A peer-led survey of student alcohol Behaviours and motives in undergraduate students

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Abstract

Background This study examines Irish undergraduate students' behaviours and motives regarding alcohol consumption. The study explores both levels and patterns of consumption.

Method A cross-sectional design using a convenience sample of ($n = 213$) students from a selection of different courses in Health Sciences at Trinity College Dublin was used to obtain this data. The study used a peer-led approach to design and data collection. Peer-led research is emerging as a robust methodology. Evidence supports it as an effective approach, particularly with sensitive questions, which may be shared with more ease between persons with common interests and experiences.

Results In terms of alcohol consumption levels and patterns, of those who drank almost three quarters (149/71%) met the threshold for binge drinking (i.e. six of more consecutive drinks in one session). Males ($n = 36/73.4\%$) were more likely than females ($n = 113/69.7\%$) to binge drink. Moreover, one in 5 males ($n = 10/20.4\%$) said that they drank ten or more drinks in one session. Males were more likely to drink for conformity reasons. Despite this, a significant proportion (69.2%) of participants reported alcohol-related problems. The Drinking Motives Questionnaire-Revised (DMQR) results showed that overall students were more likely to drink for social and enhancement reasons rather than coping or conformity reasons, consistent with other studies. Nonetheless, males in the current study were more likely to drink for conformity reasons.

Conclusion Given the high rates of hazardous drinking, the development of an alcohol intervention may be justified, given the high response rates to peer-screening, a peer-led intervention for alcohol-related harms may yield positive results.

Background

Problem alcohol use amongst adults of typical college students age has been shown to lead to detrimental health effects, with the World Health Organization (WHO) [1], noting that amongst 20–39-year olds, approximately 13.5% of the total deaths are alcohol-attributable. A 2006 study found that the European Union (EU) had the highest level of alcohol consumption globally, at 11 l per capita per annum [2]. This figure primarily fell in subsequent years, reaching 10.2 l by 2014, with Ireland, however exceeding this average with 10.8 l [3]. By 2017 in Ireland, this figure had seen an increase, rising to 11 l [4].

Furthermore, relative to EU nations, binge drinking is a significant issue in Ireland. In 2010, Ireland claimed the highest rate of binge drinking at least once weekly at 44% in comparison to the then EU27 average of 29%. Within this EU-exhaustive research, findings also showed that residents between 15 and 24 years of age were 25% more likely on average to binge drink more than once per week [5].

The World Health Organization (WHO) defines binge drinking as the consumption of 6 or more standard units of alcohol in one sitting. The definition of a standard drink varies globally. In Ireland, a standard drink qualifies as a drink containing 10 g of pure alcohol, for example, a half-pint of beer, lager or stout (284 ml), a pub measure of spirits (35.5 ml) or a small glass of wine (100 ml). In 2013, 75% of all alcohol consumed in Ireland was done so in binge drinking sessions. In Ireland, 18–24-year old's display the most frequent levels of Risky Single-Occasion Drinking (RSOD) with 60.2% binge drinking monthly. This drinking pattern is most common amongst males aged 18–24 years (67.8%), 54% of those

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under 25 participate in binge drinking in a typical drinking session, with males displaying a greater tendency (67% in comparison to their female counterparts, 39%).

Furthermore, 82.8% of males aged 18–24 years old who had consumed alcohol in the previous year scored positive (i.e. score of 6 for males and 5 for females) on an AUDIT-C score. The AUDIT_C is a brief version of the AUDIT a validated measure of alcohol risk and harm that we have incorporated into our survey. Moreover, 66.4% of females from the same age bracket scored similarly [6]. In addition to this, Irish adolescents and young adults between the ages of 15 and 24 "are typically less aware of the risks associated with heavy drinking" [7].

While limited statistics are available regarding college students on a national scale in Ireland, one study from University College Cork (UCC) reported that 65.2% of male and 67.3% of female Irish college students display hazardous alcohol consumption [8]. These figures are similar to those found in a (classroom-based) study of undergraduate students in universities in England between 2008 and 2009 that found 62% of the cohort scored positive on the AUDIT [9]. Findings amongst college students in New Zealand are again similar with 68% described as having "scored in the hazardous range (4+) on the AUDIT consumption subscale" [10]. A previous study by Kypri found that amongst college students in Halls of Residences in New Zealand 60% of males and 58.2% of females "typically consumed more than national safe drinking guidelines" [11]. A 2002 epidemiological study looked at five different sources of data examining the drinking habits of college students in the USA [12]. It resulted in slightly lower values with all sources finding like Weschler and Austin [13] that "approximately 2 of 5 American college students can be termed binge drinkers", in both studies binging is defined as having consumed 5 or more alcoholic drinks in one sitting. The college and noncollege experience: a review of the factors that influence drinking behaviour in young adulthood examined 18 different studies which compared factors influencing the drinking patterns of college students versus noncollege peers. The authors suggest that most of the studies investigating drinking quantity found the college students displayed a tendency to drink more significant amounts of alcohol or "engaged in riskier consumption patterns". Peer-led approaches are gaining popularity within the literature. Peer-led approaches include the teaching or exchange of health information or related behaviours between individuals with shared characteristics. The promise of peer-led approaches is borne of a notion that people with similar interests, backgrounds or interests learn from one another, as they have greater credibility [14]. For example, young people may have a common cultural background and therefore may also have a deeper comprehension and insight of the health behaviour being investigated.

Aims

The current study aims to examine the consumption rate, patterns of use and motivations for drinking amongst Irish undergraduate students regarding alcohol. Key to this study was the peer-led approach to designing and conducting it.

Methods

The study used peer-researchers to collect data from students using a classroom distributed paper questionnaire. Undergraduate students attending one large college students in Ireland, Trinity College Dublin, were eligible for inclusion. Students were briefed orally and in writing (on the front sheet of the questionnaire) on the aims and objectives of the study, including details of its anonymous and voluntary nature.

Data collection tool

In addition to a brief demographic questionnaire, the study utilized two validated instruments to determine the degree of consumption and motivations behind drinking: the AUDIT (15) and the DMQ-R [15]. The Alcohol Use Disorders Identification Test, an established method of screening for excessive drinking validated by the WHO. The AUDIT was developed to provide a framework for intervention for hazardous and harmful drinkers to reduce or cease alcohol consumption as well as to identify excessive drinking as the cause of the presenting illness [16]. The Drinking Motives Questionnaire-Revised (DMQR) includes 20 items; each item lists a possible reason a person might be motivated to consume alcohol. Participants rated on a 5-point scale how frequently each of the 20 listed reasons motivate them to drink alcoholic beverages. The measure yields four scale scores reflecting different motives for drinking alcohol (social, enhancement, coping, conformity) [15].

The final question was a multipart based on the DMQ-R designed to determine undergraduate students' motivations behind drinking. Participants were asked how often specific factors motivated their drinking. These factors spread across four domains: enhancement, coping, conformity and social. In total, there were 20 different factors examined in this question.

Sample and recruitment

Convenience sampling was used. A selection of first-, second-, third- and fourth-year students from Trinity College Dublin's Faculty of Health Sciences were included in the study. The inclusion criteria for the study were undergraduate students, students aged 18 or older and who were present in the lecture on the day of the survey. Students who were under 18 years were excluded. The sample was targeted as the

project was developed by members of the Health Trinity Campus Committee to understand student drinking better. Ethics approval was granted by the Trinity School of Medicine Research Ethics Committee.

Data collection

To maximize the response rate, peer researchers were used. Three peer researchers collected data. The researchers were medical students, with no student classes from their programme year included in the research. A paper and pen versions of the questionnaire were distributed during lectures. Permission to distribute the questionnaires during specific lectures was obtained by contacting the heads of the various disciplines a week prior to data collection. As part of the ethics approval, students were informed by email a week in advance that the study would be carried out. Once permission was granted, questionnaires were given out either at the beginning or end of the chosen lectures. Students were informed that participation was voluntary. Only those who agreed were given a questionnaire. Students who did not wish to take a break were free to roam or leave the room. The process took 15 minutes in total, with 5 minutes being allowed to fill out the questionnaire and 5 minutes either side to distribute and collect the questionnaires. Before filling out the questionnaires, the definition of a standard drink was explained to the class. As motivation to fill out the questionnaire to completion, students were invited to submit a separate piece of paper with their email address at the end of the survey to enter a draw for two tickets to the college annual ball. Questionnaires were administered to five classes over 1 week in March 2019.

Data analysis

Data were analysed using SPSS version 24. Descriptive statistics were used to describe the population. Bivariate analyses were conducted using Chi-squared tests to examine associations between gender, and the AUDIT scores and DMQ results.

Results

A total of 213 undergraduate students took part in the survey with a 100% response rate from those present. Two surveys were excluded due to inadequate completion of the questionnaire. Of the 211 participants who completed the valid surveys, 23.2% were male ($n = 49$) and 76.8% were female ($n = 162$). The ages of participants ranged from 18 to 62, while the mode was 19.

The AUDIT-C consisted of the first three questions of the AUDIT and determined the hazardous alcohol consumption (HAC) of participants (Table 1). Of all the participants

surveyed, just over 10% of students were non-drinkers ($n = 24/11.3\%$). More than one third ($n = 76/36.0\%$) were in the low-risk category. Females reported slightly higher rates of HAC than their male counterparts. Interestingly, of females in the current study who drank, almost two fifths ($39.5\%/n = 64$) meet the threshold HAC score of 6, set for males. In terms of patterns, the highest frequency of drinking ($n = 111/52.6\%$) was 2 to 4 times per month. Of those who drank, almost three quarters ($n = 149/71\%$) met the threshold for binge drinking (i.e. six or more consecutive standard drinks in one session). Males ($n = 36/73.4\%$) were more likely than females ($n = 113/69.7\%$) to binge drink. Moreover, one in 5 males ($n = 10/20.4\%$) said that they drank ten or more drinks in one session. Less than 4.3% of participants met the criteria for dependence ($n = 9$).

Almost one fifth ($n = 9/18.4\%$) of males and ($n = 26/16.0\%$) of femals said that, in the last year, they or someone else had been injured as a result of their drinking. One in ten participants ($n = 22/10.4\%$) said that a relative, friend, doctor or other healthcare worked had in the past been concerned about their drinking or suggested that they cut down.

In addition to alcohol consumption and patterns of use, we were also interested in student's motivation to drink. The DMQ survey results suggest overall, male participants were more likely to drink alcohol for conformity reasons, 14.3% of males cited 'fitting in' as a motivation for drinking. Conversely, more than half (54.7%) of females ($n = 88$) said that' fitting in' was either 'never or almost never' motivation for their drinking. Moreover, male participants were more likely than females to drink alcohol because of 'pressure from their friends'. Whereas, 80.7% of females ($n = 130$) said 'pressure from their friends' was either 'never or almost never' motivation for their drinking.

Discussion

The present study employed a peer-led method to examine both the AUDIT and DMQ-R scores concerning Trinity undergraduate students, taking both age and gender into account.

Table 1 AUDIT-C Scores

Threshold AUDIT-C Score of 5+	5 Females		6 Males	
Hazardous Alcohol Consumption (HAC)	N	%	N	%
Non-drinkers	18	11.1	6	12.2
Low-risk drinkers	58	40.2	18	42.0
Hazardous drinkers	86	53.0	25	51.0
Total	162	100	49	100

All participants present in the classroom completed the questionnaire. This rate of completion was considerably higher than other studies examining similar questions, with College students, including those that used in-class questionnaires and in an Irish setting—lending support to the argument that peer-led research may yield greater participation over those conducted by non-peers. The findings of the current study shared similarities with related studies but also elucidated important differences between different Irish and European results.

Using an AUDIT-C threshold score of 6 for males and 5 for females Davoran et al. (2015) examined Hazardous Alcohol Consumption (HAC) in a similar cohort of Irish students [8], the author found more than two thirds (66.4%) of students displayed (HAC) patterns. However, only 52.1% of students in the current study ($n = 110$) who identified as alcohol consumers were categorized as HAC. The National Alcohol Diary Survey [6] defined Hazardous Alcohol Consumption patterns using a threshold score of 5 or more on the AUDIT-C. The authors reported a HAC rate of 54.5% amongst those who had consumed alcohol in the previous year, adjusting for this threshold in the current cohort 54.9% students ($n = 116$) in the current displayed HAC patterns. Thus, findings are in line with national levels of HAC.

Nevertheless, patterns of consumption were different. Of the current participants, 70.1% reporting consuming six standard drinks or more on a typical day of drinking (i.e. binge drinking), considerably higher than the average Irish drinkers (54%) between 18 and 24 years, consuming six or more standard drinks in a typical drinking session [6]. The gap between these two Fures may relate to the finding of Carter et al. suggesting that college students tend to drink larger quantities and in a more hazardous pattern than their noncollege same-aged peers [17].

However, it appears that despite binge drinking being the typical drinking pattern of almost three-quarters of student drinkers, the level of consumption occurs less frequently amongst the student population when compared with the general Irish population. Only 11.2% of drinkers studied consumed more than six or more standard drinks in one sitting weekly, a value which is approximately a quarter of the 44% of Irish drinkers overall who binge drink weekly and is significantly less than the 29% average of weekly binge drinkers amongst the EU27 [5]. This difference could be accounted for in terms of environment, course and college demands, student demographic, i.e. Health Sciences, has a higher number of international students. The findings simply may be related to less available funds for alcohol. Nonetheless, as this information is unavailable, we cannot definitively answer.

Long and Mongan [6] addressed the negative consequences experienced by the drinker's consumption under eight separate headings, with 29.9% of Irish drinkers experiencing at least one of the eight harms. In contrast, in this study, 69.2% of alcohol-consuming students examined exhibited such problems. This difference is at least partly explained by the age-group studied; the National Alcohol Diary Survey [6] found that 56% of 18–24-year olds experience negative consequences as a result of their drinking, which is more comparable to the current findings.

The DMQ-R results showed an overall trend of undergraduate students tending to drink for social or enhancement reasons, with up to two-thirds of drinkers suggesting that they drink 'because it is fun', or 'makes social gatherings more fun' or 'to celebrate a social occasion'. Students surveyed were less likely to drink for conformity reasons, with those who consume alcohol suggesting they either 'almost never or never' drink', 'because your friends pressure you to drink', 'to be liked' or 'so you will not feel left out' respectively. Few students surveyed claimed to drink for coping reasons, with almost two-thirds of students answering 'almost never/never' to 'because it helps you when you feel depressed or nervous' and over half of students claiming never to drink 'to forget their worries' and 'almost never/never' 'to forget their problems'. These results are consistent with international findings, in which social reasons for drinking are most frequently indicated, followed by enhancement, coping and conformity, in that order [16, 18, 19].

Few studies have examined the relationship between drinking motives and gender. The present study found that males (14.3%) and were more likely than females (6.2%) to drink for conformity reasons.

The current student employed convenience sampling due to the in-house nature of the survey. This resulted in a limited scope in terms of faculty variation, with most of the participants hailing from health science degree courses ($n = 188$). It may be argued that asking health science students about health-related behaviours may elicit bias response. It is unclear whether this may have skewed the results, as sufficient inter-faculty comparison data were unobtainable. The participant gender ratio was 1:3.3, with more females ($n = 162$) than males ($n = 49$) completing the survey although Trinity College Dublin has a proportion of female (59%) undergraduates than males.

Conclusions

Despite its limitations, the present study highlights areas for concern and intervention for college alcohol-related support services, as well as giving insight into areas for further research. The study's statistics for hazardous alcohol consumption (HAC) and binge drinking were lower than comparable studies with similar cohorts. Findings were in line with the national average. Even though this pattern of alcohol use was quite different, more than two-thirds of students claimed to be affected by alcohol-related problems, with 10% stating that a person had indicated concern about their alcohol

consumption. The DMQ-R results showed that social enhancement reasons were predominant drinking motives compared with coping and conformity motives. This finding suggests that developing interventions in response may potentially offer effective alternatives in reducing the adverse effects of alcohol consumption.

Strengths and limitations

We had no students opting out with considerably higher than previous studies examining alcohol consumption in this population, utilizing in-class researcher questionnaire. This is a crucial strength of the current research and may lend support to peer-led student approach. The use of a convenience sample resulted in a limited scope in terms of faculty variation and is an explicit limitation of the current study.

Compliance with ethical standards

References

1. World Health Organisation (2018) Global status report on alcohol and health 2018. World Health Organisation, Geneva
2. Anderson P, Baumberg B (2006) Alcohol in Europe–public health perspective: report summary. Drugs 13(6):483–488
3. Organization WH (2019) In: World Health Organization (ed) Global action plan on physical activity 2018–2030: more active people for a healthier world
4. Revenue Commissioners, CSO. Figure 2.13 Alcohol and cigarette consumption per annum, per capita, aged 15 years and over, 1997 to 2017 [Internet]. An Roinn Sláinte, Dublin (undated). Available

from: https://health.gov.ie/wp-content/uploads/2018/12/KT2018-Figure-2-13.png. Accessed 22 March 2019
5. Eurobarometer S (2010) EU citizens' attitudes towards alcohol. European Commission, Brussels
6. Long J, Mongan D. Alcohol consumption in Ireland 2013. 2014
7. Health Do. Healthy Ireland survey 2015: summary of findings: Department of Health (DoH); 2016
8. Davoren MP, Shiely F, Byrne M, Perry I (2015) Hazardous alcohol consumption among university students in Ireland: a cross-sectional study. BMJ Open 5(1)
9. Heather N, Partington S, Partington E, Longstaff F, Allsop S, Jankowski M, Wareham H, St Clair Gibson A (2011) Alcohol use disorders and hazardous drinking among undergraduates at English universities. Alcohol Alcohol 46(3):270–277
10. Kypri K, Paschall MJ, Langley J, Baxter J, Cashell-Smith M, Bourdeau B (2009) Drinking and alcohol-related harm among new Zealand university students: findings from a national web-based survey. Alcohol Clin Exp Res 33(2):307–314
11. Kypri K, Langley JD, McGee R, Saunders JB, Williams S (2002) High prevalence, persistent hazardous drinking among New Zealand tertiary students. Alcohol Alcohol 37(5):457–464
12. O'Malley PM, Johnston LD (2002) Epidemiology of alcohol and other drug use among American college students. J Stud Alcohol Suppl 63(2):23–40
13. Wechsler H, Austin SB (1998) Binge drinking: the five/four measure. J Stud Alcohol 59(1):122–124
14. MacArthur GJ, Harrison S, Caldwell DM, Hickman M, Campbell R (2016) Peer-led interventions to prevent tobacco, alcohol and/or drug use among young people aged 11–21 years: a systematic review and meta-analysis. Addiction. 111(3):391–407
15. Cooper ML (1994) Motivations for alcohol use among adolescents: development and validation of a four-factor model. Psychol Assess 6(2):117–128
16. Babor TF, Higgins-Biddle JC, Saunders JB, Monteiro MT (2001) The alcohol use disorders identification test- guidelines for use in primary care, 2nd edn. World Health Organization
17. Carter AC, Brandon KO, Goldman MS (2010) The college and noncollege experience: a review of the factors that influence drinking behavior in young adulthood. J Stud Alcohol Drugs 71(5):742–750
18. Mackinnon SP, Couture ME, Cooper M, Kuntsche E, O'Connor RM, Stewart SH et al (2017) Cross-cultural comparisons of drinking motives in 10 countries: data from the DRINC project. Drug Alcohol Rev 36(6):721–730
19. Kuntsche E, Gabhainn SN, Roberts C, Windlin B, Vieno A, Bendtsen P, Hublet A, Tynjälä J, Välimaa R, Dankulincová Z, Aasvee K, Demetrovics Z, Farkas J, van der Sluijs W, de Matos MG, Mazur J, Wicki M (2014) Drinking motives and links to alcohol use in 13 European countries. J Studi Alcohol Drugs 75(3):428–437