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## ALCOHOL: AGE OF INITIATION, LEVELS OF USE, AND RISKY USE

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# 3 Alcohol: age of initiation, levels of use, and risky use

Before proceeding with a discussion of parenting influences, it is necessary to set the scene by discussing rates and levels of alcohol use among Australian adolescents. This section provides an overview of information about: the age at which Australian adolescents commence drinking; levels of adolescent alcohol consumption, distinguishing between “moderate” and “risky” levels of use; the risks associated with alcohol consumption; adolescents’ views of alcohol and their reasons for drinking; their source of access to alcohol; and the settings in which adolescent alcohol use takes place. The section ends with a brief comparison of Australian and United States trends in adolescent alcohol use.

## Initiation and consumption levels

Alcohol consumption among Australian adolescents before the legal age of 18 years is the norm, rather than the exception. The Australian School Students’ Alcohol and Drug Survey (hereinafter ASSAD) has provided repeated population-based data on the alcohol consumption patterns of Australian adolescents (White and Hayman, in press). The most recent survey on 24,403 secondary students aged 12-17 years shows that by the age of 14 years 90 per cent of Australian adolescents have tried a full glass of alcohol, and 95 per cent of 17 year olds have tried a full glass (White and Hayman, in press).

The 2001 National Drug Strategy Household Survey (hereinafter NDSHS) conducted by Australian Institute of Health and Welfare found that young people aged 14-24 years reported that their first glass of alcohol was consumed at around 14.6 years for males, and 14.8 years for females (AIHW 2003a). Other large surveys have also found that for the majority of adolescents, their first full glass of alcohol is consumed somewhere between their 14th and 15th year (Premier’s Drug Prevention Council 2003). Therefore it seems that most adolescents begin experimenting with alcohol at approximately 14-15 years of age.

Once their first glass of alcohol is consumed, a sizeable proportion of adolescents appear to progress to regular drinking. With regard to repeated consumption, the NDSHS showed that 20 per cent of males and 17 per cent of females aged 14-17 years were classified as regular weekly drinkers (AIHW 2003a), and two-thirds of adolescents aged 14-17 years had consumed a full glass of alcohol in the past 12-months.

As shown in Table 1, there are differences in adolescent consumption between the NDSHS and ASSAD data. The rates of regular drinking are considerably higher in the ASSAD data which show that 34 per cent of adolescents had consumed alcohol in the past week, with the rates being slightly higher rates for males (37 per cent) than females (31 per cent). These differences are likely to be attributable to survey content and methodology. For example, there were differences between the two studies in the phrasing of the questions, the age of respondents, and the place where the data were collected (at home versus at school).

| <b>NDSHS survey 2001<br/>14-17 years</b>                  | <i>Males</i><br>% | <i>Females</i><br>% | <b>ASSAD survey 2002<br/>12-17 years</b> | <i>Males</i><br>% | <i>Females</i><br>% |
|---|-------------------|---------------------|--|-------------------|---------------------|
| Regular (weekly)  | 19.8              | 17.1                | In past week                             | 37                | 31                  |
| Occasional (past year)                                    | 44.3              | 51.6                | In past month                            | 15                | 16                  |
| Ex-drinker  | 6.6               | 4.3                 | In past year                             | 23                | 25                  |
| Never a full glass of alcohol                             | 29.2              | 27.0                | Never                                    | 11                | 13                  |
| <i>Source: AIHW (2003a); White and Hayman (in press).</i> |                   |                     |  |                   |                     |

Comparisons between the 1999 and 2002 ASSAD survey data show that there was no significant change in adolescent alcohol use in the past three years. Longer-term comparisons show that while consumption among 12-15 year olds was similar in 2002 and 1999, these rates were significantly higher than in 1996 and 1993. For the 16-17 year age group, the proportion of drinkers in 2002 was slightly lower than in 1999, but overall the rate has remained relatively stable since the early 1990s (White and Hayman, in press). In both age groups (12-15 and 16-17 years), the proportion of adolescents who drank at risky levels remained relatively stable from the 1990s survey period through to the current 2002 survey wave (White and Hayman, in press).

### **Delayed onset**

There is some evidence to suggest that the later adolescents delay their first alcoholic drink, the less likely they are to become regular consumers. Adolescents who start later are more likely to report that they are light or occasional drinkers, and they are less likely to binge (Premier's Drug Prevention Council 2003). In the United States, the National Longitudinal Epidemiologic Survey of 27,616 young people (cited in Spoth, Lopez Reyes, Redmond, and Shin 1999) shows that the lifetime alcohol dependence rates of those people who initiate alcohol use by age 14 are four times as high as those who start at age 20 years or older. Furthermore, the odds of dependence decrease by 14 per cent with each additional year of delayed initiation (cited in Spoth et al. 1999).

Longitudinal data from New Zealand also demonstrate that the commencement of alcohol use in early adolescence increases the likelihood of the subsequent development of high risk use, independent of other influences (Fergusson, Horwood and Lynskey 1995). Young people who begin using alcohol at a younger age are more likely to progress to regular use in adolescence (Fergusson, Lynskey and Horwood 1994). Australian longitudinal studies have demonstrated that regular drinking in adolescence is an important risk factor for the development of abusive, dependent (Bonomo et al. 2001) and risky (Toumbourou Williams, White et al. 2004) patterns of use in young adulthood.

### **Risky adolescent alcohol use**

The 2001 National Health and Medical Research Council (NHMRC) guidelines for alcohol use recommend that males should, on average, drink no more than four standard drinks per day and on any particular day, no more than

| Table 2. NHMRC guidelines for alcohol use |                            |                           |
|---|----------------------------|---------------------------|
| Type of risk                              | Risky alcohol use          | High risk alcohol use     |
| <b>Short-term harms</b>                   |                            |                           |
| Males                                     | 7-10 drinks on any one day | 11+ drinks on any one day |
| Females                                   | 5-6 drinks on any one day  | 7+ drinks on any one day  |
| <b>Long-term harms</b>                    |                            |                           |
| Males                                     |                            |                           |
| - on an average day                       | 5-6 drinks per day         | 7+ drinks per day         |
| - overall weekly level                    | 29-42 drinks per week      | 43+ drinks per week       |
| Females                                   |                            |                           |
| - on an average day                       | 3-4 drinks per day         | 5+ drinks per day         |
| - overall weekly level                    | 15-28 drinks per week      | 29+ drinks per week       |
| <i>Source: NHMRC (2001).</i>              |                            |                           |

six standard drinks; females should drink no more than two standard drinks per day on average, and four standard drinks on any one day. As well, this level of use should occur on no more than three days per week. Definitions are also provided of “risky” and “high risk” patterns of alcohol use, which are further separated into short-term and long-term harms (see Table 2 for description).

It is important to note that these Australian guidelines were developed for healthy adults, not adolescents. In fact, adolescents’ physical immaturity (for example, smaller body size), and inexperience with alcohol make young people more susceptible to the harmful effects of alcohol than adults. Thus, for the same dose of alcohol, more harm can result for an adolescent than an adult.

The NDSHS reports that for the Australian population as a whole, alcohol is the second greatest cause of drug-related deaths and hospitalisations (AIHW 2002). Amongst adolescents, one-third (34.4 per cent, or 387,400) of 14-17 year olds had put themselves at risk of alcohol-related harm in the past 12 months on at least one occasion, and this is similar to the overall population rate of 34.4 per cent (AIHW 2002).

According to a recent report from the National Drug Research Institute on drinking patterns among 14-17 year olds, 85 per cent of adolescent alcohol consumption is consumed at a risky or high-risk level for acute harm (Chikritzhs, Catalano, Stockwell, Donath, Ngo, Young and Matthews 2003). These findings suggest that when Australian adolescents consume alcohol, most do so at risky levels. Furthermore, this risk of harm occurs regularly, with 18 per cent of young people reporting drinking at levels of risk for short-term harms on a weekly basis (increased from 15 per cent in 2002), and 50 per cent drinking at these levels on a monthly basis (as compared with 42 per cent in 2002) (Premier’s Drug Prevention Council 2003).

The rate of long-term risky alcohol consumption has recently increased among females aged 14-17 years, rising from 1 per cent in 1998 to 9 per cent in 2001 (Chikritzhs et al. 2003). However, the rate of risky long-term alcohol use among males aged 18-24 years has decreased, falling from 9 per cent in 1998 to 6 per cent in 2001. These findings might reflect fluctuations rather than long-term trends, and it will be important to continue measuring consumption trends to establish whether more enduring shifts in alcohol use are taking place.

## Harms associated with adolescent alcohol use

Binge drinking can cause bowel, central nervous system, and psychological problems, and is also related to a high risk of injury, assault, road accidents, fights, other violence, sexual assault, and unprotected sex (AIHW 2003a). Serious binge drinking may result in alcohol poisoning, and can lead to coma or death (AIHW 2003a). While under the influence of alcohol, 26 per cent of young people reported verbally abusing someone, 13 per cent had driven a car, and 12 per cent had created a public disturbance (Premier's Drug Prevention Council 2003). In this Victorian survey, 41 per cent of young people reported being abused by someone under the influence of alcohol, while 20 per cent had been fearful of a person who was under the influence of alcohol (Premier's Drug Prevention Council 2003).

According to the Australian Institute of Health and Welfare (AIHW 2002), alcohol-induced memory lapses, where alcohol was consumed and events were unremembered afterwards, were more prevalent in adolescents aged 15-19 years than in adults. The NDSHS found that 4.4 per cent of adolescents reported alcohol-induced memory lapses occurred at least weekly, and 10.9 per cent reported this occurred at least monthly. The comparison rates for adults are considerably lower, with adults aged 20-29 years at 3.6 per cent for weekly rates and 7.7 per cent monthly. The prevalence of memory lapses following alcohol abuse continues to decline further with age (AIHW 2002). It has also been suggested that risky levels of alcohol use during adolescence can have deleterious effects on the developing brain (Scott and Grice 1997), and this is exacerbated by faster absorption rates and a less efficient metabolic system during this stage of development.

The ASSAD report shows that in both age groups (12-15 and 16-17 years) the proportion of adolescents who drink at high risk levels has remained relatively stable from the surveys conducted in the 1990s through to the current 2002 data collection wave (White and Hayman in press).

## Adolescents' reasons for drinking

Alcohol remains a socially acceptable drug in Australia. The report produced by the Australian Institute of Health and Welfare, entitled *Australia's Young People: Their Health and Wellbeing* (AIHW 2003a) shows that young Australians aged 14-24 years perceive that heroin and cannabis are problem drugs, but that alcohol, amphetamines, tobacco and ecstasy are not. Among young Victorians aged 16-17 years, 26 per cent describe alcohol use as "not wrong at all" for them, and 48 per cent described it as "a little bit wrong" (Premier's Drug Prevention Council 2003).

Of concern are recent survey results showing that adolescents' expectations of alcohol consumption are different from adults'. According to the Victorian Drug and Alcohol use survey of 6052 young people aged 18-24 years, 20 per cent of young people intended to get drunk when they drink (Premier's Drug Prevention Council 2003). Further, Chikritzhs et al. (2003) suggest the percentage of adolescents who intend to get drunk might in fact be considerably higher than these rates.

## Where do adolescents consume alcohol? Where do they obtain it?

The location of adolescent consumption of alcohol is shown in Table 3, which again displays NSDHS and ASSAD data. The NSDHS data show that for adolescents aged 14-19 years who had consumed alcohol in the past 12 months, the most common location was private parties (males 67.8 per cent, females 70.2 per cent), followed by friends' homes (males 62.9 per cent, and females 63.9 per cent), or their own homes (males 61.5 per cent, females 61.1 per cent). The ASSAD data, which describes adolescent alcohol consumption within the past week, shows a similar pattern of consumption at home or parties, although consumption at friends' homes or in public places is lower. The relatively high rate of consumption in public places and in cars shown in the NSDHS data is of concern. (AIHW 2002)

These data do not clarify the social milieu in which alcohol is consumed. For example, when alcohol is consumed at home, it is probable (but not certain) that parents are present, but it remains unknown whether parents actively supervise their adolescent's alcohol consumption. Likewise, when alcohol is consumed outside the home, presumably this occurs in social settings with peers and may, or may not, involve adult supervision. These are important considerations, but generally, this information has not been supplied.

The legal age for purchasing alcohol in retail outlets in Australia is 18 years, yet the majority of adolescents begin drinking before this. The ASSAD survey of 24,403 students in Years 7-12, found that parents were the most common source of alcohol, with 38 per cent of students reporting their parents gave them their last drink (White and Hayman, in press). Furthermore, this survey found that it was more likely that parents would provide alcohol to younger rather than older students, with rates of 42 per cent in the 12-15 year group compared with 32 per cent in 16-17 year group. It appears that older students may be able to obtain alcohol from other sources.

| Location              | NSDHS 2001<br>14-19 years<br>(in past year) |             | ASSAD 2002<br>12-17 years<br>(in past week) |             |
|-----------------------|---|-------------|---|-------------|
|                       | Male<br>%                                   | Female<br>% | Male<br>%                                   | Female<br>% |
| In my home            | 61.5  | 61.1        | 36  | 34          |
| At friend's house     | 62.9  | 63.9        | 14  | 15          |
| At private parties    | 67.8  | 70.2        | 29  | 32          |
| At rave/dance parties | 22.9  | 24.5        |   |             |
| At restaurants/cafes  | 22.4  | 25.5        |   |             |
| At licensed premises  | 37.1  | 38.8        |   |             |
| At school/TAFE/Uni    | 6.2   | 3.4         |   |             |
| At workplace          | 5.8   | 2.7         |   |             |
| In public places      | 14.1  | 10.6        | 4   | 4           |
| In a car              | 12.2  | 7.0         |   |             |
| Somewhere else        | 8.3   | 7.2         |   |             |

*Source:* AIHW (2002); White and Hayman (in press).

Other surveys also report that a considerable number of adolescents obtain alcohol through their parents. The 2003 Victorian Youth Alcohol and Drug Survey found that parents had purchased alcohol for half of the adolescents who had drunk alcohol and were under 18 years (51 per cent) (Premier's Drug Prevention Council 2003). The NSDHS data showed that just over two-thirds of persons aged 14-17 years obtained their alcohol through a friend or relative (69.2 per cent) (AIHW 2002). Similarly, Taylor and Carroll (2001) found that 29 per cent of adolescents aged 15-17 years reported that their parents had provided alcohol. These surveys show that between 30 per cent and 50 per cent of adolescents who drink obtain their alcohol from their parents.

## Australian and United States trends compared

One methodological issue noted earlier was whether Australian patterns of adolescent alcohol use are similar to those of the United States. Epidemiological research has shown that at a population level, alcohol consumption patterns in Australia and the United States are not dissimilar, but there can be some variation in use. International comparisons of alcohol consumption for the total population (adults, adolescents and children) reveal that Australians consume more alcohol, with consumption rates of 7.8 litres per capita, compared with the United States at 6.7 litres, Canada at 6.6, and the United Kingdom at 8.4 (AIHW 2003b). Assessing behavioural differences between young people in the different countries is more complicated.

A major source of data concerning American trends in youth substance use is the Monitoring the Future (MTF) youth survey. This study has provided annual estimates of high school student substance use since 1975. Additionally, the MTF survey was extended in 1995 and 1999 to countries in Europe. In general, rates of alcohol and tobacco use were considerably higher for European students than students in the United States, while rates of illicit drug use were higher in the United States (Hibell et al. 2000).

In one of the few matched studies comparing Australia and America, Beyers and colleagues (2004) reported clear differences across the two countries in students' levels of substance use. At the same age, there were markedly higher levels of youth alcohol and tobacco use in the Victorian sample and slightly higher marijuana and other illicit drug use among the United States sample. Similar inter-country differences were reported in the early 1990s in a comparison presented by Makkai (1994). Similarly, Toumbourou (2004) presented findings from carefully matched large state surveys conducted in 2002 which compared students in Victoria and Washington State. This comparison revealed, once again, a pattern of markedly higher rates of alcohol use for students in Victoria relative to Washington State in Grade 5 (primary school) and Years 7 and 9 (secondary school).

Comparative studies in older age groups have also tended to show higher rates of alcohol use in Australia relative to the United States (Makkai 1994), however there has been at least one comparison inconsistent with this trend. A comparison of alcohol use for young people aged 14-17 years responding to the Australian National Survey of Mental Health and Wellbeing Survey (NSMHWB) and the United States Youth Risk Behaviour Survey on which the Australian survey was modelled, revealed differences in consumption for adolescent females but not for males. For adolescent males the lifetime prevalence of alcohol use was 73 per cent for Australians, and this was similar to the United

States rate of 79 per cent. However, there was a significant difference for females, with prevalence of lifetime alcohol use for Australian female adolescents at 70.6 per cent, compared with American females at 80.7 per cent (Pirkis, Irwin, Brindis, Patton and Sawyer 2003).

Despite this apparent similarity between adolescent alcohol use in Australia and the United States, Pirkis and colleagues (2003) cautioned that errors can occur when cross-cultural comparisons are based on survey data that had not been matched in content and context. To demonstrate the errors that can occur with these comparisons, Pirkis et al. compared the prevalence rates as shown on the Australian NSMHWB, with the American Youth Risk Behaviour Survey, and the American NHSDA survey. They found that when the NHSDA survey data was used, the rates of alcohol use appeared much lower in the United States than Australia whereas, as described earlier, results were quite similar when the Australian NSMHWB trends were compared to the American Youth Risk Behaviour Survey data (Pirkis et al. 2003). Therefore, for the cross-cultural comparisons, caution is always required.

There has been limited investigation of inter-country differences in the harms associated with alcohol use and findings are mixed. Jernigan (2001) presented inter-country comparisons across a range of indicators that are known to be influenced by youth alcohol use. With respect to mortality related to motor vehicle crashes, the death rates for people aged under 25 in 1997 were higher in the United States (5.79 per 100,000) than in Australia (3.92 per 100,000). However, suicide rates were higher in Australia (3.14 per 100,000) than in the United States (2.06 per 100,000).

## Summary

This brief overview has shown that alcohol use is common among young Australians, and that most begin experimenting with alcohol by the age of 14-15 years. Once they begin drinking, a large proportion become regular consumers of alcohol. The evidence suggests that delaying the onset of drinking reduces long-term consumption levels into adulthood. Adolescents reported that they tended to drink to get drunk, and that they put themselves at considerable risk when they drank. Adolescents tend to drink at home, at parties, or at friends' homes. Finally, it was shown that a considerable proportion of adolescents (up to one half) obtain their alcohol from parents.

With regard to cross-national comparisons, the available evidence suggests that school age adolescents in the United States have lower rates of alcohol and tobacco use but higher illicit drug use by comparison with youth of similar ages in Australia and the majority of Europe. Although differences in the young adult age group may be less pronounced at a population level, alcohol consumption rates appear lower in the United States. One would expect that cultural and social norms might contribute to consumption patterns, and these differences should be considered when interpreting overseas studies within an Australian context.