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Ethnic Differences in Drinking Motives and Alcohol Use Among College Athletes

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Abstract

This study examined drinking motives, alcohol use, and alcohol-related problems among White collegiate athletes and collegiate athletes of color (N = 113). Results indicated no differences in drinking motives between the two groups. Although White athletes reported higher levels of alcohol use, athletes of color reported higher levels of alcohol-related problems. Athletes of color with high levels of coping and conformity motives reported the highest level of alcohol-related problems.

Keywords: alcohol; athletes; drinking motives

Drinking represents a significant problem on college campuses in the United States. National survey data indicate 80-85% of U.S. college students report drinking (O'Malley & Johnston, 2002) and 40-45% reported a heavy drinking episode at least once in the two weeks prior to the survey (Wechsler et al., 2002). Heavy drinking is associated with multiple social problems such as arguing with friends, unplanned sexual activity, drinking and driving, getting into trouble with the law, and academic difficulties (Hingson, Heeren, Winter, & Wechsler, 2005). Additionally, severe consequences such as unintended injuries, sexual abuse, assault, and alcohol-related fatalities have been reported (Hingson, Edwards, Heeren, & Rosenbloom, 2009).

Relative to the general college population, student athletes have been identified as a high-risk group for heavy drinking (Martens, Dams-O'Connor, & Beck, 2006; Turrisi, Mallett, Mastroleo, & Larimer, 2006). Research indicates students participating in athletic activity, including varsity, intramural, and club sports, typically drink more heavily and frequently than non-athletes (Doumas, Turrisi, Coll, & Haralson, 2007). Drinking is particularly problematic for student athletes as alcohol use may result in physical and cognitive performance deficits related to athletic performance (Grossbard, Hummer, LaBrie, Pederson, & Neighbors, 2009). Alcohol use is also associated with academic and social problems which may result in poor athletic performance, or in some cases, suspension or removal from the team. Thus, understanding factors that contribute to drinking among athletes and identifying which athletes are most vulnerable to these factors are important components in decreasing alcohol use and associated outcomes, thus enhancing academic, emotional, and physical performance among this group.

Several socially focused explanations have been offered to account for the heavy alcohol use in student athletes (see Martens, Dams-O'Connor, & Beck, 2006). Student athletes are faced with the stress of multiple role demands and expectations of parents and coaches with regard to athletic performance and winning (Evans, Weinberg, & Jackson, 1992). Evidence also suggests student athletes tend to be isolated from the general student body (Sedlacek & Adams-Gaston, 1992). This isolation from the larger campus may contribute to the need for the student athletes to assimilate into the athletic culture. Identification with the athletic peer group leaves student athletes particularly vulnerable to heavy drinking as student athletes believe their peers drink more than they do (Doumas & Haustveit, 2008; Doumas,

Haustveit, & Coll, 2010) and perceived peer alcohol use is the best predictor of alcohol use among student athletes (Hummer, LaBrie, & Lac, 2009). Although these explanations provide some insight into social influences on drinking patterns of student athletes, a gap still remains in identifying which student athletes may be most vulnerable to these social variables and if there are differences between White student athletes and student athletes of color.

A growing body of research has identified drinking motives as an important individual predictor of heavy drinking and alcohol-related problems. Drinking motives represent reasons to drink, or the function of alcohol use, and have been conceptualized across two underlying dimensions: positively or negatively reinforcing motives and internal or external motives (Cox & Klinger, 1988). This model generates four drinking motives: positively reinforcing internal motives (drinking to enhance positive mood states), positively reinforcing external motives (drinking to increase pleasure in social situations), negatively reinforcing internal motives (drinking to regulate negative mood states), and negatively reinforcing external motives (drinking to avoid rejection of peers). These motivations are often measured using the Drinking Motives Questionnaire – Revised (DMQ-R; Cooper, 1994) which measures four drinking motives that correspond to the above model: enhancement, social, coping, and conformity. In general, drinking motives associated with internally generated motives like experiencing an increase in pleasant feelings when using alcohol (e.g., enhancement motives) or a decrease in unpleasant feelings (e.g., coping motives) have stronger relationships with alcohol use and alcohol-related outcomes than externally generated motives like drinking to enjoy a party (e.g. social motives) or drinking to fit in with the expectations of others (e.g. conformity motives) (Martens, Pedersen, Smith, Stewart, & O'Brien, 2011).

Reviews of the literature indicate adolescents and young adults are most likely to drink for social or enhancement reasons (Kuntsche, Knibbe, Gmel, & Engel, 2005; Kuntsche, Knibbe, Gmel, & Engel, 2006), whereas enhancement and coping motives are generally related to heavy drinking and negative drinking outcomes (Kuntsche, Knibbe, Gmel, & Engels, 2005). Similarly, recent research conducted specifically with first year college students indicates enhancement motives are associated with heavy drinking (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007) and coping motives are associated with alcohol-related problems (Martens, Neighbors, Lewis, Lee, Oster-Aaland, et al., 2008; Neighbors et al., 2007). Researchers focusing exclusively on collegiate athletes indicate athletes also endorse social and enhancement motives as their primary reasons for drinking (Evans et al., 1992), and both enhancement and coping motives are related to alcohol use and alcohol-related problems (Martens, Cox, & Beck, 2003; Martens, Cox, Beck, & Heppner, 2003). Thus, similar to first year college students, drinking motives associated with internally generated motives (e.g. enhancement and coping motives) are related to alcohol use and alcohol-related problems in collegiate athletes.

Ethnic differences in alcohol use, alcohol-related problems, and drinking motives have also been examined among college students. National survey data show White students report the highest prevalence of heavy drinking in college, followed by Hispanic and Black students, respectively (O'Malley & Johnston, 2002). Interestingly, in a study comparing White students and students of color, White students reported more alcohol consumption whereas students of color reported more alcohol-related problems (Taylor, Johnson, Voas, & Turrisi, 2006). This disparity between drinking behavior and alcohol-related problems suggests that factors other than alcohol consumption alone are involved in experiencing negative outcomes associated with drinking for students of color. Research also indicates students of color report higher levels of conformity motives than White students (Martens, Rocha, Martin, & Serrao, 2008).

Although research examining motivational drinking models has added to our understanding of alcohol use and alcohol-related problems among college students and athletes, several gaps in the literature remain. Because research indicates student athletes are a high-risk group for heavy drinking (Martens, Dams-O'Connor, & Beck, 2006; Turrisi et al., 2006), it is important to understand which student athletes are at the greatest risk and what factors contribute to that risk. Research indicates college students of color report higher levels of alcohol-related consequences than White students (Taylor et al., 2006). It is not clear, however, if these ethnic differences are similar for student athletes. Additionally, to date, there are no studies examining differences in drinking motives between White collegiate athletes and collegiate athletes of color. Identifying drinking motives associated with heavy alcohol use and the associated problems for subgroups of athletes has the potential to provide guidance for prevention and intervention efforts for student athletes who are at the highest risk for drinking and alcohol-related problems. In addition, the relationships between drinking motives and alcohol use and alcohol-related problems have not been examined specifically among first year student athletes. Examining these relationships among first year athletes is particularly important as first year students have been identified as a high-risk population for heavy drinking (National Institute on Alcohol Abuse

and Alcoholism, 2002) and the transition to the first year may be particularly difficult for student athletes (Giacobbi, Wetherington, Jenkins, Bodendorf, & Langley, 2004).

Thus, the aim of the current study is to extend the literature by examining differences between first year White collegiate athletes and collegiate athletes of color in 1) drinking motives, alcohol use, and alcohol-related problems, 2) the relationship of drinking motives to alcohol use, and 3) the relationship of drinking motives to alcohol-related problems. To address these aims, three primary research questions were examined. First, are there differences in drinking motives, alcohol use, and alcohol-related problems between White athletes and athletes of color? Second, are there differences in the relationship between drinking motives and alcohol use between White athletes and athletes of color? And third, are there differences in the relationship between drinking motives and alcohol-related problems between White athletes and athletes of color?

Method

Participants

Participants were first year undergraduate students at a National Collegiate Athletic Association (NCAA) Division I university in the northwest. First year student athletes (N = 165) were invited to complete a web-based survey as part of a first year seminar. Based on this survey, 70% of the student athletes endorsed drinking at least one drink in the past three months and were included in this study. Of these 115 participants, two did not report their race or ethnicity. For this final sample of 113 (52% female; 48% male), participant ages ranged from 18-20 (M = 18.1, SD = 0.62). Participants were primarily White (65%), with 20% African-American, 5% Hispanic, 3% Asian, and 7% other. For sport played, 29.2% reported football (n = 33), 18.6% track (n = 21), 10.6% gymnastics (n = 12), 9.7% swimming/diving (n = 11), 8.8% soccer (n =10), 7.1% basketball (n = 8), 5.3% tennis (n = 6), 4.4% golf (n = 5), 2.7% softball (n = 3), 2.7% wrestling (n = 3), and 1.0% volleyball (n = 1).

Procedures

First year student athletes were recruited from a fall first year seminar offered by the Athletic Department. The first year seminar was designed to assist first year student athletes with the transition to college and acclimation to the university campus. The course addressed the following areas: academic excellence, athletic leadership, personal development, career development, and involvement in the community. First year seminar instructors administered web-based questionnaires during class time within the personal development module during the second week of the fall semester. All participants were treated according to established ACA ethical standards and the University Institutional Review Board approved the research.

Instruments

Drinking motives. Drinking motives were assessed using the DMQ-R (Cooper, 1994). The DMQ-R is a 20-itme measure which includes four 5-item subscales (social, enhancement, coping, and conformity). Participants are asked "Thinking of all the times you drink, how often would you say that you drink for each of the following reasons?" Items are rated on a 5-point scale ranging from 1 (*almost never/never*) to 5 (*almost always/always*). Items for each subscale are summed. Coefficient alphas for the subscales for this sample were excellent, ranging from α = .90 to α = .95. The DMQ-R is a frequently used measure of drinking motives among college students and has been used in several studies with student athletes (e. g. Martens, Cox, & Beck, 2003; Martens, Cox, Beck, & Heppner, 2003; Martens et al, 2011).

Alcohol consumption. Typical weekly drinking was assessed using a version of the Daily Drinking Questionnaire (DDQ, Collins, Parks, & Marlatt, 1985) in which participants were asked, "Given that it is a typical week, please write the number of drinks you probably would have each day." A drink was defined as "a 12-ounce can or bottle of beer, a 4-ounce glass of wine, or a shot of distilled spirits in a mixed drink". A response scale is provided for each day of the week (e.g., Monday__, Tuesday__, etc.). Weekly drinking was calculated by combining the reports for the seven days of the week. The DDQ is an extensively used measure of college student alcohol use and has been used in several studies with student (e.g. Doumas & Haustveit, 2008; Doumas et al., 2010; Martens et al. 2011; Turrisi et al., 2009).

Alcohol-related problems. Alcohol-related problems were assessed using the Rutgers Alcohol Problem Index (RAPI, White & Labouvie, 1989). The RAPI is a 23-item self-administered screening tool for assessing adolescent problem drinking. Participants were asked "how many times have the following scenarios happened to you while you were consuming alcohol or as a result of your drinking in the past 30 days." The RAPI assesses both traditional problems (e.g., tolerance, withdrawal symptoms, physical dependency) and problems presumed to occur at higher rates in a college student population (e.g., missing school, not doing homework, going to school drunk). The RAPI has good internal consistency (Neal & Carey, 2004) and test-retest reliability (Miller et al., 2002) and has been correlated significantly with several drinking variables (White & Labouvie, 1989). Coefficient alpha for this sample was excellent ($\alpha = .94$). The RAPI is a widely used measure of alcohol-related problems among college students and has been used in several studies with student athletes (e. g. Doumas & Haustveit, 2008; Doumas et al., 2010; Doumas, Turrisi, & Wright, 2006; Turrisi et al., 2009).

Results

Preliminary Analyses

Data were examined for extreme cases that might impact the results of the analyses. Outliers were defined as those that were more than 3.3 standard deviations from the mean on any of the measures at baseline. Rather than eliminating outliers from the analyses, outliers at each time point were adjusted to 3.3 standard deviations above the mean (Tabachnik & Fidell, 2001). Outliers were adjusted for weekly drinking and alcohol-related problems.

Ethnic Differences in Drinking Motives, Alcohol Use, Alcohol-Related Problems

Means and standard deviations for drinking motives, alcohol use and alcohol-related problems for White athletes and athletes of color are presented in Table 1. As seen in Table 1, social motives and enhancement motives were the highest endorsed motives for both White athletes and athletes of color. Independent sample t-tests were conducted to examine differences in drinking motives, alcohol use and alcohol-related problems. Results indicated there were no differences between White athletes and athletes of color on any of the drinking motives. Although not significant, there was a trend for alcohol use, with athletes of color reporting lower levels of alcohol use than White athletes, M = 5.57 and M = 4.08, respectively, $t(113) = -1.09$, $p = .28$, Cohen's $d = .23$. In contrast, athletes of color reported significantly higher levels of alcohol-related problems than White athletes, $M = 5.28$ and $M = 2.45$, respectively, $t(113) = 2.57$, $p < .01$, Cohen's $d = .46$. Overall, 67.4% of participants reported drinking at least one alcohol-related problem in the past month, with 70% of athletes of color reporting at least one problem compared to 50% of White athletes.

Ethnic Differences in the Relationship of Drinking Motives to Alcohol Use and Alcohol-Related Problems

Bivariate correlations. Bivariate correlations among drinking motives, alcohol use and alcohol-related problems are presented in Table 1. Alcohol use and alcohol-related problems were significantly associated among White athletes ($r = .23$, $p < .05$) but there was no association between alcohol use and alcohol-related problems in athletes of color ($r = .05$, $p > .05$.).

Alcohol use. A hierarchical regression analysis was conducted to examine the relationship of drinking motives to alcohol use. All data were centered to reduce problems of multicolinearity introduced into equations containing interaction terms (Aiken & West, 1991). Ethnicity and the four drinking motives were entered simultaneously on Step 1. The four group status x drinking motive interaction terms were entered simultaneously on Step 2. The interaction terms were entered because we were interested in examining differences in the relationship between drinking variables and drinking motives for White athletes and athletes of color. Because main effects are superseded by interaction effects, the interaction terms were examined first for statistical significance. Main effects were then examined only if no interaction terms were significant for a particular predictor.

Results of the regression analysis are shown in Table 2. The overall model was statistically significant, $R^2 = .28$, $p < .001$. Examination of the interaction terms indicated no significant interaction effects between group status and drinking motives. Because there were no significant interaction effects, main effects were examined. On Step 1 of the model, the main effects for enhancement motives and coping motives were significant (see Table 2), indicating enhancement motives and coping motives were positively related to alcohol use for both White athletes and athletes of color. No other significant main effects were observed in the analyses.

Alcohol-related problems. A hierarchical regression analysis was conducted to examine the relationship of drinking motives to alcohol-related problems. Again, all data were centered to reduce problems of multicolinearity. Alcohol use was entered on Step 1 as a control variable in order to examine the predictive power of drinking motives on alcohol-related problems independently of alcohol use. Ethnicity and the four drinking motives were entered simultaneously on Step 2. The four group status x drinking motive interaction terms were entered simultaneously on Step 3. Again, because main effects are superseded by interaction effects, the interaction terms were examined first for statistical significance. Main effects were then examined only if no interaction terms were significant for a particular predictor.

Results of the regression analysis are shown in Table 3. The overall model was statistically significant, $R^2 = .36$, $p < .001$. Examination of the interaction terms indicated the interaction between group status and drinking to conform was significant. To examine the nature of the interaction between ethnicity and drinking to conform, we plotted the interactions using Aiken and West's (1991) procedures. For athletes of color, high levels of conformity motives were associated with high levels of alcohol-related problems, whereas for White athletes, conformity motives were not associated with alcohol-related problems. Because this was the only significant interaction effect, main effects were examined for the other three drinking motives. On Step 2 of the model, the main effect for coping motives was significant (see Table 3), indicated coping motives were positively related to alcohol-related problems for both White athletes and athletes of color. Additionally, the main effect for group status was significant, indicating athletes of color reported higher levels of alcohol-related problems than White athletes. No other significant main effects or interaction effects were observed.

Because both coping and conformity motives were predictive of alcohol-related problems for athletes of color, we were interested in examining whether or not the interaction of these two drinking motives would be related to higher levels of alcohol-related problems. To examine this question, we re-ran the above regression analysis with the three-way interaction of group status x coping motives x conformity motives on Step 4. The overall model was statistically significant, $R^2 = .39$, $p < .001$. As seen in Table 3, the three-way interaction term was significant. The highest levels of alcohol-related problems were reported by athletes of color with high levels of both coping and conformity motives.

Discussion

Student athletes have been identified as a high-risk group for heavy drinking on college campuses (Martens, Dams O'Connor, & Beck, 2006; Turrisi et al., 2006). Because alcohol use is associated with multiple problems that may impact athletic performance and eligibility, it is important to understand factors that may contribute to alcohol use and alcohol-related problems in this group of students. Further, because the transition to college may be particularly difficult for student athletes (Giacobbi et al., 2004), examining motivational drinking models in first year student athletes is particularly important. Although drinking motives have been studied in collegiate athletes and in White college students and college students of color, to date, this is the first study to examine differences in the relationship of drinking motives to alcohol use and alcohol-related problems between White collegiate athletes and collegiate athletes of color. Thus, this study extends the literature by examining ethnic differences in these relationships.

Results of this study indicated athletes of color reported significantly higher levels of alcohol-related problems than White athletes. In contrast, there was a non-significant trend for athletes of color to report lower levels of alcohol use than White athletes. Additionally, alcohol use and alcohol-related problems were significantly associated among White athletes, whereas there was no association between alcohol use and alcohol-related problems in athletes of color. These findings are consistent with research indicating students of color report more alcohol-related problems even though White students report higher levels of alcohol consumption (Taylor et al., 2006) and suggest that factors other than alcohol use are related to experiencing negative outcomes for student athletes of color. Identifying these factors represents an important area for further investigation.

Results of this study indicate both White student athletes and student athletes of color endorse social and enhancement motives as primary reasons for drinking, suggesting both groups drink to increase positive mood states and social pleasure. This finding is consistent with prior research indicating social and enhancement motives are the most highly endorsed drinking motives for adolescents (Kuntsche, Knibbe, Gmel, & Engels, 2006), young adults (Kuntsche et al., 2005), and student athletes (Evans et al., 1992; Martens, Cox, Beck, & Heppner, 2003). Results of this study also indicated alcohol use was predicted by enhancement and coping motives, whereas alcohol-related problems were predicted by coping motives for both White athletes and athletes of color. Consistent with evidence from studies

examining drinking motives in young adults (see Kuntsche et al., 2005), college students (Martens, Neighbors, et al., 2008; Neighbors et al., 2007), and in collegiate athletes (Martens, Cox, & Beck, 2003; Martens, Cox, Beck, & Heppner, 2003; Martens et al., 2011), these findings suggests drinking motives associated with internally generated motives (e.g. increasing positive emotional states and/or decreasing negative emotional states) have stronger relationships with alcohol use and alcohol-related problems than externally generated motives (e.g. drinking to be social or to fit in).

Results also indicated the relationship between conformity motives and alcohol-related problems is different for White athletes and athletes of color. Specifically, for athletes of color, high levels of conformity motives were predictive of alcohol-related problems, whereas, for White athletes, there was no relationship between conformity motives and alcohol-related problems. Thus, athletes of color differ from White athletes in that athletes of color who drink to fit in are likely to experience negative drinking-related outcomes. This finding is particularly interesting in light of research that indicates students of color report higher levels of conformity motives than White students, although there is no difference in the relationship between conformity motives and alcohol-related problems between White students and students of color (Martens, Rocha, et al. 2008). Therefore, the relationship between conformity motives and alcohol-related problems appears to be specific to athletes of color. That is, although research indicates both White athletes and athletes of color endorse conformity motives, conformity motives are predictive of alcohol-related problems for athletes of color only, suggesting drinking to fit in with peers is a risk-factor for negative alcohol-related outcomes for this particular group of students of color.

Although results indicate an association between conformity motives and alcohol-related problems for athletes of color, it is not clear how these motives and negative outcomes are related. Because conformity motives were not related to alcohol use, and alcohol use was not related to alcohol-related problems, the mechanism by which conformity motives are related to alcohol-related problems is unclear. One explanation is that these student athletes engage in behavior while drinking that serves the function of decreasing negative social experiences and these behaviors lead to negative outcomes. For example, an athlete may engage in a dangerous activity to "fit it" during a party even if that student did not engage in heavy drinking. Directions for future research, therefore, include examining the context of drinking associated with negative outcomes for athletes of color with high conformity motives, particularly as conformity motives are not associated with alcohol-related problems in non-athletes of color. From a contextual perspective, it also seems important to investigate whether institutional variables related to campus climate play a role in higher conformity scores for athletes of color.

Additionally, there was a significant interaction between group status, coping motives and conformity motives indicating that athletes of color with high coping and high conformity motives reported the highest levels of alcohol-related problems among all student athletes. That is, athletes of color who drink to manage negative emotional states and to fit in with their peers reported the highest levels of alcohol-related problems. Research indicates first year athletes with high levels of attachment avoidance are a high-risk group for alcohol-related problems (Doumas et al., 2006), suggesting student athletes who experience interpersonal discomfort may drink to cope with emotional distress and to gain peer approval within the athletic culture. Because first year student athletes are at risk for heavy drinking as they assimilate into the athletic culture, experiencing stress from multiple role demands and exposure to heavy drinking within this peer group, athletes who drink to manage negative emotional states and to fit in with their peers may be particularly vulnerable to these social influences and to negative outcomes associated with drinking.

Limitations and Directions for Future Research

While this study contributes significantly to our understanding of student athlete drinking motives, alcohol use and alcohol-related problems, certain limitations should be considered. First, the participants in this study were recruited from a predominantly White university in the Northwest, thus limiting the generalizabilty of the results. Additionally, results of this study need to be interpreted within the context of the university ethnic make-up. Specifically, athletes of color may have a greater need to fit in with their peer in the context of being at a predominantly White university than they would at a university with a more diverse student body. Future research with athletes at more ethnically diverse universities is recommended to replicate the results. Next, information in this study was obtained through self-report. Although self-report potentially leads to biased or distorted reporting, results of a recent meta-analysis indicate the reliability of self-reported drinking in college students is good, with little bias reported between participant and collateral reports (Borsari & Muellerleile, 2009). Finally, research indicates there are differences in athlete drinking patterns during the in-season and off-season, (Martens, Dams-O'Connor, & Duffy-Paiement, 2006; NCAA,

2001; Thombs, 2000) and across sports (Martens, Watson, & Beck, 2006; NCAA, 2001). Future studies with larger samples should examine whether or not there are differences in drinking motives or the relationship between drinking motives and alcohol use and alcohol-related problems in-season and off-season and for White athletes and athletes of color participating in different sports.

Implications for College and University Counseling

Results of this study have important implications for intervention efforts aimed at reducing drinking for first year intercollegiate athletes. First, 70% of this sample reported alcohol use and 67.4% reported experiencing at least one alcohol-related problem, indicating more than two thirds of the student athletes in this sample reported drinking at least once in the past three months and experiencing at least one alcohol-related problem in the past month. These statistics suggest that counselors need to be aware that alcohol use is prevalent among student athletes and should be assessed routinely.

This study also indicates 70% of athletes of color reported experiencing at least one alcohol-related problem in the past month relative to 50% of White athletes, despite similar levels of drinking. Additionally, alcohol use was not related to alcohol-related problems in athletes of color, suggesting factors other than heavy drinking contribute to negative outcomes for this group of students. Therefore, interventions for athletes of color experiencing alcohol-related problems need to go beyond interventions targeting drinking reduction. Exploring the context of alcohol-related problems may help the counselor identify factors other than alcohol use that contribute to negative outcomes so that interventions can be designed to target these areas in addition to alcohol use. Additionally, from a campus climate perspective it is important to also implement interventions at an institutional level that improve the experiences of students of color on college campuses (Rankin & Reason, 2005; Reid & Radhakrishnan, 2003).

Findings from this study suggest assessing drinking motives may help identify student athletes who are at risk for high levels of drinking and the alcohol-related problems. Counselors working with student athletes could include screening measures for drinking motives as part of their routine assessment procedures to help identify student athletes who are at risk. Interventions providing information regarding the diminishing positive effect of alcohol with increased consumption on mood may be particularly useful in targeting heavy drinking for athletes with enhancement motives. A different strategy, however, may be needed for athletes of color with high coping and high conformity motives who are at the highest risk for alcohol-related problems during their first year in college. These athletes may benefit from prevention and intervention approaches that provide mood management strategies and alternatives to drinking to cope with discomfort with others and the management of social situations. Specifically, cognitive-behavioral strategies including coping skills, mood management, and social skills training may be useful.

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Table 1

Means, Standard Deviations, and Bivariate Correlations for Drinking, Alcohol-Related Problems and Drinking Motives by Ethnic Group

Variable	*M (SD)*	*1*	2	3	4	5	6
White Athletes (n = 75)							
Social Motives	14.51 (5.59)	__					
Enhancement Motives	11.91 (5.56)	.60**	__				
Coping Motives	8.47 (4.55)	.45**	.61**	__			
Conformity Motives	6.49 (2.93)	.44**	.24*	.51**	__		
Weekly Drinking	5.57 (8.02)	.34**	.48**	.16	.05	__	
Problems	2.45 (3.94)	.44**	.46**	.39**	.09	.23*	__
Athletes of Color (n = 38)							
Social Motives	14.87 (6.03)	__					
Enhancement Motives	12.46 (6.29)	.77**	__				
Coping Motives	9.26 (5.42)	.52**	.65**	__			
Conformity Motives	6.72 (3.46)	.26	.08	.26	__		
Weekly Drinking	4.08 (4.62)	.33*	.42*	.02	-.17	__	
Problems	5.28 (7.83)	.24	.29	.52**	.35*	.05	__

* $p < .05$, ** $p < .01$.

Table 2

Summary of Hierarchical Regression Analysis for Alcohol Use

Variable	$R^2\Delta$	$F\Delta$	β	t	95% CI
Step 1	.26	7.52***			
Group Status			0.10	1.21	[-.48, 1.96]
Social Motives			0.09	0.77	[-.18, .40]
Enhancement Motives			0.56	4.28***	[.36, .99]
Coping Motives			-0.27	-2.31*	[-.72, .05]
Conformity Motives			- 0.03	-0.35	[-.51, .36]
Step 2	.03	0.94			
Group Status x Social Motives			0.04	0.31	[-.28, .39]
Group Status x Enhancement Motives			0.15	0.97	[-.18, .53]
Group Status x Coping Motives			-0.03	-0.20	[-.36, .31]
Group Status x Conformity Motives			0.03	0.27	[-.38, .50]

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3

Summary of Hierarchical Regression Analysis for Alcohol-Related Problems

Variable	$R^2\Delta$	$F\Delta$	β	t	95% CI
Step 1	.01	1.34			
Alcohol Use			0.11	1.16	[-.06, .24]
Step 2	.25	7.25***			
Group Status			-0.21	-2.56**	[-2.30, -.29]
Social Motives			0.08	0.70	[-.15, .32]
Enhancement Motives			0.06	0.34	[-.23, .33]
Coping Motives			0.34	2.84**	[.12, .68]
Conformity Motives			0.05	0.47	[-.27, .44]
Step 3	.09	3.76**			
Group Status x Social Motives			0.19	1.37	[-.08, .43]
Group Status x Enhancement Motives			0.04	0.27	[-.24, .31]
Group Status x Coping Motives			-0.23	-1.88	[-.52, .01]
Group Status x Conformity Motives			-0.23	-2.45*	[-.77, -.08]
Step 4	.03	4.94*			
Group Status x Conformity x Coping			-0.22*	-2.22*	[-.13, -.01]

* $p < .05$, ** $p < .01$, *** $p < .001$.