

Dimensions of Athletic Identity and their Associations with Drinking Behaviors among a National Sample of University Athletes in the United States

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Abstract:

Although prior studies have indicated athletic identity plays a role in alcohol use among college athletes, this research has largely drawn on a unidimensional conceptualization. Addressing this gap, the current study utilized a sample of 8,550 university athletes ($M^{\text{age}} = 19.70$ years, $SD = 1.33$, 50.8% men) from 203 U.S. post-secondary institutions to examine the associations between athletic identity dimensions (i.e., social identification, negative affectivity, and exclusivity) and alcohol use for athletes across gender, sport type, and division. The results indicated that negative affectivity and social identification were associated with higher levels of alcohol use, whereas exclusivity was associated with lower levels of alcohol use. Further, the association between dimensions of athletic identity and alcohol use varied across competitive level (i.e., Division I, II, and III). The findings implicate the need for (a) future research to approach athletic identity as a multidimensional concept when examining its association with alcohol use outcomes, and (b) post-secondary alcohol prevention professionals to integrate dimensions of athletic identity in alcohol prevention approaches.

Keywords: Athletic identity | College athletes | Alcohol use | Drinking consequences

Article:

Introduction

Although university students are generally at risk for heavy alcohol use and drinking-related problems (Substance Abuse and Mental Health Services Administration [SAMHSA], 2018), university athletes are at even greater risk compared to non-athletes (Parisi et al., 2019). As a result, there is a need to identify and understand factors associated with alcohol use among university athletes. Previous studies have explored the role that athletic identity, or the degree to which an individual identifies as an athlete, may play in alcohol use (Grossbard et al., 2009a; Zhou & Heim, 2014). However, these studies have largely relied on a unidimensional conceptualization of athletic

identity, despite evidence for a range of unique dimensions of athletic identity. Further, although athletic identity has been found to vary as a function of gender (Grossbard et al., 2009a), sport type (Zhou et al., 2015), and competitive level (i.e., Division I, II, & III; Huml, 2018), prior work has not examined whether these factors impact the association between athletic identity and alcohol use. The present study addresses these gaps in the literature by examining the association between three dimensions of athletic identity (i.e., social identification, exclusivity, and negative affectivity) and alcohol use, and exploring differences in these associations as a function of gender, sport type, and competitive level in a large national sample of university athletes.

Athletic Identity

Conceptualizing athletic identity

Athletic identity was first conceptualized and systematically studied in the 1990's as the degree to which an individual identifies as an athlete (Brewer et al., 1993). Drawing on social identity theory (SIT; Tajfel & Turner, 1986) and identity role theory (Stryker & Serpe, 1982), this conceptualization posited that individuals construct and define their identities in terms of the social groups that they belong to and their perceived group categorizations within their social environments (Brewer et al., 1993). In turn, these group memberships have been shown to affect individuals' attitudes and behaviors (Spears, 2011). From a SIT perspective, a given social identity is the product of (a) social categorization and knowledge of one's group memberships and (b) emotional evaluation of the significance of those memberships (Tajfel & Turner, 1986). Drawing on identity role theory (Stryker & Serpe, 1982), athletic identity is viewed as a role-based self-concept that represents the identification of the self with meanings and expectations. Thus, based on identity role theory, an athletic identity comes to represent a cognitive schema that guides and organizes how an individual interprets and processes information related to one's perception of self (Grossbard et al., 2009a).

Athletic identity is best understood as a multidimensional construct (Ronkainen et al., 2016). Drawing on SIT and identity role theory, athletic identity was originally conceptualized as consisting of three key dimensions that encompass the following elements: social identification, exclusivity, and negative affectivity (Brewer et al., 1993). Social identification refers to the overall strength of the identification with the athlete role (Brewer & Cornelius, 2001). Exclusivity captures the degree to which identification with the athlete role may preclude the development of other social roles (e.g., placing athletics over academic goals; Grossbard et al., 2009a). Finally, negative affectivity refers to the emotional response to failure to fulfill the athlete role (e.g., poor performance; Brewer et al., 1993).

Supporting multidimensionality, prior research has found unique and interactive effects of these three athletic identity dimensions on various (non-alcohol-related) outcomes. For example, athletes with a strong, but not exclusive, athletic identity tend to report higher sport identity commitment (Horton & Mack, 2000) and increased athletic motivation relative to those with lower athletic identities (Brewer et al., 1993). In contrast, a strong and exclusive athletic identity has been associated with disordered eating behaviors (Voelker et al., 2014) and career transition distress (Alfermann et al., 2004).

Athletic identity and alcohol use

Qualitative research has indicated that social identity processes underlying an athletic identity impact sports-related drinking through, “overt practices to enhance in-group perceptions or intrinsically via group membership commitment” (Zhou & Heim, 2016, p. 590). In contrast, quantitative studies of the association between athletic identity and alcohol use have produced mixed findings. Utilizing a total athletic identity score, one study found that athletic identity was protective against negative drinking consequences for men, but not for women (Grossbard et al., 2009a). Similarly employing a total score, another study found that higher athletic identity was associated with less alcohol use for university athletes who played co-acting sports (e.g., cross-country, golf, etc.) but not those who played interacting sports (for whom there was no effect of athlete identity on consumption) (Zhou et al., 2015). These findings not only suggest that there is an association between athlete identity and alcohol use, but that the association may be moderated by factors such as gender and sport type.

Prior studies are limited by their measurement of athletic identity as a unidimensional construct and as such, it is not yet known how each dimension of athletic identity is related to alcohol use. Given that a strong athletic identity can result in engagement in behaviors consistent with their group membership (Zhou & Heim, 2016), high social identification may predict higher levels of alcohol use and related consequences. Because the fear of failure may serve as a stressor for university athletes (Gustafsson et al., 2017), high negative affectivity may be positively associated with alcohol use and consequences as athletes turn to alcohol to cope with stress. In contrast, because an exclusive athletic identity has been hypothesized to be positively associated with athletic performance (Brewer et al., 1993), exclusivity may dissuade alcohol use given potential concerns regarding the effects of drinking-related consequences on performance (cf. Zamboanga et al., 2012) and possible suspension from athletic activities.

Potential Moderators of Associations between Athletic Identity and Drinking Behavior

Given prior findings, it is likely that factors known to impact athlete identity, such as gender, sport type (i.e., interacting vs. a co-acting sports), and competitive level (i.e., Division I, II, and III), may moderate the relationship between athletic identity dimensions and alcohol use and/or related consequences. As such, gender, type of sport, and the level of competitiveness are the three potential moderators considered in turn below.

Gender

Sports and alcohol use have been construed as highly gendered activities (Peralta, 2010). Some research has suggested that the significance of alcohol use in identity construction for male athletes is rooted in the fact that drinking alcohol has become a means by which athletes socialize and establish camaraderie (Clayton & Harris, 2008). For example, drinking alcohol has been positioned as an important way for men in professional American-football to relax and bond (Zhou & Heim, 2016). Despite this, one study found that a stronger athletic identity protected against negative consequences of alcohol use among men, but not women (Grossbard et al., 2009a). However, this contradictory finding may be due to the unidimensional conceptualization of athletic identity in that study.

Whether gender moderates the association between athletic identity and alcohol use may vary across dimensions of athletic identity. For example, high social identification may be a stronger risk factor for heavier drinking and consequences for men compared to women, given that perceived norms of university athletes' alcohol use predict athletes' personal alcohol consumption more strongly for men than for women (Martens et al., 2006). In other words, even though women may perceive their athlete peers as drinking a lot (i.e., perceive alcohol use as part of the athlete identity) they seem less likely to adjust their behavior to align with this normative identity. It is also possible that the negative affectivity dimension of identity is differentially associated with drinking behavior for men versus women. Studies have found that among athletes, women report significantly higher rates of fear of devaluing their self-esteem than men, meaning that women attribute performance failure to self-characteristics (Correia et al., 2017). Moreover, women report significantly higher rates of drinking to cope compared to men (Wilson et al., 2004). Given the combination of these findings, in comparison to men, the negative affectivity dimension of athletic identity may be more likely to be associated with greater alcohol use and consequences among women.

Sports type

Within the context of interactive sports, alcohol use may be perceived to be important for team cohesion (Zhou et al., 2014) and/or a cultural component of celebrating (or commiserating) sporting outcomes (Hummer et al., 2011). Consistent with this hypothesis, studies have found that interactive sport players report significantly greater rates of alcohol use and a stronger athletic identity than co-acting sports players (Zhou et al., 2015). Despite this, one study found that athletic identity was associated with lower reports of alcohol use among co-acting sports players and no significant association between athlete identity and alcohol use for interactive sports players (Zhou et al., 2015). However, a unidimensional conceptualization of athletic identity may have obscured potentially important moderating effects across dimensions of athletic identity. Indeed, given that drinking alcohol is often important for team cohesion (Zhou et al., 2014), social identification may be more strongly associated with alcohol use for athletes in interactive versus co-acting sports. At the same time, athletes in interactive sports may be at risk for increased alcohol use and negative drinking consequences due to higher levels of negative affectivity. Another study found that athletes in interactive sports reported significantly higher fear of failure than those in co-acting sports (Sagar & Jowett, 2012). Given exclusivity has been positively associated with athletic performance (Brewer et al., 1993), higher exclusivity may be more strongly associated with lower alcohol use among those athletes in co-acting sports, where the focus is solely on their performance and eligibility rather than on team cohesion (Zhou et al., 2015), as compared to athletes in interactive sports who must maintain both individual performance and team cohesion.

Competitive level

An additional variable that has been shown to affect athletic identity is the competitive level of the athletic activity or the athletic division. Within the United States, university athletic teams fall into one of three divisions that vary in terms of competitive level: (a) Division I (can receive full athletic scholarships), (b) Division II (can receive partial athletic scholarships), and (c) Division III (cannot receive athletic scholarships). Research not only indicates that alcohol use varies at different levels of participation in sport (Jones, 2011), but one study also found that athletic identity was higher

among Division I and Division II athletes than among Division III athletes (Huml, 2018). Nonetheless, whether competitive level (i.e., division) may serve as a moderator of the association between athletic identity and alcohol use has yet to be explored.

Current Study

In sum, the existing literature on athletic identity and its association with alcohol use has relied on a unidimensional conceptualization and not fully examined the extent to which the association between athletic identity and alcohol varies as a function of athletes' characteristics. Addressing these gaps, the current study sought to examine the differential association between dimensions of athletic identity and alcohol use and related consequences and examine whether these associations vary as a function of gender, sport type, and competitive level. Drawing on prior studies, the current study hypothesized that social identification would be positively associated with alcohol use and negative drinking consequences (Hypothesis 1A), negative affectivity would be positively associated with alcohol use and negative drinking consequences (Hypothesis 1B), and exclusivity would be negatively associated with alcohol use and negative drinking consequences (Hypothesis 1C). In terms of whether these associations varied across athletes' characteristics, the current study hypothesized that social identification would be more positively associated with alcohol use and drinking consequences for men than women and for those involved in interacting sports than for in co-acting sports (Hypothesis 2A), negative affectivity would be more positively associated with alcohol use and drinking consequences for women than men, and for those involved in interacting sports than for in co-acting sports (Hypothesis 2B), and exclusivity would more be more negatively associated with alcohol use and drinking consequences for those involved in co-acting sports than interacting sports (Hypothesis 2C). Given the limited research, no specific hypotheses were advanced with respect to potential differences in the association between exclusivity and alcohol use across gender nor the moderating role of competitive level (i.e., division).

Methods

Participants

The present sample is a subset of participants from the myPlaybook (see Zamboanga et al., 2021), a cross-sectional study of Division I, II, and III athletes from 203 National College Athletic Association (NCAA) member institutionsFootnote1. Although the original dataset included 33,566 participants, the athletic identity measure was only administered to a quarter of the participants. The final sample for the present analysis was comprised of 8,550 university athletes (Mage = 19.70 years, SD = 1.33). In terms of gender, 50.8% (n = 4342) of participants identified as men and 48.9% (n = 4180) as women. Additionally, 0.2% (n = 18) preferred not to respond and 0.1% (n = 8) identified as transgender or non-binary. Given the low participant counts among these groups, the analysis on gender differences focused exclusively on male versus female.

In terms of ethnicity and race, the sample was primarily composed of non-Hispanic White (70.2%, n = 6001) followed by Black/African American (15.5%, n = 1326), Hispanic/Latinx (5.5%, n = 581), Asian/Asian American (3.1%, n = 262), and other (3.8%, n = 291). A small percentage of the sample (0.7%) did not disclose their ethnic/racial group membership. The sample was roughly equally split across Division I (30.6%, n = 2615), Division II (38.5%, n = 3290), and

Division III (30.9%, $n = 2645$) athletes. Finally, the majority of participants were involved in interactive sports (66.4%, $n = 5680$) as opposed to co-acting athletic sports (30.9%, $n = 2646$).

Procedure

This study received approval from the Institutional Review Board at University of North Carolina-Greensboro. Participants were recruited from myPlaybook, an online alcohol/drug prevention program, during the 2017-2018 academic year. University athletes were invited to complete a survey of their drinking attitudes and behaviors prior to participating in the program. If they opted out of taking the survey, they were still provided access to myPlaybook. Due to the extensive length of the survey, it was divided into three separate variants so that completion time would not pose a burden for university athletes. Schools participating in the study were randomly assigned to one of the three surveys. The current study focuses on one of these variants which was completed by roughly a quarter of the participants and was the only variant to include measures of athletic identity.

Measures

Athletic identity

Athletic identity was assessed using the Athletic Identity Measurement Scale (AIMS; Brewer et al., 1993). This scale consists of seven items, rated on a 7-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree), where higher scores indicate stronger athletic identity. The scale is comprised of three subscales measuring social identity (three items, $\alpha = 0.84$; sample item = "I consider myself an athlete"), exclusivity (two items, $\alpha = 0.88$; sample item = "Sport is the most important part of my life"), and negative affectivity (two items, $\alpha = 0.74$; sample item = "I feel bad about myself when I do poorly in sport"). As reported in supplemental material, preliminary analysis indicated measurement invariance across gender, sport type, and division.

Alcohol use

Alcohol use was assessed with a daily grid modeled after the Daily Drinking Questionnaire (DDQ; Collins et al., 1985), in which participants reported the number of drinks they typically consumed on each day of the week over the past 30 days. For the current study, the total consumption score of drinks consumed per week was calculated.

Negative drinking consequences

The Brief Young Adult Alcohol Consequences Questionnaire (B-YAACQ; Kahler et al., 2005) was utilized to assess negative consequences of alcohol use during the past month. Participants were prompted to respond "yes" or "no" to 24 items listing possible negative consequences (e.g., "I have taken foolish risks when I have been drinking"), where the higher number of yes responses indicated more severe consequences related to drinking ($\alpha = 0.89$).

Statistical Analyses

The analytic process proceeded in three parts. No additional steps or analyses were conducted beyond the ones detailed below. First, the present study conducted an exploratory analysis that examined whether there were significant differences in athletic identity dimensions across gender, sport type, and division. Second, hypotheses 1A-C were tested with a path model estimated in Mplus v8.0 with a robust maximum likelihood estimator (MLR) to determine the unique effects of athletic identity dimensions on alcohol use and drinking consequences. Age, gender, sport type, and division were controlled for in all models. Additionally, total drinks were controlled in the prediction of consequences in order to examine the extent to which dimensions of athletic identity contribute to alcohol consequences above and beyond their influence on consumption levels. A sandwich estimator was utilized (Kauermann & Carroll, 2001) to adjust the standard errors and account for nesting of participants within data collection sites. Missing data, which ranged between 6 and 9%, were handled with Full Information Maximum Likelihood (FIML). Given the non-normal distribution for both alcohol use (Skewness = 2.420, Kurtosis = 7.474) and drinking consequences (Skewness = 1.821, Kurtosis = 3.572), both outcomes were treated as count variables within a Poisson regression. Paths to the count indicators are interpreted as incidence rate ratios (IRR), which reflect the multiplicative increase in the expected frequency of occurrence with each one standard deviation increase in the predictor variable in question.

Third, hypotheses 2A–C were tested with multigroup path modeling to determine whether the relationship of athletic identity dimensions with alcohol use and drinking consequences varies across gender, sport type, and division. To determine whether the model fit equivalently across gender, sport type, and division, the unconstrained models (with all paths free to vary across groups) were compared to a constrained model (with each path constrained to be equal across groups) using the likelihood ratio test (LRT) to evaluate the null hypothesis of equivalent findings. This test provides only a chi-square difference and does not provide any other model fit indices.

Results

Part 1 (Exploratory): Differences Across Gender, Sport Type, and Division

As indicated in Table 1, the results indicated significant differences across gender for exclusivity [$t(7991) = 13.642$, $p < 0.001$, Cohen's $D = 0.305$]. Specifically, exclusivity was significantly higher among men compared to women. Regarding sport type, the results found significant differences for social identity [$t(4527.434) = -6.663$, $p < 0.001$, Cohen's $D = 0.164$], exclusivity [$t(4739.316) = -10.215$, $p < 0.001$, Cohen's $D = 0.249$] and negative affectivity [$t(4621.940) = -7.605$, $p < 0.001$, Cohen's $D = 0.186$] such that athletes in interactive sports scored significantly higher across all three athletic identity dimensions compared to those in co-acting sports. Similarly, with regards to division, there were significant differences for social identity [$F(2, 8024) = 11.442$, $p < 0.001$, $\eta^2 = 0.003$], exclusivity [$F(2, 8018) = 61.148$, $p < 0.001$, $\eta^2 = 0.015$] and negative affectivity [$F(2, 8016) = 21.249$, $p < 0.001$, $\eta^2 = 0.005$]. Specifically, the results indicated athletic identity dimensions were significantly higher among Division II athletes relative to Division I and Division III. Although there was no significant difference between Division I and III in terms of social identity and negative affectivity, Division I athletes did show significantly higher exclusivity compared to Division III.

Table 1. Mean Differences in Dimensions of Athletic Identity Across Demographic Variables

Grouping Variables	Social Identification	Exclusivity	Negative Affectivity
Gender			
Male	6.363 _a	5.016 _a	5.668 _a
Female	6.367 _a	4.493 _b	5.621 _a
Test Statistics	$t(7997) = -0.192, p = 0.848,$	$t(7991) = 13.642, p < 0.001$	$t(7989) = 1.529, p = 0.126$
Effect Size	Cohen's $D = 0.004$	Cohen's $D = 0.305$	Cohen's $D = 0.034$
Sport Type			
Co-Acting	6.259 _b	4.470 _b	5.472 _b
Interacting	6.425 _a	4.901 _a	5.731 _a
Test Statistics	$t(4527.434) = -6.663, p < 0.001$	$t(4739.316) = -10.215, p < 0.001$	$t(4621.940) = -7.605, p < 0.001$
Effect Size	Cohen's $D = 0.164$	Cohen's $D = 0.249$	Cohen's $D = 0.186$
Division			
Division I	6.344 _b	4.671 _b	5.573 _b
Division II	6.427 _a	5.010 _a	5.770 _a
Division III	6.302 _b	4.514 _c	5.555 _b
Test Statistics	$F(2, 8024) = 11.442, p < 0.001$	$F(2, 8018) = 61.148, p < 0.001$	$F(2, 8016) = 21.249, p < 0.001$
Effect Size	$\eta^2 = 0.003$	$\eta^2 = 0.015$	$\eta^2 = 0.005$
Sample	6.363	4.753	5.643

Means that do not share a subscript in common differ by at least $p < 0.050$

Part 2 (Hypotheses 1A-C): Athletic Identity Dimensions and Alcohol Use

Next, the current study sought to examine the unique effects of each of the three athletic identity dimensions on alcohol use and drinking consequences (while controlling for total drinks), controlling for age, gender, and division. As indicated in Table 2, exclusivity was negatively associated with both alcohol use ($IRR = 0.872, p < 0.001$) and drinking consequences ($IRR = 0.925, p = 0.002$). In contrast, negative affectivity was positively associated with both alcohol use ($IRR = 1.125, p < 0.001$) and drinking consequences ($IRR = 1.158, p < 0.001$). Finally, although social identity was positively associated with alcohol use ($IRR = 1.050, p = 0.027$), it was not significantly associated with negative drinking consequences ($IRR = 0.992, p = 0.690$).

Table 2. Path Estimates for Regression of Alcohol Use and Negative Drinking Consequences on Dimensions of Athletic Identity

Outcomes	Predictors	OR	p-value	95% C.I.
Alcohol Use	Social Identity	1.050	0.027	1.005–1.096
	Exclusivity	0.872	<0.001	0.822–0.925
	Negative Affectivity	1.125	<0.001	1.084–1.168
Consequences	Social Identity	0.992	0.690	0.956–1.030
	Exclusivity	0.925	0.002	0.881–0.971
	Negative Affectivity	1.158	<0.001	1.120–1.200
	Alcohol Use	1.057	<0.001	1.052–1.061

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Table 3. Model Fit and Comparison Across Gender, Sport Type, and Division

Demographic	$-2 * \log L$ (Parameters)	Scaling Factor	χ^2 (df)	p -value
Gender				
Unconstrained	137885.782 (23)	20.578		
Constrained	137940.188 (17)	25.294	7.541 (6)	0.273
Sport Type				
Unconstrained	134995.962 (23)	20.497		
Constrained	135036.658 (17)	25.306	5.924 (6)	0.432
Division				
Unconstrained	145427.718 (35)	48.869		
Constrained	145756.354 (23)	72.727	104.651 (12)	<0.001

Discussion

Previous research on athletic identity and its association with alcohol use has predominantly utilized a unidimensional concept of athletic identity (Grossbard et al., 2009a; Zhou & Heim, 2014), overlooking the possible range of athletic identity dimensions. Moreover, the association between athletic identity and alcohol use has not been explored across gender, sport type, and competitive levels. To address these gaps in the literature, the current study sought to examine the unique association between dimensions of athletic identity (i.e., social identification, exclusivity, and negative affectivity) and both alcohol use and negative drinking consequences across gender, sport type, and competitive levels. Consistent with the hypotheses, the findings indicated differential effects across dimensions of athletic identity. Although the data show mean differences across groups on the various dimensions of athletic identity, the associations between dimensions of athletic identity and both alcohol use and negative drinking consequences were invariant across gender and sport type. The effects of dimensions of athletic identity on alcohol use and negative drinking consequences, however, did vary, to some degree, across competitive level.

Unique Associations across Dimensions of Athletic Identity

The findings from the present study indicate unique effects across three dimensions of athletic identity. Specifically, and as hypothesized, social identification was found to be associated with a greater likelihood to engage in higher severity of alcohol use. As proposed by social identity theory (SIT; Tajfel & Turner, 1986) and identity role theory (Stryker & Serpe, 1982), an athletic identity

represents a cognitive schema that guides and organizes how an individual interprets and processes information related to one's perception of self (Grossbard et al., 2009a). As such, greater social identification, which represents the overall strength of identification with the athlete role (Brewer et al., 1993), may result in engagement in behaviors consistent with their group membership (Zhou & Heim, 2016). The fact that social identification was positively associated with alcohol use was not surprising given that previous research has highlighted the role that social norms play in alcohol use (Lee et al., 2007), particularly among university athletes (Dams-O'Conner et al., 2007). One possibility, not explored here but perhaps indicated for future research, is that social norms moderate the effect of athletic identity on drinking behavior. Specifically, those with both a strong athletic identity and perceptions that alcohol use is especially acceptable (injunctive norms) or common (descriptive norms) may be most at risk for heavy and/or problematic drinking. Moreover, prior studies have highlighted that alcohol use plays an important role within the culture of university athletics (O'Brien et al., 2010; Zhou et al., 2014). Consistent with identity role theory (Stryker & Serpe, 1982), future research is necessary to further conceptualize and potentially quantify the degree to which university student athletes define their athletic identity centered around alcohol use or other elements central to ones' athletic role (e.g., competitiveness, etc.). Research centered on drinking identity as a component of one's sense of self (see Meca et al., 2020) may further the understanding of the degree to which athletic social identification confers risk towards alcohol use among university student athletes.

At the same time, negative affectivity, which refers to the emotional response to failure (Brewer et al., 1993), not only predicted alcohol use more strongly than social identification but was also positively associated with negative drinking consequences. Prior studies have indicated that the fear of failure may serve as an additional stressor for university athletes (Gustafsson et al., 2017). Moreover, failure among student athletes may not only carry very real consequences as it relates to students' academic standing, but also may result in a loss of one's role identity as an athlete which may be particularly detrimental (Praharsa et al., 2017). Similarly, among university student athletes, qualitative research has identified themes centered around identity loss, negotiation, and isolation following injury as particularly detrimental to quality of life (Caron et al., 2013). Among university athletes, additional stress associated with fear of failure and/or the fear of losing ones' athletic identity may increase their risk for alcohol use as a means coping, which has been consistently associated with negative consequences (Cooper et al., 2016). Future research is necessary to not only disentangle the degree to which these findings are driven by the added stress associated with fear of failure and/or the fear of losing ones' athletic identity, but also to determine the degree to which alcohol coping motives mediate these associations between negative affectivity and alcohol use and negative drinking consequences.

Finally, and as hypothesized, exclusivity was negatively associated with both alcohol use and negative drinking consequences. As proposed by prior research, the association between athletic identity and alcohol use is contingent not only on the degree to which students identify as athletes, but also on how an athlete defines the athletic role identity (Zhou et al., 2015). For those athletes whose sense of self is exclusively rooted in their role as an athlete, alcohol use may be viewed as detrimental to athletic performance (cf. Zamboanga et al., 2012). As previously noted, future research is necessary to further conceptualize the degree to which university student athletes define their athletic identity centered around alcohol use, athletic competitiveness, or aspects central to ones' athletic role.

The findings from the current study not only build on recent research which has begun exploring the association between athletic identity and alcohol use (Grossbard et al., 2009a; Zhou

& Heim, 2014), but provides further evidence for the multidimensional nature of athletic identity. Indeed, there has been a growing focus within the identity literature to expand beyond unidimensional conceptualizations of identity to not only better understand its developmental trajectory, but also its association with mental health (see Vignoles et al., 2011). Arguably, and consistent with this broader identity literature, the same can be said about how we conceptualize athletic identity, explore its developmental trajectory, and examine the relations between athletic identity with alcohol use and related consequences.

Differences Across Gender, Team Sport, and Division

Given that prior studies have indicated differences in athletic identity and/or the association between athletic identity and alcohol use by gender (Grossbard et al., 2009b), sport type (Zhou et al., 2014), and competitive level (Huml, 2018), the current study sought to explore these differences across dimensions of athletic identity. Although prior studies have indicated unidimensional athletic identity is higher among men than women (Grossbard et al., 2009a; Zhou et al., 2015), the findings indicated differences in terms of exclusivity alone. Specifically, male athletes reported higher exclusivity, potentially precluding the development of other social roles (e.g., placing athletics over academic goals; Grossbard et al., 2009a). Given the fact that there are fewer professional sport opportunities for women compared to men (Gregg & Gregg, 2017), there may be less of a drive for women to establish an identity exclusively focused around one's athletic involvement.

Across the board, dimensions of athletic identity were higher among athletes in interacting versus co-acting sports. Although an athletic identity represents an identity rooted in one's role as an athlete, it also represents a group identity. As proposed by social identity theory (SIT; Tajfel & Turner, 1986), individuals construct and define their identities in terms of the social groups that they belong to. For those athletes in interacting sports, their membership on a team is likely to further facilitate social identification, exclusivity, and negative affectivity as their athletic identity is rooted in both their role as an athlete and membership on a team.

Surprisingly, and in contrast to prior research which found that athletic identity was higher among Division I and II than among Division III university athletes, the results indicated that all three of the dimensions of athletic identity were significantly higher among Division II compared to either Division I or III athletes (Huml, 2018). In a NCAA (2010) report, investigators found Division II athletes reported similar if not greater levels of time commitment to athletics than Division I university athletes. Despite the amount of time and effort, Division II athletes face limited professional sport opportunities compared to Division I athletes. As a result, it may require a certain type of highly committed athletes to engage in these demanding athletic activities. Over and above these differences across division, exclusivity was negatively associated with alcohol use among Division I but not among Division II and III university athletes. Given the competitive nature of Division I athletics, the pressure on performance may lead those athletes who place greater weight on their athletic identity at the expense of other social identities to be even more concerned about the negative impact alcohol use may have on fitness and performance. Future research is necessary to better understand differences in athletic identity across levels of competitiveness.

Limitations and Future Directions

Although the current study represents an important step in highlighting the importance for research to attend to the multidimensionality of athletic identity, there are several important limitations. First, there are shortfalls within current conceptualizations of athletic identity. Indeed, as highlighted within the broader identity literature, identity represents a multidimensional construct that includes content, or the significance and meaning of one's identity, as well as the process by which identities are formed and developed (Vignoles et al., 2011). Drawing on Eriksonian and developmental accounts of identity theory (for review, see Kroger & Marcia, 2011), future research should attend to the degree to which individuals have explored the meaning of their athletic identity and integrated it into their sense of self. Moreover, it is important to note that university athletes are not only tasked with establishing an athletic identity, but also with balancing their athletic identity alongside their student identity (Yukhymenko–Lescroart, 2014). The challenges of balancing the demands of the sports field coupled with the demands of the classroom may result in conflict that can facilitate heavy alcohol use. Second, because of the cross-sectional nature of the present study, it is not possible to evaluate change or detect trajectories of change in athletic identity or how it may coincide with alcohol use and negative consequences. Given that a limited number of university athletes continue to play professionally, examining the trajectories in athletic identity throughout the university years is particularly critical.

Conclusion

The utilization of a unidimensional conceptualization of athletic identity has limited our understanding of the link between athletic identity and alcohol use. Addressing this limitation, this study has shown that dimensions of athletic identity are uniquely associated with severity of alcohol use and negative drinking consequences. Increased social identification and negative affectivity were associated with higher reported levels of alcohol use, whereas higher exclusivity was associated with lower reported levels of alcohol use. Moreover, increased negative affectivity was associated with higher reported levels of negative drinking consequences while higher exclusivity was associated with lower reported levels of negative drinking consequences. These findings highlight the multidimensional nature of athletic identity and point to potentially important precursors to alcohol use among college student athletes. Moreover, the current study was the first to take a multidimensional approach to athletic identity and examine its relation to alcohol use across gender, sport type, and competitive level. While gender and sport type did not alter the effect of athletic identity dimensions on alcohol outcomes, there were significant differences across division, such that exclusivity was associated with lower severity of alcohol use for Division I but not II and III athletes. In sum, athletic identity may play a particularly critical role among Division II college athletes in their risk for heavier drinking and negative drinking consequences. Hopefully, the findings from this study will not only assist in furthering our understanding of the influences on alcohol use among college athletes, but provide important directions for our conceptualization of athletic identity itself and how dimensions of athletic identity uniquely function across different athlete attributes.

Notes

¹ The National College Athletic Association (NCAA) is a nonprofit organization that oversees over 1,000 North American intercollegiate athletics.

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AM conducted the data analyses and spearheaded paper preparation; KA assisted in data analysis and paper preparation; RIK assisted in data analysis and paper preparation; JO participated in paper preparation; JEM participated in paper preparation; BLZ conceptualized the larger study, spearheaded the development of the project surveys, and participated in paper preparation; KC participated in paper preparation; DW served as co-principal investigator, oversaw the implementation of the study and participated in paper preparation; and JJM served as co-principal investigator, oversaw the implementation of the study, and participated in manuscript preparation. All authors read and approved the final paper.

Data Sharing Declaration

The data underlying this article can be shared upon reasonable request to the corresponding author but will be contingent upon approval from the principal investigator's institutional ethics review board.

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Ethics declarations

Conflict of Interest

Meca, Martin, Olthuis, and Zamboanga serve as Research Affiliates for the Institute to Promote Athlete Health and Wellness (IPAHW; Directed by David L. Wyrick) at the University of North Carolina-Greensboro (UNCG). They also serve as co-investigators for this study, the College Athlete Risky Drinking Study (CARDS), and received an honorarium from the IPAHW at the UNCG for their assistance with the study design and project implementation of CARDS.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

Additional information

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