On the Same Page in Sporting Dyads: Does Dissimilarity on 2 x 2 Achievement Goal Constructs Impair Relationship Functioning?

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This study examined the extent to which 2 x 2 achievement goal constructs (Elliot, 1999) were associated with key relational perceptions (i.e., relationship commitment, relationship satisfaction) for members of athlete-athlete dyads. Both members from 82 regional-level partnerships (mean age = 22.72, SD = 3.83) were recruited from a variety of dyadic sports (e.g., tennis, badminton, rowing). Actor-partner interdependence model analyses revealed that greater dissimilarity between partners on mastery-approach and performance-approach goals was associated with lower commitment and satisfaction. Mastery goals displayed positive actor effects with respect to both relationship perceptions, whereas performance-avoidance goals were negatively related to commitment (i.e., actor and partner effects) and satisfaction (i.e., partner effect). These results indicate that achievement goal constructs may align with important interpersonal perceptions in athlete dyads.

Keywords: actor-partner interdependence model, close relationships, relationship commitment, sport

Achievement goals reflect the criteria by which a person judges his or her competence within a given domain, and play a key role in individual functioning across various achievement situations. Indeed, since the introduction of this conceptual framework over 20 years ago (Dweck, 1986; Nicholls, 1984), psychologists have devoted substantial effort to exploring the processes that both influence and are influenced by achievement goal perceptions. Historically, achievement goals have been classified within two largely independent dimensions, which differ according to the basis upon which individuals define achievement. Those who derive a sense of competence from task- or self-referenced criteria, such as mastering skills and displaying personal improvement, are referred to as being highly mastery (or task) involved. On the other hand, a sense of achievement may stem from the demonstra-
tion of superiority over others, and in this case individuals are classified as being highly performance (or ego) focused (Elliot, 1999; Nicholls, 1989).

Central to Nicholls’s (1989) conceptual framework was the notion that achievement goals align with key affective, cognitive, and behavioral responses. Specifically, he theorized that those who were highly mastery focused (i.e., emphasis on improvement and development) would display a positive motivational profile in the form of sustained effort, task persistence, and self-determined (or intrinsic) forms of motivation. On the reverse, a strong desire to achieve normative success and favorable interpersonal comparison (i.e., highly performance focused) was proposed to be associated with unfavorable correlates in the form of lower effort and persistence, elevated anxiety and stress, task avoidance, and reduced intrinsic motivation. A significant body of research exploring this dichotomous model of achievement goals has provided a wealth of information relating to the various factors associated with these constructs (see reviews by Harwood, Spray, & Keegan, 2008; Moller & Elliot, 2006; Roberts, Treasure, & Conroy, 2007), and empirical evidence overall appears to largely substantiate Nicholls’s proposals.

In addition to providing substantive empirical evidence for the utility of mastery and performance goals, continued research in this area has also driven a number of important theoretical refinements to the original model (e.g., Elliot & McGregor, 2001). Notably, Elliot and colleagues proposed that the existing dichotomy could be further bifurcated to include not only the definition of competence (i.e., mastery or performance), but also the valence of competence. The dimension of valence refers to whether one’s respective achievement goal is directed toward either achieving competence or avoiding incompetence. Individuals who strive for competence are referred to as being “approach” focused, whereas those who seek to avoid incompetence are termed “avoidance” focused. Subsequently, Elliot and McGregor (2001) formulated their 2 × 2 achievement goal taxonomy, by crossing the approach–avoidance dimension with the existing dichotomous model of mastery and performance goals. As such, four achievement goals were proposed, namely (a) mastery-approach goals (MAp), whereby individuals focus on attaining competence according to task- or self-referenced criteria; (b) mastery-avoidance goals (MAv), by which one seeks to avoid task- or self-referenced incompetence; (c) performance-approach goals (PAp), whereby individuals strive to outperform others and achieve normative competence; and (d) performance-avoidance goals (PAv), by which one focuses on the avoidance of normative incompetence. For instance, in the case of track athletics, a competitor may strive to improve her previous personal best (mastery-approach), and/or may be concerned with not performing worse than in her previous event (mastery-avoidance). From a normative perspective, the athlete may be classified according to the extent to which she strives to win her race (performance-approach), and/or her focus on not performing poorly in relation to the other competitors (performance-avoidance).

According to Elliot and colleagues (e.g., Elliot, 1999; Elliot & McGregor, 2001; Moller & Elliot, 2006), MAp goals are optimal and theorized to align most closely with desirable outcomes (e.g., positive affect, self-determined motivation). Empirical examination of the consequences associated with the 2 × 2 model has been conducted primarily in general educational settings (e.g., Cano & Berbén, 2009; Sins, van Joolingen, Savelbergh, & van Hout-Wolters, 2008). However, researchers in sport (e.g., Adie, Duda, & Ntoumanis, 2008; Conroy, Kaye, Coatsworth, 2006;
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Nien & Duda, 2008; Stoeber, Stoll, Pescheck, & Otto, 2008) and physical education contexts (e.g., Elliot, Cur, Fryer, & Huguet, 2006; Kaye, Conroy, & Fifer, 2008; Wang, Biddle, & Elliot, 2007) have also begun to examine the potential implications of this framework. In line with theory, MAp goals have indeed been shown to be linked to a number of desirable factors, including low anxiety, high self-esteem and intrinsic motivation, deep-level task processing (i.e., engaging with material, looking for insight), as well as favorable satisfaction and competence perceptions (for reviews see Moller & Elliot, 2006; Roberts et al., 2007).

In contrast, Elliot and colleagues argued that PAv goals, grounded largely in failure-oriented cognitions (e.g., fear of failure), are associated with a number of less favorable outcomes (e.g., anxiety, externally regulated motivation). In support of these assertions, research has shown that a suboptimal achievement profile characterizes individuals reporting high performance-avoidance, with outcomes including, but not limited to, high levels of performance anxiety, perfectionist concerns, self-handicapping tendencies, and surface-level task processing (i.e., lack of reflection and time devoted to learning), as well as low intrinsic motivation and task absorption (see Moller & Elliot, 2006; Roberts et al., 2007). The theorized network of correlates for MAv and PAp goals is somewhat more complex and potentially mixed given that each of these orientations carries with it a facilitative component (i.e., mastery and approach aspects may be viewed as adaptive in terms of achievement processes) as well as a potentially debilitating component (i.e., performance and avoidance aspects may be viewed as less adaptive) (Elliot, 1999; Elliot & McGregor, 2001). Indeed, research findings on the correlates of MAv and PAp constructs are equivocal, with both favorable (e.g., high academic performance, intrinsic motivation, task persistence) and unfavorable achievement outcomes (e.g., perfectionist concerns, poor performance, threat construals during performance, negative affect, amotivation) documented in the literature (e.g., Moller & Elliot, 2006). Overall, in reviewing existing empirical findings relating to the 2 × 2 model, Roberts et al. (2007) surmised that “MAp goals appear to be optimal, PAv goals appear to be dysfunctional, and both PAp and MAv are neither entirely optimal nor entirely dysfunctional” (p. 18).

Achievement Goals in Relationship Contexts

The various intrapersonal outcomes aligned with the dichotomous and (to a lesser extent) 2 × 2 frameworks have received empirical attention within individual pursuits. However, the interpersonal nature of these concepts within interdependent contexts is not as clearly defined (see Harwood & Beauchamp, 2008; Ommundsen, Roberts, Lemyre, & Miller, 2005). In light of the diverse cognitive, affective, and behavioral implications associated with achievement goals, it is important to explore how these constructs may operate not only in individual performance settings, but also with respect to relationship- and group-based enactment. Indeed, in sport as in other social settings, successful and satisfying endeavors are often characterized by the formation and maintenance of effective close relationships (e.g., coach–athlete, athlete–athlete). Accordingly, although relationship researchers have recently provided insight into the nature of coach–athlete interaction (Jowett & Poczwardowski, 2007), the factors associated with effective relationship processes when individuals train and perform together as a team (i.e., athlete–athlete partnerships) are not as
well understood. In spite of the prevalence of athlete–athlete interaction (Wickwire, Bloom, & Loughead, 2004), and the pervasiveness of achievement goal theories in understanding athlete motivation, very little is known specifically regarding the ways in which achievement goals are linked to the quality of the relationships that athletes form with one another. As well as a pivotal role in shaping relationship longevity, positive dyadic experiences are also related to adaptive task functioning (e.g., performance, motivation) within sporting partnerships (e.g., Jackson, Knapp, & Beauchamp, 2008). As a result, the association between achievement goals and interpersonal outcomes may provide novel insight into compatibility and productivity within relationship settings. Bearing this in mind, the overarching aim of the current study was to explore the role of 2 × 2 achievement goals in relation to athlete–athlete dyad members’ perceptions of relationship quality (i.e., their relationship commitment and relationship satisfaction).

**Partner Goal Similarity and Dissimilarity**

The notion that adaptive relationship perceptions are linked to a high degree of similarity between partners is well articulated in the social psychology literature. Specifically, the concept of partner similarity (diametrically opposed to dissimilarity) refers to the extent to which dyad members’ characteristics, values, traits, or perceptions are congruent with one another (see Montoya, Horton, & Kirchner, 2008). The proposed benefits of similarity pervade a number of theoretical frameworks, including balance theory (Heider, 1958), similarity-attraction hypotheses (e.g., Byrne, 1971), and the notion of assortative mating (e.g., Buss, 1984), and, from an empirical perspective, dyadic similarity and dissimilarity have been examined within diverse relationship settings, including romantic, business, and familial partnerships (e.g., Luo & Klohnen, 2005; Robins, Caspi, & Moffitt, 2000; Umphress, Smith-Crowe, Brief, Dietz, & Watkins, 2007). Research has indicated that greater similarity (i.e., reduced dissimilarity) on various constructs (e.g., Big Five personality traits, romantic values, political views, attachment styles) may be positively associated with desirable relationship outcomes, including relationship longevity and satisfaction (e.g., Gaunt, 2006; Luo & Klohnen, 2005; Robins et al., 2000). Underpinning these effects, it is theorized that holding beliefs and attitudes that are harmonious with one’s partner provides a form of relational reinforcement (Byrne, 1971), which is associated with less conflict via strong affective bonds (e.g., Berscheid, Dion, Hatfield, & Walster, 1971). For instance, Dijkstra and Barelds (2008) commented that “similar others do not only validate our beliefs about the world and ourselves but also reduce the risk of conflict and disagreements, and in doing so, may help maintain the relationship with one’s partner” (p.1502).

To date, however, this concept has received limited attention within sporting dyads, and researchers have failed to explore similarity on achievement goal constructs despite calls for investigation of the effects of “compatible” and “incompatible” goals in athletic partnerships (Harwood & Beauchamp, 2008). Theoretically, each of the variables within the 2 × 2 model represent important constructs in their own right, with unique motivational properties that independently map onto a network of important outcomes. As a result, dissimilarity on any of these perceptions may be associated with less favorable interactions and relational appraisals. With this in mind, by computing absolute difference scores between dyad members’ achievement goals (i.e., a composite variable where
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higher scores represent greater dissimilarity), the primary purpose of this study was to examine the extent to which partner dissimilarity across each of the $2 \times 2$ constructs was associated with relationship commitment and satisfaction perceptions. Commitment and satisfaction are central in shaping individuals’ relational experiences and have been shown to be closely related to relationship status and longevity (Fincham & Beach, 2006; Rusbult, Coolsen, Kirchner, & Clarke, 2006). Thus, investigating achievement goal dissimilarity with respect to these outcomes (a) holds significant potential in terms of understanding the quality and stability of partnerships, and (b) may have implications for sport participation via a better understanding of individuals’ relationship experiences. Guided by the literature outside sport, it was hypothesized that greater dissimilarity on each of the $2 \times 2$ constructs (i.e., MAp, MAv, PAp, PAv) would be negatively related to athletes’ commitment and satisfaction perceptions.

**Actor and Partner Effects for 2 × 2 Constructs**

Partner dissimilarity reflects a dyad-related approach to exploring relationship functioning, as it uses the characteristics of the couple (i.e., the discrepancy between partners) to predict outcomes for interactants (Luo et al., 2008). However, although this approach provides insight into the importance of partners’ goals relative to one another, in isolation this method fails to account for the direct effects that may be apparent due to either person’s achievement goals (Kenny & Cook, 1999). Luo et al. (2008) outlined that focusing solely on dyad-related approaches may provide “incomplete or even misleading results because couple characteristics have inherent relations with self and partner characteristics” (p.1232). That is, each composite ‘dissimilarity’ score is, by its nature, comprised of the perceptions held by each dyad member, and so the potential effects of these individual constructs should also be considered. Thus, in addition to dyad-based approaches, relationship researchers advocate focusing on how the attributes and perceptions of each individual may be independently associated with outcomes for themselves and their partners. In relation to the current study, beyond the effects of achievement goal dissimilarity, it is also important to determine whether athletes own $2 \times 2$ goals align with relationship commitment and satisfaction.

In close relationships, theorists and researchers (e.g., Kenny, Kashy, & Cook, 2006) refer to *actor effects* in cases where an independent variable for one person is related to outcomes for him/herself. For instance, in the current study, the relationship between one’s MAp goal and his/her own commitment would reflect an actor effect. In addition, the literature on dyadic interaction also stresses that an independent variable held by one dyad member may be associated with outcomes for his/her partner, termed *partner effects* (Kenny et al., 2006). Partner effects are theorized to originate due to the interdependence that exists in partnership contexts. That is, as the emotions and actions of one individual are observed and internalized by the partner, this influences outcomes for that person (Snyder & Stukas, 1999). Underpinned by this literature, Harwood and Beauchamp (2008) recently called for research in sport that accounts for potential actor as well as partner effects associated with achievement goal perceptions. As a result, the secondary purpose of the current study was to explore the effects of athletes’ achievement goal perceptions with respect to their own (i.e., actor effects) and their partners’ (i.e., partner effects) relationship commitment and satisfaction.
In comparison with intrapersonal correlates (e.g., anxiety, task absorption, motivation), evidence for actor and (in particular) partner effects for athletes’ 2 × 2 achievement goals with respect to relationship variables is relatively limited. There is, nonetheless, limited literature that has documented prosocial consequences associated with mastery goals. For instance, defining achievement according to self-referenced criteria has been linked to collaborative efforts and positive perceptions about cooperation with teammates (Duda & Nicholls, 1992; Roberts & Ommundsen, 1996). Importantly, individuals who adopt such cooperative beliefs in interpersonal settings have been shown to display adaptive relationship perceptions, such as liking for others, cohesiveness, and social support (Roseth, Johnson, & Johnson, 2008). Similarly, Smith, Balaguer, and Duda (2006) observed that in a sample of youth male soccer players, mastery goals were positively associated with perceptions of satisfaction with one’s team and acceptance by teammates, and were negatively related to conflict appraisals, concluding that “relationships in the athletic milieu are more likely to be flourishing when . . . participants focus on . . . improvement, mastery, and exerted effort” (p.1324).

These studies nicely illustrate the prosocial nature of mastery goals as defined by the dichotomous goal framework (i.e., ignoring the approach–avoidance dimension); however, Conroy and colleagues (Conroy, Elliot, & Thrash, 2009) recently reviewed similar evidence relating specifically to the favorable effects of MAp goals. For example, focusing upon attaining self-referenced competence in social contexts is positively associated with cooperation (e.g., reciprocal, inclusive behavior) and relationship maintenance acts (e.g., empathy), supportive communication, the division of responsibility, and conflict resolution efforts. As a result, given that individuals scoring highly on MAp appear to view their relationships through a positive lens, and implement behaviors to support and sustain their dyadic interactions, it was hypothesized that in the current study MAp goals would display positive actor effects with respect to relationship satisfaction and commitment. Moreover, to the extent that MAp goals are associated with adaptive communication, conflict resolution, cooperative attitudes, and relationship maintenance behaviors, one would expect these strategies to facilitate harmonious relationship experiences for the partners of those high in MAp. With this in mind, we also hypothesized that mastery-approach goals would be associated with positive partner effects for commitment and satisfaction. With respect to MAv, Conroy and colleagues (Conroy et al., 2009) noted that research in this area to date has largely overlooked the avoidance component of mastery goals. As previously outlined, it is possible that the avoidance element within this construct may be associated with negative responses (in comparison with MAp), and at present there is insufficient evidence to ascertain whether mastery-avoidance goals (i.e., striving to avoid self-referenced incompetence) will map onto commitment and satisfaction in the same manner as MAp goals. With this in mind, no a priori hypotheses were formulated regarding actor and partner effects for MAv goals.

Research has documented a number of negative relational outcomes with respect to performance goals. These include placing an emphasis on self-importance at the expense of cooperation, displaying a lack of commitment to practice and satisfaction with one’s team, as well as high levels of interpersonal conflict, intragroup rivalry, and antisocial behavior toward one’s teammates (Boardley & Kavussanu, 2010; Conroy et al., 2009; Ommundsen et al., 2005; Smith et al., 2006). Notably,
the existing literature indicates that these negative interpersonal consequences may not be ameliorated for PAp goals (i.e., those who strive to attain normative success). Indeed, PAp goals have been inversely linked to help-seeking behaviors, openness, communication, and cooperation (e.g., Levy, Kaplan, & Patrick, 2004), and are also associated with negative perceptions about teammates, as well as adversarial conflict resolution strategies (e.g., Hoigaard & Ommundsen, 2007).

This array of antisocial outcomes associated with performance goals appears to be characterized by unfavorable affective responses along with a lack of engagement and investment in relational activities. As such, PAp and PAv goals were both hypothesized to be negatively related to individuals’ personal satisfaction and commitment (i.e., actor effects). Accordingly, given that interactants are able to detect and internalize one another’s behaviors and feelings, it was also hypothesized that negative partner effects would be observed for both types of performance goals. In summary, by investigating Elliot’s (1999) 2 × 2 model of achievement goals within athlete-athlete partnerships, this study sought to explore (a) the extent to which partner dissimilarity on each of the four constructs was associated with relationship commitment and satisfaction (i.e., dissimilarity effects), and (b) the degree to which athletes’ achievement goals were related to their own (i.e., actor effects) and their partners’ (i.e., partner effects) relational perceptions.

**Methods**

**Participants**

Both members of 43 male and 39 female athlete dyads (i.e., 82 dyads in total) were recruited from dyadic sports ($M_{age} = 22.72, SD = 3.83$). The specific sports represented were badminton ($n = 14$), gymnastics ($n = 9$), rowing ($n = 11$), squash ($n = 9$), tennis ($n = 26$), and volleyball ($n = 13$). All participants were competing regularly in their respective sports at a regional level (i.e., against other competitors in the same state). On average, dyad members reported 7.01 years experience in their sport ($SD = 4.84$), and had competed with their partner for 2.21 years ($SD = 1.85$). Dyad members spent an average of 5.74 hr training together per week ($SD = 2.80$).

**Measures**

**2 x 2 Achievement Goals.** Conroy and colleagues’ (Conroy, Elliot, & Hofer, 2003) Achievement Goals Questionnaire-Sport (AGQ-S) was used to measure dyad members’ approach and avoidance goals. The AGQ-S is a 12-item instrument, comprising four subscales (3 items each) designed to assess individuals’ MAp, MAv, PAp, and PAv goals. Respondents were asked to consider “their general experiences in their specific sport” in relation to a number of statements, for example, “it is important for me to master all aspects of my performance” (MAp), “I worry that I may not perform as well as I possibly can” (MAv), “it is important for me to perform better than others” (PAp), and “I just want to avoid performing worse than others” (PAv). In accordance with Conroy et al.’s (2003) procedures, responses were scored on a 7-point scale, ranging from 1 (not at all like me) to 7 (completely like me). Conroy and colleagues developed and tested the AGQ-S with a sample
of amateur athletes similar to that used in the current study, providing evidence for the factorial validity of each of the subscales, as well as the temporal stability and predictive capacity of the various dimensions (see also Conroy et al., 2006; Morris & Kavussanu, 2008). In the current study, alpha coefficients for the four AGQ-S subscales were .89 (MAp and PAv), .92 (MAv), and .91 (PAp).

**Relationship Commitment.** Each athlete’s commitment to his/her relationship was measured using a modified version of Scanlan and colleagues’ (Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993) sport commitment instrument. This revised scale has been used previously for the purpose of measuring athletes’ relationship commitment perceptions, and psychometric support for a unidimensional factor structure and acceptable internal consistency has been reported for the revised version of this instrument (Jackson, Beauchamp, & Knapp, 2007). Athletes were asked to respond to four items, including, “how hard would it be for you to quit your relationship with your partner?”, and “how determined are you to keep your relationship going with your partner?” Responses were scored on 5-point scale, anchored at 1 (*not at all/ nothing*) and 5 (*very much so/a lot*), where higher scores indicated greater commitment. In the current study, this scale displayed an acceptable level of internal consistency (α = .89).

**Relationship Satisfaction.** Athletes reported their satisfaction with their relationship using a 4-item measure modified from Lopez and Lent’s (1991) relationship satisfaction scale. Specifically, dyad members were instructed to rate their current level of satisfaction with the communication, support, trust, and compatibility in their relationship. A 5-point response scale was used, whereby items were anchored at 1 (*very dissatisfied*) and 5 (*very satisfied*). This revised instrument has been employed previously in sporting dyad research to examine athletes’ perceptions of relationship satisfaction, and has demonstrated an adequate unidimensional factor structure and internal consistency (Jackson et al., 2007). An acceptable alpha coefficient of .88 was observed for this scale in the current study.

**Procedure**

Upon receiving ethical approval, a recruitment letter was initially mailed to governing bodies of relevant sports, in which they were informed as to the nature of the research and were requested to provide contact details for potential participants (i.e., clubs, athletes) who may be willing to take part in the investigation. Prospective respondents were then informed about the nature of the study, and were invited (along with their partner) to take part in the investigation. Questionnaire completion was organized at a time and place of participants’ choosing. Athletes were first provided with an information letter highlighting their right to withdraw from the investigation, that they were free to choose not to answer any question, and that all information would remain confidential. Individuals were also assured that their partner would not be made aware of any of their responses. All participants were asked to provide their informed consent to take part in the research, before completing the questionnaire privately and independently over a period of approximately 10 min. Having completed the questionnaire, individuals were given the opportunity to ask any questions and were thanked for their participation.
Data Analysis Procedure

Data analysis consisted of three stages. First, the degree of nonindependence between dyad members’ relationship commitment and satisfaction scores was computed (Cook & Kenny, 2005). Given that athletes could not be separated as person A and B on any theoretically meaningful variable (i.e., same gender, no clear differentiation in experience, role, etc.), intraclass correlation procedures were implemented to determine associations between dyad members’ scores (see Gonzalez & Griffin, 2000). Second, to test for differences in achievement goals according to categorical variables, a two-way (2 × 6) multivariate analysis of variance (MANOVA) was performed, with gender (i.e., male, female) and sport type (i.e., tennis, badminton, rowing, etc.) serving as independent variables.

Third, by implementing multilevel modeling techniques outlined as part of Kenny and colleagues’ actor–partner interdependence model (APIM; Kenny et al., 2006), the final analysis stage explored (a) any potential actor or partner effects associated with key demographic variables (i.e., age, experience, relationship length), (b) the role of partner achievement goal dissimilarity with respect to commitment/satisfaction, as well as (c) the actor and partner effects for individuals’ achievement goals. Absolute difference scores between dyad members on each of their achievement goal perceptions were used to operationalize partner dissimilarity (Griffin, Murray, & Gonzalez, 1999). As such, where athletes reported identical perceptions, the absolute difference score was zero, and as dyad members’ goals became more dissimilar, difference scores increased accordingly. In line with the stated aims of this study (i.e., dissimilarity, actor, and partner effects), and to ensure that dissimilarity effects were modeled while controlling for and estimating direct effects (Kenny & Cook, 1999), a separate APIM containing these independent variables was computed for each relational outcome. Specifically, each APIM included demographic variables, the dissimilarity (i.e., absolute difference) scores for each achievement goal construct, and both partners’ raw goal scores (i.e., actor and partner effects) (e.g., Dijkstra & Barelds, 2008).

Results

Descriptive Statistics and Correlations

Mean scores for achievement goals (see Table 1) ranged from 3.45 (PAv) to 5.94 (MAp), and were largely consistent with previous research (e.g., Conroy et al., 2003; Morris & Kavussanu, 2008). Relationship commitment and satisfaction perceptions were moderately strong (M = 3.54 and 3.68, respectively), again congruent with existing research (e.g., Jackson et al., 2007). Checks for normality revealed that some of the primary variables (i.e., MAp, satisfaction) displayed a slight negative skew, although none were substantially skewed so as to violate normality assumptions. In addition, although normality tests on the four composite ‘dissimilarity’ variables revealed a tendency for a slight positive skew, skewness and kurtosis statistics were all within recommended boundaries (Tabachnick & Fidell, 2007). A two-way (2 × 6) MANOVA was subsequently performed to test for the effects of gender and sport type, with the mean dyad score for each of the achievement goal orientations entered as dependent variables (Kashy & Snyder, 1995). Across
all achievement goal perceptions, no significant main effects emerged with respect to gender or sport type, and in addition, no significant interactions were observed across any of the analyses. As a result, subsequent analyses were conducted across the sample as a whole.

Tests for nonindependence revealed significant correlations for relationship commitment \( (r = .63, p < .001) \) and relationship satisfaction \( (r = .58, p < .001) \). That is, when one dyad member was highly committed to/satisfied with his/her relationship, his/her partner was also likely to report favorable commitment/satisfaction levels (see Table 2). Further intraclass correlations revealed no significant associations between dyad members on their mastery or performance goals (see Table 2). Before running APIMs, within-partner correlations were computed to determine the intraindividual associations between primary variables (e.g., one’s MAp and one’s own commitment), and cross-intraclass correlations were also calculated to model the interindivdual associations (e.g., one’s MAp and his partner’s commitment) (Gonzalez & Griffin, 2000). Analyses revealed that high MAp goals (i.e., striving to achieve mastery) were negatively associated with personal PAp and PAv goals, but correlated positively with relationship commitment and satisfaction for both individuals (see Table 2). MAv and PAp goals did not display a significant pattern of correlations with outcome variables; however, when one individual reported high PAv (i.e., striving to avoid doing worse than others), this was negatively associated with commitment and satisfaction for both athletes in the dyad.

### Actor—Partner Interdependence Models

**Relationship Commitment.** Dissimilarity effects: Two significant dissimilarity effects emerged with respect to relationship commitment (see Table 3 for coefficients, associated \( t \) scores, and degrees of freedom). Specifically, greater
Table 2  Intraclass Correlation Matrix for Study Variables

<table>
<thead>
<tr>
<th></th>
<th>MAp</th>
<th>MAp'</th>
<th>MAv</th>
<th>MAv'</th>
<th>PAp</th>
<th>PAp'</th>
<th>PAv</th>
<th>PAv'</th>
<th>Comm</th>
<th>Comm'</th>
<th>Sat</th>
<th>Sat'</th>
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<tbody>
<tr>
<td>MAp</td>
<td>—</td>
<td>−.21</td>
<td>−.08</td>
<td>−.07</td>
<td>−.39***</td>
<td>.11</td>
<td>−.57***</td>
<td>.14</td>
<td>.43***</td>
<td>.28***</td>
<td>.48***</td>
<td>.32***</td>
</tr>
<tr>
<td>MAv</td>
<td>—</td>
<td>−.17</td>
<td>.12</td>
<td>−.09</td>
<td>.32***</td>
<td>.08</td>
<td>.11</td>
<td>.11</td>
<td>.02</td>
<td>.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAp</td>
<td>—</td>
<td></td>
<td>.07</td>
<td>−.15</td>
<td>−.08</td>
<td>−.18*</td>
<td>−.14</td>
<td>−.10</td>
<td></td>
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<tr>
<td>PAv</td>
<td>—</td>
<td></td>
<td></td>
<td>−.04</td>
<td>−.34***</td>
<td>−.30***</td>
<td>−.30***</td>
<td>−.24**</td>
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<tr>
<td>Comm</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td>.63***</td>
<td>.68***</td>
<td>.61***</td>
<td>.58***</td>
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<tr>
<td>Sat</td>
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</table>

Note. Comm = commitment and Sat = satisfaction. The prime columns refer to “the partner’s” variable. For instance, MAp–Comm’ is the correlation between one’s mastery-approach goal and the partner’s commitment.

*p<.05, **p<.01, ***p<.001.
Table 3  Actor, Partner, and Dissimilarity Effects with Respect to Relationship Commitment

<table>
<thead>
<tr>
<th>APIM Parameters</th>
<th>Dissimilarity Effect</th>
<th>Actor Effect</th>
<th>Partner Effect</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>t</td>
<td>df</td>
</tr>
<tr>
<td>Mastery-approach</td>
<td>–.24*</td>
<td>–2.23</td>
<td>73</td>
</tr>
<tr>
<td>Mastery-avoidance</td>
<td>–.04</td>
<td>–.78</td>
<td>73</td>
</tr>
<tr>
<td>Performance-approach</td>
<td>–.13*</td>
<td>–2.01</td>
<td>73</td>
</tr>
<tr>
<td>Performance-avoidance</td>
<td>–.07</td>
<td>–1.32</td>
<td>73</td>
</tr>
</tbody>
</table>

Note. The $b$ values represent unstandardized regression coefficients. Negative coefficients for “dissimilarity effects” illustrate that greater dissimilarity was associated with decreased commitment for dyad members. Actor, partner, and dissimilarity effects for 2 × 2 goals were estimated in an APIM that also included (i.e., controlled for) demographic variables (i.e., age, experience, relationship length).

*p < .05, †p = .06.
dissimilarity between dyad members in terms of their MAp as well as PAp goals was negatively related to relationship commitment perceptions. Overall, this indicated that dyad members were less committed to their relationship when they were more dissimilar on (a) their desire to achieve personal mastery or (b) their desire to outperform others.

**Actor and partner effects:** No significant actor or partner effects were observed for age (actor effect: $b = .01, t = .32, p = .75$, partner effect: $b = .02, t = 1.47, p = .15$), or athletes’ experience in their sport (actor effect: $b = -.01, t = -.15, p = .88$, partner effect: $b = -.02, t = -1.07, p = .29$). In addition, no significant effect emerged for relationship length with respect to athletes’ commitment ($b = .05, t = 1.13, p = .26$). Actor and partner effects (along with $t$ scores and degrees of freedom) for achievement goal perceptions in relation to relationship commitment are shown in Table 3. Analyses revealed a positive actor effect for MAv in relation to commitment, as well as trend toward a positive actor effect for MAp that approached significance ($p = .06$). Together, these findings suggest that the greater an individuals’ goal of achieving personal mastery and avoiding self-referenced incompetence, the more committed he or she was to the relationship. The $b$ values in Table 3 represent unstandardized regression coefficients; therefore, 1-point increases in a person’s mastery-approach and mastery-avoidance scores were associated with elevations of .17 and .11 in that person’s commitment, respectively. A negative actor effect and a negative partner effect also emerged for PAv goals. Thus, when an individual reported strong performance-avoidance goals (i.e., striving to avoid doing worse than others), this was associated with relatively low levels of commitment for both members of the relationship.

**Relationship Satisfaction.** **Dissimilarity effects:** Two significant dissimilarity effects emerged for satisfaction (see Table 4). Specifically, greater dissimilarity between dyad members in terms of MAp as well as PAp goals was negatively associated with satisfaction among athletes. Mirroring the results for commitment, dyad members reported lower satisfaction perceptions when the discrepancy between them increased regarding (a) their desire to achieve self-referenced mastery (MAp) or (b) their desire to outperform others (PAp).

**Actor and partner effects:** With respect to demographic variables, no significant actor or partner effects emerged for athletes’ age (actor effect: $b = .02, t = 1.64, p = .1$, partner effect: $b = .01, t = .60, p = .55$) or experience in their sport (actor effect: $b = .01, t = .23, p = .82$, partner effect: $b = -.01, t = -.61, p = .54$). Similarly, there was no significant effect for relationship length ($b = .04, t = 1.06, p = .29$). In terms of focal constructs (see Table 4), a significant positive actor effect emerged for MAp goals in relation to satisfaction, whereby the stronger an individual’s desire to achieve personal mastery in his/her dyadic pursuits, the more satisfied he or she was with the relationship. A positive actor effect was also apparent for MAv, although the coefficient in this instance marginally failed to reach statistical significance ($p = .05$). This indicates that as an athlete’s desire to avoid personal incompetence increased, there was a tendency toward more positive relationship satisfaction perceptions. Finally, a negative partner effect was apparent for PAv and satisfaction, indicating that when individuals strive to avoid doing worse than others, their partners were less satisfied.
Table 4  Actor, Partner, and Dissimilarity Effects With Respect to Relationship Satisfaction

<table>
<thead>
<tr>
<th>APIM Parameters</th>
<th>Dissimilarity Effect</th>
<th>Actor Effect</th>
<th>Partner Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>$t$</td>
<td>df</td>
</tr>
<tr>
<td>Mastery-approach</td>
<td>–.28**</td>
<td>–2.80</td>
<td>73</td>
</tr>
<tr>
<td>Mastery-avoidance</td>
<td>–.06</td>
<td>–1.29</td>
<td>73</td>
</tr>
<tr>
<td>Performance-approach</td>
<td>–.11*</td>
<td>–2.02</td>
<td>73</td>
</tr>
<tr>
<td>Performance-avoidance</td>
<td>–.03</td>
<td>–.62</td>
<td>73</td>
</tr>
</tbody>
</table>

*Note.* The $b$ values represent unstandardized regression coefficients. Negative coefficients for “dissimilarity effects” illustrate that greater dissimilarity was associated with decreased satisfaction for dyad members. Actor, partner, and dissimilarity effects for $2 \times 2$ goals were estimated in an APIM that also included (i.e., controlled for) demographic variables (i.e., age, experience, relationship length).

*†p < .05, ‡p < .01, †p = .05.*
Discussion

The present study explored the role of athletes’ 2 × 2 achievement goals (Elliot, 1999; Elliot & McGregor, 2001) with respect to perceptions of relationship commitment and satisfaction in a sample of 82 competitive dyads. Actor–partner interdependence models (Kenny et al., 2006) were employed to determine the extent to which partner dissimilarity on 2 × 2 goal constructs was related to relational outcomes, while also controlling for and modeling any individual-level actor and partner effects for these goals. Analyses revealed that dissimilarity on both types of approach goals (i.e., MAp and PAp) was negatively associated with perceptions of relationship quality (vis-à-vis commitment and satisfaction). At the individual-level, athletes’ MAp and MAv goals displayed positive effects with respect to their own commitment and satisfaction (i.e., actor effects). Conversely, high PAv goals (i.e., striving to avoid negative social comparison) were negatively related to commitment for the individual themselves, as well as low commitment and satisfaction scores for their partners (i.e., partner effects).

Despite significant empirical interest in the notion of partner (dis)similarity across familial and romantic relationship settings, this concept has received limited attention within athletic partnerships. In contributing to the extant literature on interacting dyads and the 2 × 2 achievement goal framework (Elliot, 1999), this study revealed that when the discrepancy increased between dyad members’ desires to achieve either self-referenced (i.e., MAp) or normatively-based (i.e., PAp) competence, both partners reported lower commitment and satisfaction perceptions. These findings support existing notions underscoring the adverse effects of dissimilarity (e.g., reinforcement-affect and uncertainty reduction theories), whereby incongruence leads to incompatibility via negative behavioral and affective responses (Berger & Calabrese, 1975; Clore & Byrne, 1974). The effects for approach goal dissimilarity also mirror related findings within organizational mentor–protégé interactions. In particular, Godshalk and Sosik (2003) documented that greater similarity (i.e., reduced dissimilarity) on dyad members’ learning goals (i.e., striving for understanding and increased competence) was positively associated with protégé satisfaction and perceptions of support. Similarly, Hirschfeld and colleagues (Hirschfeld, Thomas, & Lankau, 2006) determined that employees who reported the greatest degree of learning in their workplace were those who displayed a high degree of congruence with their mentor on achievement orientations (i.e., striving for improvement and mastery). These authors proposed that interpersonal attraction was greatest for those high in similarity, which appeared to be evident in the current study as dissimilarity was inversely related to commitment and satisfaction perceptions.

It is also worth noting that intradyadic discrepancies in MAp and PAp goals may give rise to marked differences in partners’ respective motivational profiles. For instance, MAp goals are associated with a number of prosocial correlates in athletic settings, including high task absorption and persistence, appraisals of challenge (versus threat), and low state anxiety (e.g., Adie et al., 2008; Cury, Da Fonséca, Rufo, Peres, & Sarrazin, 2003). Thus, when one’s partner does not reciprocate this level of mastery-approach, his/her divergent motivational profile (lower absorption, persistence, higher anxiety, etc) may promote incompatibility and a lack of commitment/satisfaction. Parenthetically, consistent with hypoth-
eses and with the pattern of desirable intrapersonal and interpersonal outcomes shown in previous research, analyses at the individual-level revealed a positive actor effect for MAp goals with respect to satisfaction, as well as a trend toward a positive actor effect for commitment (this effect marginally failed to reach significance; \( p = .06 \)).

Although approach goal dissimilarity was related to interpersonal outcomes, avoidance goal dissimilarity (i.e., MAv and PAv) was not associated with commitment or satisfaction. That is, analyses revealed no effects for dissimilarity (i.e., dyad-related) after controlling for actor and partner (i.e., individual-level) effects associated with these goals. Nonetheless, several actor and partner effects did emerge for avoidance goals with respect to commitment and satisfaction. First, regardless of whether one’s partner’s desire to avoid normative incompetence matched one’s own, PAv goals were negatively related to personal commitment for members of athletic partnerships (i.e., actor effect). In this instance, it is possible that the unfavorable effects of being highly performance avoidant may override any relational “benefits” that arise from having similarly high PAv goals. Indeed, the negative actor effect for PAv goals in this study may stem in part from the antisocial characteristics of highly performance-avoidant individuals. Research has shown that those who seek to avoid unfavorable social comparison (i.e., “I don’t want to perform worse than the rest”) display disengagement in practice, low motivation, performance, and satisfaction with their team, as well as high levels of state anxiety and interpersonal conflict (e.g., Elliot, 1999; Elliot et al., 2006). As hypothesized, given that these individuals are typically characterized by a lack of engagement and absorption within individual and team-based activities, it is possible that performance-avoidance goals may also be marked by low levels of commitment with respect to one’s relational pursuits.

Second, in light of the interdependence present within athletic relationships, it was interesting to note that PAv goals were not only associated with negative actor effects, but were also negatively related to commitment and satisfaction perceptions for one’s partner (i.e., partner effects). The specific processes underlying these partner effects for commitment/satisfaction require further investigation; however, they may originate due to the negative actor effect which was apparent for PAv in relation to commitment. For example, as person A’s performance-avoidance focus was negatively associated with commitment for that athlete, this may be detected by person B (“he doesn’t look committed to this partnership”), engendering corresponding effects for person B’s relationship perceptions. Evidence for this form of causal chain exists in the literature on relational interdependence, insofar as low personal commitment aligns with fewer “prorelationship” behaviors, namely one’s levels of accommodation, personal sacrifice, and engagement in shared activities (e.g., Rusbult et al., 2006; Wieselquist, Rusbult, Foster, & Agnew, 1999). Importantly, Wieselquist et al. (1999) showed that these behaviors may be detected by the partner and subsequently impact upon the partner’s perceptions about the relationship. Using observational and experimental designs, it would be interesting in future to explore whether (and how) similar mechanisms may underpin the partner effects which arose for PAv goals in this study. That is, to examine the various overt signals (e.g., changes in verbal and nonverbal behavior, disengagement from activities) that accompany low commitment levels, and may bring about changes in the partners’ commitment and satisfaction.
Actor effects were also observed for MAv goals, supporting the notion that individual rather than dyad-related (i.e., dissimilarity) effects were predominant for avoidance constructs in this investigation. However, in contrast to the effects for PAv, MAv goals actually displayed positive actor effects with respect to commitment and satisfaction (though the effect for satisfaction marginally failed to reach significance; \( p = .05 \)). In particular, those who strive to avoid self-referenced incompetence were more committed to and satisfied with their athletic partnerships. Theory and research indicates that MAv goals may be underpinned by low perceptions of competence (see Elliot, 1999; Moller & Elliot, 2006). With this in mind, it is possible that for highly mastery-avoidant athletes, being part of a relationship may provide an important source of perceptual support (e.g., “I worry that I might not perform as well as I can… but having my partner around will make sure I do OK”), which may buffer against the potential negative effects associated with MAv goals (e.g., anxiety, threat construals). Specifically, athletes high in MAv who hold low perceptions of ability may actually be more committed and satisfied in their relationship because they view the partner as a key factor in protecting their sense of self and guarding against concerns about their own incompetence (see Lent & Lopez, 2002). Future research is warranted that explores how the predictive effects of the 2 × 2 constructs are moderated by athletes’ perceptions of their own and their partners’ capabilities (e.g., whether those high in MAv are more committed/satisfied only when they believe their partner is highly capable), as well as how individuals’ confidence in themselves and their partner underpin the formation of achievement goals in dyadic settings.

**Limitations and Future Research**

Despite making a novel contribution to the literature on achievement goals and close relationship dynamics, it is important to note a number of design limitations and future research directions. First, despite identifying a number of significant dissimilarity, actor, and partner effects, the modest sample size at the dyad level (i.e., 82 dyads) may have limited our ability to detect anything beyond the largest effects. For instance, we observed actor effects for MAp (in relation to commitment) and MAv (with respect to satisfaction) that both marginally failed to reach significance. That is not to say that the coefficients in these cases are not noteworthy, but rather that future research using a larger pool of dyads may enable these (and other) relationships to reach significance. Second, although the present analyses established the (actor, partner, and dissimilarity) effects associated with each goal construct in isolation, researchers are encouraged to determine how athletes’ relative “goal profiles” across all four of the 2 × 2 constructs may also influence social outcomes within relationships. Examining actor, partner, and dissimilarity effects separately for the 2 × 2 constructs represents a logical and important first stage in identifying the dyad-related consequences that are uniquely associated with each of the achievement goal perceptions. However, in future, analyses may also be extended to consider potential intrapersonal and interpersonal effects that arise out of the composition of one’s MAp, MAv, PAp, and PAv goals. Cluster analyses have been used previously with the aim of identifying specific combinations of mastery and performance goals held by individuals (e.g., Smith et al., 2006; Wang et al., 2007), and this approach may enable analyses to consider how the interplay between these perceptions also predicts individual and dyadic outcomes.
Third, the cross-sectional design precluded any inferences regarding the specific direction of effects (i.e., causality) that emerged in this investigation. For instance, although we were guided by theory in specifying goal constructs as independent variables in this study, it is possible that (a) negative relational perceptions may in fact act as precursors to partner dissimilarity (see Morry, 2005), and (b) a high degree of relationship commitment and satisfaction may subsequently drive adjustments in athletes’ achievement goals (see Gable, 2006). It may be particularly enlightening in future to conduct longitudinal research that explores these potential bidirectional effects and tracks any fluctuations in goal constructs over time (e.g., over the course of a competitive season or a relationship), as well as examining the implications of experimental manipulations in mastery and performance goals.

It is also worth highlighting measurement limitations that may have restricted the degree of insight into achievement goals and commitment perceptions. In particular, while the achievement goal measure provided clear contextual instructions (i.e., athletes’ general experience in their specific sport), athletes were not given a specific temporal reference upon which to base their ratings (e.g., the upcoming competition, the current season, etc). In such cases it becomes difficult (or impossible) to (a) ascertain the timeframe athletes used when reporting their achievement goals, and (b) delineate between achievement goal perceptions themselves and the respective antecedents of those goals (e.g., self-perceptions). Dyadic research employing the AGQ-S in future would be encouraged to provide temporal specificity for ratings of $2 \times 2$ perceptions.

On a separate note, the unidimensional instrument that was used to measure athletes’ commitment perceptions may also partially account for the positive actor effect that emerged for MAv goals. In particular, it is widely acknowledged that commitment may be better defined and operationalized as a multidimensional construct, and recently Gable and colleagues (e.g., Gable, 2006; Strachman & Gable, 2006) proposed that individuals may experience both approach and avoidance motives in maintaining their relationships. Approach motives refer to one’s desire to maintain and enhance one’s interactions, whereas avoidance motives focus on an individual’s desire to avoid relationship termination and the negative consequences with which it is associated. With respect to the present findings, it is plausible that athletes with high MAv goals may actually have been more committed to their relationship due to underlying avoidance motives. That is, MAv athletes, who are often characterized by self-doubt and seek to prevent self-referenced failure, may be highly committed because they strive to avoid the negative consequences associated with relationship dissolution (i.e., an avoidance motive) as a form of self-protection. In future, incorporating measures of approach and avoidance relational motives may provide more precise insight into the effects for $2 \times 2$ goal constructs in interpersonal settings.

In instances where athletes perform together as part of a dyad or team, future research is also encouraged that explores how athlete/team functioning is shaped by additional achievement goals that originate uniquely within interdependent performance settings. One consideration relates to the extent to which athletes’ general achievement goals may activate corresponding orientations within their dyad (i.e., about their partner). For example, to what extent do individuals who generally seek to better their opponents (i.e., PAp) also endeavor to outperform their
partner within conjoint activities? Harwood and Beauchamp (2008) posited that exploring these “intrateam” goals may be central in understanding the formation and maintenance of effective team interaction. Indeed, this may provide additional insight as to why PAv goals displayed negative actor and partner effects for relationship perceptions. Specifically, it is possible that in some cases participants may have used their partner (rather than their opponents) as the basis for their ‘normative comparisons’ when reporting performance goals (e.g., “I want to avoid doing worse than my partner”). A limitation of this study was that the measure used did not permit insight into whether athletes were responding with their opponents or their partner in mind; however, for PAv athletes who seek to ensure their partner (as well as their opponent) does not better their performance, this may promote antisocial and somewhat Machiavellian interaction behavior (e.g., lack of support and cooperation, partner derogation, etc.), which may substantively undermine relationship quality for both parties.

**Practical Implications and Conclusions**

Notwithstanding these limitations and future directions, the actor, partner, and dissimilarity effects highlighted in this study provide novel conceptual insight into the interpersonal aspects of achievement goals within dyadic relations. Furthermore, from a practical sense these findings also present a number of important implications for those seeking to develop and maintain effective collaborative partnerships. First, the effects for approach goal dissimilarity may provide an important diagnostic tool for practitioners when assessing relationship functioning. Specifically, when partners’ MAp and PAp goals are highly incongruent this may represent one mechanism characterizing suboptimal dyadic processes. In addition, these findings also underscore the importance of mastery and performance-avoidance goals in relation to dyadic perceptions held by both relationship partners. With this in mind, coaches and consultants are particularly encouraged to (a) look to bolster athletes’ MAp goals, and (b) identify those who are highly performance-avoidant and seek to reverse (or reduce) these perceptions. Strategies for engendering a favorable climate could include stressing the significance of effort and cooperation, while deemphasizing punishment and mistake-contingent feedback, as well as employing persuasive/modeling techniques that highlight personal development at the expense of avoiding negative social comparisons (Conroy et al., 2006; Harwood et al., 2008). Aside from coach- and psychologist-lead intervention, one’s peers/teammates also represent important social agents in shaping one’s motivational perceptions (e.g., Vazou, Ntoumanis, & Duda, 2005); thus, dyadic athletes may themselves have a key role to play in monitoring and managing one another’s achievement goals, to attain desirable (i.e., committed, satisfying) interactions.

Overall, it appears that dissimilarity in terms of athletes’ approach goals may represent a significant obstacle in the quest to develop and maintain mutually beneficial dyadic relations. These findings broadly underscore the potential social implications of the $2 \times 2$ constructs in interpersonal settings, and future research that explores both individual (i.e., actor, partner) and conjoint (i.e., dissimilarity) effects in partnership contexts will provide greater insight into the relational characteristics of achievement goals.
References


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