On Identity and Sport Conduct of Student-Athletes: Considering Athletic and Academic Contexts

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Abstract

Objectives: Academics and athletics constitute two important and dominant social contexts that shape and develop student-athletes’ motivation, achievement, and conduct. The current study considered the academic and athletic contexts within which student-athletes live, achieve, and thrive to examine whether identity predicted sport conduct directly and indirectly through achievement goals. Design: A cross-sectional design was used. Method: Undergraduate varsity student-athletes (N = 1151, 55.8% males) from nine NCAA Division I institutions completed questionnaires assessing academic and athletic identity, athletic task and ego orientation, academic mastery and performance goals, and the three dimensions of sport conduct (sportspersonship, gamesmanship, and instrumental aggression). Results: Multilevel structural equation modeling indicated the following: Athletic identity negatively predicted sportspersonship and positively predicted instrumental aggression. Task goal orientation enhanced the magnitude of the negative relationship between athletic identity and sportspersonship (played a role of suppressor). Positive indirect relationships through ego goal and mastery goal were found between athletic identity and gamesmanship. Opposing indirect relationships through task and ego, and mastery goals were found between athletic identity and instrumental aggression. Academic identity positively predicted sportspersonship and negatively predicted gamesmanship. Negative indirect relationships through mastery goal emerged between academic identity and gamesmanship, and between academic identity and instrumental aggression. Conclusions: Academic and athletic identity can predict sport conduct, and achievement goals partially explain these predictions. The findings highlight that academic context may play a salient role in regulating ethical sport conduct of student-athletes.

Keywords: identity; ethical sport conduct; achievement goals; MSEM; student-athlete.
On Identity and Sport Conduct of Student-Athletes: Considering Athletic and Academic Contexts

Student-athletes face high expectations from their coaches, administrators, and teammates to reach high, score more points or goals, perform successfully during competition, and, most importantly, win. Ideally, student-athletes should have the “Faster, Higher, Stronger” mindset. “Faster, Higher, Stronger” is the formal Olympic motto, which represents the most essential values in sports, such as excellence, honest effort, adherence to rules, and self-control (de Coubertin, 1985). In sport literature, this concept is frequently referred to as sportspersonship (e.g., Vallerand, Brière, Blanchard, & Provencher, 1997).

The pressures to win, however, may force some student-athletes to go against moral principles and engage in unethical conduct, such as gamesmanship and instrumental aggression. Gamesmanship is performing deliberate unsportspersonlike tactics, which can be defined as “dubious methods to gain advantages through questionable and unethical tactics, verbal comments, provocative and offensive behaviors” (Yukhymenko-Lescroart, 2015, p. 21), such as diving in soccer, flopping in basketball, faking a fall or injury in an attempt to get an official to call a foul on the opponent, disrupting the flow of the game by grunting or getting personal, and using pre-match tactics to conquer the opponent psychologically. While gamesmanship is not against the legal rules, it may come close to breaking the rules.

The term instrumental aggression stems from the dualistic model of aggression that has been defined and used in sport literature, hostile and instrumental (e.g., Husman & Silva, 1984; Keeler, 2007; Parry, 1998). Unlike hostile or reactive aggression, instrumental or goal-oriented aggression is an intentional and controlled act of doing harm to obtain a certain outcome, which is not triggered by provocation and adverse emotions. In athletic context, instrumental aggression...
“aims at causing a strategic nuisance to an opponent in a desire to hinder her/is performance” (Chantal, Bernache-Assollant, & Schiano-Lomoriello, 2013, p. 174). Instrumental aggression is distinct from assertiveness, which typically can be differentiated based on an individual’s intention (Keeler, 2007). Assertive players typically play at a high intensity, but within the rules of the sport. They do not have a hostile and coercive intention to cause harm or physical injury to an opponent; whereas instrumental aggression has intention to cause harm. Some examples of instrumental aggression are a violent tackle of an opponent in rugby or a hard body check by the enforcer in ice hockey with the intention to put them out of the game so that the team can have higher chances to win.

Intercollegiate student-athletes have to balance the roles and obligations of being students and athletes. In order to be eligible to complete at the NCAA level, they are obligated to meet a minimum grade-point average requirement for graduation at their institution and make steady progress toward a degree (NCAA, n.d.-a). If the academic requirements are not met, student-athletes can lose their eligibility to compete, which can also lead to the whole team becoming ineligible to compete. Thus, it is almost impossible to separate the academic context from student-athletes’ lives. The current study sought to explore whether student-athletes’ identity predicted their ethical sport conduct directly and indirectly through the achievement goals of Division I varsity student-athletes, while accounting for two important contexts within which student-athletes perform, achieve, live, and thrive: academic and athletic.

**Student-Athlete Identity**

According to the Social Identity Theory (Tajfel, 1978), a person’s identity is formed within the multiple contexts of social interactions, relationships, institutions, and processes (Scanlon, Rowling, & Weber, 2007). The identity of student-athletes is formed and sustained
within two primary and dominant social contexts: academics and athletics. As such, student-athletes are expected to have both academic and athletic identities simultaneously (Sturm, Feltz, & Gilson, 2011).

Previous studies (Adler & Adler, 1991; Meyer, 1990; Miller & Kerr, 2002) described the relationships between student-athletes’ academic and athletic roles and commitments as competitive. Depending on the primary role in which student-athletes invest themselves, one dimension may become preferred over others (Lally, 2005). Not surprisingly, the athletic identity of Division I student-athletes is likely to take precedence over their academic identity (Sturm et al., 2011). Snyder (1985) proposed a typology suggesting that there are four main types of student-athletes: scholar-athletes (who are committed to both academic and athletic roles), pure scholars, pure athletes, and student-athletes who do not commit to any of these roles, thus implying that student-athletes may adopt multiple identities simultaneously. While no study empirically compared within-individual differences in academic and athletic identity to classify student-athletes into main types, Yukhymenko-Lescroart (2014) compared the academic and athletic identity of varsity and club sport student-athletes in Division I institutions, showing that, on average, Division I varsity student-athletes reported only a slightly weaker academic identity (small effects) and a much stronger athletic identity (large effects) than their club-sport counterparts. These findings suggested that while athletic identification of varsity student-athletes is likely to be high, many varsity student-athletes are likely to also strongly identify with their academic commitments and roles.

Identity and Sport Conduct

Because individuals may change their behaviors in an effort to de-stress or reaffirm one’s identity (Burke, 1991), sport conduct may be associated with the identification of student-
athletes. Visek, Watson, Hurst, Maxwell, and Harris (2010) proposed the Athletic Identity Maintenance Model, suggesting that athletes with a strong athletic identity are likely to violate rules and exhibit competitive aggressiveness. However, the empirical relationship between athletic identity and aggressiveness has been inconclusive. Visek et al. (2010) showed a small positive correlation between athletic identity and aggressiveness among American varsity and club sports athletes and Hong Kong athletes participating in competitive university and club sports. Yet, in a study by Maxwell and Visek (2009) athletic identity was unrelated to the aggressiveness and past self-reported aggression of Hong Kong Rugby Union players. As suggested by the authors, the lack of the relationships could be attributed to the low athletic involvement of participants or to the culture of Hong Kong, which deemphasizes sport participation and instead gives more emphasis to academic and vocational success (Maxwell & Visek, 2009). In a related body of literature, Bruner, Boardley, and Côté (2014) investigated the effects of social identity on prosocial and antisocial sport behavior toward teammates and opponents among youth sport participants. Overall, the results showed that social identity at the beginning of the season was predictive of athletes’ prosocial and antisocial behaviors toward teammates and opponents at the end of a season; thus suggesting that “social context plays a vital role in developing an individual’s sense of self and determining moral actions” (Bruner et al., p. 63). Taken together, these studies suggested that considering other domains that are central to student-athletes’ lives could provide further insights into the relations between athletic identity and sport conduct. As such, both academic and athletic identity should be considered when investigating sport conduct among varsity student-athletes. Strong athletic identity is likely to have detrimental effects on ethical sport conduct while strong academic identity, in contrast, is likely to hinder unethical sport conduct.
Achievement Goals

Previous studies (e.g., Bruner et al., 2014) showed that it is important to consider potential indirect relationships between psychological constructs and behavior. One potential indirect relationship to consider in exploring whether the identity of student-athletes predicts their sport conduct is through achievement goal orientation, which has been shown to be a key factor in human motivation and achievement. A multitude of achievement goal theory frameworks (e.g., Ames, 1992; Dweck, 2000; Elliot, 1999; Nicholls, 1984) have emphasized two dichotomous achievement goals: learning and performance, mastery and performance, or task and ego goals. The goal dichotomy proposes that individuals judge their ability based on either how much they have mastered and learned (defined in self-referenced terms), or based on their performance and effort compared to others (defined in normative terms). While various labels have been used, there is evidence of convergence among labels of learning, mastery, and task as well as among performance and ego (Ames, 1992).

Nicholls’ (1984) framework has been widely used in sport context. Consistent with Nicholls’ (1984) framework, Duda (1989) suggested that task-oriented athletes endorse internal and personally controllable factors, and believe that success is the product of working hard, learning new skills, and doing one’s best. In contrast, ego-oriented athletes endorse external and normative criteria, and believe that their success is the exercise of superior ability over others, such as scoring the most points or performing better than teammates.

Achievement goal theory in academics (e.g., Ames, 1992; Dweck, 2000) is conceptually similar to achievement goals in sports. Students with mastery goals believe in the intrinsic value of learning and that effort is connected to outcome; they are oriented toward developing new skills, improving their existing skills, and reaching a sense of mastery based on absolute
standards and their own progress. Students with performance goals believe that their ability and self-worth is proven when they show high normative performance and achieve success with little effort; they are oriented toward performing better than others, obtaining public recognition that they surpass others, and exceeding normative based standards (Ames, 1992; Dweck, 2000).

Identity and Achievement Goals

Conceptually, student-athletes’ identification with academic and athletic social groups could have an important implication on their academic and athletic achievement goals because achievement goals and identity are conceptually similar (Kaplan & Flum, 2010) in that they both facilitate mastering and adapting to the social and physical environments. Both perspectives suggest that individuals may endorse multiple orientations (i.e., multiple goals and multiple identities), that “social contexts and situations may prompt the adoption of an orientation” (Kaplan & Flum, 2010, p. 61), and that “individuals may manifest different orientation in different domains” (p. 61). Highlighting theoretical similarity between the two concepts, Kaplan and Flum (2010) proposed that “eliciting certain identity formation processes would facilitate a change in achievement goals” (p. 63) and suggested that future studies should explore the effects of identity formation on achievement goal orientations.

The link between identity and achievement goals has also been shown empirically. For example, Proios (2012) found positive correlations between athletic identity and sport achievement goal orientations, both mastery and ego, among gymnasts aged eight to 18 years. Likewise, Negru, Pop, and Opre (2013) explored the relation between academic achievement goals and educational identity among senior high school and freshmen undergraduate students, showing that the two concepts are strongly linked. Students who endorsed mastery orientation reported high educational commitments and low reconsiderations of educational commitments.
Additionally, educational in-depth exploration identity processes were related to both mastery and performance approach goals (Negru et al., 2013). Therefore, it is possible that the identity of student-athletes can predict their achievement goals in academics and athletics.

### Achievement Goals and Sport Conduct

The link between achievement goals and sport conduct is well established. For example, a number of studies by Kavussanu and colleagues (Kavussanu, 2006; Kavussanu, Seal, & Phillips, 2006; Sage & Kavussanu, 2007) showed positive links between task orientation and prosocial behaviors (e.g., helping an opponent off the floor and congratulating an opponent after the game) and between ego orientation and antisocial behavior (e.g., faking an injury, using tactics to fool the referee, elbowing an opponent, trying to injure an opponent). Ego orientation was also shown to relate to lying to an official, breaking a rule, risking injuring opponents, and deliberately hurting opponents (Kavussanu & Ntoumanis, 2003). Some studies also showed a negative link between task orientation and lying to an official and breaking a rule (Kavussanu & Ntoumanis, 2003), as well as antisocial behavior broadly defined (e.g., Kavussanu, 2006; Kavussanu et al., 2006). Collectively, these studies highlighted the salient role of achievement goals in athletes’ and sport conduct, suggesting that task orientation would be positively associated with sportspersonship, and negatively associated with gamesmanship and instrumental aggression. In contrast, ego orientation would be negatively associated with sportspersonship, and positively associated with gamesmanship and instrumental aggression.

While no previous study considered the effects of academic achievement goals in exploring student-athletes’ sport conduct, it is possible to draw theoretical links. Conceptually, student-athletes endorsing academic goals would be less willing to “win at any cost.” It is likely that those student-athletes who are willing to engage in unethical conduct have high investment
in athletics and low investment in academics (i.e., low academic achievement motivation). In contrast, student-athletes who invest themselves in academics (i.e., with relatively high mastery goals) are likely to play by the rules and avoid winning by employing psychological tricks and physical aggression. The current study hypothesized that a high endorsement of academic mastery goals would be positively associated with sportspersonship and negatively associated with gamesmanship and instrumental aggression. However, performance goals would not necessarily be related to sport conduct, because many student-athletes are likely to endorse performance goals due to the NCAA eligibility requirements to maintain a minimum GPA level regardless of their true investment into academics and interest in learning.

**The Present Study**

In sum, relationships have been shown between identity and sport conduct (Bruner et al., 2014; Visek et al., 2010). Based upon relationships identified between (a) identity and achievement goals (Negru et al., 2013; Proios, 2012), and (b) achievement goal orientations and sport behaviors (Kavussanu et al., 2006; Kavussanu & Ntoumanis, 2003; Sage & Kavussanu, 2007), it is possible that significant indirect relationships through achievement goals can be found between academic and athletic identity and sportspersonship, gamesmanship, and instrumental aggression. In light of the previous studies, achievement goals were hypothesized to have indirect predictive relationships between identity and sport conduct. The following hypothesized relationships between identity, achievement goals, and sport conduct were made: (a) athletic task goal to positively predict sportspersonship and to negatively predict instrumental aggression; athletic ego goal to negatively predict sportspersonship and to positively predict gamesmanship and instrumental aggression; (b) athletic identity to negatively predict sportspersonship and to positively predict gamesmanship and instrumental aggression; and (c)
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academic identity and academic mastery goal to positively predict sportspersonship and to
negatively predict gamesmanship and instrumental aggression.

Methods

Participants

Participants were 1151 collegiate student-athletes (55.8% males; 52% response rate) from
nine NCAA Division I institutions and competing on a total of 69 varsity teams, 28 men’s and 41
women’s. Men’s sports were baseball (11.2%), basketball (3.6%), football (23.1%), ice hockey
(0.7%), lacrosse (8.3%), and soccer (8.9%). Women’s sports were basketball (6.9%), field
hockey (4.5%), ice hockey (1.4%), lacrosse (5.5%), soccer (12.9%), softball (7.0%), and
volleyball (6.1%). Athletes were freshmen (32.2%), sophomore (26.2%), junior (26.3%), and
seniors (15.4%). The majority of athletes self-identified as White (71.4%), followed by Black or
African American (20.2%), Hispanic (2.5%), Asian (1.1%), and Other or multiethnic (4.8%).

Measures

Athletic conduct. The Conduct in Sport toward Opponent in Sport scale (CSOS, Yukhymenko-Lescroart, 2015) is an 18-item scale, which measures the self-reported frequency
of sportspersonship (e.g., I stopped playing when an opponent got injured (not my fault)),
gamesmanship (e.g., I used physical taunting (e.g., making faces or showing obscene gestures) to
make an opponent commit a mistake), and instrumental aggression (e.g., I purposefully injured
an opponent to win) over a previous year on a 1 (never) to 5 (almost always) scale.

Achievement goal orientation in sports. The Task and Ego Orientation in Sport
Questionnaire (TEOSQ; Duda, 1989) was used to measure task (7 items, e.g., I learn a new skill
by trying hard) and ego (6 items, e.g., I score the most points/goals/hits) orientations of athletes
using a 1 (not at all true of me) to 7 (very true of me) response scale.
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Achievement goal orientation in school. Academic achievement motivation was measured with a 3-item mastery-approach (e.g., I want to learn as much as possible from my classes) and 3-item performance-approach (e.g., It is important for me to do better than other students) items on a 1 (not at all true of me) to 7 (very true of me) response scale (Elliot & McGregor, 2001).

Academic and athletic identity. The Academic and Athletic Identity Scale (AAIS, Yukhymenko-Lescroart, 2014) is an 11-item measure of the centrality of academics (e.g., Being a capable student) and athletics (e.g., Being a capable athlete) to one’s sense of self with a 1 (not central to my sense of self) to 6 (very central to my sense of self) response scale.

Procedure

Approvals were obtained from the research boards and athletic departments at each institution. Packages with information sheets and surveys arranged in envelopes, one for each team, corresponding to the number of athletes on each team were mailed to contact persons at each institution. Contact persons then distributed the envelopes among team captains, who administered the survey after a practice without any staff members present. Team captains were responsible for sealing and signing the envelopes with completed surveys so that they could be returned using provided prepaid postages.

Data Analysis

Sport conduct is likely to be similar within a team because student-athletes practice, play, complete, and continuously interact with their teammates. For example, Yukhymenko et al. (2015) provided evidence that willingness to cheat of teammates in order to win a game showed a clustered nature of the data. Therefore, the current study applied multilevel structural equation modeling (MSEM), nesting student-athletes within teams, to explore whether identity predicted
sport conduct directly and indirectly, through goal orientation. The relationships between identity, goal orientation, and sport conduct were explored at the within-team level. After screening the data for missing values, a measurement model was estimated using a multilevel confirmatory factor analysis (CFA) to explore model fit and check the validity of the scales. Observed items of sport conduct were used to represent their intended latent factors at the within and between levels; whereas observed items of identity and goal orientation were specified to represent latent factors at the within-team level only. To assess the model fit at each level, a partially saturated model approach (Ryu & West, 2009) was used. In the partially saturated model approach, two multilevel models are fit: one with a saturated model at the between level (which allows for obtaining the model fit statistics at the within level), and one with a saturated model at the within level (which allows for obtaining the model fit statistics at the between level). The fit of the models was evaluated based on several indices, including root mean square error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR). A relatively reasonable fit is indicated by SRMR and RMSEA of less than .08 and CFI of greater than .90; a good model fit is indicated when RMSEA is less than .06 and CFI is greater than .95 (Hu & Bentler, 1999). Reliability of latent factors was assessed using McDonald’s (1999) omega (ω), which is interpreted similar to Cronbach’s alpha.

The structural model was tested to examine (a) whether identity predicted goal orientation; (b) whether goal orientation predicted sport conduct; and (c) whether identity predicted sport conduct directly and indirectly through goal orientation. All latent variables were allowed to freely correlate. Specifically, the model with two exogenous latent measures of identity (academic and athletic identity), four latent mediators of achievement goals (athletic task, athletic ego, academic mastery, and academic performance), and three latent outcome
variables of sport conduct (sportspersonship, gamesmanship, and instrumental aggression) was tested. The statistical significance of indirect associations was tested using Bayesian credible intervals (Muthén & Asparouhov, 2012), which have no distributional assumptions. The total indirect effects were decomposed into separate effects. Indirect relationships between identity and sport conduct would be possible (but not guaranteed) when the relationships between identity and goal orientation, and between goal orientation and sport conduct are significant.

Analyses were performed using Mplus 7, version 4.1 (Muthén & Muthén, 1998-2015).

Results

Preliminary Analysis

Missing data ranged from 0 to 2.4% on indicators with only 0.55% of the total data points missing. Confirmatory factor analysis of the CSOS was performed using a multilevel approach. Estimated intraclass correlations for the 18 observed items of the CSOS ranged from .044 to .142, indicating that a multilevel analysis can be suitable. A two-level model with three factors at each level showed an overall acceptable fit (RMSEA = .054, CFI = .928, SRMR = .061, AIC = 53190.0, BIC = 53674.6) with all items loading significantly on their intended latent factors.

However, the three latent factors at the between level were highly correlated ($r$ ranged between .88 and .92 and all three 95% CIs contained 1.0), suggesting one latent factor of an overall team conduct. Items of sportspersonship were recorded so that all 18 items had the same valence. The alternative model with three factors at the within level (student-athletes sportspersonship, gamesmanship, and instrumental aggression) and one factor at the between level (team unethical conduct) showed an almost identical fit (RMSEA = .054, CFI = .928, SRMR = .061, AIC = 53189.2, BIC = 53658.7), and was accepted as a more parsimonious model. All items loaded significantly on their intended latent factors. A partially saturated model approach (Ryu & West,
2009) was used to assess the fit of the CSOS at each level, showing that the model had an acceptable fit at the within level (RMSEA = .069, CFI = .942, SRMR = .061), but the fit of the model at the between level was inconsistent based on the traditional fit indices (RMSEA = .033, CFI = .986, SRMR = .203). Because the current study focused on the relationships at the within level and the between level was used only to account for possible similarities among student-athletes within teams, an overall fit of the CSOS was deemed acceptable. Confirmatory factor analysis of the TEOSQ (RMSEA = .080, CFI = .911, SRMR = .060) showed a mediocre, but acceptable, fit. The AAIS (RMSEA = .060, CFI = .959, SRMR = .033) and the two subscales of academic achievement goals (RMSEA = .055, CFI = .990, SRMR = .024) showed a reasonable fit to the data. The measurement model showed an acceptable fit: RMSEA = .038, CFI = .938, SRMR = .043. No modification was made to the measurement model.

Table 1 shows latent correlations, range for factor loadings, and omega reliability. To assess the reliability of the CSOS scale, a Geldhof, Preacher, and Zyphur’s (2014) approach was used to calculate omega coefficients separately at each level, which allowed for an understanding of the degree to which the CSOS scale reliability tapped the constructs at the individual and team levels. The reliability of the team unethical conduct was .98. Omega reliability estimates of the within factors ranged between .77 and .97, demonstrating an adequate internal consistency. Except for a non-significant correlation between academic identity and athletic ego goal, the measures of academic and athletic identity were all significantly and positively related to the measures of achievement goals. There were also correlations between athletic identity and instrumental aggression, and between academic identity and all three latent measures of sport conduct (sportspersonship, gamesmanship, and instrumental aggression), suggesting that predictive direct and indirect relationships were possible.
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[Table 1]

Testing Direct and Indirect Relationships
The structural model (see Figure 1) explained 13.0% of the variance in sportspersonship, 8.6% in gamesmanship, and 8.4% in instrumental aggression. Because the structural model included all possible structural terms, its fit was the same as the fit of the measurement model.

The structural paths were examined to explore (a) whether identity predicted goal orientation; (b) whether goal orientation predicted sport conduct; and (c) whether identity predicted sport conduct directly and indirectly through goal orientation. The results are shown in Table 2.

Only six of the eight paths between identity and goal orientation were significant.

Athletic task goal and athletic ego goal were predicted by athletic identity ($\beta = .43, SD = .03, 95\% CI [.37, .50], p < .001, R^2 = 21.8\%$ and $\beta = .18, SD = .04, 95\% CI [.10, .25], p < .001, R^2 = 2.6\%$ for task and ego goal respectively). Academic mastery goal was predicted by academic ($\beta = .58, SD = .03, 95\% CI [.53, .63], p < .001$) and athletic identity ($\beta = -.07, SD = .03, 95\% CI [-.14, -.01], p = .008; R^2 = 30.7\%$). Academic performance goal was predicted by academic ($\beta = .54, SD = .03, 95\% CI [.48, .59], p < .001$) and athletic identity ($\beta = -.07, SD = .03, 95\% CI [-.13, -.01], p = .015; R^2 = 25.6\%$). In cases where direct relationships between identity and achievement goals exist, indirect relationships between identity and sport conduct through achievement goals are possible.

Sportspersonship was predicted by task goal ($\beta = .24, SD = .04, 95\% CI [.16, .32], p < .001$), ego goal ($\beta = -.15, SD = .04, 95\% CI [-.22, -.07], p < .001$), academic identity ($\beta = .21, SD = .05, 95\% CI [.12, .31], p < .001$), and athletic identity ($\beta = -.16, SD = .05, 95\% CI [-.25, -.08], p < .001$). Significant indirect relationship emerged between athletic identity and
sportspersonship through task goal ($\beta = .11$, $SD = .02$, 95% CI [.07, .15], $p < .001$) and ego goal
($\beta = -.03$, $SD = .01$, 95% CI [-.05, -.01], $p < .001$). The sum of indirect relationships between
athletic identity and sportspersonship was significant and positive ($\beta = .08$, $SD = .02$, 95% CI
[.04, .13], $p < .001$), which also suggested an inconsistent indirect relationship because the direct
relationship between athletic identity and sportspersonship was negative.

Gamesmanship was predicted by mastery goal ($\beta = -.14$, $SD = .05$, 95% CI [-.23, -.05], $p$
= .001), ego goal ($\beta = .17$, $SD = .04$, 95% CI [.09, .23], $p < .001$), and academic identity ($\beta =$
-.14, $SD = .05$, 95% CI [-.22, -.05], $p = .001$). Indirect association between athletic identity and
gamesmanship emerged through ego goal ($\beta = .03$, $SD = .01$, 95% CI [.01, .05], $p < .001$) and
mastery goal ($\beta = .01$, $SD = .01$, 95% CI [.001, .03], $p = .009$). Additionally, partial indirect
association between academic identity and gamesmanship emerged through mastery goal ($\beta =$
-.08, $SD = .03$, 95% CI [-.13, -.03], $p = .001$).

Instrumental aggression was predicted by mastery goal ($\beta = -.14$, $SD = .04$, 95% CI [-.22,
-.06], $p = .001$), task goal ($\beta = -.09$, $SD = .04$, 95% CI [-.16, -.01], $p = .012$), ego goal ($\beta = .10,$
$SD = .03$, 95% CI [.03, .16], $p < .001$), and athletic identity ($\beta = -.18$, $SD = .04$, 95% CI [-.26, -.11], $p < .001$). Opposing indirect relationships between athletic identity and instrumental
aggression emerged through task goal ($\beta = -.05$, $SD = .02$, 95% CI [-.09, -.01], $p = .012$) and
through ego goal ($\beta = .02$, $SD = .01$, 95% CI [.01, .04], $p < .001$). An indirect association through
mastery goal also emerged ($\beta = .01$, $SD = .01$, 95% CI [.002, .03], $p = .009$). However, these
relationships had no total indirect associations ($\beta = -.01$, $SD = .02$, 95% CI [-.06, .03], $p = .268$)
because they canceled each other. Additionally, an indirect prediction between academic identity
and instrumental aggression emerged through mastery goal ($\beta = -.09$, $SD = .03$, 95% CI [-.15, -.04], $p = .001$).
Discussion

Academics and athletics constitute two important and dominant social contexts that shape and develop student-athletes’ motivation, achievement, and conduct. Although previous research has examined the relationships between identity and achievement goals with athletes’ behaviors in sport (e.g., Kavussanu et al., 2006; Maxwell & Visek, 2009; Sage & Kavussanu, 2007; Visek et al., 2010; Yukhymenko-Lescroart, 2016), research has not yet focused on the influence of academic contexts. Using multilevel structural equation modeling, the current study considered both contexts within which student-athletes live, achieve, and thrive: athletic and academic. Specifically, the current study examined whether academic and athletic identity predicted sportspersonship, gamesmanship, and instrumental aggression directly and indirectly through academic and athletic achievement goals.

Identity and Achievement Goals

Findings supported the hypothesis that achievement goals are predicted by academic-athletic identity. Consistent with this view and the previous research on the relationships between identity and achievement goals (Negru et al., 2013; Proios, 2012), student-athletes who strongly identify themselves as students endorse mastery and performance academic achievement goals. A strong identification with sport can result in an endorsement of athletic goals (with a stronger link to task orientation than ego orientation), but at a detrimental cost of low academic achievement motivation. These findings mean that student-athletes who identify themselves with their social groups (academic and/or athletic) endorse achievement goals within that particular social context. This supports Kaplan and Flum’s line of work (Kaplan & Flum, 2009; 2010) of the complementary link between achievement goals and identity formation, which suggested that achievement goals and identity share similarity in that they both prompt individuals to adopt
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multiple orientations based on the social contexts and situations (Kaplan & Flum, 2010), such as multiple goal orientations and multiple identities. Additionally, these findings show that identity can cross the achievement domains. In this study, athletic identity was associated with both academic and athletic achievement goals. However, academic identity did not cross to athletic task and ego goals. One explanation is that athletic identity is likely to overpower the other identities of Division I student-athletes (such as academic). The competitive nature between the academic and athletic roles, responsibilities, and time commitments can result in one identity becoming dominant (Adler, P. A., & Adler, 1991; Meyer, 1990; Miller & Kerr, 2002). This study focused on Division I student-athletes, which is the highest level of collegiate athletics in the United States. As noted by Sturm et al. (2011), the athletic identity of Division I student-athletes are likely to take precedence over other identities, especially when balancing the two roles becomes difficult for student-athletes. In order to be successful in college, Division I student-athletes must meet academic requirements set by the NCAA (e.g., see NCAA, n.d-b) and the unique acceptance requirements of a specific university. In order to stay eligible and to be able to compete, undergraduate student-athletes are required to meet yearly standards, including grades, minimum credit hours per year, and annual progress toward a degree. Furthermore, in Division I, the academic performance of each individual athlete may result in the ineligibility of the whole team to participate in championships: penalties for teams that under-perform academically include limitations of practice and competition, suspensions of coaches, and reductions of financial aid. Therefore, student-athletes who really care about athletic practice and competition need to succeed in academics, too. On the other hand, if student-athletes are strongly identified with academics and do not care as much about their athletic performance, there are no similar repercussion and consequences (e.g., student-athletes will not be expelled from a university for
poor athletic performance).

Achievement Goals and Sport Conduct

The study findings supported the hypothesis that achievement goals predict sport conduct. Consistent with previous studies (e.g., Kavussanu et al., 2006; Sage & Kavussanu, 2007; Yukhymenko-Lescroart, 2016), findings showed that task goal is related to ethical conduct, whereas ego goal is related to unethical conduct. Sportspersonship and instrumental aggression were predicted by both task and ego goals. Compared to ego goal, task goal was a stronger predictor of sportspersonship and a predictor of instrumental aggression at a comparable magnitude. Gamesmanship, on the other hand, was only predicted by ego goal (i.e., a desire to score more points over other athletes and a belief of superiority of one’s skills, such as “others mess up and I don’t” Duda, 1989). Previous studies have showed that task-oriented individuals displayed adaptive pattern of achievement behavior, whereas ego orientation has been linked with maladaptive behavior (e.g., Nicholls, 1984; Magyar & Feltz, 2003). Similar to a suggested explanation of findings in a study of the associations between ethical and unethical coaching behaviors with positive and negative student-athletes’ outcomes (Yukhymenko, Brown, & Paskus, 2015), one way to interpret findings in the current study is that the relative influence of each goal orientation depends on the alignment in the valences (adaptive or maladaptive) between the achievement goals and outcome. Findings indicated that the adaptive goal orientations (task goal) had a strong association with positive outcomes (sportspersonship) compared with the negative sport conduct (gamesmanship and instrumental aggression). The opposite is also true in that ego orientation more strongly predicted the negative sport conduct (gamesmanship and instrumental aggression) relative to task goals. As Magyar and Feltz (2003) noted, the implication is not that ego goal orientation is always maladaptive in sport situations,
but rather how it is used. When *how* winning is achieved (ethically or at any costs) is important, ego goal plays a maladaptive role in the context of ethical sport play.

This is the first study that considered academic achievement goals in exploring sport conduct among student-athletes. Findings showed that academic mastery goal negatively predicted unethical sport conduct. This means that student-athletes who invest themselves in academics and endorse mastery are less likely to strive to win at all costs such as via engaging in gamesmanship or instrumental aggression. Unlike mastery goals, however, performance goals were not related to sport conduct. Theoretically, many student-athletes are likely to endorse performance goals due to the NCAA eligibility requirements of maintaining minimum GPA level regardless of whether they care about moral values in sport or are willing to bend rules to bring a score or a victory to their team. The link between academic achievement goals and mastery goals in relationship to unethical sport conduct is one of the novel contributions of the present study.

While no studies were found directly relevant to these findings, identified relationships can be contextualized through a large body of literature linking academic achievement with problematic social conduct in studies with children and adolescents (e.g., Brier, 1995; Hinshaw, 1992; Maguin & Loeber, 1996; Risi, Gerhardstein, & Kistner, 2003). These studies showed that “poor academic performance is related to the prevalence and onset of delinquency, whereas better academic performance is associated with desistance from offending” (Maguin & Loeber, 1996, p. 147). Maguin and Loeber (1996) outlined several social theories that can help explain the association between academic performance and delinquency, including control theory, social developmental theory, and interactional theory. Taken together, these theories propose that delinquent behaviors can be constrained through social relations or bonds between an individual and others because attachment to others can be viewed as a commitment to socially approved
courses of actions. Applied to the context of the present study, student-athletes displaying high levels of academic mastery achievement are likely to connect with and receive substantial rewards from prosocial others (e.g., professors, advisors, academic counselors, athletic compliance officers), which could then lead to prosocial attachments and beliefs. Academic achievement, and particularly mastery goal, can also be considered a component of attachment to a university, which can lead to a commitment to socially endorsed modes of behavior. Student-athletes with low mastery achievement can be seen as displaying low commitment to university and thus they may engage in socially denounced behaviors including unethical sport conduct such as gamesmanship and instrumental aggression.

**Identity and Sport Conduct**

Athletic identity negatively predicted sportspersonship, suggesting that student-athletes with strong identification with athletics were less likely to be ethical on athletic fields. Additionally, indirect relationship through task and ego goals emerged between athletic identity and sportspersonship. Since athletic identity negatively predicted sportspersonship, the positive indirect relationship through task goal suggested an inconsistent predictive relationship between athletic identity and sportspersonship, which is also called suppression (Ludlow & Klein, 2014). A suppressor is “a variable which increases the predictive validity of another variable (or set of variables) by its inclusion in a regression equation” (Conger, 1974, pp. 36-37). Suppression is observed when the magnitude of the relationship between two variables increases when a third variable is present. Including task goal in the MSEM model enhanced the predictive strength of athletic identity on sportspersonship. Therefore, the task goal should be viewed as a suppressor variable. Overall, these findings suggest that student-athletes who identify strongly with athletic identity are likely to report less frequent sportspersonship and that task goal plays an important
role in the magnitude of this relationship.

While the direct relationship between athletic identity and gamesmanship after controlling for achievement goals was non-significant, athletic identity predicted gamesmanship indirectly through ego and mastery goals. Overall, these findings indicate that student-athletes with strong athletic identity are likely to report a more frequent engagement in gamesmanship because of an ego goal endorsement and a mastery goal non-endorsement. Although the direct relationship was non-significant, the path between athletic identity and gamesmanship was non-zero, which intuitively suggests only a partial indirect relationship. Traditionally, such effects have been explained as “full” or “complete” indirect effects (see Little et al., 2007). However, recent studies have cautioned against using such terms (Little et al., 2007), because additional indirect effects could be detected even when the direct path between the predictor and an outcome is non-significant (e.g., see Rucker, Preacher, Tormala, & Petty, 2011). Thus, there could be other variables that also indirectly explain the positive relationship between athletic identity and gamesmanship.

A surprising finding in the current study was the negative relationship between athletic identity and instrumental aggression. Previous studies found that athletic identity was either positively related to anger and aggressiveness (Visek et al., 2010) or did not have significant relationships (Maxwell & Visek, 2009). Athletic identity predicted instrumental aggression also indirectly through task, ego, and mastery goals in the current study. This was an interesting finding because of the opposing indirect relationships of task and ego goals and of task and mastery goals in the relationship between athletic identity and instrumental aggression. Opposing indirect relationship occurs when the indirect effects of the same effect are opposite in sign, canceling each other out.
Finally, academic identity predicted all three outcomes. Student-athletes who identify strongly with academics reported more frequent sportspersonship and less frequent gamesmanship. Additionally, academic identity negatively predicted gamesmanship indirectly through academic mastery goals. Finally, an indirect relationship through mastery goals emerged between academic identity and instrumental aggression. Mastery goals partially explained the negative relationship between academic identity and gamesmanship and between academic identity and instrumental aggression. These findings suggest that academic identity is an important variable to consider in examining sport conduct.

Limitations and Future Directions

While the current study added to the body of literature on the indirect relationships through achievement goal orientation between identity and sport conduct, it also has limitations that should be addressed in the future studies. The first limitation was a cross-sectional design. While the structural relationships tested in the current study were in general consistent with the proposed relationships, the direction of the causal links cannot be certain due to the cross-sectional nature of data. For example, researchers might build on work conducted by Harris et al. (2016) who developed the ReadyApp to promote identity development of student-athletes, which can be used to focus on the academic identity development of student-athletes. Future research should extend current findings to use an experimental or quasi-experimental design to test the identified relationships through mediation analysis using multiple data collection time points. The second limitation was the self-report nature of sportspersonship, gamesmanship, and instrumental aggression. Because participants reported their sport conduct retrospectively, selection memory and social desirability biases are plausible. Future research should use observational data to measure sport conduct over a period of time and explore the relationships
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among variables. Nonetheless, the current study also has its strength: a large sample size, an
inclusion of the academic variables, a novel use of identity in explaining achievement motivation
and sport conduct, and the testing of the role of achievement goals in the identity-sport conduct
relationships. No previous study considered academic identity and academic achievement goals
as predictors of conduct during athletic competitions. It would be interesting to explore whether
this is unique to Division I sports where there is pressure to perform well academically by
extending research to Division III, club, and extramural sports. The practical significance of this
work is that administrative and coaching staff working with student-athletes should be aware that
student-athletes’ identification matters in their achievement motivation and in how they conduct
during a sport competition. More attention should be given to the dynamic between academic
and athletic identity and a number of student-athlete outcomes in future studies.

Conclusions

The academic context plays a crucial role in the lives of student-athletes. To be eligible to
compete, they need to make steady and positive academic progress toward their degree. As such,
the two contexts are likely to play dominant roles in the lives of many student-athletes. The
current study examined how student-athletes’ identity and achievement motivation within both
contexts, academic and athletic, may influence the sport conduct of student-athletes. The study
results provide preliminary evidence for the important role of the academic and athletic identity
of student-athletes in influencing sportspersonship, gamesmanship, and instrumental aggression
during sport competition and achievement goals in explaining some of these relationships.
Findings showed that academic and athletic identity was related to sport conduct directly or
indirectly (or both) through achievement goal orientation. Overall, the more student-athletes
invest themselves as students, the more ethical they are likely to be on athletic fields.
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1 substantive theory. Psychological Methods, 17, 313-335.

2 https://doi.org/10.1037/a0026802


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5 https://doi.org/10.1037/spy0000009
### Table 1

*Latent Correlations, Factor Loadings Ranges, and Omega Reliabilities among Latent Factors at the Within Level, $N = 1151$*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Academic Identity</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Athletic Identity</td>
<td>.45**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Athletic Task Goal</td>
<td>.26**</td>
<td>.46**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Athletic Ego Goal</td>
<td>.03</td>
<td>.15**</td>
<td>.29**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5. Academic Mastery Goal</td>
<td>.55**</td>
<td>.19**</td>
<td>.27**</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Academic Performance Goal</td>
<td>.50**</td>
<td>.17**</td>
<td>.21**</td>
<td>.18**</td>
<td>.59**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Sportspersonship</td>
<td>.24**</td>
<td>.03</td>
<td>.20**</td>
<td>-.10*</td>
<td>.22**</td>
<td>.15**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Gamesmanship</td>
<td>-.18**</td>
<td>.01</td>
<td>-.02</td>
<td>.16**</td>
<td>-.21**</td>
<td>-.11**</td>
<td>-.07</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>9. Instrumental Aggression</td>
<td>-.14**</td>
<td>-.22**</td>
<td>-.17**</td>
<td>.04</td>
<td>-.17**</td>
<td>-.07*</td>
<td>.06</td>
<td>.50**</td>
<td>-</td>
</tr>
<tr>
<td>Factor loadings range</td>
<td>.76 - .93</td>
<td>.70 - .90</td>
<td>.66 - .76</td>
<td>.62 - .83</td>
<td>.83 - .90</td>
<td>.87 - .93</td>
<td>.48 - .75</td>
<td>.60 - .79</td>
<td>.90 - .95</td>
</tr>
<tr>
<td>Omega Reliability</td>
<td>.93</td>
<td>.91</td>
<td>.88</td>
<td>.87</td>
<td>.90</td>
<td>.93</td>
<td>.77</td>
<td>.88</td>
<td>.97</td>
</tr>
</tbody>
</table>

*Note.*  $p < .05$.  $p < .01$.  $p < .001$.  $*p < .05$.  $**p < .01$.  $***p < .001$.  $p < .001$.  $p < .01$.  $p < .05$.  $p < .001$.  $p < .01$.  $p < .05$.  $p < .001$.  $p < .01$.  $p < .05$.
Table 2

*Standardized Direct Effects for the Combined Effects Model, N = 1151*

<table>
<thead>
<tr>
<th>Term</th>
<th>Estimate</th>
<th>Posterior SD</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletic Identity → Sportspersonship</td>
<td>-0.16***</td>
<td>0.05</td>
<td>[-0.25, -0.08]</td>
</tr>
<tr>
<td>Athletic Identity → Gamesmanship</td>
<td>0.07</td>
<td>0.04</td>
<td>[0.02, 0.14]</td>
</tr>
<tr>
<td>Athletic Identity → Instrumental Aggression</td>
<td>-0.18***</td>
<td>0.04</td>
<td>[-0.26, -0.11]</td>
</tr>
<tr>
<td>Athletic Identity → Task</td>
<td>0.43***</td>
<td>0.03</td>
<td>[0.37, 0.50]</td>
</tr>
<tr>
<td>Academic Identity → Sportspersonship</td>
<td>0.21***</td>
<td>0.05</td>
<td>[0.12, 0.31]</td>
</tr>
<tr>
<td>Academic Identity → Gamesmanship</td>
<td>-0.14***</td>
<td>0.05</td>
<td>[-0.22, -0.05]</td>
</tr>
<tr>
<td>Academic Identity → Instrumental Aggression</td>
<td>0.02</td>
<td>0.04</td>
<td>[-0.06, 0.11]</td>
</tr>
<tr>
<td>Task → Sportspersonship</td>
<td>0.24***</td>
<td>0.04</td>
<td>[0.16, 0.32]</td>
</tr>
<tr>
<td>Task → Gamesmanship</td>
<td>-0.02</td>
<td>0.04</td>
<td>[-0.11, 0.06]</td>
</tr>
<tr>
<td>Task → Instrumental Aggression</td>
<td>-0.09</td>
<td>0.04</td>
<td>[-0.16, -0.01]</td>
</tr>
<tr>
<td>Mastery → Sportspersonship</td>
<td>0.07</td>
<td>0.05</td>
<td>[-0.02, 0.16]</td>
</tr>
<tr>
<td>Performance → Sportspersonship</td>
<td>0.00</td>
<td>0.05</td>
<td>[-0.09, 0.09]</td>
</tr>
<tr>
<td>Performance → Instrumental Aggression</td>
<td>-0.14***</td>
<td>0.04</td>
<td>[-0.22, -0.06]</td>
</tr>
</tbody>
</table>

Note. CI = Bayesian credible interval for estimate. One-tailed p value: *p ≤ .05; **p ≤ .01; ***p ≤ .001.
Figure 1. Final structural model. The black solid lines represent positive relationships between latent variables. The black dashed lines represent negative relationships between latent variables. The non-significant paths were removed to simplify the figure. Significant correlations (p < .001 for all): instrumental aggression with sportspersonship, $r = -.12$, and with gamesmanship, $r = .51$; athletic identity with academic identity, $r = .45$; task goal with ego goal, $r = .26$, with mastery goal, $r = .21$, and with performance goal, $r = .14$; performance goal with mastery goal, $r = .43$, and with ego goal, $r = .20$. 
Highlights

- Athletic identity negatively predicted ethical sport conduct.
- Task goal enhanced predictive strength of athletic identity on sportspersonship.
- Athletic identity indirectly predicted sport conduct though task and ego goals.
- Academic identity positively predicted ethical sport conduct.
- Academic identity indirectly predicted unethical conduct through academic mastery.