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What harms do young Australians experience in alcohol-use situations?

Abstract

Objective: An insight into the alcohol-related experiences of young students in Perth, Western Australia, with particular emphasis to alcohol-related harm.

Method: The sample of 2,329 students (female: n=1,089, male: n=1,240) is a school-based group selected using cluster sampling, with stratification by socio-economic area and represents 11 to 12 year olds' experiences with alcohol and alcohol-related harm. The SHAHRP survey instrument was developed and pre-tested to measure students' knowledge, attitudes, patterns and context of use, harms associated with the students' own alcohol consumption and harms associated with other people's use of alcohol and incorporates the students' perceptions of alcohol-related harm.

Results: Nearly two-thirds of all young people consumed alcohol under adult supervision; nearly 40% of all young males and 34% of all young females drink alcohol in unsupervised situations; and a fifth of young males consumed alcohol alone. Young males start drinking younger and consumed alcohol more regularly than young females, and consumed more alcohol per occasion. In the past 12 months, young males experienced more than five and young females more than three alcohol-related harms associated with their own alcohol consumption. They experienced a similar number of harms associated with other people's use of alcohol. Unsupervised drinkers were nearly seven times more likely to experience alcohol-related harm than supervised drinkers and nearly 13 times more likely to experience alcohol-related harm than non-drinkers.

Conclusion and implications: The results can help inform the development of alcohol education programs for young people.

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A recent national survey indicates that more than 70% of people 14 years and older are current drinkers. Young people (14-19 year olds) are more likely to drink at hazardous or high-risk levels than any other age group, and more than 66% of young people drink at these high levels.^{1,2}

Current Western Australian data indicates that between 1993 and 1996 there has been a statistically significant increase in the number of school-aged students who have ever consumed alcohol and a significant rise in the number of current drinkers at a high-risk level.³

Young people have relatively little experience in alcohol-use situations, have less tolerance to the effects of alcohol, adopt high-risk patterns of alcohol use, often down play or have minimal understanding of potential harms associated with alcohol-use situations, and have limited knowledge or skills to minimise alcohol-related harms.^{4,5} Consequently, the harms experienced by young people in association with their own and others' use of alcohol are relatively high and tend to be acute.

Recent data indicates that alcohol is responsible for 82.5% of drug-related deaths in young people aged 15-19 years and that 89.2% of substance-related hospital episodes for 15-34 year olds relate to alcohol.⁶ The majority of these admissions in the 15-19 age group result from road accident injuries. In addition, more than one-third of driving deaths in the 15-24 age group result directly from alcohol use.⁷ Qualitative research findings indicate that young people have distinct concerns about potential harm associated

with their own and others' use of alcohol. In particular, young males consistently identify violence and the risk of physical injury as a potential outcome of drinking situations and young women consistently identify sexual vulnerability as a risk in drinking situations.^{4,8}

The National Drug Strategy Household Survey provides information about young drinkers between the ages of 14 and 19 years and the Health Department of Western Australia provides information about attitudes and consumption patterns for young drinkers attending secondary school (12-17 years). However, 5-12% of young people have their first glass of alcohol at age 11 or younger.¹ There is very little information about the experiences of such young drinkers, their patterns and context of consumption and in particular the number and type of harms they experience in alcohol-use situations.

Given Australia's harm minimisation policy, we need to ask ourselves: "How early does alcohol related harm occur?" This paper gives an insight into the alcohol-related experiences of pre-teenage students in Perth, Western Australia.

The data presented in this paper is the baseline data from the School Health and Alcohol Harm Reduction Project (SHAHRP study), which is a longitudinal intervention research study that measures alcohol-related harm in school age students and provides sequential phases of classroom-based harm minimisation intervention.⁹ The paper aims to describe 11-12 year olds' experiences with alcohol and alcohol-related harm to assist in the design of more effective

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alcohol education programs that can address the problems actually experienced by young people (as defined by young people), including problems associated with drinking by others.

Methodology

Sample

The study sample of 2,329 students (female: $n=1,089$, male: $n=1,240$) is a school-based group that was selected using cluster sampling, with stratification by socio-economic area. This sample size takes into account the design effect created by cluster sampling (design effect, 1.48; simple random sample requirement, 800 cases). These schools were also selected to incorporate feeder schools for the Western Australian School Health Project an aspect of the study not reported in this paper. All of the 14 selected schools agreed to participate in the study and they represent approximately 23% of government secondary schools in the Perth metropolitan area.¹⁰ The survey was conducted at the beginning of the 1997 school year (March) after passive consent documents were sent to parents. At this time, the students were in their first year of secondary schooling. The survey requested information related to the previous 12 months and therefore the results refer to the students experiences when most were 11 to 12 years of age.

Survey instrument

The SHAHRP survey instrument was purposely developed and tested to measure students' knowledge, attitudes, patterns of use, context of use, harms associated with the students' own use of alcohol and harms associated with other people's use of alcohol. The conceptual basis of the measures included in the SHAHRP survey draws on several studies, interventions and focus groups with older students.^{1,4,8,11,12} Several measures of harm were identified and defined by young people. Extensive pilot-testing of the SHAHRP questionnaire was undertaken during the initial formative period of the study. Validity measures included the assessment of face and content validity, using expert review; target group review; and comparison with other similar surveys.¹³ Internal consistency and the test-retest procedure were used to determine the reliability of the SHAHRP survey.¹³ The test-retest was conducted with four classes of Year 9 students. These students completed the survey on two occasions, separated by two weeks. The anonymous, self-completion surveys were completed by study students under the guidance of trained researchers who instructed students and responded to questions following a set procedure. In line with local Education Department policy, classroom teachers were in attendance, however, they were requested to refrain from moving about the room to limit any possible influence on students' responses.

Statistical procedures

The survey consisted of six measurement domains from which four scales/indices were developed to assess overall change. The

two indices reported in this paper are harms associated with own use of alcohol index (17 items; internal consistency: 0.9) and harms associated with other people's use of alcohol index (six items; internal consistency: 0.70). The harm indices measure the number of harms experienced by young people. Individual harm items from both indices have also been reported. Consumption was measured using several National Drug Strategy Household Survey items. Students were provided with visual cues concerning standard drink amounts for different alcoholic beverages. Context of use was measured using six variables to define non-drinkers, supervised drinkers and unsupervised drinkers (young people who consume alcohol in both supervised and unsupervised situations).

Frequency distributions of all the indices reported in this paper indicated non-normal, skewed distributions. This type of distribution was expected given that a social inoculation approach (intervening with students prior to commencement of drinking) was incorporated within the study design. Non-parametric statistical procedures were adopted for the analysis of the other measurement domains.

Results

Context of use

Context of use results are presented in Table 1. In summary, young females were significantly more likely to be non-drinkers than young males (Mann-Whitney: $p=0.029$). Young males were significantly more likely to consume alcohol in unsupervised situations than young females (Mann-Whitney: $p=0.0004$).

More than two-thirds of all young people consumed alcohol under adult supervision, however, more than 40% of all young males and nearly 34% of all young females also drank alcohol in unsupervised situations. A fifth of young males consumed alcohol alone.

Table 1: Context of use.

	Female % (1,089)	Male % (1,240)	p -value	All students % (2,329)
Non-drinker	29.2	25.2	0.029	27.1
Supervised drinker	37.1	34	n/s	35.4
Unsupervised drinker	33.7	40.9	0.0004	37.5
With family on a special occasion or holiday	63.6	65.9	n/s	64.8
With family at dinner	38.8	41.4	n/s	40.2
At parties with adults present	45.8	48	n/s	47
At parties with friends and no adults present	25.7	31.7	0.0015	28.9
With a small group of friends with no adults present	24.7	30.3	0.0025	27.7
Alone	16.4	21.1	0.0039	18.9

Consumption

Young males and females differed significantly in most consumption-related questions (Table 2). In particular, young males started drinking at a younger age (Mann-Whitney: $p=0.011$), consumed alcohol more regularly than young females (Mann-Whitney: $p=0.0003$) and consumed more alcohol per occasion (Mann-Whitney: $p<0.0001$). Young females were significantly more likely to select wine as their alcoholic beverage of choice than young males (Mann-Whitney: $p<0.0001$). Young males were significantly more likely to select regular and low-alcohol beer as their alcoholic beverage of choice (in addition to wine) than females (Mann-Whitney: $p=0.016$ and $p<0.0001$ respectively).

Harms associated with students' own use of alcohol

Filter: those students who have consumed alcohol in the past 12 months. Percentage of students experiencing one to 12 harms in the previous 12 months

Young males were significantly more likely to experience harm associated with their own use of alcohol than young females (Mann-Whitney: $p<0.0001$). In the past 12 months, young males experienced an average of five alcohol-related harms as a consequence of their own alcohol consumption. In the past 12 months, young females experienced on average three alcohol-related harms as a consequence of their own drinking. More than one-fifth of all students consumed more alcohol than they had planned. The frequency and significance of alcohol-related harm associated with the students' own use are presented in Table 3.

Table 2: Consumption (Filter: those students who have consumed alcohol in the past 12 months).

	Female % (771)	Male % (928)	p-value	All students % (1,699)
Mean age at first use	10.8	10.2	0.011	10.5
How often do you consume alcohol				
At least once per week	13.7	18.7	0.0003	15.6
At least once per month	25.3	28.5	(overall)	27
Less often	57.3	48.5		52.5
How much alcohol do you usually consume per occasion				
More than four standard drinks	1.9	5.1	0.0001	3.7
Two to four standard drinks	5.1	6.3	(overall)	5.7
One to two standard drinks	25.7	30.6		28.4
Sip or taste	63.7	54.2		58.5
What alcoholic beverage do you usually consume ^a				
Wine	55.9	41.2	0.0001	47.9
Regular beer	35.5	41.3	0.016	38.7
Low-alcohol beer	21.7	30.4	0.0001	26.4
Spirits	20.2	22.1	n/s	21.2
Alcoholic soda	18.5	18.6	n/s	18.6
Other	11	10.6	n/s	10.8

Note:
(a) Students were allowed to select more than one response to represent their 'usual' choice of alcoholic beverage. Missing data percentages have not been listed and thus some percentages do not total 100.

Harms associated with other people's use of alcohol

Filter: those students who have consumed alcohol in the past 12 months. Percentage of students experiencing one to 12 harms in the previous 12 months

Young males and females experienced a similar number of harms associated with other people's use of alcohol. In the past 12 months, young males experienced >2 alcohol-related harms associated with other people's alcohol consumption. In the past 12 months, young females experienced nearly three alcohol-related harms associated with other people's use of alcohol. Nearly one-quarter of all students had been a passenger in a car when the driver was affected by alcohol. Nearly one-fifth of all students had been verbally abused by someone affected by alcohol. Young males were significantly more likely to be physically abused by

Table 3: Harm associated with own use of alcohol.

	Female % (771)	Male % (928)	p-value	All students % (1,699)
Planned to get drunk	12.8	15.6	0.02	14.3
Drank more than planned	20.7	24.7	0.01	22.8
Sick after drinking	10.8	14.6	0.004	12.8
Hangover after drinking	10.6	13.9	0.012	12.3
Unable to remember what happened after drinking	8.4	12.6	0.003	10.4
Verbally abused because you were affected by alcohol	1.2	5.6	0.004	5.5
Physical fight because you were affected by alcohol	2.9	7.5	0.0001	5.4
Damaged something because you were affected by alcohol	5	8.5	0.0007	6.9
Had sexual intercourse that you later regretted	2.4	5.9	0.0001	4.3
Had sexual intercourse that you were afraid would lead to pregnancy or STD	2.3	3.4	n/s	2.9
Sexually harassed when you were affected by alcohol	3.9	2.8	n/s	3.3
School performance affected because of your alcohol use	4.9	6.5	n/s	5.8
Trouble with your friends because of your drinking	5	6.9	n/s	6
Trouble with date because of your drinking	2.3	4.7	0.002	3.6
Trouble with parents because of your drinking	8.4	10.7	0.045	9.6
Trouble with teacher/principal because of your drinking	0.6	1.7	0.01	1.2
Trouble with police because of your drinking	1.4	3.1	0.005	2.3
	Mean	Mean		Mean
Mean number of harms associated with own use of alcohol, in the previous 12-month period	3.2	5.3	0.0001	4.7

Table 4: Harm associated with other people’s use of alcohol.

	Female % (771)	Male % (928)	p-value	All students % (1,699)
Verbally abused by someone who was affected by alcohol	18.6	18.5	n/s	18.5
Physically hit by someone affected by alcohol	6.7	9.8	0.006	8.4
Possession damaged by someone affected by alcohol	12.4	11.3	n/s	23.3
Passenger in a car when the driver was affected by alcohol	24	22.7	n/s	23.3
Sexually harassed by someone affected by alcohol	4.8	3.4	n/s	4
Prevent a friend who had been drinking from getting into trouble	14.9	14.7	n/s	14.8
	Mean	Mean		Mean
Mean number of harms associated with other peoples use of alcohol, in the previous 12-month period	2.9	2.4	n/s	2.7

someone affected by alcohol than young females (Mann-Whitney: $p=0.006$). The frequency and significance of alcohol-related harm associated with other people’s use of alcohol are presented in Table 4.

Overall, young people experienced an average of seven alcohol-related harms in the past 12 months. Young males were significantly more likely to experience alcohol-related harm than young females (Mann-Whitney: $p=0.0008$) (Table 5). There was a significant difference in the mean number of alcohol-related harms experienced by context of use group (Kruskal-Wallis: $p<0.0001$) (Table 6). Mean scores indicate that unsupervised drinkers experienced an average of 12 alcohol-related harms in the past 12 months and were nearly seven times more likely to experience alcohol-related harm than supervised drinkers and nearly 13 times more likely to experience alcohol-related harm than non-drinkers. Supervised drinkers were nearly twice as likely to experience alcohol-related harm than non-drinkers.

Discussion

The results of this study indicate that young males were significantly more likely to experience harm associated with their

Table 5: Total number of harms in alcohol-use situations (Filter: those students who have consumed alcohol in the past 12 months).

	Female (771)	Male (928)	p-value	All students (1,699)
Total mean number of harms experienced in alcohol-use situation in the past 12-month period	5.6	8.2	0.0008	7.0

own use of alcohol than young females. Young males scored significantly higher in 13 of the 17 harms associated with own use of alcohol. The harms associated with own use of alcohol that were most likely to occur in both males and females tended to be acute in nature and included drinking more than planned, being sick and having a hangover. This information replicates that found in other studies.^{4,5} The harm associated with own use of alcohol that was most common among both males and females was consuming more alcohol than planned, with more than one-fifth of females and nearly one-quarter of males having consumed more alcohol than they had planned in the previous 12-month period. Although the reasons underlying the consumption of more alcohol than planned were not measured as part of this study, the findings from other studies indicate that a number of factors play a part in the occurrence of this risk including:

- inexperience in identifying alcohol intake for different types of alcohol;
- inexperience in alcohol consumption situations;
- limited experience in identifying the different effects of differing levels of consumption;
- the speed at which alcohol consumption may occur;
- the differing effects of alcohol between body types (pre-pubescent, gender, etc); and
- the lack of available recommended drinking guidelines for young people.⁵

The prevalence of this harm implies that over-consumption (or binge drinking) by some young people is not always a planned event or a desired consequence of drinking situations. This conclusion is supported by some young people themselves who comment that drinking is okay as long as you know your limits and only get ‘tipsy drunk’, rather than getting ‘totally whacked’ and that drinking is okay as long as you don’t do something stupid.^{8,14}

These results provide an argument for the incorporation of practical, utility information and skills concerning consumption moderation. There may be some difficulty in developing specific alcohol consumption guidelines for adolescents given the range in physical development between young people, and the lack of physiological research on the effects of alcohol on developing bodies. However, there would be less difficulty in developing messages that assist young people to moderate consumption and their drinking environment. The utility and appropriateness of any education needs to be trialed with young people to maximise its relevance and impact. New approaches also need to be evaluated to determine their effectiveness in assisting young people to moderate consumption.

Generally, a higher proportion of young people experienced harms associated with other people’s use of alcohol than they experienced through their own use of alcohol, and the level of this harm was similar for both males and females. In particular, nearly one-quarter of young people had a possession damaged or were a passenger in a car with someone they perceived was affected by alcohol. In addition, nearly one-fifth of young people had been verbally abused by someone affected by alcohol.

The implications that this has on the role that young people can play in reducing harms associated with other people's use of alcohol is complicated as part of the responsibility must lie with the person who has perpetuated the harm. The harm created in these situations may be generated from adults and decisions to halt the harm before it has happened or reduce the impact of the harm after it has happened also tends to lie in the hands of adults rather than the young people at risk. The potential influence that targeted education campaigns can have in reducing harms associated with others' use of alcohol, particularly education programs targeted at parents, should be further explored. Emphasis of such programs may focus on messages to the drinker about the effects of their alcohol consumption on others and strategies for young people to avoid potential harm or reduce the harm once it has occurred.

Some young people were also required to look after a friend who had been drinking and assist in preventing the friend from 'getting into trouble'. Although this issue was measured as part of harms associated with other people's use of alcohol (as identified by young people), it also provides a indication about the role young people play in alcohol-use situations when they may or may not be consuming alcohol themselves. Nearly 15% of students had been called upon by a friend or felt the need to protect a friend in a drinking situation in the previous 12-month period. This finding has connotations for alcohol education programs generally, for such programs are not only attempting to influence students who use alcohol and students who are non-drinkers, but also an overlapping group of students who may or may not drink but who interact with other people who do drink. Given the proportion of students who fall into this category, there is a clear indication that education programs should provide appropriate utility knowledge and skills to assist this group reduce the impact of alcohol-related issue on their peers.

Although young males start drinking alcohol at a younger age than young females, drink more regularly, consume more per occasion and experience a significantly higher number of harms associated with their own use of alcohol, the findings of this study suggest that the harm experienced by young people in drinking situations is a combination of context of use and gender rather than an isolated gender effect.

The harm experienced by young people in unsupervised drinking situations is at a similarly high level in both males and females (Table 6). The harm experienced by young people in supervised drinking situations and by non-drinkers was at a

similarly low level for both males and females (Table 6). The finding that young males were significantly more likely to be unsupervised drinkers reinforces the issue that the unsupervised nature of a drinking situation plays a key role as a precursor to amount and frequency of alcohol-related harm experienced by young people. However, the reason young males become unsupervised drinkers at an earlier age than young females is an interesting gender-related issue that would benefit from further exploration. The information available from this study indicates that unsupervised drinking occurs most often at parties with friends and in small groups of friends, however, nearly one-quarter of young people also consumed alcohol when they were alone. The reasons for this particular non-social use of alcohol needs to be investigated in greater depth. In all cases, young males were significantly more likely to consume alcohol in unsupervised drinking situations than young females.

Nearly 30% of the young drinkers in this study consumed alcohol at least once per month. This suggests that some 11-12 year olds have ready access to alcohol and the opportunity to consume alcohol in both supervised and unsupervised situations on a regular basis. Focus groups with young people suggest that they have no problems accessing alcohol. Primarily, young people accessed alcohol themselves from liquor outlets, from older siblings or older friends or commonly, but less often, from their parents (either overtly or covertly).⁸ This poses the question of the potential influence that parents play in the alcohol-related experiences of their child. Qualitative data from young people suggest that young people can gain valuable alcohol-related learning experiences from parents ("I started drinking with my parents when I was quite young and I know how to drink now and I can control myself").¹⁴ This is confirmed by other studies which conclude that parents can play an important role in developing appropriate drinking behaviour in their child though the gradual introduction of alcohol use in family situations.¹⁵⁻¹⁷

A recent Australian study suggests that a harm minimisation curriculum program at school, in combination with initial drinking experience under adult supervision, can reduce alcohol-related harm experienced by young people.⁹ Parental education as a component of school drug/health education has extensive support in the drug/health research literature as an important contributor of young people's drug and health behavioural development.^{18,19} A parental or family component to assist young people in reducing the harms they experience from alcohol-related situations needs to consider several issues.¹⁵ In particular, Foxcroft and Lowe suggest that such a program needs to be timed prior to the initiation of unsupervised drinking.¹⁵

Context of drinking also seems to have an impact on the influence of school-based drug education programs.^{9,12,20} Studies suggest that initial alcohol education exerts greatest influence on young people who were supervised drinkers prior to the intervention,⁹ while alcohol education provided in subsequent years may be more influential on young people who were unsupervised drinkers prior to the intervention.¹¹ These studies suggest that educators can best influence young people in alcohol-related issues if

Table 6: Total number of harms by context of use.

	Female (1,089)	Male (1,240)	p-value	All students (2,329)
Total mean number of harms experienced by context of use group in the past 12 months:				
Non-drinker (n=630)	0.95	0.91	n/s	0.93
Supervised drinker (n=825)	1.5	2.05	n/s	1.8
Unsupervised drinker (n=874)	10.1	13.4	n/s	12

they implement programs based on local prevalence data related to context of use.

In addition, there is a strong body of literature that suggests that drug education programs should be based on the experiences of students that they wish to influence.^{11,12,18,21-23} The provision of both qualitative and quantitative data concerning the experiences of young people provides an important basis on which to develop such programs. It is particularly important to ensure that programs are culturally appropriate in the Australian context and are well informed by Australian research rather than relying solely on programs and research from other countries with different context and policy underpinnings.

This study contributes a considerable array of quantitative data on the alcohol-related experiences of a group of young Western Australian students. Given the limitations of self-report data, the particular contribution of this study is the insight it provides on the harm experienced by this group of young people. The findings make it clear that alcohol harm escalates with unsupervised drinking and that alcohol use also affects non-drinkers. In the Australian context where the National Drug Strategic Framework mandates 'A strategy to reduce the harm caused by drugs in our community',²⁴ knowing the nature of the harms experienced by young people makes it possible to design more effective programs that can address the problems actually experienced, including problems associated with the drinking of others.

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