizing an experimental protocol, known as the “strange situation” procedure. These studies revealed three main types of attachment bonds, namely, *secure*, *anxious ambivalent*, and *avoidant*. When a caregiver is consistently and repeatedly responsive to their child’s attachment needs, the child develops trust in their caregiver’s availability and subsequently develops a “*secure*” attachment style. Secure attachment promotes exploration and results in a more trusting, sociable, and confident individual (see Ainsworth et al., 1978). When a caregiver is inconsistent with being available, responsive, and sensitive, this creates a social environment in which the child is more likely to develop an “*anxious–ambivalent*” attachment style. These individuals are often unable to develop trust in their caregivers resulting in becoming clinging and anxious (Ainsworth et al., 1978). Finally, when a caregiver is continuously neglectful and/or rejecting, an individual is likely to

develop an “*avoidant*” attachment style. Ainsworth and her colleagues described the *avoidant* child as being unable to rely on the caregiver, resulting in a child who is more emotionally distant and inexpressive.

Fundamental to each attachment style is the underlying construct of internal working models (IWMs). Bowlby (1973) explained that the internalized interpersonal experiences with attachment figures can be reflected in two complementary IWMs that individuals develop. A model of *self* represents how adequate, supported, and loveable one feels, and a model of *other* represents one’s perceptions of how responsive and available the attachment figure is when needed. Those individuals who exhibit a secure attachment style and whose interpersonal experiences are comprised of consistent support, reassurance, and availability have positive IWMs both of themselves (i.e., feel worthy of support, love, and attention) and of their attachment figures (i.e., feel others are supportive, responsive, and available). Those individuals who exhibit insecure attachment styles in the form of anxious or avoidance and experience rejecting or inconsistent bouts of support, reassurance, and availability tend to hold negative IWMs of themselves (e.g., feel unworthy of support, love, and attention) and of their attachment figures (e.g., as being unsupportive, unresponsive, and unavailable). Across one’s growth and development, IWMs of *self* and *other* ostensibly guide patterns of cognition, affect, and behavior in subsequent adolescent and adult attachment relationships (Bowlby, 1973, 1979).

Attachment theory is applicable across the lifespan “from the cradle to the grave” (Bowlby, 1979, p. 129). Thus, researchers over the years have explained that although a mother may more commonly be the primary attachment figure in an infant’s life, others can become attachment figures, including fathers, grandparents, older siblings, day care workers (e.g., Ainsworth, 1991; Weiss, 1982), therapists (Parish & Eagle, 2003), leaders (Davidovitz, Mikulincer, Shaver, Izsak, & Popper, 2007), and romantic partners (Hazan & Shaver, 1987) to name just a few. Hazan and Shaver were the first to apply the three attachment styles of secure, avoidant, and anxious in an adult attachment relationship. Employing the descriptions forwarded by Ainsworth and her colleagues, they found that the same three attachment styles that characterized childhood bonds with parents also characterized adult romantic relationships.

Over the past two decades, the study of attachment in adult-type relationships has grown immensely both in conceptualization and measurement (see Mikulincer & Shaver, 2007, for a comprehensive review). Although a full review of this work is beyond the scope of this study, it is important to note that the measurement of attachment has altered from being measured categorically, (i.e., by asking subjects to describe which style best characterizes them) to being measured continuously on multi-item scales (i.e., items that can be rated on a Likert-type response scale). Furthermore, adult attachment researchers (Brennan, Clark & Shaver, 1998; Fraley,

Waller & Brennan, 2000; Mikulincer & Shaver, 2007) have reached a consensus that individual differences in adult attachment styles are best conceptualized as variations along two continuous orthogonal dimensions: *anxiety* and *avoidance*. The *anxiety* dimension reflects the extent to which people worry about the availability and supportiveness of their partner during times of need; their need for closeness and protection is hardly ever satisfied. The *avoidance* dimension emphasizes discomfort with interdependence in their relationship and attempt to remain behaviorally independent and emotionally distant from their partners and self-reliant. Low scores on both of the avoidant and anxiety dimensions reflect a secure attachment style. Those with a secure attachment style are comfortable with mutual dependency, experience themselves as capable, and experience others as trustworthy and well intentioned (Brennan et al., 1998).

Research findings have highlighted that adolescent and adult attachment styles influence a wide array of psychosocial phenomena, including interpersonal relationships. This research has found that individuals' insecure attachment styles are negatively predictive of relationship quality and relationship satisfaction (Collins & Feeney, 2004; Collins & Read, 1990; Feeney, 2008; La Guardia, Ryan, Couchman, & Deci, 2000; Shaver, Schachner, & Mikulincer, 2005; Vicary & Fraley, 2007). Specifically, people with insecure attachment styles (avoidance and anxiety) and underlined negative IWMs of *self* and *other* typically experience dysfunctional thoughts and feelings toward their relationships, which lead them to become unsatisfied, less committed, and more hostile within their relationships (Collins & Read, 1990; Feeney, 2008; Mikulincer & Shaver, 2007). On the other hand, people with a secure attachment style (i.e., low on anxiety and avoidance styles) and underlined positive IWMs of *self* and *other* typically experience more constructive thoughts and feelings toward their relationship, which lead them to feeling supported, committed, satisfied, and relatively free of hostility and conflict (e.g., Collins & Read, 1990; Mikulincer & Shaver, 2007; Simpson, 1990). Collectively, this evidence highlights how attachment styles can contribute significantly to understanding why close personal relationships vary in quality (Simpson, 1990).

The application of attachment theory to the domain of sport and exercise psychology has only recently made its appearance (Carr, 2009a, 2009b; Carr & Fitzpatrick, 2011; Davis & Jowett, 2010; Forrest, 2008). For example, Carr and Fitzpatrick found that (a) secure attachments in the adolescent–parent relationship corresponded to positive sporting friendships, and (b) friendships in sport were a function of the adolescent's own attachment styles but also of the attachment styles of their best friend. While Carr and Fitzpatrick's study employed attachment theory as a conceptual framework for understanding the processes within friendship and parental relationships, Davis and Jowett (2010) employed attachment theory as a conceptual framework for understanding the interpersonal dynamics within the coach–athlete relationship. Based on the premise that coaches can represent a stron-

ger and wiser attachment figure (Mikulincer & Shaver, 2007), Davis and Jowett found that insecure attachment styles (i.e., anxiety and avoidant) were negatively associated with relationship satisfaction as well as indices of sport satisfaction, including athletes' satisfaction with individual performance, training, and instruction and personal treatment. It was concluded that an insecure attachment style presents athletes with greater chances to experience a dysfunctional coach–athlete relationship.

## The Present Study

Jowett and Poczwardowski (2007) have put forward an integrated research model that highlights antecedents and consequences of the quality of the coach–athlete relationship. The model was developed to map a pathway for research, in an attempt to fully understand the predictive and explanatory functions of the coach–athlete relationship. We have used this model as intended: as a research map that guides this study. In this study, the antecedent variable of personality was represented by attachment styles. Attachment styles were thought to influence the quality of the relationship and were thought to be responsible for regularities in the interaction patterns within the coach–athlete relational context. Jowett and Poczwardowski (2007) explained that the capacity to account for the antecedents of the coach–athlete relationship is a basic yet important task leading toward the development of a theory of relationships within sport. Moreover, in the model, the quality of the coach–athlete relationship was thought to influence a range of consequent or outcome variables (Jowett & Poczwardowski, 2007). For the purpose of this study, satisfaction with the coach–athlete relationship served as a consequent variable of the relationship quality. Thus, this study aimed to investigate the linear associations of attachment styles as a personality characteristic that has the capacity to influence the quality of the coach–athlete relationship, and in turn, demonstrate the potential influence of the relationship quality on relationship satisfaction.

Even though no research has examined these linear associations before, there is also no research that has examined the dyadic effects of coaches' and athletes' attachment styles on their own and their partner's relationship quality. In this study, the actor-partner interdependence model (APIM: Kenny, Kashy, & Cook, 2006) was employed because it allows for the simultaneous and independent estimation of *actor effects* (i.e., how person A's characteristics influence his or her own perceptions of specified characteristics) and *partner effects* (i.e., how persons A's characteristics influence persons B's perceptions of specified characteristics). In this study, the APIM as a method of analysis facilitated the examination of the following two hypotheses.

The first hypothesis (H1) examined actor effects while the second hypothesis (H2) examined partner effects. Overall, it was hypothesized that (a) lower levels of athletes' and coaches' insecure attachment styles (avoidant and anxious) would associate with greater levels

of relationship quality (direct and metaperspectives), and (b) greater levels of relationship quality would associate with higher levels of relationship satisfaction. The first part (a) of our hypotheses (H1 and H2) was developed on the basis of theory and research that has shown associations between attachment styles and relationship quality (e.g., Collins & Read, 1990; Davis & Jowett, 2010). It was thus speculated that individuals whose attachment style is a secure one (i.e., less anxious and less avoidant) will view the relationship with one another more positively because of their established positive internal working models of self and others. Internalized interpersonal experiences with close others may lead the athlete/coach to develop a model of self that makes him or her feel supported, loved, and valued, as well as a model of other that makes him or her feel that others such as the coach/athlete will be responsive and available when needed. Whereas one's attachment styles and their associated internal working model may provide a certain way to view one's own relationship (actor effects), one's own relationship may also be affected by the other's attachment style and associated internal working model in a corresponding way (partner effects). The second part (a) of our hypotheses (H1 and H2) was developed on the basis of theory and research that has shown associations between coach–athlete relationship quality and different facets of satisfaction (e.g., Jowett & Nezelek, 2012, Lorimer, 2011). In Figure 1, the hypothesized associations are illustrated. *Actor effects* are represented along Paths a, d, e, and h, whereas Paths b, c, f, and g reflect *partner effects*.

## Methods

### Participants

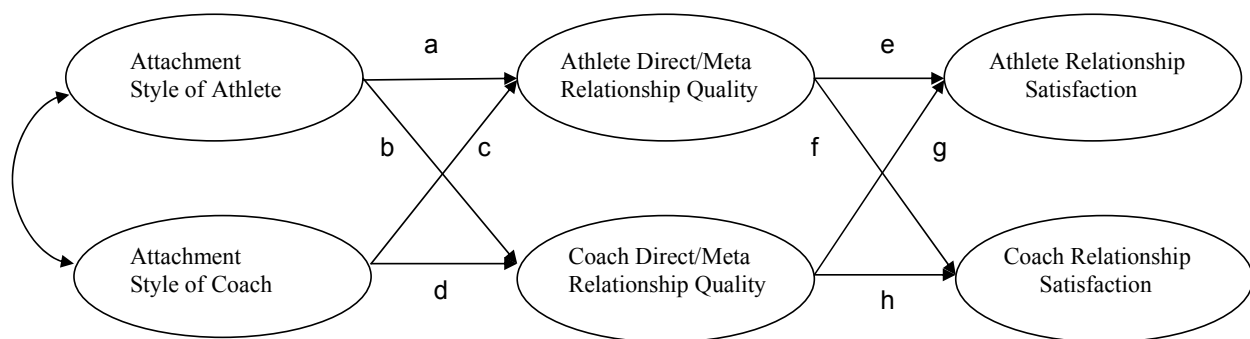
A total of 107 female and male athletes ( $M_{\text{age}} = 20.6$  years,  $SD = \pm 6.1$ ) and 107 female and male coaches ( $M_{\text{age}} = 41.1$  years,  $SD = \pm 13.8$ ) forming 107 coach–athlete dyads were recruited for participation in this study. Of the 107 coach–athlete dyads, 51.4% of athletes were female and 48.6% were male, while 19.6% of coaches were female

and 80.4% were male. The coach–athlete dyads represented a variety of individual sports (e.g., swimming, gymnastics, tennis, badminton, ice skating, and athletics) and team sports (e.g., football, hockey, ice hockey, volleyball, basketball, and rugby). Athletes had participated in their sport for an average of 8.5 years ( $SD = \pm 5.7$ ), and coaches had been coaching their sport for an average of 13.9 years ( $SD = \pm 9.9$ ). Together, coach–athlete dyads had a mean relationship length of 3.4 years ( $SD = \pm 3.3$ ).

### Measures

**Attachment Styles.** The Experiences in Close Relationships Scale (ECR; Brennan et al., 1998) was slightly modified to accommodate the specific coach–athlete relational context. The ECR is a 36-item self-report measure and assesses two attachment styles: anxious attachment style (18 items) and avoidant attachment style (18 items). Of the 36 items, 9 are reversed keyed (8 items from the avoidant subscale and 1 from the anxiety subscale). Participants of this study were asked to rate how well each statement described their general feelings toward their coach/athlete on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item from the attachment anxiety subscale was, “When I do not have my coach/athlete around I feel somewhat anxious and insecure.” A sample item from the attachment avoidant subscale was, “I try to avoid getting close to my coach/athlete.” The factorial validity and internal consistency of the scale have been demonstrated in a variety of contexts, as well as cultures, and languages (see Brennan et al., 1998; Mikulincer & Shaver, 2007). Davis and Jowett (2010) have reported acceptable internal consistency scores for the anxiety items ( $\alpha = .82$ ) and for the avoidant items ( $\alpha = .87$ ).

**Relationship Quality.** Both direct and metaperspective versions of the Coach–Athlete Relationship Questionnaire (CART-Q; Jowett, 2009a; Jowett & Ntoumanis, 2004) were employed to assess the quality of the coach–athlete relationship. The 11-item direct perspective has 4 items assessing closeness (e.g., I trust my coach/athlete),



**Figure 1** — The actor–partner interdependence model of attachment styles, relationship quality, and satisfaction within the coach–athlete dyad.

3 items assessing commitment (e.g., I am committed to my coach/athlete), and 4 items assessing complementarity (e.g., I am responsive to his/her efforts). The 11-item metaperspective contains the 11 items of the direct perspective reworded to assess athletes/coaches' perceptions of the other's closeness (e.g., My coach/athlete likes me), commitment (e.g., My coach/athlete is committed to me), and complementarity (e.g., My coach/athlete is responsive to my efforts during training). The response scale ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Previous studies have displayed adequate structural validity and internal consistency scores for both the direct and metaperspectives of the CART-Q (see Jowett, 2009a, 2009b; Jowett & Ntoumanis, 2004). However, previous research has not tested whether the direct and metaperspective versions of the CART-Q are empirically distinguishable aspects of relationship quality. Consequently, using the sample of this study, two CFA models were tested and compared for both athletes and coaches. The first model was composed of six latent variables that included the items of the direct perspective of closeness, commitment, and complementarity, as well as metaperspective of closeness, commitment, and complementarity separately. The second model was composed of three latent variables that included the direct and metaperspective items of closeness, direct and metaperspective items of commitment, and direct and metaperspective items of complementarity together. In all models, all covariance paths among latent variables were estimated. Moreover, error covariance paths among similar worded items from the direct and metaperspectives were estimated (see Marsh & Hau, 1996). With athletes, results of the six-factor model yielded acceptable fit indices, SRMR = 0.07, RMSEA = 0.09, CFI = 0.91, NNFI = 0.90,  $\chi^2(183) = 353.77, p < .001$ . On the other hand, results of the three-factor model yielded poor fit indices, SRMR = 0.08, RMSEA = 0.06, CFI = 0.89, NNFI = 0.87,  $\chi^2(195) = 518.83, p < .001$ . Therefore, results suggest that the three-factor model had worse fit indices than the six-factor model and provided support for the empirical distinguishability of the direct and metaperspective in athletes. With coaches, results of the six-factor model yielded acceptable fit indices, SRMR = 0.08, RMSEA = 0.05, CFI = 0.94, NNFI = 0.92,  $\chi^2(183) = 352.27, p < .001$ . On the other hand, results of the three-factor model yielded poor fit indices, SRMR = 0.09, RMSEA = 0.04, CFI = 0.86, NNFI = 0.95,  $\chi^2(195) = 423.39, p < .001$ . Therefore, results suggest that the three-factor model had worse fit indices than the six-factor model and provided support for the empirical distinguishability of the direct and metaperspective in coaches. Overall, the present findings suggested that the distinction between the direct and metaperspective is empirically relevant and thus the relationship quality was important to be examined from its direct and metaperspective separately.

**Relationship Satisfaction.** The Investment Model Scale (IMS; Rusbult, Martz & Agnew, 1998) is a 22-item inventory that measures four constructs: quality of

alternatives, investment size, commitment level, and relationship satisfaction. For the purpose of this study, five items from the relationship satisfaction subscale were used. The questions were reworded to reflect satisfaction within the coach–athlete relationship (“I feel satisfied with our coach–athlete relationship”). The response scale ranged from 1 (*strongly disagree*) to 7 (*agree completely*). Rusbult and colleagues (1998) have found good internal consistency scores ranging from .82 to .98 as well as good convergent and discriminant validity. In sport context, Davis and Jowett (2010) found acceptable internal consistency scores ( $\alpha = .92$ ).

## Procedure

Approval to conduct this study was granted by the university's ethical research committee before collecting the data. National governing bodies and sports organizations were contacted via e-mail and/or telephone to explain the purpose of the research and the requirements for participation in an effort to enlist their support. Participants were largely recruited in coach-education workshops, sports clubs, and sport events. Coaches were first approached to obtain permission for their participation and, due to the dyadic nature of the study, were asked to nominate or identify a willing athlete to participate. Upon contact with the coach and their athlete, the principal investigator explained the aims of the study and its confidential and voluntary nature. On gaining athletes' and coaches' consent as well as parental consent for those athletes under the age of 16, participants were administered a multisection questionnaire. Coaches and athletes were asked to complete the questionnaire without conferring with other athletes, coaches, or with one another. This process took no longer than 20 min to complete and the principal investigator was on hand to supervise any queries. For those athletes and coaches who could not be contacted face to face, national governing bodies sent two participation packs to their coaches (i.e., one for the athlete and the coach) by post. The packs included an invitation letter, the multisection questionnaire, stamped addressed envelopes for return mail, and consent forms. To ensure that each coach–athlete dyad was correctly matched upon receiving the questionnaires, each questionnaire was coded so that individual dyads received the same code.

## Data Analysis

Descriptive statistics and bivariate correlations were performed and examined to obtain an overview of the main variables characteristics as well as variable relationships. The APIM (Kenny et al., 2006) facilitated the examination of the two dyadic processes: *actor effects* and *partner effects*. On one hand, actor effects represented how athletes' and coaches' insecure attachment styles predict their own perceptions of the quality of the coach–athlete relationship and in turn how their perceived relationship quality predict their own

relationship satisfaction. On the other hand, partner effects represented how athletes' and coaches' insecure attachment styles predict their partner's perceptions of relationship quality and in turn how their relationship quality predicts their partner's satisfaction with the relationship. Due to the relatively large number of indicators per latent variable and the relatively small sample size of dyads, we examined four APIMs. The first model examined the avoidant attachment style and the direct perspective of relationship quality, and the second model examined the avoidant attachment style with the metaperspective of relationship quality. The other two models contained the anxious attachment style and the direct and metaperspective of relationship quality respectively.

The four APIMs were tested using structural equation modeling (SEM; Anderson & Gerbing, 1988) with EQS.6.1 software (Bentler & Wu, 2005). A collection of goodness-of-fit indices was employed to assess whether the hypothesized models fit the data. Following suggestions by Hu and Bentler (1999) and Marsh (2007), the following indices were employed: the standardized root mean square residual (SRMR), the comparative fit index (CFI), the Bentler–Bonett non-normed fit index (NNFI), and the root mean square error of approximation (RMSEA). According to Hu and Bentler (1999), CFI and NNFI scores that are equal to or above 0.90 as well as RMSEA and SRMR with values less than 0.08 (Hu & Bentler, 1999) reflect models that fit the data satisfactorily. The CFI and NNFI scores that are greater than 0.95 as well as RMSEA and SRMR with values less than 0.06 provide an excellent fit to the data (Hu & Bentler, 1999).

## Results

### Descriptive Statistics

Table 1 presents the means, standard deviations, alpha reliability coefficients, and bivariate correlations for all main variables. On average, athletes reported moderately low levels of attachment anxiety and avoidance, and high levels of perceived relationship quality from both a direct and metaperspective as well as high levels of relationship satisfaction. Overall, correlation analysis indicated a number of negative but significant links of the avoidant attachment style with direct and metaperceptions of relationship quality, as well as relationship satisfaction. Scores from athletes' anxious attachment style recorded significant albeit weak associations with only athletes' metaperceptions of relationship quality and satisfaction. Because athletes' and coaches' attachment anxiety was unrelated with the majority of the main variables, the anxious attachment style was excluded from further analysis. As a result, we only present APIMs for avoidant attachment style and direct perspective relationship quality and for avoidant attachment style with metaperspective relationship quality.

### APIM Analysis

As there was indication of multivariate non-normality in the data, due to Mardia's multivariate kurtosis coefficient being relatively high, we used the robust maximum likelihood estimation for the SEM analysis. Furthermore, in consideration of the relatively small sample size, the large number of observed variables, and related indicators in the structural model, item parceling was used to reduce a substantially large number of indicators per latent factor and, subsequently, the number of estimated parameters (Marsh & Hau, 1999; Little, Cunningham, Shahar & Widaman, 2002). Item parceling allows a large number of indicators to be combined to form a much smaller number of measured variables. Thus, specific construct parcels were created for the ECR scale. A total of six parcels for each of the 18 item avoidance and anxiety dimensions were formed. Within this procedure, every 3 items within each dimension were averaged together to form a composite parcel. Furthermore, to ensure consistency between dyads, the same items for the coach and athlete versions of the ECR were assigned to parcels in such a way that each parcel consisted of the same three items. SEM analysis revealed that both structural models fit the data well as indicated by the recorded goodness-of-fit indices for the direct perspective relationship quality that tested H1: SRMR = 0.09, RMSEA = 0.04, CFI = 0.96, NNFI = 0.95 ( $\chi^2$  [231] = 1014,  $p = .05$ ); and the metaperspective relationship quality that tested H1: SRMR = 0.08, RMSEA = 0.05, CFI = 0.94, NNFI = 0.94 ( $\chi^2$  [231] = 1155,  $p = .05$ ).

#### **Actor and Partner Effects for Avoidant Attachment Style and Direct Perspective Relationship Quality.**

Both actor and partner effects were evidenced. The structural model indicated that for actor effects, athletes' and coaches' avoidant attachment styles displayed a negative yet significant association with one's own direct perceptions of relationship quality, which, in turn, associated positively with one's own perceptions of relationship satisfaction. For partner effects, the structural model indicated that athletes' avoidant attachment styles predicted a negative yet significant association with their partner's direct perceptions of relationship quality. In contrast, there were no significant partner effects for coaches' avoidant attachment style on athletes' direct perceptions of relationship quality. Likewise, there were no significant partner effects for athletes' direct perceptions of relationship quality on their coaches' perceptions of relationship satisfaction. However, there were positively significant partner effects for coaches' direct perceptions of relationship quality on their athletes' perceptions of relationship satisfaction. The magnitude of these paths can be seen in Figure 2. All coefficients presented in Figure 2 are standardized estimates.

#### **Actor and Partner Effects for Avoidant Attachment Style With Metaperspective Relationship Quality.**

Similarly to the above model, both actor and partner effects were evidenced. The structural model highlights

**Table 1 Descriptive Statistics, Cronbach's Alpha Coefficients, and Intercorrelations for All Main Variables in the Study**

	<i>M</i>	<i>SD</i>	$\alpha$	1	2	3	4	5	6	7	8	9	10
Athlete Variables													
1	2.90	.91	.91	—									
2	2.47	.87	.88	.07	—								
3	6.31	.67	.91	-.35**	-.10	—							
4	6.17	.73	.92	-.41**	-.19*	.86**	—						
5	5.74	.94	.85	-.58**	-.21*	.34**	.43**	—					
Coach Variables													
6	3.91	.82	.83	.27**	.07	.15	.08	-.16	—				
7	2.39	.87	.83	-.12	.14	.08	.06	.06	.03	—			
8	6.21	.54	.83	-.32**	-.04	.33**	.23*	.37**	-.27**	-.16	—		
9	5.96	.64	.90	-.31**	-.07	.32**	.23*	.44**	-.28**	-.10	.78**	—	
10	5.40	.83	.77	-.27**	-.01	.26**	.30**	.34**	-.40**	-.07	.58**	.58**	—

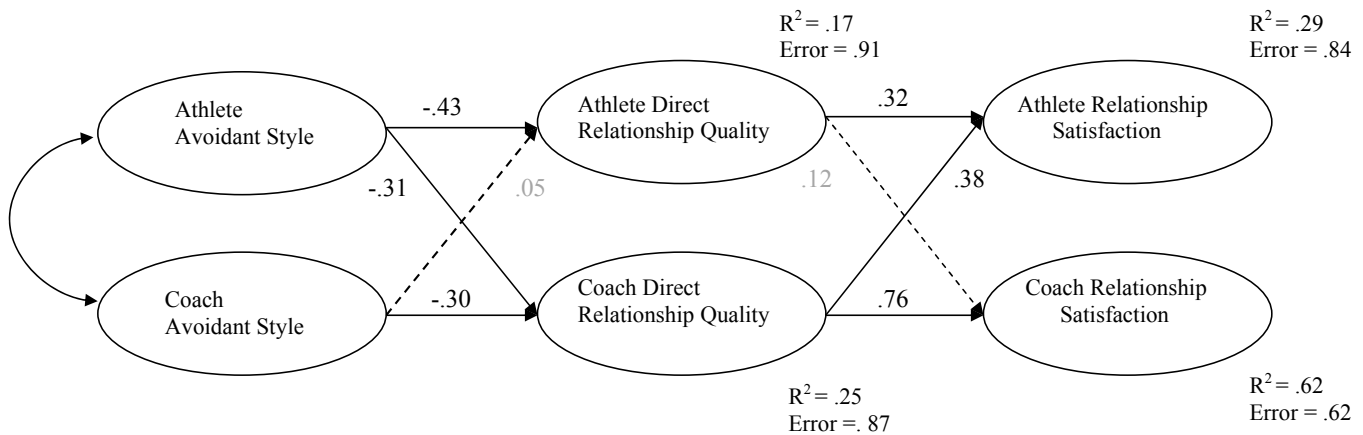
\*\**p* significant at .01; \**p* significant at .05.

that for actor effects, athletes' and coaches' avoidant attachment styles were negatively but significantly associated with one's own metaperceptions of relationship quality, which, in turn, were positively associated with one's own perceptions of relationship satisfaction. For partner effects, the structural model highlights that athletes' avoidant attachment styles were negatively but significantly associated with their partners' metaperceptions of relationship quality. Correspondingly to the first model, there were no significant partner effects for coaches' avoidant attachment style on athletes' metaperceptions of relationship quality. However, there were positive and significant partner effects for coaches' and athletes' metaperceptions of relationship quality on their partners' perceptions of relationship satisfaction. The magnitude of these paths can be seen in Figure 3 as standardized estimates. Furthermore, additional analyses were conducted to examine whether the corresponding

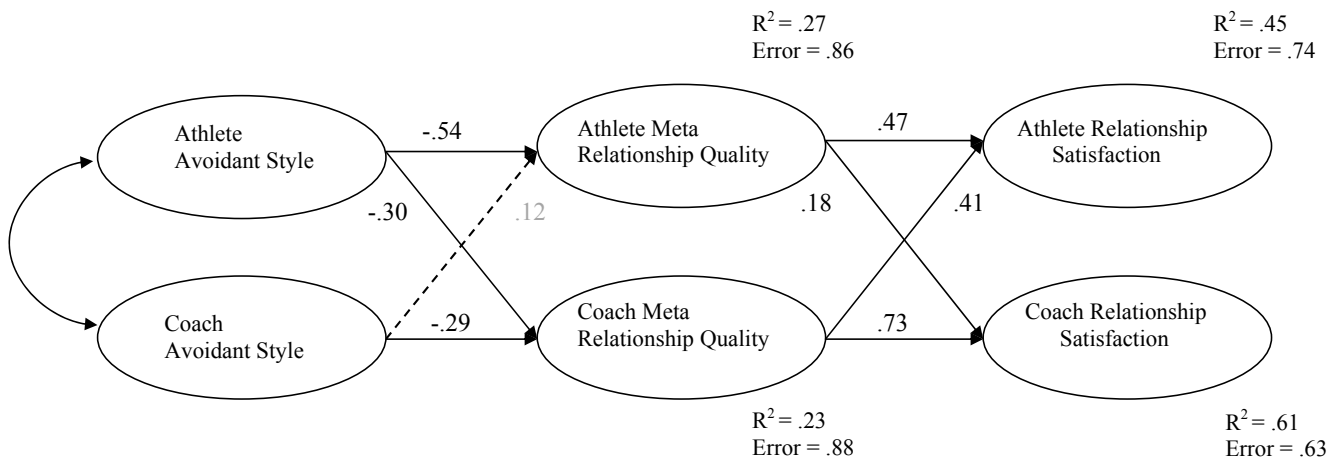
paths of the direct and metaperspective models tested were equivalent or different. Results revealed that all corresponding paths between the two models were equivalent in size ( $ts \leq 0.76$ ,  $ps \geq .45$ ).

## Discussion

The purpose of the current study was to examine the purported linear associations between attachment styles, relationship quality, and relationship satisfaction in the coach–athlete relational context (Jowett & Poczwardowski, 2007). Two hypotheses were tested. First, it was hypothesized that athletes' and coaches' insecure attachment styles would predict their own perceptions of relationship quality, and, in turn, athletes' and coaches' perceptions of relationship quality would predict their own perceptions of satisfaction with the relationship.



**Figure 2** — A model of avoidant attachment style with the direct relationship quality perspective: The effects of athletes' and coaches' avoidant attachment styles on the direct perspective of the coach–athlete relationship quality and in turn its effects on relationship satisfaction. All coefficients are significant at  $p < .05$ . Dashed lines represent insignificant paths.



**Figure 3** — A model of avoidant attachment style with the meta-relationship quality perspective: The effects of athletes' and coaches' avoidant attachment styles on the metaperspective of the coach–athlete relationship quality and in turn its effects on relationship satisfaction. All coefficients are significant at  $p < .05$ . Dashed lines represent insignificant paths.



Second, it was hypothesized that athletes' and coaches' insecure attachment styles would predict their partner's perception of relationship quality (direct and metaperpectives), and, in turn, athletes' and coaches' perception of relationship quality would predict their partner's perception of satisfaction with the relationship. As coaches' and athletes' anxious attachment style did not correlate with the main variables of the study, only coaches' and athletes' avoidant attachment style represented the insecure attachment style in our further analyses. The dyadic research design employed and the utility of the APIM allowed the examination of both actor and partner effects for athletes' and coaches' avoidant attachment style.

*Actor effects* were identified for the hypothesized links (H1). Specifically, the findings indicated a negative association between athletes' and coaches' avoidant attachment styles and their perceptions of relationship quality. This finding suggests that high levels of avoidant attachment may be associated with lower levels of relationship quality. This is consistent with attachment theory, which portrays avoidant individuals as largely concerned about being independent and self-sufficient and generally denying the importance of close relationships (Brennan et al., 1998; Mikulincer & Shaver, 2007).

The avoidant attachment style would seem to contradict the core values of sport participation that are underlined by a sense of togetherness, belongingness, and affiliation (Coakley, 2009). Moreover, the avoidant attachment style would seem to contradict with the core elements of sports coaching. Sport coaching has been defined as an interpersonal process (Lyle, 2002), at the heart of which one can find the coach–athlete relationship (Côté, 2002; Côté & Fraser-Thomas, 2007; Jowett & Cockerill, 2003). The relationship has been viewed as a central element to coaching because it can serve as vehicle in which coaches and athletes interact effectively to acquire new skills, achieve performance accomplishments, and feel satisfied (Jowett, 2005). Undermining this relationship is likely to compromise such important goals coaches and athletes set out to achieve independently and together in sport and in life more generally. The findings of this study suggest that individual athletes and coaches whose personality-like characteristics and personal behavioral tendencies indicate attachment preferences of independence and self-sufficiency, reflective of avoidance attachment style, may be less likely to experience quality coach–athlete relationships.

The findings of this study are in line not only with attachment theory, but also empirical research that highlight that those with an avoidant attachment tend to have difficulty in creating and maintaining interdependent, good-quality relationships (e.g., Collins & Read, 1990; Simpson, 1990; Vicary & Fraley, 2007; see also Mikulincer & Shaver, 2007). Avoidant individuals have simply no such desire of interconnection (Ainsworth et al., 1978; Mikulincer & Shaver, 2007). Thus, it is plausible that among the two insecure attachment styles, an avoidant attachment style may be the most dysfunctional personality-like characteristic because it is at odds with

forming interdependent relationships—a key feature of sports coaching (see Côté, 2002; Jowett, 2005; Lyle, 2002). Thus, de-valuing or neglecting the coach–athlete relationship may have negative ramifications for performance (e.g., persistence, motivation, success) and psychological health (e.g., happiness, satisfaction, worry). This speculation warrants further investigation.

Two *partner effects* were recorded supporting H2. The findings suggest that while athletes' perceptions of relationship quality are likely to remain unaffected by coaches' attachment style, coaches' perceptions of relationship quality are likely to be affected by their athletes' attachment style of avoidance. Specifically, coaches are less likely to perceive the quality of the coach–athlete relationship negatively or experience dysfunctional interpersonal feelings, thoughts, and behaviors when they are involved in a relationship with an athlete who reports low levels of avoidant attachment. First, this finding is in line with attachment theory and research that has indicated that individuals' avoidance attachment style is a negative predictor of their partners' perception of relationship quality and satisfaction (Collins & Feeney, 2004; Feeney, 2008; Shaver, Schachner, & Mikulincer, 2005). It is plausible that athletes' avoidant style of attachment (due to its self-sufficiency and independence emphasis relative to relating to others) may have the capacity to disrupt the coaches' role to successfully provide the support, guidance, and instruction needed in order for their athletes to acquire new skills and improve performance, as well as effectively mix with other members of the team. This finding is in line with recent research in sport that has found that it is likely for athletes' and coaches' personality-like characteristics, such as the big five traits, to elicit one another's relational experiences (Jackson et al., 2011).

However, the findings from the current study raise the question of why coaches' personality, such as attachment styles, does not have the capacity to affect positively or negatively their athletes' perception of relationship quality. One reason for this may be found in the specific and often rather distinct roles coaches and athletes are expected to play within their dyadic coach–athlete relationship. From an attachment theory perspective, a major difference often noted between, for example, romantic relationships and parental relationships is the difference in the reciprocal nature of each relationship. The attachment behavioral system in the romantic relational context is viewed as equal and reciprocal whereas in the parental relational context it is viewed as hierarchical and largely one-way (Ainsworth et al., 1978; Weiss, 1982; Mikulincer & Shaver, 2007). As such, in the parental relationship, the parent is likely to play the role of the “stronger and wiser” caregiver and the child is likely to play the role of the dependent and vulnerable child. These roles in the parental relationship may transfer with some accuracy to the coaching relationship where the coach is commonly the experienced and wiser and the athlete is commonly the inexperienced who needs the encouragement to take on new challenges, and the support and guidance to deal

with challenges in the face of adversity (e.g., Côté, 2002, Côté & Fraser-Thomas, 2007; Jowett, 2005). In light of this, the coach's effective execution of his or her role (*how* does the coach coach?) may be much more important than the personality of the coach and its manifestations (what is a coach's personality?) when it comes to evaluating the quality of the relationship. This conjecture warrants further investigation.

Partner effects were also recorded between perceptions of relationship quality and relationship satisfaction. Specifically, the findings highlight that coaches' positive evaluation of both direct and metaperspectives of the quality of the coach–athlete relationship transfer to the athletes' perceptions that the relationship is a satisfying one. Moreover, athletes' positive evaluation of the metaperspective of the quality of the coach–athlete relationship transfer to the coaches' perceptions that the relationship is satisfying. This finding is in line with the findings of a series of sport psychology studies that have highlighted the links between relationship quality and relationship satisfaction (e.g., Jowett & Nezlek, 2012; Jowett & Ntoumanis, 2004; Lorimer, 2011). Finally, our findings also fit well with the adult attachment literature that suggests that less insecure people experience greater levels of relationship quality and in turn experience more positive emotions (Collins & Read, 1990; see also Fredrickson, 2001).

In this study, we also supplied evidence that the direct perspective and the metaperspective provide related yet mutually exclusive lenses to view and understand the quality of the coach–athlete relationship. Research has shown that athletes' perceptions of interpersonal conflict were better predicted by the metaperspective of the coach–athlete relationship quality (Jowett, 2009a). However, other research has shown that both direct and metaperspectives of relationship quality were capable of predicting athletes' satisfaction with performance and training (e.g., Jowett, 2009b, Jowett & Nezlek, 2012). The findings of this study highlight that both individual difference characteristics such as attachment styles and outcome variables such as relationship satisfaction are important correlates of the coach–athlete relationship quality regardless of perspective. However, more research is required to unravel distinct factors that the two perspectives affect and are affected by. The generated findings will inform both theory and practice.

### Limitations and Future Research

The current study extended existing research on coach–athlete relationships by applying a well-established theoretical framework to study relational process and employing a dyadic research design. Despite their importance, these findings are not without limitations. Firstly, although this study included both dyad members (athlete and coach), the method employed to recruit each coach–athlete dyad may bias the study's findings. Within this study, coaches were asked to nominate or identify an athlete to participate alongside them. It is possible

that the coach chose an athlete of whom they liked and preferred. Future researchers should consider alternative methods for recruiting independent coach–athlete dyads. Secondly, the data of this study are cross-sectional and therefore causal inferences about the direction of effects between attachment styles and relationship quality, and relationship quality and satisfaction cannot be drawn. Therefore, longitudinal and experimental work could supply important information. Such research could aim to generate knowledge related to the extent to which the effects of coaches' attachment style and patterns of behavior have the capacity to alter their athletes' attachment style over time. The findings of this line of inquiry would help support the design of intervention programs that aim to bring about change that is underlined by a transition from insecure attachment styles to secure attachment styles. For example, sport psychology consultants could first diagnose insecure patterns of relating and subsequently potentially intervene in an effort to increase coaches' and athletes' awareness as well as responsiveness and supportiveness to each other's attachment needs, specifically as this applies to athletes' needs. Moreover, an exploration of variables that potentially mediate the link between athletes' and coaches' attachment styles and relationship quality is an important avenue of research as it would help us understand the mechanisms by which these concepts are connected. The identification of mediating variables is important because it would lead to the development of interventions that prevent the negative effects of insecure attachment styles on relational processes.

Finally, this study sought to examine actor and partner effects for coaches' and athletes' insecure attachment patterns on both the direct and metaperceptions of the quality of the coach–athlete relationship. Due to a relatively small sample size and large number of indicators per latent variable, we were unable to model both direct and metaperspectives in the same APIM. Future researchers may benefit from recruiting larger samples of participants as the examination of both meta- and direct perspectives in the same APIM would be more desirable.

In sum, *actor* and *partner effects* for coaches' and athletes' insecure attachment patterns on perceptions of relationship quality were assessed in a sample of coach–athlete dyads. Overall, the results of this study are consistent with theoretical assumptions and empirical research findings. From a theoretical perspective, these results contribute to the broader attachment theory work by highlighting the applications of the theory to yet another type of interpersonal relationship, namely, the coach–athlete relationship. From a practical perspective, it would appear that avoidant attachment styles may have detrimental effects on the perceived relationship quality and, as such, sport and exercise psychology consultants need to be mindful of these potentially negative effects. These findings provide an important forward step in studying the attachment system and exploring the implications of attachment theory in interpersonal relationships as they unfold in sport.

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