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ARTICLE

The Impact of Alcohol Sponsorship in Sport Upon University Sportspeople

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An online survey was conducted to examine the alleged association between alcohol sponsorship of sports and alcohol consumption and attitudes toward sponsoring brands by Australian university sportspeople (i.e., university students representing their university in competitive sports; $N = 501$; 51% female). A third (33%) of participants reported receipt of alcohol industry sponsorship. Multiple regression analysis revealed an association between disordered consumption (i.e., alcohol abuse) and sportspeople's receiving direct-to-user sponsorship in the form of product samples, volume club rebates, vouchers, or prizes. Positive attitudes toward alcohol sponsorship in sport correlated with dangerously excessive (i.e., acute) drinking. The evidence suggests that policy makers, sporting organizations, and universities should target specific sponsorships and consumption outcomes rather than considering an overall ban on alcohol industry sponsorship in sport. Results suggest that student-targeted policy and governance alternatives directed at team culture, attitudes toward alcohol, and more subtle forms of sponsorships (i.e., discounted product and vouchers) may be appropriate.

Keywords: sport sponsorship, public policy, athlete perceptions, consumption

Alcohol has been named the most abused drug in U.S. collegiate sport by the National Collegiate Athletic Association and in professional and Olympic sports by the National Basketball Association, the National Football League, and the United States Olympic Committee (Glassman et al., 2010). Despite some sporting organizations invoking antidrug policies and enforcement, studies have found that sportspeople are more likely than their nonathletic peers to engage in binge drinking (i.e., six or more standard drinks per sitting; e.g., Baer, 2002). Much research has examined the influence of alcohol industry advertising upon young drinkers and spectators (e.g., for review, see Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009), but there has been a comparative lack of research attention directed toward understanding the impacts upon sportspeople, defined as people participating in sports. This is surprising, given the level of media exposure afforded to professional sportspeople, the rising phenomenon of off-the-field "scandalous" behavior (which is often alcohol related), and the acknowledged importance of sportspeople as community role models (Bush, Martin, & Bush, 2004). Moreover, it is important to investigate the impact of alcohol sponsorship upon sportspeople from a policy perspective concerned with promoting participation in sports (Payne, Reynolds, Brown, & Flemming, 2003).

Collegiate alcohol abuse and related incidents are increasing and have resulted in fatalities, serious health consequences, sexual assaults, and adverse impacts on enrollments and study (Glassman et al., 2010). In Australia, the federal government has launched a national campaign targeting sports-related binge drinking among young people and has partnered with Australian University Sports, among other sporting organizations, to address binge drinking by college participants at the annual University Games (Australian Department of Health and Ageing, Population Health Strategy Unit, Preventative Health Taskforce, 2009). This research therefore examines Australian collegiate alcohol consumption and its relationship to alcohol sponsorship of collegiate sports, given the growing worldwide concern around this issue.

Although some evidence suggests an association between alcohol advertising and consumption (Anderson, de Bruijn, et al., 2009; Babor et al., 2003; Collins, Ellick-

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son, McCaffrey, & Hambarsoomians, 2007; Gordon, MacKintosh, & Moodie, 2010; Grube, 1995), relatively limited research attention has been directed toward the specific impact of alcohol sponsorship in sport. Although sponsorship and advertising are often adopted as complementary marketing communications vehicles, they can be differentiated in terms of their objectives, the way that they are processed, and the degree of regulation applied to them (Cornwall, 2008). Sponsorship investment in sports is significant with global sponsorship investment in sports, excluding related advertising, estimated to be US$53.3 billion annually (International Events Group, 2013).

It is undisputed that excessive alcohol consumption is a major social and health problem (e.g., Rehm et al., 2009), which has motivated global policy concern over the role of alcohol marketing in consumption. Reduction of alcohol advertising, along with alcohol pricing and outlet density policies appears to be an effective way to reduce alcohol consumption and harm (Anderson, Chisholm, & Fuhr, 2009; Casswell & Thamarangsi, 2009). The vulnerability of young people to alcohol advertising has been emphasized by the World Health Organization (2011) policy that identifies as crucial issues both the content of alcohol marketing and the amount of exposure of young people to that marketing. Since this strategy was formulated, evidence continues to accrue showing that young peoples' total consumption of alcohol, and not just their brand preferences, is influenced by sponsorship, the media, and social media (Chick, 2012; Gordon et al., 2010). Recent moves to ban or limit alcohol sponsorship of sporting events by the Australian Department of Health and Ageing, Population Health Strategy Unit, Preventative Health Taskforce (2009) and the United Kingdom House of Commons Health Committee (2009) have sparked extensive community debate, given entrenched alcohol industry investment in universally popular sporting events, sports, and clubs. The Australian government has recently implemented a community sponsorship-fund-replacement initiative aimed at reducing the community sports club dependency on alcohol (Australian Department of Health and Ageing, 2011), and similar community initiatives, including the Good Sports program, have been very successful to this end.

The impact of alcohol industry sponsorship on the people participating and attending sponsored events has not been studied widely, which leaves a major knowledge gap in instituting policy recommendations. The issue has become more pressing recently in Australia with the release of a damning report suggesting that drug cheating, alcohol dependency, and match fixing is prevalent across all sports (Australian Crime Commission, 2013).

College (i.e., university) sportspeople appear to be a population particularly at risk, which suggests a need for targeted policy. Research among college students in the United States indicates that college athletes are at greater risk of excessive alcohol use than nonathletes (Ford, 2007; Leichliter, Meilman, Presley, & Cashin, 1998; Wilson, Sullivan, Myers, & Feltz, 2004).

This research therefore focuses upon university sportspeople, given their reported demographic vulnerability to binge drinking, and their likelihood of participation in sports. Australians aged 20–29 years are the most likely of all age groups to drink at levels that are risky or carry a high risk of harm in the short term (Australian Institute of Health and Welfare, 2005). This age group is also the population most likely to participate in sport or physical recreation (Australian Bureau of Statistics, 2007). Thus, targeting university sportspeople as a vulnerable population is an initial logical focus in examining the broader issue of the impact of alcohol sponsorship upon sportspeople.

Aims

The aim of the current research was to investigate the extent of an association between alcohol sponsorship of sports and university sportspeople's consumption and attitudes toward alcohol. An ancillary objective of this research is to build upon current insight into the nature of alcohol sponsorship in university sports in response to regulators' heightened concerns and calls for evidence around student binge drinking associated with sport. We focus this examination upon Australian students, given the lack of studies concerning this student population and the reported cultural entrenchment of alcohol sponsorship in Australian sport. Specifically our research questions are as follows:

1. What is the nature and extent of alcohol sponsorship of university sports?
2. Is alcohol sponsorship of sports associated with increased alcohol consumption among sponsored university sportspeople?
3. Does alcohol sponsorship of sport produce more favorable attitudes toward sponsoring brands among sponsored sportspeople?

The structure of this article is as follows. First, previous research relating to university sportspeople's alcohol consumption is outlined, followed by a discussion of the sponsorship literature, highlighting the distinction between sponsorship and advertising. Next, our survey study is reported, and finally results are interpreted and discussed in the context of the existing literature and implications for policy and universities.

University Sportspeople and Alcohol Consumption Trends

Research indicates that some drinking contexts, including sporting events, are particularly hazardous situations for college students in terms of alcohol use and related consequences (White, Kraus, & Swartzwelder, 2006). Indeed, students and alumni report drinking significantly more on college football game day than they do during typical social situations (Glassman et al., 2010). The National

Institute on Alcohol Abuse and Alcoholism (NIAAA) estimates that each year, more than 1,700 student deaths, 599,000 injuries, and 696,000 assaults are associated with heavy episodic drinking (Hingson et al., 2005). Heavy episodic drinkers also impact nondrinking peers, an outcome described by Wechsler et al. (2002) as "secondhand" drinking effects, in the form of sleep interruption, insults, and having to care for the drinking peer.

Alcohol continues to constitute a prominent public health challenge for universities and community leaders. Results from the National College Health Assessment by the American College Health Association (2007) reveal that approximately two fifths (39.2%) of college students consumed five or more drinks during the previous 2 weeks, classifying them as heavy drinkers (O'Malley & Johnston, 2002). One study found that 6% of college students were alcohol dependent (Knight et al., 2002), and another study reported astonishing growth over a 10-year period in the proportion of students reporting that they "drink to get drunk" (Wechsler et al., 2002).

Evidence suggests that college athletes drink more than other students (Baer, 2002). National data indicate that certain groups of college students are at greater risk than others. Overall, men engage in heavy episodic drinking at higher rates than women, 49% versus 41%, respectively. One national study found that 47% of male nonathlete students engaged in heavy episodic drinking compared with 57% of intercollegiate athletes in the 2 weeks before the survey. A similar trend has been reported for female athletes (Nelson & Wechsler, 2001). Leichliter et al. (1998) reported higher rates of binge drinking among the leaders of sports teams than among team members and that team members were more likely than nonmembers to engage in binge drinking.

Previous research has mostly assessed consumption in terms of hazardous drinking behavior by using the Alcohol Use Disorders Identification Test (AUDIT; O'Brien & Kypri, 2008; O'Brien, Miller, Kolt, Martens, & Webber, 2011; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). However, we sought to measure multiple dimensions of alcohol consumption to ensure comprehensive coverage of different aspects, including volume and frequency over short and longer periods, in addition to nonhazardous consumption that may still be associated with sponsorship. The specific consumption dimensions and the questions asked of participants are outlined in subsequent sections and Table 1.

To date, only one study has been undertaken with respect to Australian sportspeople (O'Brien et al., 2011), and only one has examined a New Zealand sample (O'Brien & Kypri, 2008). These studies found an association between sponsorship and hazardous consumption as indicated by AUDIT. The 2011 study by O'Brien et al. calibrated earlier international findings by establishing the existence of a more prevalent nature of sponsorship (i.e., direct to user) and a link to hazardous drinking behavior in a sample of university sportspeople from two universities sampled from one Australian state. Hence, results from this study require replication in a more diverse national sample that might be more representative of the national population of university sportspeople. Other empirical questions that remain to be tested extend to sponsorship-associated alcohol consumption that may not be classified as hazardous according to the AUDIT.

Although excessive drinking patterns are important to assess, it is conceivable that any change in drinking cognitions or behavior that is attributable to alcohol sponsorship is relevant to policy makers, irrespective of whether the outcomes of such changes are classified as dangerous levels of consumption. For example, it is plausible that alcohol sponsorship might entail provision of free or discounted product, in which case it is likely that sponsored sportspeople might prefer that brand and consume more of it, albeit to nonhazardous levels. Such outcomes potentially have evidential weight in the policy debate on whether alcohol sponsorship in sport should be banned or limited and are relevant to sporting entities that might develop suitable interventions before consumption progresses to dangerous levels.

The current study therefore builds on extant research by sampling university sportspeople nationally and examining impact upon multiple aspects of consumption, including, but not limited to, hazardous measures. Attitudes toward sponsoring brands are also assessed, given the paucity of research examining the role of affective associations in motivating alcohol consumption (Karlsson, 2012). Although many sportspeople may restrict alcohol consumption for training or health reasons, evidence suggesting preference for sponsoring companies' brands would demonstrate effects of sponsorship that might inform the sponsorship partnership governance for parties on both sides of the alcohol sponsorship debate.

Sponsorship and Advertising

Sponsorship, defined as an exchange between sponsor and event property whereby the event property receives compensation and the sponsor obtains the right to associate itself with the event (Becker-Olsen & Hill, 2006; Weeks, Cornwell, & Humphreys, 2006), represents a significant annual investment in Australian sports. Sponsorship portfolios may include a variety of properties, including naming rights; uniforms; venue signage; endorsement of individual players, teams or sports; and more common direct-to-user sponsorship, which may encompass free or discounted product, transport and entry to local clubs or hotels, and volume rebates to clubs (O'Brien & Kypri, 2008; O'Brien et al., 2011; Reilly, 2010). Moreover, sponsorship and associated activation typically represent approximately 65% of the alcohol industry's promotion budget (Center on Alcohol Marketing and Youth, 2004). This research therefore focuses on sponsorship impact, given the growing use of sponsorship in the marketing communications portfolio and its differentiation from advertising as a promotional tool.

Although sponsorship and advertising are related marketing communications tools, sponsorship differs from advertising in several ways. First, in contrast to

Table 1 Scale and Item Information and Descriptive Statistics

Construct	Item(s)		Response Scale	Mean / %	*SD*	95% CI
Consumption						
Drinks last week	"Thinking back over this last week, how many drinks did you have on each day?"		Open	9.56	13.32	[8.38, 10.75]
12-months drinking	"During the last 12 months, how often did you have any kind of drink containing alcohol?"		1 (*I did not drink in the past year*) to 10 (*Every day*)	5.47 (5 = *Once or twice each month*, 6 = *Once a week*)	1.81	[5.31, 5.63]
Drinks on drinking day	"During the last 12 months, how many alcoholic drinks did you have on a typical day when you were drinking?"		1 (*Just 1 drink*) to 7 (*18 or more drinks*)	3.25 (3 = *3 to 4 drinks*, 4 = "*5 to 8 drinks*)	1.33	[3.13, 3.37]
Binge drinking	"During the last 12 months, how often did you have 5 or more (Male) or 4 or more (Female) drinks containing alcohol within a two hour period?"		1 (*Never*) to 9 (*Every day*)	3.28 (3 = *Several times in the past year*, 4 = *Once a month*)	1.74	[3.12, 3.48]
CAGE	Four-items (α = .77): e.g., "Have you ever felt you should cut down on your drinking?		1 (*Not at all*) to 5 (*Extremely*)	6.90	3.11	[6.62, 7.17]
Sponsorship						
Receipt of any sponsorship	"Do you personally, or does your team or club currently receive sponsorship from a company involved in producing or selling alcohol?"		*Yes* or *no*	33%	–	–
Specific sponsorship types	"As part of the support or sponsorship provided by any alcohol companies, please indicate what types of assistance are included."	"Product samples"	*Yes* or *no*	14%	–	–
		"Free/discounted drinks"	*Yes* or *no*	41%	–	–
		"Vouchers"	*Yes* or *no*	26%	–	–
		"Admissions to licensed venues"	*Yes* or *no*	25%	–	–
		"Cash"	*Yes* or *no*	23%	–	–
		"Competition prizes"	*Yes* or *no*	31%	–	–
		"Funding for uniforms"	*Yes* or *no*	29%	–	–
		"Funding for club fees"	*Yes* or *no*	26%	–	–
		"Other"	*Yes* or *no*	6%	–	–
Aspects of Peer Behavior and Team/Club Culture						
Likelihood of consuming alcohol with peers	Three-items (α= .81): e.g., "Suppose you were with a group of athletes who were drinking, how willing would you be to . . . drink one drink?" The other two items ask about the likelihood of having "more than one drink" and of "getting drunk."		1 (*Very Unwilling*) to 7 (*Very Willing*)	4.63	1.28	[4.52, 4.74]
Consumption has increased since joining team/club	"Since joining your team or club, do you tend to drink . . ."		1 (*Much less*) to 5 (*Much more*)	3.07	0.81	[3.00, 3.15]
Concern over their peers' consumption	Two-items (α = .85): e.g., "During the past year, have you been distressed because of other players' drinking?" The other item asks how frequently the respondent has "been worried about other players' drinking."		1 (*Never*) to 5 (*Frequently, or all the time*)	1.72	0.85	[1.65, 1.80]
Concern over peers' poor behavior after consumption	Three-items (α = .87): "Thinking back to the past year, can you think of any instances where another player or players have acted unwisely after drinking too much?" The other items refer to whether other players have acted "inappropriately" or "aggressively."		1 (*No*) to 5 (*Yes all the time*)	2.47	1.02	[2.38, 2.56]
Likelihood that peers' would conceal consumption	"How likely is it that players might try to cover up their level of drinking?"		1 (*Extremely unlikely*) to 6 (*Extremely likely*)	2.27	1.19	[2.17, 2.38]
Likelihood that peers' would conceal sponsorship effects on consumption	"How likely is it that players might try to cover up alcohol sponsorship effects on their drinking?"		1 (*Extremely unlikely*) to 6 (*Extremely likely*)	2.11	1.23	[2.00, 2.22]
Team/club admiration of non-drinkers	"What does the club community (e.g., players, members, administration, etc.) think about non-drinkers?"		1 (*No admiration/respect)* to 5 (*Great admiration/ respect*)	3.15	0.73	[3.09, 3.22]
Team/club rules about consumption enforced	"How often are team rules about drinking enforced?"		1 (*No - never*) to 5 (*Frequently or all the time*)	2.65	1.19	[2.55, 2.76]

(continued)

Table 1 *(continued)*

Construct	Item(s)	Response Scale	Mean / %	*SD*	95% CI
Perceptions of Aspects of Sponsorship (sponsored sportspeople only)					
Prior use of sponsor's product	"Did you drink the sponsor's product(s) before they became a sponsor?"	1 (*Very Strongly Avoid*) to 7 (*Very Strongly Prefer*)	4.33 (4 = *Indifferent*, 5 = *Prefer*)	1.06	[4.16, 4.49]
Like sponsor's product	"Overall how much do you like the sponsor's product(s)?"	1 (*Dislike extremely*) to 9 (*Like Extremely*)	6.37 (6 = *Like slightly*, 7 = *Like moderately*)	1.41	[6.15, 6.58]
Choose sponsor product	"When you like having an alcoholic drink, do you choose the sponsor's product(s)?"	1 (*Very unlikely*) to 7 (*Very likely*)	4.18 (4 = *Undecided*, 5 = *Somewhat likely*)	1.41	[3.96, 4.39]
Players owe sponsors support	"To what extent do players feel that they owe alcohol sponsors their support?"	1 (*Not at all*) to 5 (*Extremely*)	2.23 (2 = *Slightly*, 3 = *Moderately*)	0.98	[2.08, 2.38]
Players perceive expectations to drink sponsor's product	"Are you expected to drink the sponsor's product after training, games, and/or events?"	1 (*Not at all*) to 5 (*Extremely*)	1.81 (1 = *Not at all*, 2 = *Slightly*)	1.07	[1.64, 1.97]
Players perceive expectations to drink at sponsor's establishment	"Are you expected to drink at the sponsor's establishment (e.g., local hotel, club, temporary precinct such as marquee) after practices, games, or events?"	1 (*Not at all*) to 5 (*Extremely*)	2.53 (2 = *Slightly*, 3 = *Moderately*)	1.27	[2.33, 2.72]
Sponsorship changes personal consumption	"If you compare your current drinking habits to those you had before this sponsorship, do you tend to drink?"	1 (*A lot less than before*) to 5 (*A lot more than before*)	3.14 (3 = *The same as before*, 4 = *Slightly more than before*)	0.48	[3.07, 3.21]
Sponsorship changes other player's consumption	"What about other players on your team or in the sport generally, do they tend to drink . . . "	1 (*A lot less than before*) to 5 (*A lot more than before*)	3.42 (3 = *The same as before*, 4 = *Slightly more than before*)	0.62	[3.32, 3.51]
General impact on consumption	"In general, what kind of impact has alcohol sponsorship in your sport had on how much players drink?"	1 (*No impact*) to 5 (*Very high impact*)	2.28 (2 = *Slight impact*, 3 = *Moderate impact*)	0.97	[2.13, 2.43]
Sponsorship changes accessibility	"How has the accessibility of alcohol been affected by sponsorship?"	1 (*Much less accessible*) to 5 (*Much more accessible*)	3.28 (3 = *Same as before*, 4 = *Slightly more accessible*)	0.62	[3.18, 3.37]
[Player] Can drink because they work hard	"Because I work so hard at my sport, I should be able to drink to have a good time?"	1 (*Strongly disagree*) to 7 (*Strongly agree*)	4.66 (4 = *Neutral*, 5 = *Slightly agree*)	1.35	[4.45, 4.87]
[Player] Drinks to deal with poor performance	"I drink to help me deal with poor performances?"	1 (*Strongly disagree*) to 7 (*Strongly agree*)	2.09 (2 *Disagree*, 3 *Slightly disagree*)	1.46	[1.87, 2.31]
[Player] Perceives pressure from teammates to drink	"I feel pressure from my teammates to drink alcohol?"	1 (*Strongly disagree*) to 7 (*Strongly agree*)	3.45 (3 = *Slightly disagree*, 4 = *Neutral*; 1–7 scale)	1.76	[3.18, 3.72]
No problems with alcohol sponsorship in sport	"There is no problem with alcohol sponsorship in sport?"	1 (*Strongly disagree*) to 7 (*Strongly agree*)	4.29 (4 = *Neutral*, 5 = *Slightly agree*)	1.50	[4.06, 4.52]
Alcohol sponsorship in sport should be banned	"Alcohol sponsorship of sport should be banned?"	1 (*Strongly disagree*) to 7 (*Strongly agree*)	2.85 (2 = *Disagree*, 3 = *Slightly disagree*)	1.56	[2.61, 3.09]

Notes. *$p < .05$. **$p < .01$. ***$p < .001$. CI = confidence interval.

the extended messaging opportunities incumbent with advertising, sponsorship operates in impoverished media, which communicates limited message "chunks" confined to brand names and logos. Second, evidence suggests that consumers process sponsorship and advertising differently; sponsorship typically targets consumers during sporting events with which they are passionately engaged (Cornwell, 2008; Trail, Anderson, & Fink, 2005). In addition, sponsorship, which usually accompanies event supply rights, offers the unique advantage of enabling product consumption simultaneously with message exposure. The objectives of sponsorship include increasing brand awareness, enhancing and changing brand image, corporate hospitality, increasing sales, and ultimately increasing stock price (Cornwall, 2008; Walliser, 2003). Sponsorship affects not only the event itself but also allows leveraging through sponsorship-linked advertising, which enhances the overall impact (Kelly, Cornwell, McAlister, & Coote, 2012). Hence, this research is partially motivated by a need to examine sponsorship independently from advertising, given its importance in terms of investment and its potential to operate as either an independent communications mechanism or a complementary tool with advertising.

Method

Participants

A sample of 501 university sportspeople (i.e., students participating in a university sport) from across Australia (all Australian states and territories except the Northern Territory were represented) was voluntarily recruited to complete an online survey. Sampling bias was controlled through several strategies. First, in addition to appealing to participants to express their opinion on alcohol sponsorship in sport, participants were informed that we were seeking their views on a range of matters, including the expectations placed on sportspeople, sponsorship, and alcohol use, and therefore the issue of alcohol policy was not uniquely at the forefront. The second related strategy was to keep participants blind to the actual purpose of the study. Finally, a drawing for an Apple iPad was offered as an incentive in an attempt to encourage those who might not have an interest in the topic to provide responses.

The majority of sportspeople were competing at club level (72%), but a significant number were competing at an elite or professional level (26%). Participants reported between 1 and 43 years' experience in their current sport (M = 9.0 years, SD = 5.4) and identified more than 30 different sports in which they were involved (the most popular were netball, volleyball, basketball, touch football, soccer, and swimming, with approximately 5–10% each). Approximately 33% (n = 167) of sportspeople reported receiving some form of sponsorship from an alcohol brand or company ("sponsored sportspeople"). Most of the sponsored participants reported receiving sponsorship at a team (51%), club (83%), or sporting association (59%) level, whereas 17% received personal sponsorship. Most (77%) sponsored participants reported receiving multiple forms of sponsorship, the most common being free/discount alcohol and vouchers (66%), funding for club fees and uniforms (55%), and prizes (31%). Sponsored sportspeople were between 17 and 45 years of age (M = 21.8 years, SD = 3.6), approximately evenly distributed across genders (51.5% female), and most (89.8%) reported an income of less than A$50,000 per annum. Competitors not receiving alcohol sponsorship ("unsponsored sportspeople") had a greater age range (between 17 and 59 years), were slightly older (M = 22.3 years, SD = 5.2), and had a higher proportion of female athletes (55%).

Recruitment was undertaken during the month preceding the Australian University Games in September 2011, an annual multisport interuniversity competition that attracted 6,257 registered attendees representing more than 40 universities and tertiary education providers from across Australia. Participants were recruited through advertisements on the University Games website, in the monthly online newsletter, and through personal invitations from team managers. These advertisements enticed participants to express their opinions on alcohol sponsorship in sport but did not otherwise disclose the purpose of the study. This recruitment approach elicited a sufficiently heterogeneous sample of sponsored versus nonsponsored sportspeople, similar to the proportions found by O'Brien et al. (2011). However, in contrast to their study, which was confined to university sportspeople from a single state, our sample was more representative of the national university sportsperson population. Given the nature of the recruitment process, a response rate could not be determined; however, the participants represent approximately 8% of the 6,257 athletes attending the university games event, though not all of these attendees received an invitation.

Procedure and Measures

Web-administered survey methodology was favored because it has been shown to reduce nonresponse bias (e.g., McCabe, Diez, Boyd, Nelson, & Weitzman, 2006) and in some cases, social desirability bias (Richman, Kiesler, Weisband, & Drasgow, 1999). This format has been shown to be particularly useful in alcohol research, where respondents perceive it as more convenient and preferable to paper-and-pen formats (Miller et al., 2002). Participation was anonymous and voluntary. Participants provided data on known predictors of consumption, including demographics such as postal code and university of origin, age of first alcoholic drink, level of sporting participation, duration of sports participation, and type of sport. In addition, participants responded to items, using 5- to 7-point Likert scales, adopted from previous research and assessing the focal variables of sponsorship, consumption, and attitudes toward and perceptions of alcohol and sponsorship.

Sponsorship. Sponsorship was assessed using items modified from previous alcohol industry sponsorship research (O'Brien & Kypri, 2008; O'Brien et al., 2011).

As in the studies by O'Brien and colleagues, participants were asked whether they or their team or club currently received sponsorship of any kind. However, additions were made to O'Brien and colleagues' list of sponsorship types. In addition to "free product samples," "free or discounted drinks," "cash" and "funding for uniforms and club fees," sponsored athletes were also asked to indicate whether they received "free vouchers," "free admissions to licensed venues," "competition prizes," or any "other forms of sponsorship"). These more common forms of sponsorship were ascertained through exploratory personal interviews conducted with sports club managers before the survey development and are consistent with recent calls to recognize these more latent direct-to-user forms of alcohol industry sponsorship (e.g., O'Brien et al., 2011).

Alcohol consumption indicators. In contrast to the previous work by O'Brien and Kypri (2008) and O'Brien et al. (2011) in which consumption was assessed solely in terms of hazardous drinking behavior (using AUDIT; Saunders et al., 1993), the current study assessed multiple dimensions of alcohol consumption to ensure comprehensive coverage of different aspects, including volume and frequency over short and longer periods. The specific consumption dimensions and the questions asked of participants are displayed in Table 1. We sought to detect any increase in consumption, including nonhazardous consumption, that might be associated with sponsorship among sportspeople. Our broader focus of consumption patterns was motivated by the lack of empirical evidence regarding the impact of alcohol industry sponsorship upon sportspeople's behavior and the importance of sportspeople as community role models.

Acute consumption. To assess consumption with low recall bias (because bias increases with the length of recall period; Gmel & Daeppen, 2007) and to gather data on acute (current) consumption levels, a standard weekly drinking measure was used (Bloomfield, Hope, & Kraus, 2012). Participants were asked, "Thinking back over this last week, how many drinks did you have on each day?" with an open response format for participants to enter any integer for each day of the week. Participants' scores were calculated as the sum of their total drinks across the 7 days.

Chronic pattern of consumption. The most widely used approach to measuring long-term patterns of consumption is the quantity-frequency method (Gmel & Rehm, 2004). The overall frequency of drinking over a reference period is captured as well as the typical number of drinks consumed on days when drinking occurred. The Task Force on Recommended Alcohol Questions advises a reference period of 12 months, arguing that this period offers the best balance between problems of recall and infrequent drinking patterns (U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism, Task Force on Recommended Alcohol Questions, 2011). Consistent with these recommendations, participants were asked how often they consumed alcohol over the past 12 months and how many drinks they usually consumed on a typical drinking day.

Binge consumption. Heavy drinking was considered particularly important to capture because this tends to have the most harmful health impacts (Rehm et al., 2003). The most widely used indicator of heavy consumption is incidences of binge drinking, defined by the U.S. National Institute on Alcohol Abuse and Alcoholism's Council as five or more drinks for men or four or more drinks for women in 2 hours. Participants were asked to indicate how often during the past 12 months they had engaged in binge drinking.

Disordered consumption. Alcohol misuse (i.e., dependence and abuse) were assessed using the 4-item CAGE screening questionnaire (Ewing, 1984). Respondents indicated the extent to which each statement applied to them. The original "yes" or "no" response format was replaced with a 5-point response scale to facilitate the assessment of small gradations in the extent to which each statement applied to participants.

Alcohol consumption attitudes and perception. Sponsored participants also provided data on their attitudes toward the sponsor's products (e.g., "Overall how much do you like the sponsor's product(s)?") and sponsorship arrangement (e.g., "In terms of the actual contract… are you required to consume the sponsor's product?"), the extent to which sponsorship impacts consumption (e.g., "How has the accessibility of alcohol been affected by sponsorship?"), other factors that may contribute to consumption (e.g., "I feel pressure from my teammates to drink alcohol"), and attitudes toward sponsorship in sport (e.g., "Alcohol sponsorship of sport should be banned"). Overall, this part of the survey included 15 questions with Likert-type response scales for each question. Table 1 lists the items and response scales for these questions. Given the sensitive nature of the items, several questions were framed using a projective technique, whereby the respondent was asked to describe behavior or perceptions of other sportspeople or teammates rather than their own behavior. Some open-ended items were also included as a means of limiting social desirability bias and encouraging rich and candid insight into the issue; data from these questions are not reported here.

Sponsored and nonsponsored athletes reported on how their teammates affected their own consumption (e.g., "Suppose you were with a group of athletes who were drinking, how willing would you be to… drink one drink?"), their perceptions of other sportspeople's consumption (e.g., "Thinking back to the past year, can you think of any instances where another player or players… become aggressive after drinking too much?"), and aspects of team culture and attitude (e.g., "What does the club community (e.g., players, members, administration, etc.) think about non-drinkers?"). The latter items were adapted from prior studies concerned with measuring social and cultural norms associated with alcohol consumption among college athletes (Ford, 2007; Perkins,

2002). This part of the survey contained 13 questions to which participants responded using 5- to 7-point Likert-type scales (Table 1 lists the items and response scales for these questions).

Statistical Analyses

Differences in consumption across the specific sport being played, the level of competition (amateur, elite, professional, etc.), and the number of years involved in the sport were tested using analysis of variance and correlation analyses. Regression analyses were then employed to determine the predictive power of sponsorship on consumption behavior at both bivariate and multivariate levels. Because known predictors of consumption such as age, gender, income, and age of first drink may confound the relationship between sponsorship and consumption, it is conventional in this area of research to enter these as predictors into the regression model with the focal independent variable (sponsorship) to control for any influence they may exert (cf. O'Brien et al., 2011). More detailed analyses of the effects of sponsorship were conducted using analyses of covariance (ANCOVAs; controlling for the aforementioned confounds) in which consumption levels were compared between respondents who received direct-to-user forms of sponsorship and unsponsored sportspeople. Further ANCOVAs (controlling for the same confounds) were also conducted to uncover any differences in alcohol consumption attitudes and culture between sponsored and unsponsored athletes. Finally, descriptive information on athletes' perception of aspects of the sponsorship arrangement and its effects were calculated, including 95% confidence intervals for the population mean values and bivariate correlation analyses on dimensions of consumption found to overlap with many of these.

Results

Preliminary analyses were first conducted to determine whether there were differences in consumption across the different sports in which participants were competing, the level at which the participant were competing, and the length of time they had been competing. Pairwise comparisons across the different sports using *t* tests with a Scheffé correction for multiple comparisons revealed that consumption levels did not differ among sports ($p \geq .096$). Similar comparisons in consumption were conducted across the different levels of competition (recreational/social, $n = 120$; serious competitive, $n = 100$; elite/professional, $n = 84$; the other respondents participated at multiple levels); once again, no significant differences were observed ($p \geq .396$). Finally the relationship between indicators of alcohol consumption and the number of years involved in the sport (controlling for participant age) were not significant ($r < .10$, $p > .050$). Therefore, there appear to be no differences in consumption across different sports, across different levels of competition, or the amount of participation time.

Sponsorship and Alcohol Consumption

Multiple regression analyses were conducted between the five indicators of alcohol consumption (the dependent variables, or DVs) and sponsorship status (focal predictor) while controlling for the influence of known predictors of consumption, which were simultaneously entered into the equation. To provide a point of comparison, bivariate regression analyses were also conducted with the consumption indicators as the DVs and each predictor on its own. The statistical output from these regression analyses are summarized in Table 2. Overall, the family of predictors accounted for small but significant proportions of variance (3–6%) in all five indicators of consumption. However, across both bivariate and multivariate models, the regression coefficient for sponsorship status did not differ significantly from zero; therefore, sponsorship was not able to predict consumption of any type. Each of the four control variables served to predict at least one aspect of consumption. Younger age of first drink predicted greater consumption on all indicators except the number of drinks on a typical drinking day. Younger age predicted a greater number of drinks on a typical drinking day and greater frequency of binge-drinking episodes. Being male predicted reporting a greater number of drinks in the week before participation, and having a larger income predicted reporting more disordered drinking.

To further explore the potential effects of sponsorship on consumption, we investigated the effect of direct-to-user forms of sponsorship on consumption using a one-way between-subjects multivariate ANCOVA (MANCOVA) with participant age, gender, income, and age of first alcohol use entered as covariates, and the five alcohol consumption indicators as DVs. Sponsored participants who were in receipt of direct-to-user sponsorship (i.e., directly receiving alcohol products, vouchers, prizes, and discounted or free drinks from the sponsoring company, $n = 101$) were compared with nonsponsored sportspeople ($n = 334$). With the use of Wilk's criterion, the combined DVs were significantly affected by direct-to-user sponsorship status, $\lambda = .97$, $F(5, 425) = 2.72$, $p = .020$, $\eta_p^2 = .03$. The between-subjects effects for each DV (displayed in the first group of rows in Table 3) demonstrate that participants receiving direct-to-user sponsorship reported more frequent consumption over the previous 12 months (explaining 2% of residual variance in this indicator) and greater alcohol misuse (explaining 1% of residual variance in this indicator). Those receiving direct-to-user sponsorship also reported greater consumption over the week before data collection, although this difference was only marginally significant.

Similar analysis was conducted to assess consumption differences among sponsored athletes in receipt of direct-to-user sponsorship ($n = 101$) or indirect sponsorship ($n = 66$). With the use of Wilk's criterion, the combined DVs were significantly affected by direct-to-user sponsorship status, $\lambda = .96$, $F(10, 980) = 2.06$, $p = .025$, $\eta_p^2 = .02$.

Table 2 Ordinary Least Squares Regression Estimates for Bivariate and Multivariate (*Multi*) Regression Models

	Criterion														
	Drinks Last Week			12-Month Drinking			Drinks on Drinking Day			Binge Drinking			CAGE		
Predictor	*Bivariate*		*Multi*	*Bivariate*		*Multi*	*Bivariate*		*Multi*	*Bivariate*		*Multi*	*Bivariate*		*Multi*
	b	95% CI	β	*b*	95% CI	β	*b*	95% CI	β	*b*	95% CI	β	*b*	95% CI	β
Age	0.001	[–0.017, 0.019]	–0.013	0.022*	[0.003, 0.040]	0.077	–0.025**	[–0.043, –0.066]	–0.150**	–0.027**	[–0.046, –0.009]	–0.167***	–0.000	[–0.019, 0.018]	–0.044
Gender[a]	–0.230**	[–0.399, –0.061]	–0.112*	–0.082	[–0.258, 0.094]	–0.019	–0.135	[–0.312, 0.041]	–0.076	–0.112	[–0.289, 0.065]	–0.059	–0.143	[–0.319, 0.033]	–0.061
Income[b]	0.028	[–0.232, 0.288]	0.009	0.286*	[0.018, 0.554]	0.063	0.075	[–0.196, 0.345]	0.072	0.106	[–0.165, 0.377]	0.086	0.331*	[0.063, 0.599]	0.114
First drink[c]	–0.062**	[–0.100, –0.024]	–0.135**	–0.091***	[–0.130, –0.052]	–0.197***	–0.038	[–0.077, 0.002]	–0.079	–0.081***	[–0.120, –0.041]	–0.174***	–0.061**	[–0.100, –0.021]	–0.126**
Sponsorship[d]	–0.009	[–0.188, 0.170]	0.018	0.007	[–0.178, 0.192]	–0.006	–0.002	[–0.188, 0.184]	–0.022	0.000	[–0.186, 0.186]	–0.025	0.140	[–0.045, 0.324]	0.046
R^2 =		.03**			.05***			.03**			.06***			.04**	

Notes. *$p < .05$. **$p < .01$. ***$p < .001$. CI = confidence interval.

[a]Gender coded as 1 = male, 2 = female; [b]Income coded as 1 = below 50,000, 2 = 50,001–100,000, 3 = 100,001–200,000, 4 = 200,001 or more. [c]First drink refers to the participants' age when they first consumed alcohol; [d]Sponsorship refers to the sponsorship status of the athlete coded as 0 = not sponsored, 1 = sponsored.

Table 3 Comparison of Consumption Between Athletes Receiving Different Forms of Sponsorship

	Nonsponsored (n = 334)		Direct-to-User Sponsored (n = 101)				
	M	*SD*	*M*	*SD*	*F* (1, 429)	*p*	Partial η^2
Drinks last week	8.52	14.79	8.95	11.42	3.72	.055	.01
12-month drinking	5.29	1.84	5.92	1.62	7.71	.006	.02
Drinks on drinking day	3.16	1.41	3.33	1.16	0.43	.522	.00
Binge drinking	3.18	1.75	3.51	1.74	1.21	.272	.00
CAGE	1.68	0.78	1.89	0.76	5.92	.015	.01
	Sponsored (n = 66)		**Direct-to-User Sponsored (n = 101)**				
	M	*SD*	*M*	*SD*	*F* (1, 161)	*p*	Partial η^2
Drinks last week	6.49	7.40	8.95	11.42	2.41	.124	.01
12-month drinking	5.85	1.50	5.92	1.62	0.02	.940	.00
Drinks on drinking day	3.32	1.25	3.33	1.16	0.04	.881	.00
Binge drinking	3.42	1.60	3.51	1.74	0.03	.868	.00
CAGE	1.67	0.76	1.89	0.76	3.62	.060	.02

Notes. *p < .05. **p < .01. ***p < .001.

The between-subjects effects for each DV are displayed in the second group of rows in Table 3. Compared with the above differences between the direct-to-user group and nonsponsored athletes, the indirect-to-user group was closer to the direct-to-user group for three of the five outcomes (12-month drinking, drinks on a typical drinking day, and binge drinking). There was actually a greater difference for drinks over the previous week between the direct-to-user group and the indirect-to-user group; however, only 66 athletes received indirect-to-user sponsorship, so the small effect was not statistically reliable. The results for the CAGE mirrored those from the comparison between nonsponsored and direct-to-user athletes (explaining 2% of residual variance.

Alcohol Consumption Attitudes and Culture

In addition to actual consumption levels, we investigated the effects of sponsorship on participants' consumption in the company of their peers, team/club drinking attitudes, and their peers' consumption and behavior. These differences were assessed using a one-way between-subjects MANCOVA with participant age, gender, income, and age of first alcohol entered as covariates and the sponsorship status (sponsored versus not-sponsored) as the independent variable. The specific DVs are listed in Table 4 along with the statistical output. With the use of Wilk's criterion, the combined DVs were significantly affected by sponsorship status, $\lambda = .96$, $F(8, 492) = 2.85$, $p = .020$, $\eta_p^2 = .04$. The between-subjects effects for each DV show that participants receiving alcohol industry sponsorship were more likely to consume alcohol in the company of team/club mates (1% of residual variance explained) and that their own consumption had increased since they had joined their sport team or club (1% of residual variance explained). Sponsored athletes were also more concerned over their peer's poor behavior after consumption (1% of residual variance explained) and believed their peers were more likely to conceal their consumption (2% of residual variance explained). No significant differences emerged in the likelihood that peers would conceal sponsorship effects on consumption, the degree of team/club attitude toward nondrinkers, or the frequency with which team/club consumption rules were enforced.

Perceptions of Sponsorship

To better understand sponsored athletes' perceptions and attitudes toward the sponsorship arrangement and its effects, we analyzed their responses to a series of questions relating to their perceptions of sponsorship in sport. The population mean values for these questions were estimated using the observed sample means and 95% confidence intervals (reported in Table 1). These confidence intervals were also used to compare responses to questions with equivalent response scales. In addition, correlation analyses were conducted to investigate whether variance in these perceptions and attitudes correlated with variance in consumption (significant correlations were observed only with prior-week consumption and disordered consumption, and these are reported in Table 5). On the basis of the mean values, sponsored sportspeople reported a stronger liking for the

sponsor's product after receiving sponsorship than before receiving sponsorship. Although respondents reported feeling that they owed the sponsors support, this did not translate into an expectation that they actually drink the sponsor's product. However, they reported a significantly stronger sense of expectation that they drink at a sponsor's venue. Players were also largely undecided about whether they would choose the sponsor's product over other products.

Respondents felt that their own consumption had been largely unchanged as a result of receiving sponsorship, but they were more likely to report that other players drank more after receiving alcohol sponsorship. If there were response bias in reports that the sponsorship did not affect their own drinking behavior, their report of others being affected by sponsorship would likely be more accurate and would represent insider evidence on what is happening. There was a perception that alcohol was more accessible as a result of sponsorship, and there was positive endorsement for the beliefs that hard work entitled them to drink. Conversely, players disagreed that drinking was a way to deal with poor performances, and they generally disagreed that there was pressure from teammates to drink. Finally, respondents were positive regarding alcohol sponsorship overall and generally did not believe it should be banned. Variation in responses to these questions also correlated with some aspects of consumption, specifically acute (prior week) and disordered consumption. Sportspeople reporting a greater sense of obligation toward the sponsoring company were

Table 4 Differences Between Sponsored and Nonsponsored Sportspeople on Aspects of Peer Behavior and Team/Club Culture

	Nonsponsored (n = 334)		Sponsored (n = 167)				
	M	*SD*	*M*	*SD*	*F* (1, 429)	*p*	Partial η^2
Likelihood of consuming alcohol with peers	4.56	1.37	4.77	1.08	6.95	.009	.01
Consumption has increased since joining team/club	3.01	0.86	3.21	0.68	7.10	.009	.01
Concern over their peers' consumption	1.65	0.83	1.87	0.90	3.12	.078	.01
Concern over peers' poor behavior after consumption	2.38	1.04	2.64	0.95	7.17	.008	.01
Likelihood that peers' would conceal consumption	2.16	1.12	2.49	1.29	8.37	.004	.02
Likelihood that peers' would conceal sponsorship effects on consumption	2.06	1.21	2.22	1.24	2.03	.158	.00
Team/club admiration of nondrinkers	3.15	0.71	3.15	0.77	0.02	.909	.00
Team/club rules about consumption enforced	2.64	1.22	2.66	1.14	0.04	.848	.00

Table 5 Correlations Between Sponsored Athletes' Perceptions of Aspects of Sponsorship and their Consumption

Question	Prior-Week Consumption	Disordered Consumption
Prior use of sponsor's product	.10	.13
Like sponsor's product	.18*	.16
Choose sponsor product	–.09	.08
Player's owe sponsors support	–.12	.26**
Player's perceive expectations to drink sponsor's product	–.06	.30***
Player's perceive expectations to drink at sponsor's establishment	.12	.30***
Sponsorship changes personal consumption	.11	.25**
Sponsorship changes other player's consumption	–.10	.06
General impact on consumption	–.16*	.24**
Sponsorship changes accessibility	–.15	.12
[Player] Can drink because they work hard	.20*	.03
[Player] Drinks to deal with poor performance	.03	.32***
[Player] Perceives pressure from teammates to drink	.13	.21**
No problems with alcohol sponsorship in sport	.25**	–.04
Alcohol sponsorship in sport should be banned	–.21**	.10

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

more likely to report disordered consumption levels. Disordered consumption was also higher for athletes reporting pressure from teammates to drink and for those admitting to alcohol use as a way to deal with poor performances. Finally, positive attitudes toward alcohol sponsorship in sport correlated with greater drinking during the prior week.

Discussion

The present research examined the association between alcohol sponsorship of sports and behaviors and perceptions in relation to alcohol among university sportspeople. It contributes to extant research by (a) investigating a more diverse national sample of sportspeople than previous studies on this underresearched issue; (b) capturing the complexity of sponsorship of university sports, including direct and indirect forms of sponsorship; and (c) examining affective outcomes of alcohol sponsorship among sportspeople for the first time.

Key Findings

One third (33%) of sportspeople surveyed reported that they were sponsored by the alcohol industry. This finding is critical, given college students' known vulnerability to hazardous drinking compared with the general population and heightened vulnerability of college sportspeople within the student population. Our research supports mounting evidence to suggest that alcohol industry sponsorship of sport extends to direct-to-user strategies, which are not idiosyncratic to particular population samples. Indeed, such sponsorships, including product, vouchers, discounts, and volume rebates for clubs, are more prevalent in amateur sport and therefore potentially affect more sportspeople and sporting communities. Although there was no overall effect of sponsorship upon the five measures of consumption, direct-to-user alcohol industry sponsorship in the form of vouchers, prizes, and product was associated with alcohol use (i.e., 12-month consumption and disordered consumption), although these effects were small. Moreover, university sportspeople's attitudes toward sponsoring alcohol brands were positive, and both acute and disordered consumption correlated with liking for sponsoring brands. Sportspeople also reported that other sponsored sportspeople were more likely to consume sponsors' products, to consume more alcohol than nonsponsored sportspeople, and to consume alcohol after games with their team. This is an important finding because the projective nature of the question minimizes social desirability bias associated with self-reported consumption. Some social norms associated with sport, such as pressure to drink with teammates, were also associated with disordered consumption; however, this finding applies only to those receiving sponsorship, because nonsponsored sportspeople did not complete this part of the survey. Research on the collectivity of drinking cultures indicates that people's drinking habits tend to mirror those of their peers (Borsari & Carey, 2001). This implies that an individual exposed to a heavy drinking environment, in which drinking is socially sanctioned and encouraged (e.g., the sport setting), will tend to become a heavier drinker. Our research emphasizes this concern in a university sports setting and finds empirical evidence of the prevalence of these sanctioning norms in college sport.

What does this mean for institutional (i.e., university and club) management of sponsorships? These findings imply that careful negotiation of sponsorship terms is needed to limit provision of free or discounted product to student sportspeople and attendees at university sporting events. Although it may not be feasible or realistic to avoid alcohol sponsorship of events altogether, sponsorship deals fostering provision of cash, uniforms, or travel might reduce the risk of hazardous consumption and liking that appears to attach to direct-to-user sponsorship forms. Organizers should enter sponsorship arrangements aware of the subtle nature of these direct-to-user alcohol sponsorships in the college sports environment and the impacts it can potentially have upon participants and even bystanders. With this in mind, communications around the event can be an important means by which to limit what has become an insidious sponsorship presence by the alcohol industry. For example, policies limiting sponsorship leveraging by the alcohol industry and increasing health warnings around binge drinking and hazardous drinking among participants at sporting events are warranted by this research.

These findings are somewhat consistent with results from New Zealand and Australia (O'Brien & Kypri, 2008; O'Brien et al., 2011), which also found a link between direct-to-user sponsorship and disordered consumption. However, in contrast to those studies, we found no overall effect of sponsorship upon consumption, indicating that the association between sponsorship and consumption suggested by prior studies does not extend to all sponsorship and consumption measures. This difference in findings may be attributable to a more heterogeneous sample representing a greater variety of sponsorship types than in previous studies. We therefore advance research methodologically by reporting differences emerging across sponsorship types in a diverse sample of university sportspeople, revealing a more detailed and complex picture of sponsorship effects.

Given the prevalence of direct-to-user sponsorships, and their association with dangerous consumption among university sportspeople, it is critical that policy target these common forms of sponsorship. Policy initiatives aimed at buying out these forms of sponsorship, such as the Good Sports program and the Australian National Preventative Agency's sponsorship fund (2013), are promising steps in this direction. In addition, although our results suggest that excessive alcohol consumption among university sportspeople may depend upon the type of sponsorship offered, alcohol sponsorship in general may still have critical impact by influencing brand choice.

Limitations and Future Research

A limitation of the study is the cross-sectional design, which precludes causal attributions, and the response bias inherent in self-report of behaviors and attitudes relating to alcohol. However, our survey instrument limited social desirability bias by incorporating several open-ended items, in addition to projective questions. Although prior research has demonstrated a relationship between sponsorship and attitudes among young people in general, there has been relatively little research attention on attitudes among young sportspeople, despite existing research suggesting that they constitute a vulnerable population. Our findings suggest the importance of team culture in predicting consumption and the possibility that it may operate distinctly from sponsorship. However, the precise relationships among sponsorship, attitudes, and consumption require further empirical testing. The statistical control for various predictors does not preclude alternative explanations for the association between sponsorship and disordered consumption. However, we can rule out the possibility of reverse causality (i.e., heavy drinkers seeking out alcohol sponsorship) because the majority of alcohol industry-sponsored participants were sponsored at the club level, rather than individually. A logical progression for this line of research would be to directly test causal impacts of alcohol-industry sponsorship through experiments in a laboratory setting. Replication of this research in sportspeople other than university sportspeople would also be worthwhile to assess whether university sportspeople may be more vulnerable to stimulation of consumption by sponsorships. Our more heterogeneous sample has some interesting insights against past work, with logical extensions of our research to other contexts including grass roots and local sport clubs or social participation, where much of the debate on alcohol sponsorship and policy has been founded.

Another research direction would be to examine the matching of intentions and attitudes toward sponsors and behavior. Although our research found correlation between attitudes and acute and disordered drinking, future research might consider the causality among these variables and possible mediating variables such as social norms.

Policy and Regulation Advice

This research addresses the lack of evidence currently available to regulators and the community to ensure informed decision making on this important issue. Findings are consistent with those from previous studies that suggested a link between sponsorship and increased consumption among university sportspeople, but the current results qualify these findings to direct-to-user sponsorships rather than an overall sponsorship-related effect. Thus, the debate over regulation of alcohol sport sponsorship could be split into two parts. One is cash payment to the team or athlete, which is what people usually think of as sponsorship, but it is hard to prove direct causal links between cash and alcohol abuse by sportspeople and the public. The other is direct-to-user forms of alcohol sponsorship, for which a few studies have now found evidence of effects and for which the direction of causal influence is clearer. More research on direct-to-user effects is therefore warranted.

Our finding that sportspeople as consumers have defined views and attitudes toward sponsors and projected views to teammates may facilitate greater discussion for organizations on both sides of the sponsorship arrangement. Therefore, this work can contribute to the policy debate and management of the sponsorship relationship, such as developing marketing communications that promote sensible consumption or creating event-specific guidelines.

Our results provide much-needed evidence of specific policy directions around alcohol sponsorship in sport, including (a) regulation of product sponsorships, such as product discounts, prizes and establishment entry, particularly associated with sporting clubs, rather than broad regulation of all sponsorship; (b) targeting of social and cultural norms associated with drinking in university team sports, and further examination of their impact; (c) education of university sportspeople, because they may not be aware that alcohol sponsorship can affect them; and (d) improving governance of the sponsorship relationships between university sports and potential alcohol sponsors, to ensure consistency of negotiations and limit of sponsorship leveraging around events and sports. Coordinated governance from sporting organizations and government would assist universities to implement and enforce these policies and disseminate initiatives efficiently. Anti-tobacco policy implemented 2 decades ago is one possible template for policy formulation guidance on controversial product sponsorships in sports generally, including alcohol, junk food, and gambling. The banning of tobacco sponsorship and advertising did not result in long-term detriment to the commercialization of sports. However, it should be emphasized that tobacco and alcohol cases can be contrasted on the basis that sport is now far more reliant upon commercial sponsorships and, furthermore, that alcohol in moderation is not harmful. Governance alternatives relating to alcohol could therefore feasibly encompass hybrid options, as distinct from banning. For example, a combination of alcohol sponsorship with health messages might be a viable option in conjunction with careful targeting of direct-to-user sponsorships and vulnerable populations, including university sportspeople. Another alternative that mirrors the tobacco model is partitioning a proportion of excise taxes for supporting community sports, a concept known as ring fencing. In sum, the findings point to the importance of measuring impacts in terms of a spectrum of sponsorship tactics and recognizing the complexity of the mechanism between sponsorship and university sportspeople's alcohol-related behavior. Thus the focus of policy debate and future research need to be on antecedents to collegiate sportspeoples' consumption rather than on banning of alcohol sponsorship of sports.

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