

POLICY AND PREVENTION

Alcohol Industry and Non-Alcohol Industry Sponsorship of Sportspeople and Drinking

Kerry S. O'Brien^{1,2,3,*}, Peter G. Miller⁴, Gregory S. Kolt⁵, Matthew P. Martens⁶ and Andrew Webber⁵

¹School of Political and Social Inquiry, Monash University, VIC, Australia, ²School of Psychological Sciences, University of Manchester, UK, ³School of Sports Sciences, Manchester Metropolitan University, UK, ⁴School of Psychology, Deakin University, Australia, ⁵School of Biomedical and Health Sciences, University of Western Sydney, Australia and ⁶Department of Educational, School, and Counseling Psychology, University of Missouri, MI, USA

*Corresponding author: School of Political and Social Sciences, Monash University, VIC, Australia. Tel: +61 3 990 32377; Fax: +61 3 990 52410; E-mail: kerrykez@gmail.com

(Received 14 September 2010; in revised form 8 December 2010; accepted 9 December 2010)

Abstract — **Aims:** To examine the relationship between direct alcohol and non-alcohol sponsorship and drinking in Australian sportspeople. **Methods:** Australian sportspeople ($N=652$; 51% female) completed questionnaires on alcohol and non-alcohol industry sponsorship (from bars, cafes etc.), drinking behaviour (Alcohol Use Disorders Identification Test (AUDIT)) and known confounders. **Results:** 31% reported sponsorship (29.8% alcohol industry; 3.7% both alcohol and non-alcohol industry and 1.5% non-alcohol industry only) Multivariate regression showed that receipt of alcohol industry sponsorship was predictive of higher AUDIT scores ($\beta_{\text{adj}}=1.67$, 95% confidence interval (CI): 0.56–2.78), but non-alcohol industry sponsorship and combinations of both were not ($\beta_{\text{adj}}=0.18$, 95% CI: –2.61 to 2.68; and $\beta_{\text{adj}}=2.58$, 95% CI: –0.60 to 5.76, respectively). **Conclusion:** Governments should consider alternatives to alcohol industry sponsorship of sport. Hypothecated taxes on tobacco have been used successfully for replacing tobacco sponsorship of sport in some countries, and may show equal utility for the alcohol industry's funding of sport.

INTRODUCTION

Excessive alcohol consumption is a leading cause of mortality and morbidity, and is ranked alongside tobacco use in terms of disability-adjusted life years (Rehm *et al.*, 2009). Research conducted in Australia, New Zealand and the USA shows that sportspeople drink more alcohol, in a more hazardous manner, with more resulting harm than non-sportspeople (Leichliter *et al.*, 1998; Martens *et al.*, 2006; Nelson and Wechsler, 2001; O'Brien *et al.*, 2005, 2007, 2008, 2010).

Although the reasons for sportspeople's problematic drinking are complex, evidence suggests that alcohol industry marketing contributes to the problem (Babor *et al.*, 2003). There is strong evidence that exposure to alcohol advertising leads to more harmful drinking (Anderson *et al.*, 2009; Collins *et al.*, 2007). However, there is a noted paucity of research on the relationship between alcohol industry sponsorship of sport and hazardous drinking (Anderson and Baumberg, 2006; Kypri *et al.*, 2009), despite the importance of such evidence to current alcohol policy debates in several countries (e.g. Australia, Ireland and the UK). The alcohol industry uses sport as its primary vehicle for promoting alcohol sales, with the bulk of its marketing budget (approximately 60%) spent on sport-related advertising and sponsorship (Center on Alcohol Marketing and Youth, 2004). For example, in the first 6 months of 2009, Anheuser–Busch spent 80% (approximately US\$157,000,000) of its marketing budget in US sporting events (Lefton, 2009) and is expected during a recession to spend a total of 350 million in sport for 2009 (Ozanian, 2009). The assumption is that this expenditure translates into increased alcohol sales.

Alcohol industry sponsorship not only refers to payments for sports event naming rights (e.g. Heineken Rugby, Tennis and UEFA Football), which are in effect advertising, but also to less conspicuous but potentially more harmful, 'direct to user' alcohol industry sponsorship. Although not studied empirically in Australia, Ireland and the UK, this latter form

of alcohol industry sponsorship appears common (Reilly, 2010), and encompasses practices such as: payment of team/club fees, uniform/travel costs and provision of alcohol-related products by alcohol industries (e.g. manufacturers, wholesalers and bars). The only empirical evidence on this form of sponsorship found that almost 48% of the 1279 New Zealand sportspeople surveyed received some form of alcohol industry sponsorship (O'Brien and Kypri, 2008). Exposure to such sponsorship was associated with higher Alcohol Use Disorders Identification Test (AUDIT) scores after accounting for confounders. The alcohol industry (e.g. pubs, taverns, hotels and breweries) is thought to gain benefit from this form of sponsorship in several ways; first, sponsors (e.g. local pubs) typically place alcohol advertising on sportspeople's sport clothing, clubrooms, websites etc. Second, sponsors sometimes negotiate and/or demand sole pourage and/or brand rights for a sports club. Third, sportspeople may frequent their sponsor's establishment (whether explicitly required or not) with friends and supporters after games/practices, and drink the sponsors' products (O'Brien and Kypri, 2008).

Results from this study of more 'direct to user' alcohol sponsorship has evoked policy debate in the UK, Ireland, Australia and New Zealand, with calls to ban the alcohol industry sponsorship of sport (Gilmore, 2008; Rehm and Kanteres, 2008). Representatives of the alcohol and sports industries challenged the findings suggesting that firstly, the sponsorship conditions described may be unique to New Zealand. And secondly, that the relationship of non-alcohol industry sponsorship to sportspeople's drinking was not assessed concurrently (Glendinning, 2008). These are important empirical questions with alcohol policy implications. Direct alcohol industry sponsorship of sportspeople has not been studied outside of New Zealand, thus there is a need to confirm its presence in other countries, and its relationship to sportspeople's drinking. Additionally, non-alcohol industry sponsorship of sportspeople, and its potential association with drinking, has never been studied. Conceivably, the

provision of resources (e.g. financial) via any form of sponsorship, rather than alcohol-related sponsorship specifically, may be associated with drinking in sportspeople via the liberation of sportspeople's own monies for self-initiated alcohol purchases. The present study sought to examine the extent of alcohol-related and non-alcohol-related sponsorship and its association with hazardous drinking levels in Australian sportspeople.

SUBJECTS AND METHODS

Participants

A purposive sample of 652 (51% females) in-season sportspeople over the age of 18 years (mean \pm (SD) = 20.74 \pm 3.28 years; range 18–45 years) was recruited (response rate approximately 80%) from two large multi-campus Australian universities in the state of New South Wales (population approximately 7.1 m). The majority ($n = 491$; 75%) of sportspeople participated in club/social level sports, with 126 elite-provincial/state level sportspeople, and 35 elite-national/international level. It should be noted that outside of North America participation in university/college sport competitions is uncommon with the exception of an annual 1 week university sports tournament. Instead, Australian, New Zealand and, to a lesser extent, UK university students participate in local, state or nationally administered non-university-based sport competitions. Thus, participants play their sport in community teams, clubs and competitions, and play alongside non-student sportspeople.

The aim of the recruitment approach used here was to try to ensure sufficient heterogeneity in the exposure of interest, namely, alcohol and non-alcohol sponsorships vs. no sponsorships, rather than to achieve a representative sample of sportspeople/athletes. This was to ensure that there were sufficient numbers of participants in each of the sponsorship categories (alcohol vs. non-alcohol vs. both vs. no sponsorship) when disaggregated according to potential confounders (e.g. gender, age and location). The epistemological basis of the approach is that there is no reason to expect that how people came into the cohort would be connected to the association of interest (Ameratunga *et al.*, 1998). In other words, the sportspeople selected were not less likely or more likely to show an association than the theoretical population of Australian sportspeople. Given that the study sample was not necessarily representative of the theoretical population of sportspeople, sponsorship prevalence rates were not estimated.

Measures

To assess alcohol-related sponsorship, we used established items from a previous study on alcohol industry sponsorship (O'Brien and Kypri, 2008), and modified these items to assess receipt of non-alcohol sponsorship. The sport sponsorship questions asked whether the participant, their team or club/organization currently received sponsorship of any kind (e.g. monies, uniforms, equipment and other products) from an alcohol and/or non-alcohol industry (yes/no). The final study questionnaire contained demographic items (age, gender, location, age of alcohol intoxication debut, team vs. individual sport and level of sporting participation), the

World Health Organization's (WHO) AUDIT (Saunders *et al.*, 1993), and the alcohol and non-alcohol industry sponsorship questions outlined above. The AUDIT is a 10-item questionnaire that was developed to identify persons whose alcohol consumption has become hazardous or harmful to their health. The validity and reliability of the AUDIT at specific cut-off scores has been well established with a score of 8 or higher considered indicative of hazardous drinking (Conigrave *et al.*, 1995).

Procedure

Participants were approached at community and campus sports grounds (e.g. hockey, football, rugby and cricket), and non-sporting (campus food, living and study spaces) venues. Upon arrival at data collection venues, researchers approached the nearest sportsperson(s) and invited him or her to participate in the study. Following acceptance or rejection of the invitation, the data collector again approached the nearest sportsperson(s) for participation, and so on. We offered participants a small snack and/or non-alcoholic drink (approximate cost: AU\$1.50) as an incentive for participation. The questionnaire took approximately 10 min to complete. Institutional Review Boards granted approval for the study.

Analyses

Multiple regression analysis controlling for known predictors of hazardous drinking (i.e. age, gender, location, age of alcohol intoxication debut, team vs. individual sport and level of sporting participation) were utilized. Alcohol intoxication debut is controlled for in analyses because being drunk under the age of 16 predicts a future drinking problem, and will help statistically control for the likelihood of social selection via problematic drinkers seeking out alcohol sponsorship (Oakes, 2004). Similarly, playing team vs. individual sports, and elite-provincial/state sport participation have been found to be associated with more hazardous drinking (Martha *et al.*, 2009; O'Brien *et al.*, 2007). We also controlled for location effect (i.e. rural vs. urban campus settings), a potential influence via environmental factors such as alcohol outlet density and price (Kypri *et al.*, 2008; Weitzman *et al.*, 2003). One-way ANOVAs were conducted to assess the relationship between alcohol industry and non-alcohol industry sponsorship, and AUDIT scores.

RESULTS

Sponsorship

Nearly a third of sportspeople ($n = 204$, 31%) reported receiving some form of sponsorship; with $n = 194$ (95%) of those sponsored receiving alcohol industry sponsorship; $n = 26$ (13%) receiving non-alcohol industry sponsorship and $n = 16$ (8%) receiving both forms.

Drinking behaviour

The mean AUDIT score and standard deviation (\pm) for the whole sample was 10.3 (± 6.8), with 393 respondents (60%) meeting criteria for hazardous drinking (AUDIT score ≥ 8). Only 37 respondents (6%) reported abstaining from alcohol.

Table 1. Regression models of drinking behaviour and direct alcohol industry sponsorship

Parameter	AUDIT score			
	Univariate		Multivariate	
	Unadjusted β	(95% CI)	Adjusted β^a	(95% CI)
Location (rural = 0, urban = 1)	2.74	(1.71, 3.77)	2.66	(1.69, 3.62)
Age	-0.29	(-0.19, 0.13)	-0.10	(-0.25, 0.05)
Gender (female = 0, male = 1)	2.26	(1.22, 3.30)	1.72	(0.74, 2.69)
Got drunk when under age 16 years (no = 0, yes = 1)	4.96	(3.92, 6.01)	4.55	(3.52, 5.57)
Team vs. individual sport (team = 0, individual = 1)	1.15	(0.07, 2.22)	0.31	(-0.72, 1.34)
Level of sport (representative = 0, non-representative = 1)	-0.34	(-1.29, 0.61)	0.06	(-0.85, 0.97)
Sponsorship type (none = 0) ^b				
Alcohol industry-related	2.08	(0.94, 3.23)	1.67	(0.56, 2.78)
Non-alcohol industry	-1.09	(-3.79, 1.59)	0.18	(-2.61, 2.68)
Both alcohol-related and non-alcohol	2.53	(-0.87, 5.93)	2.58	(-0.60, 5.76)

^aAdjusted for all other variables presented in the table, $n = 651$.

^bSponsorship types are mutually exclusive.

Males had higher AUDIT scores than females (mean 11.4 ± 7.4 vs. 9.2 ± 6.1 ; P -value < 0.001). Age was not correlated with AUDIT scores (Pearson's $r = -0.01$; P -value = 0.7). Rates of hazardous drinking (AUDIT score ≥ 8) were greater in those receiving than those not receiving alcohol industry sponsorship (68.6 vs. 58.6%; P -value < 0.005). Similarly, rates of alcohol industry sponsorship were significantly higher in participants who reported being drunk under the age of 16 years (37.3 vs. 29.6%; P -value < 0.05). However, proportions of hazardous drinking did not differ significantly between those receiving and those not receiving non-alcohol industry sponsorship (61.9 vs. 60.2%; P -value < 0.82).

Multivariate regression

Results of the multiple regression analyses presented in Table 1 show that, after accounting for all confounders, sportspeople receiving alcohol industry sponsorship had AUDIT scores of 1.67 points higher (95% confidence interval (CI): 0.56–2.78) than those who did not report receiving alcohol industry sponsorship. Receipt of non-alcohol industry sponsorship, and receiving both alcohol and non-alcohol industry sponsorship were not significant predictors in the multivariate model ($\beta_{\text{adj}} = 0.18$, 95% CI: -2.61 to 2.68; and $\beta_{\text{adj}} = 2.58$, 95% CI: -0.60 to 5.76, respectively).

DISCUSSION

The present study examined receipt of alcohol and non-alcohol industry sponsorship in Australian sportspeople, and its association with drinking. Additionally, the research was the first to explore receipt of non-alcohol industry sponsorship, and its relationship to sportspeople's drinking. Alcohol and/or non-alcohol industry sponsorship was reported by approximately a third of the sportspeople surveyed. After accounting for several known confounders, receipt of alcohol industry sponsorship was associated with higher AUDIT scores. This finding is consistent with results from New Zealand (O'Brien and Kypri, 2008). Receipt of non-alcohol industry sponsorship was not related to AUDIT scores either univariately or multivariately. Similarly, the regression term describing receipt of both alcohol and non-alcohol industry

sponsorship was not significantly associated with drinking behaviour.

The primary finding that receipt of alcohol industry sponsorship is associated with increased drinking in Australian sportspeople is important because it supports initial findings from New Zealand (O'Brien and Kypri, 2008), and conflicts with the claim by the alcohol industry and sports marketers that this form of sponsorship was unique to New Zealand (Glendinning, 2008). The question of whether non-alcohol industry sponsorship is related to drinking behaviour was also important, as it is conceivable that sponsorship (e.g. provision of uniforms, travel costs) from any source, rather than alcohol industry sponsorship *per se*, might release otherwise committed monies for self-initiated alcohol purchases. The results suggest that the relationship between sponsorship and drinking is stronger for sponsorship received from alcohol-related industries. Thus, the mere liberation of monies through receipt of any sponsorship, rather than alcohol industry sponsorship specifically, does not appear to be related to more hazardous drinking in sportspeople.

A limitation of the study is the cross-sectional design, which precludes causal attributions. The statistical control for various confounders, such as age of alcohol intoxication debut, reduces but does not eliminate the possibility that other variables account for the association. Thus, we cannot completely discount the possibility that heavier drinkers sought out alcohol sponsorship. The present sampling approach was adopted for the purpose of efficiency, and because some sporting bodies denied access to the population of interest for the purposes of this study. It should be noted that the aim of the study, namely, to examine associations between alcohol and non-alcohol sponsorship and drinking behaviour, is unlikely to have been compromised by the approach we selected, as there was heterogeneity in the exposures of interest which reduces the possibility of bias (Rothman and Greenland, 1998). It is also important to note that receipt of non-alcohol industry sponsorship of sportspeople was rare in this sample with only 13% of those sponsored reporting it came from non-alcohol industries. Thus, the results may need to be interpreted with some caution. However, the sampling approach used here, along with the high response rate ($>80\%$), does not create any obvious systematic reasons for a lower likelihood of

receiving non-alcohol industry sponsorship. Accordingly, the low proportion of non-alcohol industry sponsorships may represent the true extent of non-alcohol-related funding of community sports, and collection of larger samples may only modestly improve the reliability of future studies.

Attempts are currently being made to reduce the alcohol industry's use of high-profile sports to promote alcohol products, with 260 non-governmental organizations from 43 countries endorsing the Global Resolution to End Alcohol Promotion in World Cup Events (Campaign for Alcohol-Free Sports TV, 2006). Sport is the primary setting for the marketing of alcohol products and consumption (Center on Alcohol Marketing and Youth, 2004; Mason, 2005). Tobacco industry sponsorship of sport has been abolished in most western nations for over a decade with little apparent detriment to sport. The banning of alcohol industry sponsorship and advertising in sport remains contentious, but is at the centre of alcohol policy debates in several countries (House of Commons Health Committee-Alcohol First Report of Session 2009–10; Australia: the healthiest country by 2020, 2009). As such, the present results contribute needed evidence to alcohol policy debates, and suggest that governmental regulation of alcohol industry sponsorship and advertising in sport may be warranted.

REFERENCES

- Ameratunga SN, Norton RN, MacMahon SW *et al.* (1998) A prospective cohort study of blood donors: methodological issues in the investigation of injuries and chronic diseases. *Aust NZ J Public Health* **22**:578–82.
- Anderson P, Baumberg B. (2006) *Alcohol in Europe: A Public Health Perspective*. London: Institute of Alcohol Studies. http://ec.europa.eu/health-eu/news_alcoholineurope_en.htm.
- Anderson P, de Bruijn A, Angus K *et al.* (2009) Impact of alcohol advertising and media exposure on adolescent alcohol use: a systematic review of longitudinal studies. *Alcohol Alcohol* **44**:229–43.
- Australia: The Healthiest Country by 2020—National Preventative Health Strategy—the roadmap for action. Commonwealth of Australia (2009) <http://www.health.gov.au/internet/preventativehealth/publishing.nsf/Content/nphs-roadmap>.
- Babor T, Caetano R, Casswell S *et al.* (2003) *Alcohol: No Ordinary Commodity-Research and Public Policy*. Oxford: Oxford University Press.
- Campaign for Alcohol-Free Sports TV (2006) Global Resolution to End Alcohol Promotion in World Cup Events. http://www.cspinet.org/new/pdf/resolution_fifa.pdf.
- Center on Alcohol Marketing and Youth (2004). Alcohol Advertising on Sports Television 2001 to 2003 <http://camy.org/factsheets/pdf/AlcoholAdvertisingSportsTelevision2001-2003.pdf>.
- Collins R, Ellickson PL, McCaffrey D *et al.* (2007) Early adolescent exposure to alcohol advertising and its relationship to underage drinking. *J Adolesc Health* **40**:527–34.
- Conigrave KM, Saunders JB, Reznik RB. (1995) Predictive capacity of the AUDIT questionnaire for alcohol-related harm. *Addiction* **90**:1479–85.
- Gilmore I. (2008) Direct link found between alcohol sponsorship and hazardous drinking among sportspeople. *Royal College of Physicians*. http://www.rcplondon.ac.uk/news/news.asp?PR_id=425.
- Glendinning M. (2008). Alcohol sponsorship all clear, says drinks group. *Sport Business*. <http://www.sportbusiness.com/britsport/168360/alcohol-sponsorship-all-clear-says-drinks-group>.
- House of Commons. (2009) Health Committee—First Report Alcohol. <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmhealth/151/15102.htm>.
- Kypri K, Bell ML, Hay GC *et al.* (2008) Alcohol outlet density and university student drinking: a national study. *Addiction* **103**:1131–8.
- Kypri K, O'Brien KS, Miller P. (2009) Time for precautionary action on alcohol industry funding of sporting bodies. *Addiction* **104**:1949–50.
- Lefton T. (2009). A-B shifts approach to sports ties. <http://www.sportsbusinessjournal.com/article/63394>
- Leichter JS, Meilman PW, Presley CA *et al.* (1998) Alcohol use and related consequences among students with varying levels of involvement in college athletics. *J Am Col Health* **46**:257–62.
- Martens MP, Dams-O'Connor K, Beck NC. (2006) A systematic review of college student-athlete drinking: prevalence rates, sport-related explanations, and interventions. *J Substance Abuse Treatment* **31**:305–16.
- Martha C, Grélot L, Peretti-Watel P. (2009) Participants' sports characteristics related to heavy episodic drinking among French students. *Int J Drug Polic* **20**:152–60.
- Mason K. (2005) How corporate sport sponsorship impacts consumer behaviour. *J Am Acad Business* **7**:32–5.
- Nelson TF, Wechsler H. (2001) Alcohol and college athletes. *Med Sci Sport Exerc* **33**:43–7.
- Oakes JM. (2004) The (mis)estimation of neighborhood effects: causal inference for a practicable social epidemiology. *Soc Sci Med* **58**:1929–52.
- O'Brien KS, Kypri K. (2008) Alcohol industry sponsorship of sport and drinking levels in New Zealand sportspeople. *Addiction* **103**:1961–6.
- O'Brien KS, Blackie J, Hunter JA. (2005) Hazardous drinking in elite New Zealand sportspeople. *Alcohol Alcohol* **40**:239–41.
- O'Brien KS, Ali A, Cotter J *et al.* (2007) Hazardous drinking in New Zealand sportspeople: level of sporting participation and drinking motives. *Alcohol Alcohol* **42**:376–82.
- O'Brien KS, Kypri K, Ali A *et al.* (2008) Gender equality in university sportspeople's drinking. *Drug Alc Review* **27**:659–65.
- O'Brien KS, Kolt G, Webber A *et al.* (2010) Alcohol consumption in sport: the influence of sporting idols, friends and normative drinking practices. *Drug Alc Review* **29**:676–83.
- Ozanian M. (2009). Sponsors Splitting From TV Sports. *Forbes*. <http://www.forbes.com/2009/03/11/corporate-sports-sponsorship-slumps-business-sports-money-tv-advertising.html>.
- Rehm J, Kanteres F. (2008) Alcohol and sponsorship in sport: much needed evidence in an ideological discussion. *Addiction* **103**:1967–8.
- Rehm J, Mathers C, Povova S *et al.* (2009) Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *Lancet* **373**:2223–33.
- Reilly J. (2010). Last orders on the cards for alcohol ads in sports: but most people oppose outright ban on drink firms' sponsorship. *Sunday Independent*. <http://www.independent.ie/national-news/last-orders-on-the-cards-for-alcohol-ads-in-sports-2325328.html>.
- Rothman KJ, Greenland S. (1998) *Modern Epidemiology (Second Edition)*. Second Edition ed. Philadelphia: Lippincott-Raven Publishers.
- Saunders JB, Aasland OG, Babor TF *et al.* (1993) Development of the Alcohol Use Disorders Identification Test (AUDIT): World Health Organisation Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption—II. *Addiction* **88**:791–804.
- Weitzman ER, Folkman A, Lemieux Folkman K *et al.* (2003) The relationship of alcohol outlet density to heavy and frequent drinking and drinking-related problems among college students at eight universities. *Health Place* **9**:1–6.