Individual, Team, and Coach Predictors of Players’ Likelihood to Aggress in Youth Soccer

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The purpose of this study was to examine personal and socioenvironmental factors of players’ likelihood to aggress. Participants were youth soccer players ($N = 258$) and their coaches ($N = 23$) from high school and club teams. Players completed the Judgments About Moral Behavior in Youth Sports Questionnaire (JAMBYSQ; Stephens, Bredemeier, & Shields, 1997), which assessed athletes’ stage of moral development, team norm for aggression, and self-described likelihood to aggress against an opponent. Coaches were administered the Coaching Efficacy Scale (CES; Feltz, Chase, Moritz, & Sullivan, 1999). Using multilevel modeling, results demonstrated that the team norm for aggression at the athlete and team level were significant predictors of athletes’ self likelihood to aggress scores. Further, coaches’ game strategy efficacy emerged as a positive predictor of their players’ self-described likelihood to aggress. The findings contribute to previous research examining the socioenvironmental predictors of athletic aggression in youth sport by demonstrating the importance of coaching efficacy beliefs.

Keywords: aggression, coaching efficacy, moral behavior, youth sport

There has been a growing concern for more than two decades that aggression is becoming an accepted and even encouraged part of youth sport (Seefeldt & Ewing, 1997). A study conducted by the Minnesota Amateur Sports Commission reported that 7.5% of young athletes have been physically attacked while participating in sports and 8.2% have been pressured to intentionally harm an opposing player in competition (Anderson, 1993). Sport researchers have argued that aggression, which has been defined as an action initiated with the intent to harm another individual, can be conceptualized and examined as a moral issue (Bredemeier, 1983). According to Bandura (1999), moral behavior has dual aspects. The proactive aspect of morality is expressed by higher levels of prosocial behaviors, whereas the inhibitive aspect of morality reflects lower levels of negative social behaviors. While both forms of morality are important, only the inhibitive aspect of morality is considered in this study. Because aggressive behavior and tendencies reflect low levels of morality, moral behavior is defined as a low frequency of...
engagement in negative social behaviors or unfair play (Kavussanu, 2006). Moral behavior in sport is a complex process. Thus, to understand how athletes form moral judgments requires the simultaneous examination of individuals’ personal competencies and socioenvironmental influences (Shields & Bredemeier, 1995).

Athletes’ tendencies to aggress may vary according to gender and competitive age level. The general psychology literature suggests that males are typically more aggressive than females, whereas research in sport has produced equivocal findings. Some studies have found that males tend to score higher on measures of aggression and are less submissive than females (Bredemeier, 1994; Bredemeier, Weiss, Shields, & Cooper, 1986). Others have found that male and female athletes do not differ in aggressive behavior as measured by their coaches or self-reported tendencies to aggress (Bredemeier & Shields, 1984; Guivernau & Duda, 2002). Likewise, research examining age group differences in aggressive tendencies and antisocial behavior have produced inconsistent results. One study found that younger athletes had higher tendencies to aggress (Stephens, 2004), others have found no differences between U-12 and U-14 girls’ soccer players (Stephens & Bredemeier, 1996), and some have found that U-17 boys’ soccer players displayed more antisocial behaviors (e.g., late tackle, body checking, retaliating to a bad tackle) than did U-13 or U-15 players (Kavussanu, Seal, & Phillips, 2006). Although it is still unclear whether differences in gender and competitive age level contribute to athletes’ moral functioning, both are important variables to control for when examining moral behavior in sport.

Researchers examining moral issues in sport have adopted numerous theoretical frameworks to understand the athlete-level factors of aggression including social cognitive theory (Bandura, 1986), achievement motivation theory (Nicholls, 1984), and structural developmental theories (Haan, 1991; Kohlberg, 1981, 1984). A central component of structural developmental theories is that people progress through orderly stages of moral development, moving from an egocentric to a societal view of distinguishing right from wrong. While the conceptualizations of Hann and Kohlberg differ, both suggest that the stages of moral development can be classified into three levels (see Shields & Bredemeier, 2007, for a review). The first level, preconventional, is an egocentric form of moral reasoning in which individuals are concerned with their own personal welfare rather than the welfare of others. At a preconventional level, an individual’s belief of what is right and wrong is primarily determined by reward and punishment. The second level, conventional, involves a concern for maintaining the norms and expectations of the group. At a conventional level, an individual’s moral behavior is guided by the collective norms operating within the team. The third level, postconventional, is the highest level of maturity and reflects moral reasoning that is guided by general moral principles.

Based on the work of Haan and Kohlberg, Bredemeier and colleagues (Bredemeier, 1985; Bredemeier & Shields, 1984, 1986; Bredemeier, Weiss, Shields, & Cooper, 1987) have used a structural developmental approach to examine the relationship between athletes’ stage of moral development and aggression in youth sport. They found that athletes who reason at lower levels accept higher levels of aggression, have a higher tendency to aggress, and judge a greater number of potentially injurious acts as more legitimate than athletes who reason at higher levels. Likewise, research by Stephens and colleagues have found that athletes
who reason at a preconventional level report higher tendencies to aggress than athletes who reason at a conventional level (Stephens, 2000; Stephens & Bredemeier, 1996). However, it is important to note that other studies by Stephens and colleagues (Stephens, 2001; Stephens & Kavanagh, 2003) that were similar in purpose and methodology failed to find that players’ level of moral development was related to their self likelihood to aggress scores. In addition to moral stage, previous experience in the sport and perceived ability have been shown to relate to moral behavior, with more experienced athletes and those with higher perceived ability demonstrating lower levels of moral judgment, intention, and behavior (Kavussanu & Ntoumanis, 2003; Stephens, 2000; Stephens, 2004).

While athletes’ personal attributes contribute to their views about aggression, moral decisions are usually made in a social context where group norms regarding appropriate behavior can have a profound influence on an individual’s decision-making process (Higgins, Power, & Kohlberg, 1984). Kohlberg and colleagues (Higgins et al., 1984; Power, Higgins, & Kohlberg, 1989) refer to this set of collective norms regarding moral action as the moral atmosphere. According to Shields and Bredemeier (1995), these collective norms that develop within teams as members interact with one another influence athletes’ moral judgment and choices. One component of the moral atmosphere that has received attention in the sport literature is the team norm for aggression, which has been operationally defined as players’ perceptions of the number of teammates who would aggress against an opponent in a similar situation (Stephens, Bredemeier, & Shields, 1997). Researchers who have simultaneously examined both contextual and personal factors of moral behavior have consistently found that the team norm for aggression is the strongest predictor of athletes’ self likelihood to aggress scores, accounting for 18–49% of variance among youth sport participants including girls’ soccer (Guivernau & Duda, 2002; Stephens, 2000; Stephens & Bredemeier, 1996), girls’ basketball (Stephens, 2001), boys’ soccer (Guivernau & Duda, 2002), boys’ ice hockey (Stephens & Kavanagh, 2003), and coed soccer (Stephens, 2000). Although the moral atmosphere is based on a collectively shared definition held by group members (Higgins et al., 1984), previous research has analyzed the team norm for aggression at the individual level only. Finding an individual level effect when the team aggregate is not accounted for may lead to misinterpretation and produce bias estimates (Raudenbush & Bryk, 2002). The present study extends previous work by analyzing the athletes’ personal perceptions of the team norm for aggression as well as the team’s collective perception.

The moral atmosphere not only involves members’ perceptions of their teammates’ moral decisions, but also coaches’ beliefs and behaviors. The coach plays a critical role in shaping the team’s moral atmosphere and is influential in determining athletes’ moral action. Indeed, Guivernau and Duda (2002) found that coaches were the most influential significant other in predicting athletes’ decisions to engage in an aggressive act. Although the coach is largely responsible for creating the moral atmosphere within the team and serves as an influential significant other in the process of athletes’ moral judgments, few studies have examined how coaches’ attributes contribute to their players aggressive tendencies. Shields, Gardner, Bredemeier, and Bostrom (1995) examined the relationship between coaches’ leadership style and team norms regarding cheating and aggression with community college and high school baseball/softball teams. They found that
coaches who reported a high emphasis on training/instruction and positive feedback had athletes who perceived that their coach endorsed cheating and aggression if it would help their team win. Expanding the moral atmosphere to include coaches’ beliefs and attributes can further add to the existing literature on athlete aggression and may provide a better understanding of the coach’s influential role in this process.

Athletes’ perceptions and attitudes regarding aggression are most likely socially learned (Seefeldt & Ewing, 1997). One likely social influence is their coach’s behavior, which is influenced by the coach’s personal belief system (Horn, 2002). One coach-related belief that may affect coaches’ behavior, and in turn, athletes’ perceptions about aggression is coaching efficacy. Coaching efficacy is defined as the extent to which coaches believe they can affect the learning and performance of their athletes (Feltz, Chase, Moritz, & Sullivan, 1999). The conceptual model of coaching efficacy is composed of four dimensions: (a) technique, (b) game strategy, (c) motivation, and (d) character building, which are influenced by coaching experience/preparation, previous success, perceived team ability, and school/community support. In turn, the coaching efficacy dimensions are proposed to influence coaching behavior, player/team satisfaction, player/team performance, and player/team efficacy. Performance in this sense can be behavioral, psychological, or attitudinal skills (Feltz et al., 1999). Research has supported the model of coaching efficacy with collegiate, high school, and youth sport coaches (Feltz et al., 1999; Lee, Malete, & Feltz, 2002; Myers, Vargas-Tonsing, & Feltz, 2005; Short & Short, 2004; Vargas-Tonsing, Warners, & Feltz, 2003).

A dimension of coaching efficacy that may contribute to athletes’ likelihood to commit unsportsmanlike behaviors is character building efficacy. Character building efficacy represents coaches’ beliefs in their capabilities to influence the personal development and positive attitude of their athletes. Although the model of coaching efficacy developed by Feltz et al. (1999) contained no dimension-specific hypotheses, the authors proposed that “coaches who are high in their efficacy for character building should display more character development coaching, as well as having players who exhibit more positive attitudes about sportsmanship and demonstrate more sportsmanlike behavior, than would coaches low in efficacy for character building” (p. 767). Although these athlete-level outcomes of the character building dimension represent proactive aspects of morality or prosocial behavior, moral behavior also reflects lower levels of negative social actions (Bandura, 1999). Consistent with the inhibitive aspect of morality perspective, coaches with high character building efficacy should be more likely to discourage antisocial behavior and as a result, have players who exhibit less negative attitudes about sportsmanship and demonstrate less unsportsmanlike behavior than coaches with low character building efficacy. Previous research has demonstrated that character building efficacy is associated with athlete and team outcomes such as athlete satisfaction, team winning percentage, and collective efficacy (Myers et al., 2005; Vargas-Tonsing et al., 2003). However, we are aware of no studies that have examined the influence of coaches’ character building efficacy on athletes’ self-reported likelihood to aggress against an opponent.

Feltz and colleagues (1999) consider their coaching efficacy model to be preliminary and encourage the examination of outcomes additional to the ones that
were originally identified. Consistent with their recommendation, we explored the influence of game strategy efficacy (i.e., coaches’ beliefs in their capabilities to coach during competition and lead their team to successful performances) on players’ likelihood to aggress. Our exploration of this relationship was based on research that has shown that aggression in sport is viewed as more normative the higher one’s competitive level and experience (Silva, 1983), and that coaches at higher competitive levels and more playing and coaching experience have stronger beliefs in their game strategy skills (Sullivan, Gee, & Feltz, 2006). Although empirical research has produced mixed results concerning the relationship between aggression and performance, coaches believe that aggression is important for success and often incorporate elements of aggression into their game strategies (Bloom & Vanier, 2004). For instance, Bloom and Vanier (2004) found that elite women’s ice hockey coaches taught and demonstrated aggressive techniques to their athletes to gain an advantage in competition. On the one hand, game strategy efficacy may positively predict athletic aggression because coaches who hold strong judgments about their ability to lead their team to successful performances may be more likely to view aggressive acts as legitimate if strategic gain is achieved. Coaches with high game strategy tend to have more coaching experience and playing experience than coaches with low game strategy efficacy (Sullivan et al., 2006), and thus may have developed a more professionalized attitude where winning is prioritized over fair play. For instance, a more experienced soccer coach with greater knowledge and confidence in game strategy may teach athletes to grab an opposing player’s jersey to slow his or her progress toward goal and consider this just a part of good gamesmanship. Alternatively, game strategy efficacy may be negatively related to athletic aggression in that coaches who hold strong judgments about their game strategy capabilities may feel confident that they can devise strategies that are fair and may not believe that it is necessary to incorporate aggressive tactics into their game plans.

Research examining gender differences in coaching efficacy has reported differences in the game strategy and character building dimensions. Male coaches tend to have a higher sense of confidence in their game strategy abilities, whereas female coaches hold stronger judgments about their character building capabilities (Lee et al., 2002; Marback, Short, Short, & Sullivan, 2005). Thus, when examining these dimensions of coaching efficacy, it is important to control for the coach’s gender.

The purpose of our study was to examine the predictive strength of socioenvironmental and personal factors on athletes’ tendencies to aggress. Socioenvironmental predictors of particular interest were coaches’ character building and game strategy efficacy, and team norm for aggression. Personal predictors included individual perceptions of team norm for aggression and stage of moral development. We hypothesized that coaches’ character building efficacy would negatively predict their players’ self likelihood to aggress against an opponent. Given the exploratory nature of the game strategy efficacy dimension, no directional hypotheses were proposed. For team norm for aggression, we hypothesized that athletes’ and teams’ perceptions would positively predict players’ likelihood to aggress. Finally, we hypothesized that players at a preconventional stage of moral development would report a higher tendency to aggress than players at a conventional stage of moral development.
Method

Participants

Participants included 258 soccer players (male, 101; female, 157) and their 23 head coaches (male, 16; female, 7) from midwest and southeastern U.S. teams (male, 9; female, 14). The players differed in competitive level and were from various age group divisions, including U-12, U-13, U-14, U-17, U-19, high school junior varsity, and high school varsity. Athletes had between 1 and 17 years of soccer experience ($M = 8.71, SD = 3.12$) and were primarily Caucasian ($n = 225; 87.2\%$). The number of players per team ranged from 6 to 18 ($M = 11.22, SD = 3.32$). Coaches ranged in age from 22 to 61 ($M = 33.55, SD = 11.79$) and had coached soccer for 0–25 years ($M = 9.35, SD = 6.58$). The majority of coaches in our study had played at least college-level soccer (70\%) and had between 0 and 30 years of playing experience ($M = 17.39, SD = 9.29$). Similar to athletes, coaches were primarily Caucasian ($n = 21; 91.3\%$).

Measures

Demographic Questionnaires. The items on the demographic questionnaire for players included gender, ethnicity, and total years of soccer experience. The demographic questionnaire for coaches consisted of gender, ethnicity, age, number of years playing soccer, highest level played (none, high school, club, college, professional), total number of years coaching, and gender of their athletes. Coaches were also asked to rate the overall ability of their team on an 11-point Likert scale ranging from 0 (very poor) to 10 (excellent). This team ability perception question was developed by Park (1992) and has been used in previous studies examining coaching efficacy (Feltz et al., 1999; Myers et al., 2005).

Judgments About Moral Behavior. The Judgments About Moral Behavior in Youth Sport Questionnaire (JAMBYSQ; Stephens et al., 1997) was developed to measure players’ self-described judgments about lying to an official, cheating by breaking a rule, or hurting an opponent in a game situation. For the purposes of the current study, only the aggression scenario was employed. Previous research has found support for considering physical aggression as a moral issue (Bredemeier, 1994; Bredemeier & Shields, 1984). Therefore, participants were not questioned as to whether they believed aggression to be a moral issue.

The JAMBYSQ aggression scenario depicts a hypothetical protagonist faced with a decision in which his or her actions could injure an opponent. Two separate scenarios were created: one for males and one for females. The scenarios were as follows:

Bill (Sally) has been caught out of position on defense and now John (Wendy) is dribbling quickly toward an open goal. Although Bill (Sally) cannot get his (her) foot on the ball, he (she) could trip John (Wendy) thus preventing the shot. He (She) knows that tripping is dangerous, and John (Wendy) will probably get hurt. Bill (Sally) has to decide whether to trip John (Wendy).
After reading the scenario, players were instructed to imagine themselves in the situation, and being as honest as possible, answer a series of questions designed to assess moral thought and behavior. The first item assessed the team norm for aggression, an aspect of the moral atmosphere. Specifically, athletes were asked to report how many players on their team would trip John (Wendy) if they were in this situation. Responses were made on a 5-point Likert scale ranging from 1 (none of the players) to 5 (everyone on the team). The next section assessed players’ stage of moral development by determining their primary motive for aggression. Players were presented with six statements, each adding complexity to the scenario, and were instructed to select the statement that was most tempting. Three statements represented a preconventional stage of moral development (e.g., if the other team had gotten away with the same thing earlier in the game, then it seems only fair) and three statements represented a conventional stage of moral development (e.g., if you felt that your team trusted you to do all that you could to help the team). Based on their response, players were categorized as using a preconventional (0) or conventional (1) moral reason for aggression. Postconventional stage of moral development was not assessed owing to the young age of the participants (Stephens & Bredemeier, 1996). The last question was used to assess players’ self-described likelihood to aggress. Specifically, athletes were asked to report how likely they would be to trip the opponent in the situation that they found most tempting. Responses were made on a 5-point Likert scale ranging from 1 (not at all likely) to 5 (very likely). Previous research has provided evidence for the internal consistency and construct validity of the JAMBYSQ (Stephens et al., 1997).

Coaching Efficacy. The CES (Feltz et al., 1999) is a 24-item self-report measure used to assess coaches’ confidence in their ability to affect the learning and performance of their athletes. Items are scored on a 10-point Likert scale ranging from 0 (not at all confident) to 9 (extremely confident) and included the stem, “How confident are you in your ability to. . . .” The CES consists of four subscales, including character building (e.g., instill an attitude of good moral character), game strategy (e.g., understand competitive strategies), motivation (e.g., motivate your athletes), and technique (e.g., teach the skills of your sport). The internal consistency reliabilities for the present sample were .90 (character building), .90 (game strategy), .89 (motivation), and .77 (technique). Although all subscales were administered, only the character building and the game strategy dimensions were used in the analyses.

Procedure

Permission to conduct the study was obtained from the institutional review board, school administrators, and coaches. Coaches were initially contacted via phone or e-mail requesting permission for their teams to participate in the study. Coaches who expressed interest in the study were mailed a packet of information that contained a letter outlining the study, a consent form for the coach, and parental consent forms for each player, a demographic questionnaire for the coach, and the CES. Most of the players were considered minors; therefore, assent was obtained from the athletes, whereas their parents or guardian provided consent. Question-
naires for the players were administered before or after a practice or game at least midway through the season.

Data Analyses

Raudenbush and Bryk (2002) have cautioned against using the individual as the unit of analysis in group research because it ignores the nested structure of the data, leads to misestimated standard errors, and increases the risk of Type I errors. Using the team as the unit of analysis is equally problematic in that it reduces power, distorts interpretations, and produces inefficient estimation of group effects. Multilevel statistical techniques (e.g., hierarchical linear modeling [HLM]) reduce the problems associated with single-level analyses by enabling the researcher to examine relationships at the individual level, team level, and across levels while determining the variation at each level. Because our data were hierarchically structured (athletes nested within teams) and because the dependent variable was at the individual level with both individual- and team-level predictors, we used hierarchical linear modeling (HLM 6; Raudenbush, Bryk, & Congdon, 2004).

Model building consisted of (a) imposing an unconditional model where no individual- or team-level predictors were entered into the model; (b) forming the Level-1 model in which the individual-level parameters (β coefficients) could vary or remain fixed at Level 2; and (c) entering Level-2 variables to predict the individual level parameters. The primary purpose of fitting the unconditional model was to determine the amount of variation in the dependent variable that existed between teams (intraclass correlation [ICC]). All Level-1 predictors were group mean centered, whereas all Level-2 predictors were grand mean centered.

Our Level-1 (athlete-level) predictors were players’ perceptions of the team norm for aggression, stage of moral development, and playing experience. After forming the Level-1 model, inspection of the intercept variance component revealed that there was significant variation in self likelihood to aggress scores across teams. Coach gender, coach level of playing experience, coaching experience, team gender, ability of the team, coaching efficacy, mean team norm for aggression, and team age level (0 = U-12, U-13, U-14; 1 = U-17, U-19, high school junior varsity, and high school varsity) were entered as Level-2 predictors of the intercept. In addition, there were significant cross-level interactions for team norm and athlete experience, which indicated that the team norm–self likelihood to aggress and athlete experience–self likelihood to aggress slopes significantly varied across teams. Therefore, these slopes were allowed to vary in the model. The stage of moral development–self likelihood to aggress slope revealed no significant variation across soccer teams and thus was fixed in the model. Our multilevel model for self likelihood to aggress is presented in the appendix to this article.
Results

Descriptives

Bivariate correlations, means, and standard deviations for athlete-level variables are presented in Table 1. There were 190 (73.6%) athletes in the preconventional stage of moral development and 68 (26.4%) athletes in the conventional stage of moral development. Individual perceptions of team norm ranged from 1.00 to 5.00 (\(M = 2.76, \ SD = 1.09\)), and athletes’ likelihood to aggress scores ranged from 1.00 to 5.00 (\(M = 3.38, \ SD = 1.16\)). Pearson product–moment correlations at the athlete level revealed that total number of years playing soccer was significantly and positively associated with team norm for aggression and self likelihood to aggress (\(p < .01\)). In addition, there was a significant positive relationship between team norm for aggression and self likelihood to aggress (\(p < .01\)).

Bivariate correlations, means, and standard deviations for coach/team-level variables are presented in Table 2. Consistent with previous research using the CES (Feltz, Short, & Sullivan, 2008), coaches tended to use the middle to upper end of the scale. Specifically, game strategy efficacy scores ranged from 5.71 to 9.00 (\(M = 7.72, \ SD = 0.83\)) and character building efficacy scores ranged from 4.75 to 9.00 (\(M = 7.93, \ SD = 1.00\)). Coaches’ perceptions of their teams’ ability ranged from 4.00 to 9.00 (\(M = 6.48, \ SD = 1.50\)). Aggregated team norm scores ranged from 1.71 to 3.82 (\(M = 2.73, \ SD = 0.66\)), and aggregated self likelihood to aggress scores ranged from 2.30 to 4.27 (\(M = 3.34, \ SD = 0.62\)). Pearson product–moment correlations at the coach/team level revealed that game strategy efficacy was significantly and positively associated with coaching experience, playing experience, and self likelihood to aggress (\(p < .05\)). In addition, self likelihood to aggress was significantly and positively related to coaches’ level of playing experience (\(p < .05\)) and mean team norm for aggression (\(p < .01\)). While not significant, character building efficacy was moderately and negatively associated with coaches’ playing experience (\(r = -0.39\)) and mean team norm for aggression (\(r = -0.31\)).

Table 1  Descriptive Statistics for Moral Stage, Demographic Variables, Team Norm, and Self-Described Likelihood to Aggress at the Athlete Level (\(N = 258\))

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<tbody>
<tr>
<td>1. Moral Stage</td>
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<tr>
<td>2. Athlete Experience</td>
<td>−0.08</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>3. Team Norm</td>
<td>−0.04</td>
<td>0.24**</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. SLA</td>
<td>−0.11</td>
<td>0.19**</td>
<td>0.65**</td>
<td>—</td>
</tr>
<tr>
<td>(M)</td>
<td>0.26</td>
<td>8.71</td>
<td>2.76</td>
<td>3.38</td>
</tr>
<tr>
<td>(SD)</td>
<td>0.44</td>
<td>3.12</td>
<td>1.09</td>
<td>1.16</td>
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</table>

Note. SLA = self-described likelihood to aggress. Team Norm and SLA are on a 5-point scale. Moral Stage is a categorical variable (0 = preconventional, 1 = conventional).

**\(p < .01\).
Table 2  Descriptive Statistics for Coaching Efficacy, Demographic Variables, Team Norm, and Self-Described Likelihood to Aggress at the Coach/Team Level (N = 23)

<table>
<thead>
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<th>7</th>
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<tr>
<td>1. Game Strategy</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>2. Character Building</td>
<td>0.11</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>3. Coaching Experience</td>
<td>0.46*</td>
<td>0.06</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>4. Playing Experience</td>
<td>0.43*</td>
<td>−0.39</td>
<td>0.26</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>5. Ability of Team</td>
<td>0.19</td>
<td>0.03</td>
<td>0.33</td>
<td>0.19</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6. Mean Team Norm</td>
<td>0.21</td>
<td>−0.31</td>
<td>0.25</td>
<td>0.31</td>
<td>0.13</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7. Mean SLA</td>
<td>0.52*</td>
<td>−0.14</td>
<td>0.35</td>
<td>0.43*</td>
<td>0.13</td>
<td>0.82**</td>
<td>—</td>
</tr>
<tr>
<td>M</td>
<td>7.72</td>
<td>7.93</td>
<td>9.35</td>
<td>2.48</td>
<td>6.48</td>
<td>2.73</td>
<td>3.34</td>
</tr>
<tr>
<td>SD</td>
<td>0.83</td>
<td>1.00</td>
<td>6.58</td>
<td>1.24</td>
<td>1.50</td>
<td>0.66</td>
<td>0.62</td>
</tr>
</tbody>
</table>

Note. SLA = self-described likelihood to aggress. Coaching Efficacy is on a 9-point scale. Team Norm and SLA are on a 5-point scale.

*"p < .05. **p < .01.
Multilevel Analysis of Self Likelihood to Aggress

Table 3 presents the results of the multilevel model for self likelihood to aggress. The ICC was .19, which indicated that 19% of the variance in self likelihood to aggress was due to between-team differences, whereas 81% of the variance was due to within-team differences.

For the Level-1 covariates, individual perceptions of the team norm for aggression positively predicted athletes’ self likelihood to aggress scores ($\gamma_{10} = 0.71, t = 9.88, p < .001$). Thus, players who believed that a high number of their teammates would trip the opponent in the hypothetical situation were more likely to report that they themselves would trip the opponent. Stage of moral development and athlete experience failed to predict athletes’ perceptions of self likelihood to aggress. For the Level-2 covariates, coaches’ game strategy efficacy ($\gamma_{06} = 0.25, t = 5.63, p < .001$) emerged as a significant and positive predictor of players’ likelihood to aggress. Therefore, coaches with high confidence in their ability to coach during competition and lead their team to successful performances had athletes that were more likely to commit an unsportsmanlike behavior. Character building efficacy was unrelated to players’ aggressive tendencies. Other coaching variables that emerged as significant predictors included coach gender ($\gamma_{01} = -

**Table 3** Multilevel Model for Self-Described Likelihood to Aggress

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>Parameter</th>
<th>Coefficient</th>
<th>SE</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average SLA</td>
<td>$\gamma_{00}$</td>
<td>3.33</td>
<td>0.04</td>
<td>90.63***</td>
</tr>
<tr>
<td>Coach Gender</td>
<td>$\gamma_{01}$</td>
<td>−0.38</td>
<td>0.11</td>
<td>−3.45**</td>
</tr>
<tr>
<td>Coach Playing Experience</td>
<td>$\gamma_{02}$</td>
<td>0.09</td>
<td>0.03</td>
<td>3.21**</td>
</tr>
<tr>
<td>Coaching Experience</td>
<td>$\gamma_{03}$</td>
<td>−0.01</td>
<td>0.01</td>
<td>−1.31</td>
</tr>
<tr>
<td>Team Gender</td>
<td>$\gamma_{04}$</td>
<td>0.35</td>
<td>0.10</td>
<td>3.52**</td>
</tr>
<tr>
<td>Ability of Team</td>
<td>$\gamma_{05}$</td>
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<td>0.03</td>
<td>−3.06*</td>
</tr>
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<td>Game Strategy</td>
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<td>0.25</td>
<td>0.04</td>
<td>5.63***</td>
</tr>
<tr>
<td>Character Building</td>
<td>$\gamma_{07}$</td>
<td>0.10</td>
<td>0.05</td>
<td>2.12</td>
</tr>
<tr>
<td>Mean Team Norm</td>
<td>$\gamma_{08}$</td>
<td>0.64</td>
<td>0.10</td>
<td>6.66***</td>
</tr>
<tr>
<td>Team Age Level</td>
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<td>0.07</td>
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<td>Moral Stage</td>
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<td>0.09</td>
<td>−1.44</td>
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<td>Athlete Experience</td>
<td>$\gamma_{30}$</td>
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<td>0.03</td>
<td>0.75</td>
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<td>Level-1 effect</td>
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*p < .05, **p < .01, ***p < .001.
−0.38, \( t = −3.45, p < .01 \), coach playing experience (\( γ_{02} = 0.09, t = 3.21, p < .01 \)), and coaches’ perceptions of team ability (\( γ_{05} = −0.09, t = −3.06, p < .05 \)). Male coaches, coaches with higher levels of playing experience, and coaches with lower ratings of team ability had athletes with higher self likelihood to aggress scores. Team variables that were significant predictors included the mean team norm for aggression (\( γ_{08} = 0.64, t = 6.66, p < .001 \)) and team gender (\( γ_{04} = 0.35, t = 3.52, p < .01 \)). Thus, for teams that reported a higher number of teammates would trip the opponent in the situation, team members were more likely to trip the opponent. In addition, controlling for athlete, team, and coach attributes, female teams were more likely to report committing an aggressive act than male teams.

**Explanatory Power at the Athlete and Coach/Team Level**

To determine the explanatory power of the multilevel model, the percentage of variance accounted for at Level 1 and Level 2 was computed and is presented in Table 4 (Raudenbush & Bryk, 2002). For self likelihood to aggress, the percentage of variance explained was 44% at the athlete level and 96% at the team level. Adjusting for the within-team (i.e., 1 − ICC) and between-team (i.e., ICC) variance, the percentage of total variance accounted for was 54% in self likelihood to aggress (athlete level = 36%, team level = 18%). Taken together, these results indicate that our Level-1 (team norm, stage of moral development, athlete experience) and Level-2 predictors (coach gender, coach playing experience, coaching experience, team gender, ability of team, game strategy, character building, mean team norm, team age level) explained over half of the variance in athletes’ tendency to aggress.

**Discussion**

The novel finding in our study was that coaches’ game strategy efficacy positively predicted their athletes’ self likelihood to aggress. Moreover, the association with game strategy efficacy nearly approached the magnitude of the team norm for aggression, which has consistently been found to be the strongest source of athletes’ aggressive tendencies. Studies have found that the coach is the most influential significant other in determining players’ views about aggression, and that

<table>
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<th>SLA</th>
<th>No Predictors</th>
<th>Athlete Level Predictors Only</th>
<th>Athlete &amp; Team Level Predictors</th>
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<td>0.24</td>
<td>0.01</td>
<td>96%</td>
<td>18%</td>
</tr>
</tbody>
</table>

54%
Coaches’ efficacy beliefs are strongly tied to their athletes’ judgments regarding moral behavior. Coaches with stronger beliefs in their capabilities to coach during competition and lead their team to successful performances had players who were more likely to report that they would aggress against an opponent than coaches with weaker game strategy beliefs.

Unfortunately, we did not examine actual coaching behaviors—the underlying link between efficacy beliefs and athletes’ perceptions (Feltz et al., 2008; Horn, 2002). For instance, coaches who have high game strategy efficacy may outright teach unfair tactics, positively reinforce athletes who use them, and/or ignore aggressive behavior when it occurs. Future research is needed that includes actual observations of coaches.

One explanation for why coaches high in game strategy efficacy may approve of and use unfair tactics may be the manner in which athletic aggression has been conceptualized and measured—as the likelihood of engaging in an unfair yet strategically advantageous aggressive behavior. This type of aggression best reflects instrumental aggression, which consists of actions intended to harm an opponent with the goal of winning. It may be that coaches who hold strong judgments about their ability to lead their team to successful performances may be more likely to view aggressive acts as legitimate if strategic gain is achieved. This explanation would be consistent with research that has found that coaches often incorporate elements of aggression into their game strategies (Bloom & Vanier, 2004). Coaches who understand competitive strategies and have the ability to adapt to different game situations may be more likely to incorporate proaggressive techniques into their coaching for strategic gain. The game strategy–self likelihood to aggress finding may also be attributed to the sample of coaches used in our study. The majority of coaches had played at least college soccer (70%), where athletes competing at this level may be more likely to foul in critical game situations. However, even after controlling for coaches’ level of playing experience, game strategy efficacy emerged as a strong and positive predictor of players’ likelihood to aggress. A final explanation is that coaches with strong beliefs in their game strategy capabilities tend to coach teams at higher competitive levels (Sullivan et al., 2006), and at higher competitive levels, athletes may be more likely to engage in aggressive behaviors.

In contrast to our hypothesis, character building efficacy was unrelated to athletes’ self likelihood to aggress. Coaches with a higher sense of confidence in their character building abilities did not have players with a lower tendency to aggress against an opponent. This finding may be explained by the dual aspects of morality and the way in which character building efficacy is measured. Whereas aggressive tendencies reflect a negative aspect of morality, the character building efficacy dimension focuses on instilling an attitude of good moral character, fair play among athletes, respect for others, and promoting good sportsmanship, which reflect positive aspects of morality. It may be that character building efficacy better predicts the positive aspects of morality that emphasize sportsmanship and fair play than the negative aspects of morality such as aggression (Boardley, Kavussanu, & Ring, 2008). Future research on coaching efficacy and moral behavior...
should employ measures of moral behavior that assess both the positive and negative aspects of morality (Kavussanu 2006; Sage, Kavussanu, & Duda, 2006).

The finding that individual perceptions of the team norm for aggression predicted athletes’ likelihood to aggress is in line with previous research on the moral atmosphere in youth sport (Guivernau & Duda, 2002; Stephens, 2000, 2001; Stephens & Bredemeier, 1996; Stephens & Kavanagh, 2003). Players who indicated that a higher number of team members would trip the opponent were more likely to aggress than players who indicated that a lower number of players would trip the opponent. We further extended this line of inquiry by not only conceptualizing the team norm for aggression as a perception held by individuals, but also as a group-level construct. This conceptualization is consistent with the notion that team members hold similar judgments regarding appropriate moral behaviors in a group environment (Higgins et al., 1984; Power et al., 1989). Indeed, we found evidence for a team-level effect even after controlling for athletes’ personal perceptions of the team norm. Teams having a higher norm for aggression were more likely to have aggressive players than teams having a lower norm for aggression. The relationship between team norm for aggression and players’ self likelihood to aggress at the team level demonstrates a contextual effect that may be explained by the normative effects operating within the team (Raudenbush & Bryk, 2002).

Although it was not the primary aim of our study, there were some interesting findings related to differences in aggressive tendencies based on athlete gender and coach attributes that warrant further discussion. An unexpected finding and in contrast to previous research examining gender differences in antisocial behavior was that female teams were more likely to aggress in the hypothetical situation than male teams. However, unlike previous studies that have either found no gender differences (Bredemeier & Shields, 1984; Guivernau & Duda, 2002) or that males were more aggressive than females (Bredemeier, 1994; Bredemeier et al., 1986), our study simultaneously examined numerous demographic characteristics of the team and coach. Descriptive statistics showed that male ($M = 3.52, SD = .69$) and female ($M = 3.23, SD = .57$) teams were similar on self likelihood to aggress scores; however, after controlling for coach and team attributes in the multilevel analysis, female teams were more aggressive than male teams. This suggests that when you hold these factors constant for both genders, females may display a similar or even higher tendency to aggress than males. We do not have an explanation for this finding, but it should be examined in future research. In contrast to team gender, male coaches were more likely to have athletes with higher self likelihood to aggress scores than female coaches. This finding is consistent with previous research that has examined gender differences in aggression at the athlete level. An additional finding related to the coach was that coaches’ playing experience, but not their coaching experience, positively predicted athletes’ self likelihood to aggress. It may be that individuals who compete at higher levels develop a more professionalized attitude that emphasizes a “win at all cost” mentality and this attitude is transmitted through their behavior to their players.

The present study has some limitations that should be mentioned. The first limitation of our study, as we mentioned in the beginning of our discussion, was that mediating factors that may explain the relationship between coaching efficacy and players’ likelihood to aggress were not examined. Thus, how coaches’ beliefs in their game strategy abilities influence their athletes’ aggressive tenden-
cies is not well understood. Models of coaching effectiveness suggest that coaches’ behavior and athletes’ perceptions and evaluations of their coaches’ behavior mediates the relationship between coaches’ beliefs and athlete-level outcomes (e.g., Horn, 2002). Future research could measure coaching-related behaviors such as modeling, instruction, social persuasion, and endorsement of aggression as well as athletes’ evaluations of their coaches’ coaching competency (Myers, Feltz, Maier, Wolfe, & Reckase, 2006) to better understand the mechanisms in which coaches’ efficacy beliefs affect players’ moral attitudes and behaviors. The second limitation concerns the narrow nature of the JAMBYSQ. Antisocial behaviors in sport represent a diverse range of behaviors (Kavussanu et al., 2006), many of which are not measured by the JAMBYSQ. Further, research has shown that antisocial and prosocial behaviors represent two distinct dimensions of morality that may be associated with different predictors (Kavussanu, 2006). Future studies should employ measures that consist of various antisocial and prosocial behaviors to more fully represent the range of moral behaviors that occur in sport. The third limitation was sample size. Although there was a sufficient number of athletes at Level 1 (N = 258), the number of coaches/teams at Level 2 was less than ideal (N = 23). Having low power at Level 2 makes it less likely that team-level effects will be detected. Despite this limitation, several of the coach/team-level variables emerged as significant predictors of athletes’ likelihood to aggress. Future studies that incorporate a greater number of teams may have the power necessary to detect stronger team differences. The fourth limitation pertains to the demographic characteristics of the participants. Most of the players (87.2%) and coaches (91.3%) in our study were Caucasian, which is a common limitation of previous studies on athlete aggression (e.g., Guivernau & Duda, 2002; Stephens & Bredemeier, 1996). Future researchers should attempt to include players and coaches of different ethnic groups to determine the generalizability of the findings. The final limitation of our study is that it lacks a developmental focus. Future studies should employ a more representative sample across various age levels to investigate whether the predictors of athletic aggression vary according to developmental stage.

In conclusion, our findings both replicate and extend previous research on the socioenvironmental predictors of athletic aggression in youth sport. Although we found that the team norm for aggression was the most salient predictor, coaches’ confidence in their game strategy capabilities exerted a strong influence on their players’ tendencies to aggress. Our results were particularly strengthened in that we used a multilevel framework that enabled us to simultaneously control for relevant athlete, coach, and team factors. Future research should continue to examine the influential role that coaches’ beliefs and behaviors have on their athletes’ moral judgments and possible mechanisms that may explain this relationship.

References


**Appendix**

**Multilevel Model Equations for Self Likelihood to Aggress**

**Level 1:** $\text{SLA}_{ij} = \beta_{0j} + \beta_{1j} (\text{Team Norm}_{ij} - \text{Team Norm}_j) + \beta_{2j} (\text{Moral Stage}_{ij} - \text{Moral Stage}_j) + \beta_{3j} (\text{Athlete Experience}_{ij} - \text{Athlete Experience}_j) + e_{ij}$

where

$\beta_{0j}$ was the average self likelihood to aggress in team $j$

$\beta_{1j}$ was the effect of team norm in team $j$

$\beta_{2j}$ was the effect of moral stage in team $j$

$\beta_{3j}$ was the effect of athlete experience in team $j$

$e_{ij}$ was the Level-1 error

**Level 2:** $\beta_{0j} = \gamma_{00} + \gamma_{01} (\text{Coach Gender}_j - \text{Coach Gender}) + \gamma_{02} (\text{Coach Playing Experience}_j - \text{Coach Playing Experience}) + \gamma_{03} (\text{Coaching Experience}_j - \text{Coaching Experience}) + \gamma_{04} (\text{Team Gender}_j - \text{Team Gender}) + \gamma_{05} (\text{Ability of Team}_j - \text{Ability of Team}) + \gamma_{06} (\text{Game Strategy}_j - \text{Game Strategy}) + \gamma_{07} (\text{Character Building}_j - \text{Character Building}) + \gamma_{08} (\text{Mean Team Norm}_j - \text{Mean Team Norm}) + \gamma_{09} (\text{Team Age Level}_j - \text{Team Age Level}) + u_{0j}$

$\beta_{1j} = \gamma_{10} + u_{1j}$

$\beta_{2j} = \gamma_{20}$

$\beta_{3j} = \gamma_{30} + u_{3j}$

where

$\gamma_{00}$ was the average of the team means on self likelihood to aggress across all teams

$\gamma_{01}$ was the effect of coach gender

$\gamma_{02}$ was the effect of coach playing experience

$\gamma_{03}$ was the effect of coaching experience

$\gamma_{04}$ was the effect of team gender

$\gamma_{05}$ was the effect of ability of team

$\gamma_{06}$ was the effect of game strategy

$\gamma_{07}$ was the effect of character building
γ_{08} was the effect of mean team norm
γ_{09} was the effect of team age level
u_{0j} was the Level-2 error around the intercept
γ_{10} was the average team norm–self likelihood to aggress slope across all teams
u_{1j} was the Level-2 error around the slope
γ_{20} was the average moral stage–self likelihood to aggress slope across all teams
γ_{30} was the average athlete experience–self likelihood to aggress slope across all teams
u_{3j} was the Level-2 error around the slope

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