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Abstract

This study investigates the correlation between intercollegiate athletes' meta-perception accuracy and their assessment of coaches' immediacy behaviors, and actions that foster closeness. Utilizing the Coach-Athlete Relationship Questionnaire, 54 athletes evaluated their coaches' immediacy. Findings indicate that lower meta-accuracy aligns with perceived lower immediacy, highlighting the role of perceived relational closeness in athlete self-awareness. Gender dynamics, in terms of coach-athlete dyads, exhibited no effect on meta-perception accuracy. The findings of the study lend credence to sport managers including immediacy behaviors in coach training to enhance athletes' meta-accuracy perception, while also contributing to the literature on meta-perception in sports and coach-athlete gender dynamics.

Keywords: coach-athlete relationship, immediacy behaviors, empathic accuracy, meta-perception accuracy

The relationship between coach and athlete is fundamental to team success and athletic performance. Research highlights its significant impact on both coach and athlete success (Falcão et al., 2020; Jowett & Clark-Carter, 2006; Naidoo et al., 2015). Effective management of this relationship is crucial, especially in collegiate athletics where athletes are in a developmental phase (Lorimer, 2011; Jawoosh et al., 2022). Sport managers must integrate managerial principles into coach–athlete interactions to foster a culture of shared goals and respect. Clear communication is essential for improving team cohesion and achieving organizational objectives (Kim et al., 2019).

From a sport manager’s perspective, the 3+1Cs model defines the coach–athlete relationship through closeness, commitment, complementarity, and co-orientation (Foulds et al., 2019). Closeness measures the mutual value felt by both parties, commitment reflects the resilience to maintain the relationship through challenges, and complementarity highlights the seamless, synchronized interactions between coach and athlete. These dimensions significantly influence athletic satisfaction and performance (Williams et al., 2021). Understanding and enhancing these relational factors is essential for sport managers aiming to optimize team success and cohesion.

Co-orientation, a concept encompassing a shared understanding and common ground within a relationship, fostered by sport managers, has profound implications for achieving harmony and synergy (Samah et al., 2019). Within co-orientation lies empathic accuracy (EA), the capability to make precise judgments of a partner’s thoughts, feelings, and behaviors. EA facilitates seamless coordination of goals and activities, a critical component in team and relationship success (Jowett & Clark-Carter, 2006). Distinct dimensions of EA exist, including a direct perspective of one’s thoughts and feelings contrasted with a meta-perspective, which entails understanding how one is perceived by the other (Falcão et al., 2020; Jowett & Clark-Carter, 2006; Naidoo et al., 2015). Indeed, an “educated guess” informed by interaction and experience, the meta-perspective remains a vital yet challenging aspect to achieve for athletes, coaches, and sport managers.

Efficient communication is crucial for relational functionality, enabling individuals in interdependent relationships to maintain shared interactional alignment. Immediacy behaviors, both verbal and nonverbal, reduce psychological distance and foster openness (Kim et al., 2019). In instructional settings, these behaviors, such as vocal variation, eye contact, and physical proximity, decrease perceived separation and positively affect engagement and learning outcomes (Estepp & Roberts, 2015). In collegiate sport coaching, immediacy behaviors enhance communication and connection with athletes (Cranmer & Goodboy, 2015). From a sport manager’s perspective, promoting these behaviors through coach training and professional development is vital for maximizing the athlete experience. This approach ensures athletes feel valued and understood, leading to increased motivation, better team cohesion, and improved performance. Prioritizing immediacy behaviors thus supports overall athlete wellbeing and the success of the sports program.

Despite the importance of communication in the coach–athlete relationship (Cranmer & Goodboy, 2015), research on immediacy behaviors in intercollegiate sports has remained limited. Athletes’ perceptions of coaches’ verbal and nonverbal immediacy could have influenced psychological closeness and empathic accuracy (Jowett & Clark-Carter, 2006). Because the quality of these relationships was key to a successful sports experience, understanding these dynamics was crucial, especially for sport managers

who facilitated these interactions (Kim et al., 2019). This paper aimed to bridge coaching strategies and sport management to enhance relationship-building practices within athletic departments. The study examined the communication intricacies within coach–athlete relationships and their impact on relational dynamics, emphasizing the need for sport managers to grasp these concepts. Specifically, it explored how athletes’ perceptions of immediacy behaviors related to their meta-perceptions of coaches’ attitudes, considering the gender composition of the dyad. In pursuit of this objective, the study proposed the following hypotheses:

1. A positive association is expected between athletes’ meta-perception accuracy and their perceptions of coaches’ immediacy behaviors.
2. Meta-perception accuracy is hypothesized to significantly vary between same-sex and opposite-sex dyads.
3. Female coaches are predicted to be perceived as demonstrating greater immediacy behaviors than male coaches.

Method

Participants

This study enlisted 54 coach–athlete pairings from various individual sports within National Collegiate Athletic Association (NCAA) Division I across the Southeastern and Midwestern United States. The sample included all-female athletes who participated in a variety of sports: track and field ($n = 25$), swimming ($n = 9$), gymnastics ($n = 9$), golf ($n = 7$), and tennis ($n = 4$). The participant dyads were composed of two distinct groups: 25 of the participants had a male coach, and 29 of the participants had a female coach. Furthermore, 10 coaches participated in the study and were from various sports, although their distribution was not explicitly two from each sport. Consent was obtained from 10 coaches out of an initial pool of 16 approached. Each coach provided a randomized list of athletes who matched the study’s eligibility criteria, which required athletes to be active participants in their respective sports and enrolled in NCAA Division I programs. This study targeted women’s teams for several reasons. Focusing on female athletes enabled the examination of gender-specific dynamics in coach–athlete relationships, which can differ significantly from those in male sports (Allen & Shaw, 2013). The selected sports—track and field, swimming, gymnastics, golf, and tennis—were chosen due to their individual nature, which allows for a more controlled examination of the coach–athlete dynamic without the complexity of larger team interactions. It should be noted that coaches from other sports were not explicitly contacted for participation in this study.

Instrumentation

A comprehensive suite of survey instruments was deployed in this study, comprising a demographic survey, the meta-perception version of the Coach-Athlete Relationship Questionnaire (CART-Q; Jowett & Ntoumanis, 2004), and modified versions of the Verbal Immediacy Behaviors Scale (VIB; Gorham, 1988) and Nonverbal Immediacy Scale–Observer Report (NIS-O; Richmond et al., 2003). A modified version of the NIS-O (Richmond et al., 2003) scale was employed to measure athletes’ perception of coaches’ nonverbal immediacy. The demographic survey collected participant data, including age, sport,

and gender, to provide contextual background information on the subjects involved. Coaches were responsible for completing the demographic surveys and answering from their direct perspective using the CART-Q. The CART-Q, known for its reliability and multidimensional qualities, was rated on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree), consistent with Jowett and Ntoumanis's (2004) initial findings. This scale assesses the quality of the coach–athlete relationship across various dimensions such as closeness, commitment, and complementarity. For the VIB and the NIS-O, the researchers adapted the wording to better reflect the athletic context. Turman (2008) previously modified the NIB scale (Richmond et al., 1987) to the athletic context and found it to maintain reliability ($r = .81$). For this study, items were modified to fit the coach–athlete setting by changing the beginning of each statement to “My coach” instead of reading “I.” For example the original version reads “I use my hands when talking to people” and the modified version read, “My coach uses his/her hands when talking to athletes.” The VIB, originally developed by Gorham (1988), uses a 5-point Likert scale (1 = never to 5 = very often) to measure the frequency of verbal behaviors that convey immediacy and approachability. Similarly, the NIS-O, adapted from Richmond et al. (2003), employs a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) to assess nonverbal behaviors that communicate immediacy, such as eye contact and body language. Pilot testing with a representative sample of coaches and athletes established the validity and reliability of these modified scales, ensuring they accurately reflect communication and relationship dynamics in athletics for robust study data.

Procedure

The study commenced after obtaining approval from the Institutional Review Board (IRB). Coaches from NCAA Division I institutions were reached via email, with their contact information sourced from public directories. The recruitment emails included details about the study's purpose, confidentiality assurances, and participant requirements. Consent was secured from 10 coaches out of the 16 initially contacted, each of whom provided a randomized list of athletes who met the study's eligibility criteria. Athletes were chosen through a random sampling method with a cap per coach to maintain balanced representation. Out of the 85 athletes invited via email, which included information about the study, confidentiality, and participation instructions, 54 responded to form the final set of dyads for data collection. Unique codes were assigned to each dyad to anonymize the submissions and safeguard confidentiality. Data collection involved distributing pre-coded surveys through Inquisit survey software to both athletes and coaches, streamlining the process and ensuring accurate tracking of matched dyads. Athletes answered questions regarding their perceptions of the coaches' immediacy behaviors, and coaches self-assessed their relationship dynamics using the direct perspective CART-Q. On average, athletes took about five minutes to complete the survey, whereas coaches spent approximately one minute per athlete. The discrepancy in the sample size, where the NIS-O (perceived coaches' immediacy behaviors) is 46, in contrast to the 54 respondents for the other survey results, stemmed from participant dropout incomplete surveys. Out of the initial 54 athletes forming the final set of dyads, 46 completed the NIS-O survey. Some athletes either did not complete the NIS-O survey or their responses were invalid or incomplete, leading to the reduction in sample size. This reduction is a common occurrence in survey-based research due to varying levels of participant engagement across different components of the study (Baruch & Holtom, 2008).

Statistical Analysis

This study used Pearson's correlation tests to assess associations between scores on the CART-Q subscales (commitment, closeness, and complementarity) for coaches and athletes. Data analysis was conducted with SPSS version 24.0. Independent samples t-tests examined perceptual discrepancies and immediacy behaviors among gendered coach–athlete pairs. Confounding variables were controlled to ensure study integrity, and statistical significance was set at an alpha level of .05.

Results

Internal consistency of the survey instruments was assessed using Cronbach's alpha coefficients. The athlete responses on the CART-Q yielded alphas of .822 for commitment, .897 for closeness, and .861 for complementarity, indicating satisfactory to high levels of reliability. Coaches' responses showed slightly lower but acceptable reliability scores with alphas of .792 for commitment, .873 for closeness, and .705 for complementarity. The reliability testing extended to the VIB and the NIS-O, both demonstrating strong internal consistency with alphas of .893. Descriptive statistics detailed in Tables 1 and 2 outline the distribution of the various measures for athletes and coaches, respectively.

Table 1

Athlete Descriptive Data

Description	N	Minimum	Maximum	Mean	SD
Age	54	18	23	19.86	1.15
Closeness	54	10	28	22.13	4.65
Compliment	54	11	28	21.80	4.69
CART-Q	54	32	77	59.51	12.52
Difference	54	00	34	11.47	8.63
VIB	54	34	80	58.27	10.62
NIS-O	54	52	124	91.50	17.11

Note. Possible ranges for closeness and complementarity range from 4 to 28; for the CART-Q they range from 7 to 77. Difference scores could range from 0 to 70. Possible ranges for the VIB were 0 to 68 and for the NIS-O they were 26 to 137.

Table 2

Coach Descriptive Data

Description	N	Minimum	Maximum	Mean	SD
Age	10	26	51	33.67	9.12
Commitment	54	14	21	18.27	2.30
Closeness	54	14	28	25.18	2.94
Compliment	54	17	28	24.67	2.52
CART-Q	54	49	77	68.13	7.09

Note. Possible ranges for closeness and complementarity range from 4 to 28, for commitment 3 to 21, for the CART-Q 7 to 77. Difference scores could range from 0 to 70.

Meta-perception accuracy, calculated as the mean percentage of agreement between coach and athlete perceptions, was established at 83% across the sample. A more granular analysis revealed a higher average accuracy percentage within opposite-sex dyads at 86% compared to 80% for same-sex dyads. The study investigated the connection between coaches' immediacy behaviors and the athletes' accuracy of meta-perceptions through Pearson correlation coefficient tests. These analyses showed a moderate and significant inverse relationship between both nonverbal immediacy ($r = -.418$, $p = .004$) and verbal immediacy ($r = -.460$, $p = .001$) with the discrepancy scores of meta-perception accuracy. In essence, as athletes' perceptions more closely matched their coaches' self-descriptions, reported immediacy behaviors increased.

Exploring potential gender effects, a series of independent t-tests were conducted. No statistically significant differences were identified in meta-perception accuracy scores when comparing same-sex dyads ($M = 12.48$, $SD = 8.92$) and opposite-sex dyads ($M = 10.08$, $SD = 8.40$), $t(52) = -1.01$, $p = .315$. This finding does not lend support to the anticipated difference in female–female versus male–female dyads' meta-perception accuracy. Furthermore, athletes' perceptions of nonverbal immediacy did not significantly differ between those with male coaches ($M = 90.22$, $SD = 20.20$) and those with female coaches ($M = 92.25$, $SD = 15.16$), $t(44) = .367$, $p = .715$. Similarly, there was no significant disparity in perceptions of verbal immediacy with athletes coached by a male ($M = 57.64$, $SD = 12.53$) and athletes coached by a female ($M = 59.14$, $SD = 8.88$), $t(52) = -.512$, $p = .611$.

Discussion

Understanding the dynamics of coach–athlete communication is essential for sport managers focused on optimizing team performance and athlete development (Falcão et al., 2020). By examining these interactions, sport managers can implement strategies that cultivate a positive and high-performing athletic environment. The present study investigated meta-perception accuracy within coach–athlete relationships, highlighting its potential to transform coaching practices and inform managerial approaches in collegiate sports. Meta-perception accuracy was assessed using the CART-Q, comparing athlete perceptions against coach self-assessments. Results indicated a meta-perception accuracy surpassing previous averages for empathic accuracy (EA), which typically fall below 50% (Lorimer, 2011). EA measures how accurately one can understand another's thoughts and feelings, with historical averages below 50%, indicating that people often struggle to accurately perceive others' mental states.

Meta-Perception Accuracy and Immediacy Behaviors

From a sports management perspective, this study revealed that increased immediacy, both verbal and nonverbal, enhances meta-perception accuracy, indicating a more precise mutual understanding between coaches and athletes. Immediacy behaviors, linked to satisfaction and motivation (Estepp & Roberts, 2015; Frymier et al., 2019), are prevalent in sports settings, where coaches often use nonverbal cues like close proximity during huddles and eye contact during instruction (Cranmer & Goodboy, 2015). These behaviors reduce psychological distance, improving communication quality and athlete satisfaction (Cranmer & Sollitto, 2015; Lorimer, 2011). Verbal immediacy also plays a critical role in fostering supportive coach–athlete relationships by lowering psychological barriers (Cranmer & Sollitto, 2015). Understanding and utilizing immediacy behaviors is crucial for sport managers who supervise individual sports because it enables them to help foster effective coach–athlete communication, enhance athlete sat-

isfaction, and ultimately drive better performance outcomes. This knowledge empowers sport managers to train and support coaches in adopting strategies that build stronger, more productive relationships with their athletes.

Gender Dynamics Within Coach–Athlete Dyads

As a sport manager, it is essential to note that this research found no significant differences in meta-perception accuracy across gender compositions within dyads. This finding counters previous studies that suggested gender influences empathic accuracy and supports Lorimer and Jowett's (2010a, 2010b) assertion of a universal application of immediacy behaviors regardless of gender. Additionally, the study's results challenge social-role theory assumptions by showing no significant differences in perceived immediacy behaviors between male and female coaches. The predominance of male coaches for female teams (Walach-Bišta, 2019) may normalize athlete expectations for coaching behaviors across genders, suggesting that female athletes do not distinguish between the immediacy behaviors of male and female coaches. This lack of perceptual difference could also be attributed to athletes' personal experiences in sports, fostering a more nuanced understanding of coaching behaviors beyond traditional gender stereotypes. For sport managers, these insights highlight the importance of focusing on effective immediacy behaviors over gendered expectations, enhancing training and support across all coaching staff.

Limitations

To interpret this study's outcomes, several limitations must be acknowledged. First, the sample consisted exclusively of female NCAA Division I individual sport athletes, limiting the generalizability to other populations such as male athletes, team sports participants, or athletes at different competitive levels. In addition, meta-perception accuracy is dynamic and can vary over time, so this study's single-point assessment may not capture its full complexity. Thus, these findings represent only a snapshot and do not account for the longitudinal nuances of coach-athlete relationships or the crucial role sport managers play in facilitating these dynamics.

Future Directions

Future research could include longitudinal studies to analyze the progression of EA and communication between athletes and coaches over time, enhancing understanding of their impact on relationships. Expanding studies across various sports, especially male-dominated and team settings, would reveal EA's role in different athletic environments. Investigations at different competition levels might show how competitive intensity affects communication dynamics. Additionally, exploring athletes' perceptions of coaches' immediacy behaviors and coaches' views on their communication strategies can reveal disconnects between intent and perception. These insights would help sport managers develop tailored communication training for more effective coach–athlete interactions.

Conclusion

This investigation underscores the pivotal role of strategic communication, especially immediacy behaviors, in coach–athlete interactions. For sport managers, harnessing the synergy between enhanced meta-perception accuracy and immediacy behaviors is vital, particularly during the formative stages of

student-athletes' careers (Jawoosh et al., 2022). To boost athlete satisfaction and performance, sport managers must promote both verbal and nonverbal immediacy behaviors among coaches. Tailored training interventions focusing on immediacy can effectively address the unique dynamics of athletic environments, enhancing athlete motivation. Despite known links between strong communication and positive athletic outcomes, practical guidelines for improving coach–athlete dialogue remain scarce. This study offers a framework for sport managers to cultivate immediacy behaviors, thus reducing psychological distance, particularly within female athletic teams. It also dispels gender assumptions, revealing no significant difference in immediacy behaviors between male and female coaches, reassuring that male coaches can form effective relationships with female athletes. Grasping the reciprocal relationship between meta-perception accuracy and immediacy behaviors is essential for elevating satisfaction, motivation, and athletic success. Integrating immediacy into coaching education and training is a practical strategy to enhance coaching communication and the overall athletic experience.

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