

## Empathic accuracy in the coach-athlete relationship 1

Running Head: EMPATHIC ACCURACY IN THE COACH-ATHLETE RELATIONSHIP

Empathic accuracy, meta-perspective, and satisfaction in the coach-athlete relationship

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Abstract

This study investigated the empathic accuracy of sixty coach-athlete dyads, its antecedents (meta-perceptions of relationship) and consequences (perceptions of satisfaction). An adaptation of Ickes's (2001) unstructured dyadic interaction paradigm was used to assess empathic accuracy whereby coach-athlete dyads were filmed during training. A selection of video clips containing the dyads' interactions during a typical training session were shown to them. The dyad members were asked to report their recollected thoughts and/or feelings while making inferences about what their partner's thought and felt at specific points of interaction. Empathic accuracy was estimated by comparing the dyads' self-reports and inferences. The results of a structural equation model analysis indicated an association between members' meta-perceptions or judgments that their partner is positive about the athletic relationship and increased empathic accuracy. Increased empathic accuracy was in turn associated with higher levels of satisfaction. These results are discussed based on issues they raise for theory and measurement.

Keywords: Empathy, understanding, interaction, dyadic, relationship

### Empathic Accuracy, Meta-perspective, and Satisfaction in the Coach-athlete Relationship

Sport is an ideal environment for the examination of interpersonal relationships, with frequent and varied social interaction, especially between coaches and their athletes (Carron & Bennett, 1988; Jowett, 2007). Coaches and athletes form close relationships with a high degree of interdependence and interaction occurring within the training environment, during the practice of the skills and techniques of their sport. The way in which they interact can have a profound impact upon the effectiveness and success of these sessions, in turn influencing outcomes such as satisfaction and performance (Chelladurai, 1993; Jowett & Poczwardowski, 2007).

Dyadic relationships are formed to enable individuals to achieve goals that they could not achieve by themselves (Berscheid, Snyder, & Omoto, 1989). Within the coach-athlete relationship, this is manifested in the athlete's need to acquire knowledge from the coach, the coach's need to impart expertise to the athlete, and for them both to translate this into positive outcomes. Kelley (1979) has argued that people will only maintain relationships as long as they continue to receive rewards as opposed to incur costs. Thus, a coach and an athlete who perceive their relationship as beneficial will desire to continue with it. If the relationship is perceived to incur costs (e.g., conflict, lack of performance, dissatisfaction), then coaches and athletes are less likely to want to continue together, and may seek alternatives (e.g., new coach, new team). This study examines two concepts related to the quality of the coach-athlete relationship: (a) meta-perspective and (b) empathic accuracy.

#### *The Meta-perspective of the Coach-athlete Relationship*

Jowett (2005, 2007) has proposed a model that aims to integrate psychological constructs that characterize the quality of the coach-athlete relationship. The model is primarily based upon the interdependence of three constructs representing affective, cognitive, and behavioral elements of the relationship, namely, closeness, commitment, and

complementarity (Jowett, 2007). A fourth construct of this model, labeled co-orientation, encapsulates how those in the relationship perceive the first three constructs (Jowett, 2007). The direct-perspective refers to how coaches and athletes themselves view the relationship (e.g., I trust my coach/athlete), and meta-perspective refers to how coaches and athletes think their partners view the relationship (e.g., my coach/athlete trusts me). Whilst both direct and meta-perspectives are important in understanding the content and quality of the coach-athlete relationship, this study concentrates on the meta-perspective. The meta-perspective can cause changes in behavior, with individuals shown to be responsive to their perspective of their partner's thoughts and feelings about them. This response is more likely when their partner is a significant other or when the relationship is important to them (see Adie & Jowett, 2008; De Paulo, Kenny, Hoover, Webb, & Oliver, 1987).

The significance of meta-perspectives or meta-perceptions has been supported in a series of qualitative research studies (Jowett & Cockerill, 2003; Jowett & Meek, 2000). Findings from this research highlight that coaches and athletes who believe that their partners hold positive views about relationship issues are more successful (e.g., "I felt appreciated by him...", "Without the coach's efforts, I could not have achieved results", "I did the best I could and so did he"; Jowett & Cockerill, 2003). Olympiou (2005) has also revealed that athletes' meta-perspectives of closeness, commitment, and complementarity were positively associated with a number of facets of athletes' satisfaction, including satisfaction with coaches' treatment and satisfaction with individual and team performance. More recently, Adie and Jowett (2008) examined 156 track and field athletes' meta-perspective of the coach-athlete relationship (i.e., how they believed their coaches viewed the athletic relationship) relative to their goal adoption and motivation types. They found that athletes' meta-perspective predicted the adoption of a mastery approach goal (i.e., task or self-referenced goals) which in turn promoted athletes' intrinsic motivation. Overall, this research has

started to indicate that a positive meta-perspective of the coach-athlete relationship is associated with a number of personal and interpersonal benefits.

### *Empathic Accuracy and Mutual Understanding*

According to Ickes, Stinson, Bissonnette, and Garcia (1990), empathic accuracy is defined as the accuracy of an individual's moment-to-moment perception of the psychological condition of another. Empathic accuracy is thought to be central to relationship research because it can facilitate positive interactions between members, leading to satisfying relationships (Ickes, 2001).

Empathic accuracy has been explored extensively in social psychology research in the last two decades to explore a variety of types of relationships including strangers (Thomas & Fletcher, 2003), friends (Stinson & Ickes, 1992), romantic partners (Kilpatrick, Bissonnette, & Rusbult, 2002), and siblings (Neyer, Banse, & Asendorf, 1999). More recently, this paradigm has been applied to the coach-athlete relationship (Lorimer & Jowett, 2008).

Lorimer and Jowett (2008), employing a modified version of the methodology developed by Ickes and colleagues (Ickes et al., 1990), found that coaches in individual sports exhibited higher empathic accuracy than coaches in team sports. This difference was mediated by shared cognitive focus. Shared cognitive focus is defined as the actual similarity in psychological state of the coach and athlete at the same point in time (see Thomas, Fletcher, & Lange, 1997). In addition, coaches whose training sessions were longer demonstrated higher empathic accuracy. The non-significant differences found for athletes suggested that while athletes have similar opportunities to get to know and understand their coaches regardless of sport type, coaches in team sports were less likely to be empathic with their athletes possibly because they interact with the group as a whole (Lorimer & Jowett, 2008).

An underlying factor of empathic accuracy is the degree to which individuals are motivated to make accurate inferences about their partners (Thomas & Fletcher, 1997). Such motivation is thought “to be particularly acute to the degree that ‘more is at stake’ – for example in interactions involving exceptionally important outcomes, or in relationships involving close interdependence over extended periods of time” (Bissonnette, Rusbult, & Kilpatrick, 1997, p. 258). Bissonnette et al. explained that dyadic members’ needs are better dealt with when there is a strong desire to maintain a relationship because it is then that members’ feel compelled to understand each other. .

### *The Present Study*

It is proposed that coaches’ and athletes’ motivation to maintain a connection with one another is reflected in their meta-perspective. Positive meta-perceptions imply highly interdependent and invested individuals (i.e., athletes and coaches want and need their relationships). It is possible that positive meta-perceptions act as a motivation to understand each other because their goal is to enhance and maintain their relationship. Thus, it is hypothesized that partners’ positive meta-perceptions will lead to increased levels of empathic accuracy. Moreover, because meta-perceptions are strongly associated with satisfaction (e.g., Olympiou et al., 2005), it is also hypothesized that the association between meta-perception and satisfaction will be mediated by interaction partners’ empathic accuracy. Overall, our study examines three sequential hypotheses:

1. Positive perceptions of a partner’s viewpoint will be positively associated with empathic accuracy.
2. Positive perceptions of a partner’s viewpoint will be positively associated with satisfaction.
3. Empathic accuracy will be positively associated with satisfaction

### Method

### *Participants*

One-hundred and twenty coaches ( $M_{age} = 31.72$   $SD = \pm 11.25$ ) and athletes ( $M_{age} = 21.48$   $SD = \pm 4.25$ ), forming 60 independent coach-athlete dyads were recruited from a range of individual sports ( $n = 36$  (60%)); e.g., gymnastics, athletics, combat sports) and team sports ( $n = 24$  (40%)); e.g., rugby, football, hockey, cricket). Coach-athlete dyads consisted of a male coach and a male athlete ( $n = 37$  (61.77%)), a male coach with a female athlete ( $n = 14$  (23.33%)), a female coach with a male athlete ( $n = 5$  (8.33%)), and a female coach and female athlete ( $n = 4$  (6.67%)). Dyads had been training together for an average of 24.44 months ( $SD = \pm 39.40$ ). Dyads also reported the average amount of sessions per week they trained, including all form of training where they worked together (e.g., technical sessions, fitness, cross training); 1-2 sessions ( $n = 37$  (56.9%)), 3-4 ( $n = 11$  (16.9%)), and 5-6 ( $n = 12$  (18.5%)). Dyads trained for an average of 1.81 ( $SD = \pm 0.57$ ) hours at a time. The performance level of the participating dyads was categorized as follows: regional ( $n = 22$  (35%)), national ( $n = 21$  (36.67%)), and international ( $n = 17$  (28.33%)).

### *Procedure*

Coaches were invited to take part in an investigation examining how coaches and athletes interact during training sessions. A description of the study's main aims was supplied, as was information related to confidentiality and the voluntary nature of the study. Due to the need for coaches and athletes to be both filmed and available to review the footage in a follow up session, coaches were recruited from the local geographic area (an area including numerous centres of excellence and high-performance centres, as well as amateur clubs and coaches). Coaches were offered a copy of any video footage taken of them during the study for their own use. Uptake was high with the majority of approached coaches willing to participate. Coaches selected one of their athletes they wished to work with, who was willing to participate, and who was available to work with the coach during both filming

and follow up sessions. There were two inclusion criteria for participation: (a) participants were at least 18 years of age, and (b) athlete participants were actively engaged in training under the supervision of a coach and regularly participated in competition. Potential participants completed informed consent forms before any further involvement. The University's Ethical Advisory Committee granted ethical approval before data collection was undertaken.

### *Design*

The protocol used was based on Ickes and colleagues' methodology (see Ickes, 2001). Previous research using this design has focused on romantic relationships and friendships. Therefore an adapted version of this technique was used with modifications appropriate to a sport context (Lorimer & Jowett, 2008).

A mutually convenient training session was identified for video recording. Where possible this was simply the next session where both the coach and athlete were available together the next day to conduct the follow up session. Allowances were made if the coach or athlete were unwilling to use a specific session (e.g., unwilling to disturb a training session immediately pre-competition). Coaches wore a small lapel microphone that allowed coach-athlete conversations to be remotely recorded onto the videotape. Footage was recorded from an unobtrusive position, with the coach and athlete in shot the whole time. Each video recording was uploaded to a computer and reviewed. As training sessions varied in length and were often far longer than the brief discussions used in previous empathic accuracy research, a representative sample of discrete coach-athlete interactions was randomly selected as follows: 20% of the sample was selected from the first third of the footage (usually the warm up), 50% from the middle (main training session), and 30% from the final section (usually the cool down and conclusion). A range of 8 to 12 interactions was used ( $M = 11.23$ ,



$SD = \pm 1.14$ ). The selected video clips were compiled into one continuous film, each clip equally spaced, separated by 80 seconds of blank footage.

#### *Data Collection*

*Empathic accuracy.* Coach-athlete dyads attended the laboratory the day following their video-recording session. Each member of the dyad independently reviewed the selected clips. Each participant recorded their thoughts and feelings using a standardised coding sheet, similar to the one used by Ickes and colleagues (Ickes et al., 1990). They were told that their partner would not be allowed to see these responses. The coding sheet is made up of a series of numbered sections, one for each interaction. Participants completed each section during the period of blank footage following each interaction. Participants were asked to record only what they distinctly and clearly remembered personally experiencing during the actual training session, and asked not to create new thoughts and feelings. Each section required three responses: (a) the general feelings they remembered experiencing, (b) the specific thoughts they remembered having, and (c) their interpretation of how the session was going at that point (i.e., positive, neutral, negative).

Subsequently, participants were supplied with new coding sheets. Coach-athlete dyads were then asked to watch the film again. This time the coach and athlete were instructed to record what they believed their interaction partner had been feeling and thinking during the training session, and how their partner would have interpreted it. At the conclusion of this task, coaches and athletes completed questionnaires about their meta-perspective and satisfaction with their relationship, and provided the demographic data used to describe this sample.

Empathic accuracy scores are calculated by comparing an individual's inferences with his/her partner's self-reported thoughts and feelings, for each of the selected interactions.

Three raters each independently assessed the similarity of each pairing using a 3-point scale:

0 – *essentially different*, 1 – *similar, but not the same*, and 2 – *essentially the same*. The mean score for each individual is then calculated. This is the average score of all three raters for all inferences made by an individual. This score is then divided by 2 and multiplied by 100 to produce a percentile score describing the level of accuracy: 0% *describing total inaccuracy* and 100% *describing perfect accuracy*. To correct for accurate inferences based purely upon how easy it would be to guess an individual's thoughts and feelings, participants' self-reported thoughts and feelings were randomly paired with their partners' inferences. Three raters then scored the similarity of these random pairings as described above. This score (called baseline accuracy, see Ickes et al., 1990) was then subtracted from the original empathic accuracy score to give a refined value. From this point onwards all references to empathic accuracy refer to this refined value. The inter-rater reliability for the original empathic accuracy scores was 0.90 for coaches and 0.81 for athletes, and 0.89 and 0.84 respectively for the baseline accuracy.

*Meta-perspective.* The meta-perspective of the Coach-Athlete Relationship Questionnaire (Jowett, in press) was employed. This inventory includes two versions, one for the coach and one for the athlete. It assesses the quality of the coach-athlete relationship from a meta-perspective (i.e., how an individual believes their partner perceives the athletic relationship) across three dimensions. *Meta-Closeness* reflects individuals' affective interdependence and measures expressions of mutual liking, trust, and respect (e.g., 'My coach/athlete likes me'). *Meta-Commitment* reflects individuals' cognitive interdependence and measures expressions of a future together (e.g., 'My coach/athlete believes that my career is promising with him/her'). *Meta-Complementarity* reflects individuals' behavioral interdependence or co-operative behaviors and measures expressions of responsiveness and friendliness (e.g., 'My coach/athlete is ready to do his/her best'). For this sample, the inter-item reliability for meta-closeness, meta-commitment, and meta-complementarity for the

coach sample was an acceptable 0.85, 0.84, and 0.82 respectively; whilst for the athlete sample was 0.79, 0.64, and 0.73 respectively. This is comparable with previous published results using this measure that ranged from 0.77 to 0.86 (Jowett & Chaundy, 2004). Given high intercorrelations between the subscales, it was decided to aggregate to one single meta-relationship scale for the coach and one single meta-relationship for the athlete. Inter-item reliability for the aggregated scales was 0.93 for the coach and 0.88 for the athlete.

*Satisfaction.* Coaches' and athletes' facets of satisfaction were assessed using the Athlete Satisfaction Questionnaire (Riemer & Chelladurai, 1998). Two subscales were used to assess athletes and coaches' satisfaction. *Satisfaction with personal treatment* reflects satisfaction with a partner's behaviors that directly affect the individual such as support and positive feedback (e.g., 'I am satisfied with the recognition I receive from my coach/athlete'). *Satisfaction with training and instruction* measures an individual's satisfaction with the training and instruction being provided to the athlete (e.g., 'I am satisfied with the instruction I have received from the coach this season' and 'I am satisfied with the instruction I provided to my athlete this season'). For this sample, inter-item reliability for satisfaction with personal treatment was an acceptable 0.90 and 0.81 for coaches and athletes respectively which is comparable with the previous findings of Riemer and Chelladurai (1998) of 0.92 for athletes. The reliability for the satisfaction with training and instruction was an acceptable 0.74 and 0.83, for coaches and athletes which was again comparable with the previous findings of Riemer and Chelladurai (1998) of 0.88 for athletes.

#### *Analytical Strategy*

Data from dyadic relationships needs to be treated differently from data gathered from individuals. Data gathered from dyad members often shares either a heightened similarity or dissimilarity to each other compared to data collected from individuals who are not part of the same dyad. Partners can influence each other's perceptions, behaviors, or outcomes, and

variables measured for both partners (e.g., satisfaction) may have similar sources of variance. This means these paired variables are often nonindependent (Kenny, Kashy, & Cook, 2006). Early researchers often either listed all participants together regardless of dyadic association, resulting in inaccuracies in significance testing, or averaged out the results of dyadic partners, leaving them unable to separately analyze the differences in partners (Kenny, 1995).

Various methods for overcoming these limitations have been advanced in the last 20 years, and these are discussed exhaustively by Kenny, et al. (2006). They suggested that when examining data of this type, it is ideal practice to treat it dyadically. Rather than having each participant listed as separate units of analysis or averaged out, in each unit of analysis each variable is iterated twice, once for each partner. This data can then be analyzed in a variety of ways. Kenny et al. suggested that a particularly useful approach is structural equation modeling.

Kenny et al. (2006) drew attention to the fact that structural equation modeling allows for the testing of an entire model as opposed to examining individual coefficients, meaning both partners can be examined simultaneously. Importantly, structural equation modeling also allows the examination of correlated errors. Errors values in structural equation modeling represent unspecified influences on measured variables (Reddy, 1992). Given that paired variables measure the same factor, and their likely interdependence, it seems reasonable to assume that they would have common external influences, and so have correlated errors. Inclusion of correlated errors has been shown to affect the fit indices in structural equation modeling, and so their inclusion provides the most realistic assessment (Reddy, 1992).

To explore the association between meta-perspective, empathic accuracy, and perceived satisfaction, a model representing their hypothesized associations was proposed based on the theory forwarded above. The coaches' and athletes' meta-perspectives acted as

two exogenous variables. An association linked these with the partially endogenous variables of coach and athlete empathic accuracy, which were in turn, associated with the endogenous outcome variables of coach and athlete satisfaction. Associations also directly linked the two exogenous variables, coach and athlete meta-perspective, with the outcome variables of coach and athlete satisfaction.

## Results

### *Descriptive Results*

Table 1 presents means, standard deviations, and intercorrelations of the main variables of the study. Nonindependence was evident in this data set due to the significant correlations between coaches and athletes' paired variables (empathic accuracy, meta-perspective, and relationships satisfaction).

### *Structural Equation Modeling Results*

The model representing the hypothesized associations between variables was constructed and analyzed using the EQS 7.1 program (Bentler & Wu, 2002). This model was run twice, once for each assessed satisfaction variable, and is depicted in Figures 1 and 2. As there is no agreed-upon measure of model fit, standard practice is to report multiple fit indices (Hoyle & Panter, 1995). In this study, the following goodness of fit indices were used; (a) chi-square ( $\chi^2$ ), an absolute fit index; (b) comparative fit index (CFI), an incremental fit indicator; (c) root mean square error (RMSEA), an indicator of error-based fit; and (d) standardized root-mean square residual (SRMR), the standardized difference between the observed covariance and predicted covariance. Non significant  $\chi^2$  values, CFI values close to 1.00, RMSEA values under .05, and SRMR of less than .08 are generally considered good indicators of a well fitting model (see Hair, Anderson, Tatham, & Black, 1998; Hoyle & Panter, 1995).

Figure 1 depicts the described model using coach and athlete satisfaction with personal treatment as the outcome variables. The fit of this model was very satisfactory  $\chi^2(6, N = 60), = 6.23, p = .40$ ; CFI = 1.00; RMSEA = .03; and SRMR = .08. In agreement with the hypothesized associations, the path coefficients between meta-perspective and empathic accuracy, and meta-perspective and satisfaction with personal treatment were significant for both coaches and athletes. However the path coefficients between empathic accuracy and satisfaction with personal treatment were nonsignificant for both coaches and athletes. The correlations between coach and athlete meta-perspectives and between the errors of satisfaction with personal treatment were significant; the correlation between the errors of coach and athlete empathic accuracy was nonsignificant.

Figure 2 depicts the described model using coach and athlete satisfaction with training and instruction as the outcome variables. The fit of this model was very satisfactory  $\chi^2(6, N = 60), = 3.08, p = .80$ ; CFI = 1.00; RMSEA = .00; and SRMR = .06. In agreement with the hypothesized associations, the path coefficients between meta-perspective and empathic accuracy were significant for both coaches and athletes. However, the association between meta-perspective and satisfaction with training and instruction was only significant for athletes. In addition the association between empathic accuracy and satisfaction with training and instruction was significant for athletes but not for coaches. The correlations between coach and athlete meta-perspectives were significant. The correlation between the errors of coach empathic accuracy and athlete empathic accuracy, and the correlation between the errors of coach satisfaction with personal treatment and athlete satisfaction with personal treatment, were not significant.

## Discussion

Findings indicated that coaches' and athletes' perceptions of their partners' viewpoint were positively associated with empathic accuracy. As in other relationship types (see e.g.,

De Paulo et al., 1987), it may be that coaches and athletes alter their behaviors based on how they believe their partner perceives them. Research has shown strong correlations between direct and meta-perceptions (see Jowett & Clark-Carter, 2006; Kenny, 1994). Thus, a positive meta-perspective is likely to enhance an individual's feelings of connection to their partner as this provides a reward that cannot necessarily be fulfilled elsewhere (cf. Kelley, 1979). It is likely this intersubjective experience leads individuals to exert greater effort toward understanding their partner.

The meta-perspective of coaches and athletes were significantly correlated, as were the errors of satisfaction with personal treatment. This finding suggests that the dyads have additional unspecified common influences acting upon them. These likely include dyadic variables such as relationship duration (see Thomas & Fletcher, 2003). Relationship duration has been found to be a moderating variable in several studies (e.g., Jowett, in press; Jowett & Clark-Carter, 2006), hence this variable may need to be considered in future research.

Coaches' and athletes' meta-perspectives were significantly and positively associated with their reported satisfaction. This result is in agreement with previous findings demonstrating that athletes' satisfaction is associated with their meta-perspective (DePaulo et al., 1987). Thus, individuals who feel their partner trusts, likes, and respects them, is committed to them, and works well with them, are more likely to be satisfied. The exception to this finding was that coaches' meta-perspective was not associated with their satisfaction with the training and instruction they provide the athlete. Coaches' satisfaction in this case may not necessarily depend on interpersonal factors; it may be related to intrapersonal factors such as how effective they perceive themselves to be, or extrinsic rewards such as payment. This finding warrants further investigation.

While empathic accuracy was expected to be positively associated with satisfaction, results show only athletes' accuracy was significantly associated with satisfaction with

training. It is possible that higher empathic accuracy allows them to get more out of training as athletes can more easily grasp the meaning and reasoning of their coaches' instruction. Under such conditions athletes benefit more and hence are more satisfied with the training they receive. Previous research in romantic relationships and friendships has highlighted the inconsistency of linking empathic accuracy with relationship outcomes. Whilst links have been shown between marital adjustment, relationship quality, and empathy (Sillars & Scott, 1983), other studies have argued that empathy in specific situations may lead to increased conflict and dissatisfaction (e.g., Sillars, 1985). Thus, the link between empathic accuracy and relationship outcomes is a complicated one that warrants concerted attention from researchers.

The role of empathic accuracy within the coach- athlete relationship is not yet well-understood, and the majority of research in this area draws on relationships outside of the sport domain. It is therefore important to consider the differences between these relationships and the coach-athlete relationship.

A coach has an implicit authority over the athlete that does not normally exist in romantic relationships. Authority and power differences have been shown to both increase and decrease empathy in relationships depending on the situation (Snodgrass, 1985, 1992). Additionally, while athletes normally have only one coach, coaches will work with many athletes. The findings of these previous two studies offer further insight into the nonsignificant findings between coach empathic accuracy and coach satisfaction. Coaches' power over athletes may mean that their satisfaction with personal treatment is not strongly associated with their empathic accuracy. Their inherent authority may allow them to enforce behaviors in the athlete without a need to understand the athlete; while the reverse would not be true for the athlete who instead would need to anticipate the coaches' behaviors. Additionally, coaches provide training to a range of athletes, and their satisfaction with the



training they provide may not be dependent on understanding any one athlete, but rather an overall perspective of all their coaching. This may be particularly evident in team settings where the training is provided to a group of athletes working together.

For pragmatic reasons, in this study coaches were allowed to select their own training session and athlete, this may have introduced a degree of positive bias (i.e., coaches selecting either sessions or athletes with whom they would appear more able). However, coaches, when asked about their choice, had based athlete selection on a range of criteria (e.g., new athletes with whom they wanted to develop rapport, older athletes with whom they wished to analyse their relationship, or difficult athletes so the coach could analyse their own coaching). Another potential limitation was the cross-sectional nature of the obtained data with each dyad assessed and observed on only a single occasion. Obtaining data from dyads during a number of training sessions and over a period of time would provide a more precise representation of their empathic accuracy. Moreover, the correlational nature of the present study does not allow causal inferences. Establishing causal relationships between these variables would be beneficial for theory building and intervention research that could involve such ideas as facilitating communication between coaches and athletes or improving the quality of their knowledge of each other, and thus future research will require experimental and longitudinal designs. Finally, generalization of the findings is limited to the specific characteristics of the sample employed in this study.

The modified unstructured dyadic interaction paradigm for sport is a new methodology providing a unique approach to the study of empathy within the coach-athlete interpersonal dynamics (Lorimer & Jowett, 2008). The modified paradigm is more ecologically valid compared to its previous use in laboratory research (e.g., Ickes et al., 1990) as it assesses interaction segments across an entire training session and in an environment where these interactions naturally occur. This study provides further support for the validity

of this approach; however more research is needed with varied athletic samples and sport contexts. Additionally, the coach-athlete relationship is a professional relationship with performance outcomes. Establishing a connection between empathic accuracy, effective relationships, and performance would be a significant advancement, but raises the difficult question of assessing and objectively measuring performance in some sports, such as those where performance is more subjectively judged.

This study contributes to the growing literature in sport that highlights the importance of creating a positive and constructive interpersonal environment between coaches and athletes (e.g., Jowett & Chaundy, 2004; LaVoi, 2007; Poczwadowski, Barrott, & Peregoy, 2002). From a practical viewpoint, it would seem that coaches and athletes would do well to take time to develop the relationship in a way that brings them closer together, interacting beyond the technical instructions dictated by the sport. This may mean either putting aside time out with training sessions, lengthening training sessions, or attempting to do less within the allotted time of a training session to allow for conversation and social interaction. As well as this, coaches should encourage more feedback from the athletes during technical instruction. Not only would this make more information available to both the coach and the athlete, but as the coach focuses the athlete on the topic at hand it may also generate a shared focus that increases their empathic accuracy (Lorimer & Jowett, 2008). Coaches should also be conscious of visual cues and other nonverbal feedback that may allow them to better interpret the thoughts and feelings of their athletes even when verbal feedback is minimal. The development and maintenance of a strong-rooted athletic partnership has been shown to reside in the type (e.g., dialogue, goal setting, openness), volume (e.g., how much), and frequency (e.g., how often) of communication (e.g., Rhind & Jowett, 2008). Thus, open channels of communication are likely to promote a strong interpersonal bond.

In summary, the results of this study offer an insight into the role and significance of empathic accuracy in the coach-athlete relationship. Meta-perceptions appear to be important for individuals' empathic accuracy but also for satisfaction. Coaches' and athletes' meta-perceptions of each others and their relationship play a key "motivational" role in how well they understand each other. Reflecting on these findings and their potential practical implications, future research that aims to uncover important antecedent and consequent variables of empathic accuracy is warranted.

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Table 1

*Bivariate Correlations, Means and Standard Deviations*

	1	2	3	4	5	6	7	8
<b>Coach</b>								
1. Empathic accuracy	-	.35**	.34**	.28*	.31*	.17	.25	.25
2. Meta-perspective		-	.57**	.32*	.21	.37**	.38**	.31*
3. Personal treatment			-	.43**	.26*	.33**	.47**	.24
4. Training and Instruction				-	.19	.18	.27*	.32*
<b>Athlete</b>								
5. Empathic accuracy					-	.26*	.25	.40**
6. Meta-perspective						-	.80**	.54**
7. Personal treatment							-	.65**
8. Training and Instruction								-
Mean	32.39	5.29	5.51	5.26	32.95	5.49	5.69	5.83
Standard deviation	13.11	.77	1.01	.75	15.06	.73	.83	.91

\*  $p < .05$ , \*\*  $p < .01$



Figure Caption

*Figure 1.* Path Model with Satisfaction with Personal Treatment

*Figure 2.* Path Model with Satisfaction with Training and Instruction

Empathic accuracy in the coach-athlete relationship 26

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