

Running Head: COACHES' EMPATHIC ACCURACY

Feedback of information in the empathic accuracy of sport coaches

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Abstract

This study investigated changes in the empathic accuracy of sport coaches in relation to feedback of information. Coaches' experience and qualification level were also considered. Sixty badminton coaches were randomly assigned to either an experimental or a control group. All coaches watched a video of an athlete's technical training session with her coach. At designated segments of the video all coaches were asked to make inferences about what the athlete's thoughts and feelings had been. Only the coaches in the experimental group were given corrective feedback on the athlete's thoughts and feelings following their inference. Results showed that both groups' empathic accuracy improved over the course of watching the video; however, the experimental group improved significantly more. It was found that coaches' experience was significantly associated with empathic accuracy for the control group only. These results are discussed based on issues they raise for theory and practice.

Keywords: Empathy, understanding, feedback, coaching

Feedback of information, individual and personality differences in the
empathic accuracy of sport coaches

It is widely acknowledged that coaches have a primary role in developing the athlete both physically and psychologically. They play a key part in influencing and directing their athletes' development by imparting knowledge, experience, and expertise, as well as by being responsible for the physical, technical and psychological progress and preparation of their athletes (e.g., Cassidy, Jones, & Potrac, 2004). It is not surprising then that when athletes are successful the coach is often commended by the athlete and others (e.g., parent, the media), and their role is recognized and praised. However, when athletes are unsuccessful, it is often the coach that receives a large portion of the blame and responsibility. As such, it is in the best interest of both coaches and athletes for coaches to have the capacity to provide high quality coaching.

In this paper it is argued that a potentially fundamental dimension of high quality coaching is the coach's ability to understand and subsequently respond appropriately to the athlete's needs. The broader sport coaching literature acknowledges that coaches' ability to understand their athletes is paramount because it allows them to react and interact effectively with them (e.g., Cassidy et al., 2004; Janssen & Dale, 2002; Jones, Armour, & Potrac, 2004; Lynch, 2001). Just like in the counseling, therapeutic, and educational settings, the notion of understanding the other in the dyadic coach-athlete relationship is seen as being essential for successful and effective sport coaching (Lorimer & Jowett, in press a). However, in comparison to other domains of psychology, scientific knowledge about the role and significance of understanding, or empathy as it is known, is almost non-existent in sport.

The notion of *empathy* is generally referred to as the ability to perceive, recognize, and appreciate others' behaviors, feelings, attitudes, and intentions (Losoya & Eisenberg, 2001). Carl Rogers (1959), an eminent counseling psychologist, underlined the central role

that this notion played in his client-centered approach in therapeutic settings. He defined empathy as the ability to “perceive the internal frame of reference of another with accuracy and with the emotional components and meanings which pertain thereto as if one were the person, but without ever losing the ‘as if’ conditions” (1959, pp. 210-11). Guided by this conceptualization, Ickes and colleagues (Ickes, Stinson, Bissonnette, & Garcia, 1990) defined empathic accuracy as the capacity to *accurately* perceive, from *moment-to-moment*, the psychological condition of another, such as thoughts, feelings, and moods, and the motivations and reasoning behind behaviors.

Ickes and colleagues' (e.g., Ickes, 2001; Ickes et al. 1990) research has significantly contributed to the field of empathy by offering a methodological paradigm that attempts to capture and measure this concept in actual interactions between individuals. This paradigm is known as the *unstructured dyadic interaction paradigm* and involves filming the interaction between two individuals mainly in a laboratory setting and then having those individuals review that footage. Participants record specific thoughts and feelings they remember having during the interaction, and what they believed their partner had thought or felt. The congruence between self-reports and inferences is then used to determine their empathic accuracy.

This concept of moment-to-moment understanding would seem directly applicable to the context of sports coaching and training environments. Currently there are only two studies to our knowledge that have directly assessed this type of empathy in a sports context. Using a slightly modified version of the original unstructured dyadic interaction paradigm, Lorimer and Jowett (in press a) filmed forty coach-athlete dyads during a training session and subsequently assessed their empathic accuracy in the laboratory. It was found that coaches in individual sports exhibited higher empathic accuracy than coaches in team sports. In addition, coaches whose training sessions were longer demonstrated higher empathic

accuracy. This evidence highlights that coaches' empathic accuracy (i.e., how accurately one can perceive the other's thoughts and feelings) is conditional to situational characteristics of the sport context.

In another study, Lorimer and Jowett (in press b) investigated the degree to which empathic accuracy of sixty coach-athlete dyads mediated the association between dyad members' meta-perceptions (e.g., "My coach/athlete trusts me") about the athletic relationship and satisfaction. Analyses indicated that empathic accuracy was influenced by coaches and athletes' meta-perspective as this pertained to the quality of their dyadic coach-athlete relationship. Thus, when athletes and coaches' meta-perspectives are positive, their empathic accuracy is increased. Moreover, the findings highlighted that empathic accuracy in turn influenced positive affective outcomes such as satisfaction.

Whilst the original unstructured dyadic interaction paradigm and the sport-adapted method have provided an innovative medium to assess individual's empathic accuracy as this occurs in moment-to-moment interactions during training, another adaptation of this research paradigm is available that offers additional possibilities. This is known as the *standard stimulus paradigm*, it is used in studies that aim to measure "perceivers' ability to infer the specific content of the thoughts and feelings of the same set of target persons whom they view in a standard set of videotaped interactions" (Ickes, 2001, p. 227). This paradigm has been used to explore how participants' individual differences influence empathic accuracy in the professional context of clinical counseling (i.e., counselor-patient; Marangoni, Garcia, Ickes, & Teng, 1995). However, according to Ickes (2001), this paradigm can be useful for a range of dyadic relationships. Specifically, he has argued that "videotapes of the unstructured interactions of strangers, friends, dating partners, marriage partners, parent-child, teacher-student, supervisor-employee, salesperson-customer, and so on could all be used as the standard stimuli, depending on the goals of the particular research project in

which the tapes are presented" (p. 228). This research paradigm provides not only an alternative assessment of empathic accuracy but also allows the assessment of individual factors likely to affect it. Understanding what factors affect empathic accuracy is important because it provides the basic foundation for developing interventions, and hence a means by which relationship members such as sport coaches can improve their accuracy. A notion that while acknowledged by coaching process literature as important (e.g., Cassidy et al., 2004; Jones et al., 2004) still lacks scientific evidence to substantiate that claim. Thus, in this study the standard stimulus paradigm was applied in discerning whether sport coaches' empathic accuracy increases due to continued exposure to an athlete, and how the feedback of information can further influence this.

The present study

Ickes et al. (1990) have argued that an individual's ability to accurately infer the psychological state of another, to be empathically accurate, increases with the amount of information available on which to base this judgment (Ickes et al., 1990). Thus, it is possible that an individual's ability to accurately understand the psychological state of another increases over the course of an interaction with that individual. According to Thomas and Fletcher (1997), there are at least two reasons for this. First, the volume of immediate information increases as the interaction progresses and the perceiver has more time to observe the target and establish their current psychological state. An individual may not notice or may discount a verbal or nonverbal message the first time it occurs during an interaction, but if it is repeated may be more likely to use it to help construct any inferences about the target. Second, as the interaction progresses perceivers gain access to feedback, they may ask questions or alter their behavior to provoke changes in the target, all to gather more information on which to base judgments about the target's psychological state (Ickes, Marangoni, & Garcia, 1997).

These ideas were explored by Marangoni et al. (1995) who had participants view video recordings of counseling sessions and then make inferences about the depicted patient's psychological state at fixed intervals. In order to simulate feedback, half of the participants were given information about the recorded target's thoughts and feelings throughout the recording. It was found that for all participants, the accuracy of inferences made towards the end of watching a recording was greater than those made at its beginning. This supports the idea that exposure increased the volume of immediate information available and hence increased the accuracy of inferences. This increase in accuracy was found to be significantly higher in those participants who were also given feedback through the recording, suggesting that they also used this feedback to modify their later inferences. Based upon these ideas the first two hypotheses were formulated.

Hypothesis 1. Coaches' empathic accuracy will be significantly higher during the second half of observing a coaching session than the first half.

Hypothesis 2. Coaches who receive corrective feedback will improve significantly more than those not receiving feedback.

It has also been shown in previous research that individuals' assessment of their own empathic accuracy ability has little or no connection to their actual ability (Ickes et al. 1990; Marangoni et al., 1995). A variety of reasons have been forwarded to explain this. A lack of self-awareness was been proposed alongside a lack of feedback about the target (Ickes et al., 1990). Marangoni et al. (1995) found that participants, trainee counselors, were unaware of their own empathic accuracy even when provided with feedback. In sport research, coaches have also been found to display a general lack of self-awareness about the coaching behaviors that they manifest (see Smith & Smoll, 2007). Based on these findings a third hypothesis was formed.

Hypothesis 3. Coaches' pre and post-experimental rating of their own empathic accuracy will not be significantly associated with their actual empathic accuracy scores.

There is also evidence to indicate that certain individuals are better judges or more empathically accurate than others (Ickes, 1997; Marangoni et al., 1995). Yet, while considerable research has examined possible individual differences and their associations with empathy (see Davis & Kraus, 1997), this research has almost exclusively been focused on friendships and romantic partnerships. One area not previously examined that may be of potential interest in such relationships as the coach-athlete relationship, is the experience (e.g., years involvement) and training (e.g., qualifications) that an individual has had. Coaches who have been coaching for longer and more frequently are more likely to have a closer understanding of their sport, its requirements and demands. Moreover, employed coaches are required to have acquired professional qualifications and to continue with professional development via training courses. They are more likely to have more expansive and complex knowledge schema in regards to their sport that would in turn allow them to make more accurate extrapolations. Thus, it is possible that coaches with coaching qualifications and greater experience will demonstrate increased empathic accuracy. . Subsequently, the fourth hypothesis was formulated.

Hypothesis 4. Coaches who hold higher coaching qualification, who have been coaching for longer, and who have a higher average amount of training hours per week will demonstrate increased empathic accuracy.

Method

Participants

Sixty badminton coaches (42 male, 18 female, $M_{age} = 28.62$, $SD = \pm 11.36$) were recruited. Coaches had been involved in training athletes for an average of 7.15 years ($SD =$

± 5.81), with an average of 5.19 hours of coaching per week ($SD = \pm 4.81$). The United Kingdom uses a five-level continued professional development framework for coaching qualifications, with each sport providing appropriate training at each level for their coaches. The level of coaching certification for the participating coaches was: Level 1 ($n = 20$: 33.3%), Level 2 ($n = 25$: 41.7%), Level 3 ($n = 10$: 16.7%), Level 4 ($n = 2$: 3.3%). Three of the coaches (5%) did not hold an official coaching certification in badminton (5%). Coaches categorized their performance level as follows: regional ($n = 38$: 63.3%), national ($n = 19$: 31.7%), and international ($n = 3$: 5%).

Procedure

Coaches were approached using a variety of means including telephone, letter, and email. Participants were invited to take part in an investigation examining how feedback improved coaches understanding of athletes 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. The University's Ethical Advisory Committee granted ethical approval before data collection was undertaken.

Coaches supplied informed consent before participating in the study. Subsequently, they were assigned to one of two groups of thirty participants: experimental (feedback) and control (no feedback). Mutually convenient dates and times were organized with the coaches to collect the data. Before beginning, coaches were asked to self-rate their level of perceived empathy or understanding. Coaches were then asked to watch a previously prepared video-recording of a training session between a single badminton coach and his female athlete. This video was divided into ten segments, each separated by an 80-second pause. All participants were asked during each of the ten pauses in the video-recording to infer and write down what they believed the athlete in the video had been thinking and feeling at that

moment in time. Each coach recorded their thoughts and feelings using a standardised coding sheet, similar to the one used by Ickes and colleagues (Ickes, 2001; Ickes et al., 1990).

The coding sheet was made up of ten numbered sections, representing the video-recorded segments. Each numbered section required an open-ended response from the coach in regard to: (a) the general feelings they thought the athlete had been experiencing, and (b) the specific thoughts they thought the athlete had been having. Coaches in the experimental group viewed the same video-recording as the control group. However, the video-recording of the coaches in the experimental group had been further edited so that immediately following the 80-second pause the next 45-second section also contained information regarding how the athlete actually thought and felt (i.e., corrective feedback). On completion of the whole video-recording, coaches re-rated their own perceived empathy or understanding and completed a personality inventory as well as questions pertaining to demographic information (e.g., age, gender).

Instruments

Preparation of stimulus videotape. A volunteer national-level coach-athlete dyad allowed the video-recording of a typical technical training session. The coach wore a small portable lapel microphone that allowed conversations between the coach and the athlete to be remotely recorded onto the video-recording. The recording was taken from an unobtrusive position, with the coach and athlete in shot the whole time. The session was filmed continuously from beginning to end without any breaks. The video-recording of the technical session (approximately 20 minutes in length) was uploaded to a computer. Later that day, the athlete was invited to review the recording of her training session. The athlete was asked to stop the recording whenever she distinctly remembered what she had been thinking and feeling at the point depicted in the video-recording. The athlete was asked to be completely honest, and to give as much detail as possible, avoiding vague or ambiguous statements, and

not to create new thoughts and feelings. The athlete's thoughts and feelings were recorded. Both the coach and athlete gave their permission for the video-recording to be viewed by other coaches, and the athlete gave her permission for her thought and feeling data to be accessed by coaches involved in the study. The collected thought and feeling data were the objective-criterion against which coaches' empathic accuracy was assessed.

Two sets of video-recordings were prepared. The first video-recording contained the footage of the coach and the athlete training. The footage contained ten separate segments reflecting the points at which the athlete experienced specific feelings and thoughts, separated by a period of 80 seconds of blank video-recording. This blank footage included the message "Please write down what you think the athlete was thinking and feeling now". This video-recording was approximately 33-minutes long and was used with the control group. This video-recording was also used with the experimental group with one important modification. Following each blank section of footage, when the video-recording of the training session resumed, the athlete's actual thoughts and feelings were prominently displayed in large writing across the bottom of the screen for 45 seconds. The aim was to supply coaches in the experimental group with corrective feedback as this derived from the athlete herself.

Empathic accuracy. Empathic accuracy scores are calculated according to the procedures developed by Ickes and colleagues (e.g., Ickes et al., 1990; see also Lorimer & Jowett, 2007, 2008). Coaches' inferences for each of the ten sections were directly compared with the athlete's self-reported thoughts and feelings for those points. Three raters 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*. Three scores were then calculated; empathic accuracy for the first 5 inferences (time 1), the second 5 inferences (time 2), and an overall empathic accuracy score of all 10 inferences. This was done by taking the average score given by all three raters for the inferences made by the coach. This score when

divided by 2 and multiplied by 100, gave a percentile describing the level of accuracy: 0% describing total inaccuracy and 100% describing perfect accuracy. Inter-rater reliability for this sample was 0.89.

Self-awareness. Immediately prior to watching the video coaches were asked to rate on a 1 to 10 scale, indicating increased percentage of accuracy, how accurate they would be when asked to make inferences about the thoughts and feelings of the athlete depicted in the video-recording. At the conclusion of this video-recording, coaches were asked again to rate on a 1 to 10 scale, how accurate they believed they had been in inferring the athlete's thoughts and feelings.

Individual differences in experience and training. Coaches were asked to supply information regarding the highest UK Coaching Certificate level or equivalent they had obtained, how many years they had been involved in badminton coaching, and the average amount of coaching hours they undertook each week.

Results

Table 1 presents the means and standard deviations for all of the variables measured in the present study. Values are given for the control and experimental groups, and the sample as a whole.

Hypothesis 1 & 2. To explore if coaches' empathic accuracy improved in relation to feedback of information, a statistical model consisting of one within-subjects repeated measures factor for exposure (first half vs. second half) and one between-subjects factor for feedback (feedback vs. no feedback) was tested. The analysis revealed significant main effects for both exposure $F(1, 58) = 7.47, p < .01$, and feedback, $F(1, 58) = 325.71, p < .01$. Additionally, a significant feedback by exposure interaction was evident, $F(1, 58) = 60.36, p < .01$. As can be seen visually in Figure 1, the empathic accuracy for both experimental and

control groups improved from the first half to the second half of the video, but the experimental group (feedback) had a significantly greater increase.

Hypothesis 3. To test if coaches' pre and post-experimental rating of their own perceived empathic accuracy was associated with their actual empathic accuracy, bivariate correlations were examined between pre and post-experimental ratings and the overall empathic accuracy for both the control and experimental group (see Table 2). All associations were insignificant with the exception of that between the post-experimental rating and overall empathic accuracy for the experimental group, $r = .37, p < .05$.

Hypothesis 4. To explore whether individual differences in training and experience were responsible for the variations in empathic accuracy, bivariate correlations were examined for coaches in both the control and experimental group (see Table 2). Coaching experience was significantly and negatively associated with overall empathic accuracy, $r = -.29, p < .05$, for the control group only.

Discussion

The purpose of the current study was to investigate coaches' empathic accuracy in an experimental setting employing the standard stimulus paradigm (Marangoni et al., 1995). Using this paradigm, it sought to answer whether feedback of information or corrective feedback, individual differences, and personality characteristics influence coaches' level of empathic accuracy. The findings indicated that for all coaches, empathic accuracy regarding the target athlete's feelings and thoughts significantly increased with continued exposure to the video-recording of the coaching session, supporting our first hypothesis (see Figure 1). This finding suggests that as a coach observes an athlete they gain access to an increasing volume of information about that athlete. This is consistent with the findings of Marangoni et al. (1995) who found that the empathic accuracy of participants viewing clinical counseling sessions increased in line with the amount of time the target patient was observed. Moreover,

Lorimer and Jowett's (in press a) study indicated that coach-athlete dyads who had longer training sessions exhibited higher levels of empathic accuracy when asked to infer each other's thoughts and feelings. It is thus possible that empathic accuracy is dependent on the amount of time the dyad spends with one another.

Although time appears to be an important factor in coaches' empathic accuracy and understanding, it is unknown from this study whether coaches in short- versus long-term coach-athlete relationships would exhibit greater levels of empathic accuracy. Limited research suggests that short-term coach-athlete relationships are more empathic than long-term relationships (see e.g., Jowett & Clark-Carter, 2006). Research studies that investigate personal relationships have found that in long-term romantic relationships, greater familiarity with a partner actually leads to individuals attending less to verbal and nonverbal cues and making greater assumptions about them leading to decreased empathic accuracy (Kilpatrick, Bissonnette, & Rusbult, 2002; Thomas, Fletcher, & Lange, 1997). This area of research has significant practical implications, thus more research is warranted.

Results also indicated a significant improvement in coaches' empathic accuracy due to receiving corrective feedback, and a significant interaction effect based on exposure by feedback. This suggests that not only did providing feedback to coaches improve their empathic accuracy, but that it also increased the rate at which their empathic accuracy improved due to exposure to the athlete. It is thus possible that coaches were using this accumulated feedback to understand the target athlete's subsequent verbal and non-verbal behaviors. Therefore, it appears that not only increased time but also increased feedback of information is important to coaches' empathic accuracy and understanding. For a coach to accurately ascertain an athlete's current mood and to accurately establish the current trend in his/her athlete's thoughts and feelings, the coach may require the athlete to supply relevant information during the course of a training session. Although simulated, the influence of

feedback on empathic accuracy in the present study suggests that coaches asking the right questions and receiving useful feedback from their athletes will be more likely to accurately understand their athletes.

Communication has long been acknowledged as a key dimension of effective coaching (Vealey, 2005; LaVoi, 2007). It is through the process of communication that coaches impart knowledge, set the tone of the training session, and the interpersonal climate whilst athletes provide feedback about their current psychological state, thoughts, and feelings. Communication appears to be one of the most important processes from which coaches (and their athletes) acquire important information that can subsequently lead to coaches' empathic accuracy. Based on the findings of this study, it is possible to suggest that communication transactions that aim to acquire feedback from the athlete may be more crucial just before the commencement of a training session simply because at that point coaches begin with little or no information about their athletes' psychological state (e.g., moods, trends in his/her thoughts and feelings).

The third hypothesis was supported by the finding and indicated that coaches' assessment of their perceived empathic accuracy ability had no significant association with their actual empathic accuracy ability. A notable exception to this was a significant association between the overall empathic accuracy for the experimental (feedback) group and their post-experimental assessment of their own ability. This is consistent with the suggestion that individuals are unable to accurately rate their own empathic accuracy because of a lack of feedback about their target (Ickes et al., 1990). In this experiment it seems that coaches were able to use the corrective feedback provided to the experimental group to better ascertain how successful they had been. Yet this finding differs from that of Marangoni et al. (1995) who found that even post-experiment participants were unable to accurately judge their own abilities. This may be because the participants of Marangoni et al. (1995) were all

counseling students, while those of the current study were actual practicing coaches. Participants of the present study may have been more involved and interested in their empathic accuracy as it was directly associated with their own coaching ability. They may have seen this experiment as a way of either reflecting on their own coaching or useful in developing these abilities. As such, they may have paid greater attention to not only how the feedback related to the inferences they were making, but also how well they were performing overall.

This improvement in the self-awareness of coaches about their own abilities may be an important finding. Previous research has indicated that coaches are unaware of the behaviors they manifest while coaching young athletes in sport teams (see Smith & Smoll, 2007). In addition, Jowett and Clark-Carter (2007) have found that coaches were significantly less empathic than their athletes in terms of how affectively close the coach-athlete relationship had been. In another study, Lorimer and Jowett (2007) have found that coaches display a large degree of error in their inferences about their athletes' feelings and thoughts during a typical training session. Collectively, these findings suggest that the majority of the time coaches are unaware of what their athletes are thinking and feeling. Nonetheless, the findings of this study suggest that accurate feedback from an athlete is likely to improve coaches' self-awareness of their empathic accuracy and actual levels of their empathic accuracy. It thus seems logical to suggest that coaches who are more aware of themselves and of others (i.e., athletes) would be better equipped to provide better coaching and bring about positive outcomes (e.g., satisfaction, performance).

Contrary to the fourth hypothesis, coaches' experience and training were not found to be a major factor in their actual empathic accuracy. Indeed, only the length of time in years they had spent coaching was significantly associated with their empathic accuracy, and only for the control group (no feedback). Additionally, this association was negative, suggesting

that experienced coaches actually performed worse than inexperienced coaches. While no previous research has examined such individual differences in relation to coaches' empathic accuracy, it is possible that coaches who are experienced believe that they "have seen it all"; this confidence may lead them to making wrong assumptions simply because they do not pay the attention to the available information. This is in agreement with Ickes (1993) suggestion that while an individual may have a degree of insight into a person or situation (gained through knowledge or experience), this insight may not generalize to other people or situations. That is, while a coach may have greater experience, this knowledge may not be directly transferable without careful consideration of the specifics of the current situation. This explanation is further supported by the lack of significant associations for the experimental group (feedback) and the interaction effect of exposure and feedback. When supplied with accurate corrective feedback coaches are immediately able to check their accuracy. Those making false assumptions are alerted to this and may begin to attend more closely to the available information, putting in more effort into making accurate inferences about the thoughts and feelings of that athlete.

From a practical point of view the findings of this study suggest that coaches need to be attentive to the verbal and non-verbal cues given by their athletes, and not assume that because an athlete or situation is similar to one previously encountered, that athletes will react in the same or similar fashion as before. This is not to say that previous knowledge and experience is not useful, especially in shaping a coach's reactions to a situation, but instead a warning against making assumptions or falling into habitual behaviors. The evident additive effect of corrective feedback shows that coaches should encourage useful and relevant feedback from the athletes. They must use this information to help establish the athletes' mood and current psychological state, as well as asking for information directly related to the sport and training context.

The results of this study provide some useful insights into how empathic accuracy is influenced by corrective feedback. Yet these findings must be viewed against the limitations of this study. While the experimental design allows for direct comparison of coaches, it raises ecological issues. Coaches and athletes form interdependent relationships in real life, and as such they have a high degree of interaction and reliance upon each other (Jowett, 2007). This likely plays an important role in the concept of empathic accuracy that is not accounted for when using a standard stimulus paradigm. Moreover, coaches only performed the task once with a single target athlete. Obtaining data over several observations and across several targets may provide a more precise representation of a coach's average empathic accuracy. Additionally, the generalization of the findings may be problematic beyond the specific characteristics of the sample employed in this study, namely, badminton coaches who work one-on-one with athletes.

Future studies need to continue to explore empathic accuracy in coaching and in the coach-athlete relationship. While the present study offers an insight into how individual factors, feedback, and exposure influence the empathic accuracy of coaches, it is unclear how familiarity between a coach and an athlete would further influence this. Further, future researchers need to continue to explore the possible antecedents and outcomes of empathic accuracy with regard to coaches and athletes, and how these differ or are similar in nature to other relationship types (e.g., romantic, friendships, therapeutic), providing not only an insight into the coach-athlete relationship but also empathic accuracy as a whole.

Additionally, the standard stimulus paradigm provides an ideal situation for self-reflection and personal development, and has the potential to be used as an assessment and training tool. This paradigm offers a reliable objective criterion against which to judge empathic accuracy (Marangoni et al., 1995), making it an ideal method for assessing coaches. Thus, further work investigating the standard stimulus paradigm is required to examine its merits as

an intervention program or as an educational tool that promotes self-reflection and improves self-awareness amongst coaches.

The standard stimulus paradigm used here (Marangoni et al., 1995) is innovative approach in research that involves coaches and athletes. The findings of the present study offer an insight into the influence of a variety of factors on the empathic accuracy of coaches. Most importantly it highlights the key role feedback seems to play in increasing empathic accuracy. Not only improving accuracy but also increasing the rate at which empathic accuracy improves over time, negating the influence of individual factors, and improving coaches' self-awareness of their own ability. Reflecting on these findings, it is important for future researchers not only to continue uncover antecedents of empathic accuracy, but also to establish ways to improve coaches self-awareness and the sort of feedback that they need from their athletes.

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Figure Caption

Figure 1. Empathic accuracy scores for feedback vs. no feedback

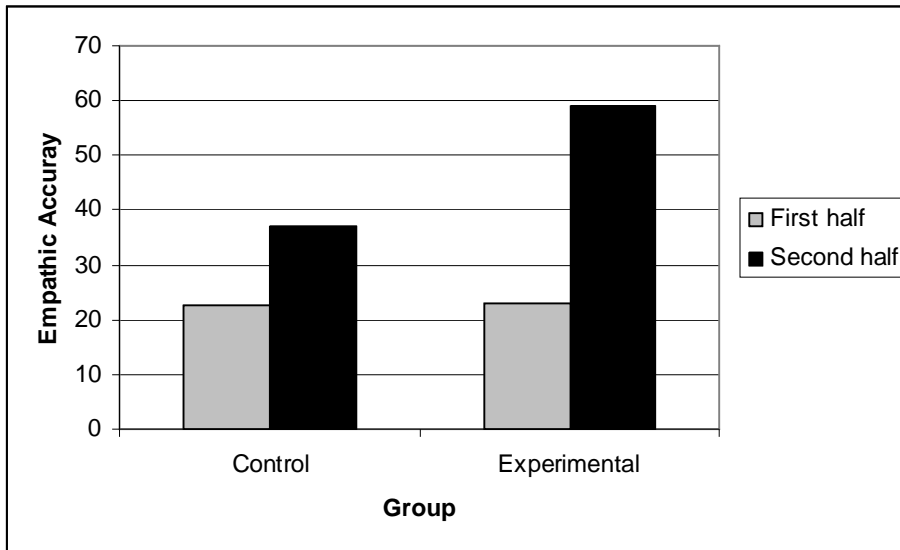


Table 1

Means and standard deviations for control and experimental groups, and total sample

| | Control | | Experimental | | Total | |
|---------------------------------|----------|-----------|--------------|-----------|----------|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Empathic accuracy (first half) | 22.78 | 17.68 | 22.99 | 11.76 | 22.89 | 14.89 |
| Empathic accuracy (second half) | 37.22 | 18.34 | 59.00 | 16.61 | 48.11 | 20.53 |
| Overall empathic accuracy | 30.00 | 17.61 | 41.00 | 12.74 | 35.50 | 16.21 |
| Pre-test estimation | 38.00 | 17.89 | 38.00 | 16.69 | 38.00 | 17.15 |
| Post-test estimation | 48.00 | 20.41 | 47.00 | 12.07 | 47.50 | 16.63 |
| Age | 28.97 | 13.59 | 28.27 | 8/81 | 28.62 | 11.36 |
| Experience | 7.73 | 6.87 | 6.57 | 4.56 | 7.15 | 5.81 |
| Coaching hours per week | 5.28 | 5.60 | 5.10 | 3.96 | 5.19 | 4.81 |

Table 2

Bivariate correlations between overall empathic accuracy and antecedents

| | Overall empathic accuracy | |
|-----------------------------|---------------------------|--------------|
| | Control | Experimental |
| Pre-experimental rating | -.04 | .20 |
| Post-experimental rating | .09 | .37* |
| Coaching experience (years) | -.29* | -.07 |
| Coaching hours per week | -.19 | .25 |
| UK Qualification level | -.10 | .16 |

* $p < .05$