



Over the Bar: A Focus on Alcohol Use among Regular Ecstasy Consumers in Australia

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KEY FINDINGS

- Alcohol use was examined among Regular Ecstasy Users (REU) interviewed as part of the Ecstasy and Related Drug Reporting System (EDRS) in 2012 ($n=607$). Trends in alcohol use were examined over time and compared to those aged 20-29 years in the general population (AIHW, 2011).
- Most of the national EDRS sample (96%) reported using alcohol during the last six months, typically drinking on 48 of the last 180 days (approximately 2 days per week).
- The proportion of REU who reported drinking alcohol at least weekly (but not daily) during the last six months (76%) was substantially higher when compared to similar age groups (20-29) in the general population (44%). Similarly, the proportion of REU reporting daily alcohol use was 6%, compared to 2.3% among those aged 20-29 in the general population.
- According to the current Australian guidelines (NHMRC, 2009), drinking no more than two standard drinks on any one day reduces the lifetime risk of harm from alcohol-related disease or injury. Among REU, 87% reported drinking more than two drinks in a typical session. This was substantially greater than a similar age group in the general population (27% of 20-29 year olds). Similarly, the proportion who drank more than four standard drinks in a single session (a level which increases the risk of alcohol related injury) was considerably higher relative to the general population.
- In 2012, three-fifths (64%) of REU had consumed more than 5 standard drinks in combination with ecstasy on the last occasion. This rate has increased since 2003. In addition, almost one in ten had consumed more than 5 standard drinks when coming down from ecstasy on the last occasion, and over one-quarter (27%) reported using more than 5 standard drinks in a binge session of use (use of drugs for more than 48 hours continuously without sleep) during the last six months. Use of alcohol in combination with psychostimulants has important health implications due to the increased risk of harms, and masking of the intoxicating effects of alcohol.
- Using the Alcohol Use Disorders Identification Test, four in five of REU (83%) scored 8 or more - a level at which alcohol intake may be considered hazardous to health. More than one in four (28%) scored at a level indicative of possible alcohol dependence. The proportion of REU classified in this zone has significantly increased since 2006.

BACKGROUND

Excessive alcohol use is an issue of concern among young Australians. In 2010, around 1 in 5 Australians aged 14 years or older consumed alcohol at a level that puts them at risk of harm from alcohol related disease or injury over their lifetime (AIHW, 2011). People aged between 20-29 years old were more likely than any other age group to drink alcohol at risky levels: with 27% of this age group drinking at levels placing them at risk long-term harm, and 26% drinking weekly or more often at levels which put them at risk of an alcohol related injury in that drinking occasion (AIHW, 2011).

Risky alcohol use is associated with increased risk of accidental injury and engagement in risk taking behaviours such as driving a motor vehicle, violence/assault, and unsafe sexual practices (AIHW, 2010). Risky alcohol use also has particular consequences for young people as they are particularly vulnerable to harms (health, legal and social) including alcohol related death, hospital admissions and emergency department presentations (Roche et al., 2007).

There is evidence that the harms associated with alcohol use have increased in recent years. For example, in one Australian jurisdiction, despite overall alcohol consumption levels remaining relatively stable, there have been increases in reports of alcohol-related harms (e.g., hospitalisations, mortality, assaults and domestic violence) between 1999/00 and 2007/08 (Livingston, Matthews, Barratt, Lloyd & Room, 2010). It was suggested that this discrepancy may be due to alcohol-related public policy, and possibly trends in alcohol use among small sub-groups of the population who engage in high risk behaviours. One such high risk population are the minority of young Australians who regularly use ecstasy.

Ecstasy use has increased among the general Australian population in recent years (AIHW, 2011; Degenhardt et al., 2009). In 2010, ecstasy was most commonly used among those aged 20-29 years, with almost one-quarter (24%)

ever having used ecstasy, and one in ten having used ecstasy in the past year (AIHW, 2011). Traditionally, simultaneous use of alcohol and ecstasy was not common among the 'rave' or dance music scene and avoiding alcohol was a common harm reduction message (Duff et al., 2007; Weir, 2000). However, concurrent ecstasy and alcohol use is now commonly documented among regular ecstasy consumers (Breen et al., 2006) and use of drugs such as ecstasy has become more normalised among youth culture (Duff, 2003; 2005).

Some Australian studies have demonstrated associations between high level alcohol and ecstasy use and risky health behaviours. Breen et al. (2006) found that 69% of a large national REU sample typically consumed more than five standard drinks while taking ecstasy: those who used alcohol with ecstasy more commonly had 3 or more sexual partners in the previous 6 months and were less likely to have had safe sex with casual partners. More recently, Kinner, George, Johnston, Dunn, & Degenhardt (2012) found that 36% of an Australian sample of REUs reported high-risk patterns of usual alcohol consumption (as measured by AUDIT) and 62% reported usually consuming more than five standard drinks with ecstasy. However, while there were some associations between high risk drinking and adverse health outcomes such as psychological distress and poor health, these did not remain after controlling for demographic factors like health and education.

AIMS

This bulletin aims to examine trends in alcohol use among Australian ecstasy consumers between 2003 and 2012. In addition, alcohol use among the REU interviewed in 2012 will be examined in more detail, and compared to a similar age group (20-29 years) from the general Australian population.

METHOD

The Ecstasy and Related Drugs Reporting System (EDRS) is an annual study designed to monitor ecstasy and related drug markets in every Australian capital. The project includes a structured face-to-face interview of regular ecstasy users (REU), interviews with key experts who have regular contact with REU, and analysis of indicator data in relation to ecstasy and other drug use.

Eligibility criteria for REU included at least monthly ecstasy use in the preceding six months, at least 16 years of age, and residence in the relevant capital city

of each jurisdiction for at least 12 months. Detailed information on the characteristics of REU who participated in the EDRS survey between 2003 and 2012 can be found in the national and state reports which are available on the NDARC website: <http://ndarc.med.unsw.edu.au/group/drug-trends>

A total of 607 REU were interviewed for the 2012 EDRS: 100 each from New South Wales, Victoria, and Tasmania; 92 from South Australia; 90 from Western Australia; 62 from Queensland; 51 from the Australian Capital Territory; and 12 from the Northern Territory.

REU interviewed in 2012 were 24 years old (range 16 to 57) on average, and over three fifths (65%) were male. The majority were heterosexual (87%) and spoke English as their main language (98%). Participants were typically well educated with a majority (77%) having completed a Year 12 education, and most were currently employed (49%) or studying (34%). Few participants reported a previous prison conviction (5%) or currently being in drug treatment (5%).

Where possible, comparisons were made between the 2012 REU sample and the 2010 National Drug Strategy Household Survey (NDSHS) sample (AIHW, 2011). The NDSHS aims to determine the prevalence of the use of licit and illicit drugs and associated harms among the general Australian population. Participants surveyed in the 2010 NDSHS were English-speaking individuals, over the age of 14, who lived in private residences in Australia (n=26,648). The age group of interest for comparison to REU in the present study were those aged 20-29 years.

TRENDS IN ALCOHOL USE AMONG REU INTERVIEWED FOR THE EDRS

In each survey between 2003 and 2012, almost the entire sample reported lifetime use of alcohol (98-100%) and use of alcohol in the six months preceding the interview (93-98%). Among these recent consumers, alcohol was typically consumed at 48 days (or approximately two days a week on average), with the exception of 2011 where the frequency of alcohol use was greater (median of 60 of the last 180 days: Table 1).

In 2012, around three-quarters of the REU interviewed (76%) nationally drank alcohol at least weekly (but less than daily). This is relatively consistent with rates among the previous five EDRS samples (72-78%) but significantly greater relative to the proportion between 2003 and 2006 (58-70%). Just 6% of REU interviewed in 2012 drank alcohol every day, which is similar to proportions among previous EDRS samples (7-10%).

Table 1. Alcohol use among REU, 2003-2012

	2003 N=809	2004 N=852	2005 N=810	2006 N=752	2007 N=741	2008 N=678	2009 N=752	2010 N=693	2011 N=574	2012 N=607
Ever used alcohol (%)	98	99	99	99	99	99	100	100	100	99
Used alcohol in last 6 months (%)	93	95	97	96	96	97	98	97	98	96
Alcohol drug of choice (%)	3	6	5	9	13↑	15	11↓	12	11	15
Used alcohol weekly but not daily (%)	58	65↑	70↑	69	72	75	76	78	78	76
Used alcohol daily (%)	8	8	10	9	8	7	7	9	8	6
Median days alcohol use (range)*	48 (1-180)	48 (1-180)	48 (1-180)	48 (1-180)	48 (1-180)	48 (1-180)	48 (1-180)	60↑ (2-180)	48↓ (2-180)	48 (1-180)

Source: EDRS REU interviews

Note: ↑/↓ significant increase/decrease from previous year based on 95% CIs ($p < .05$); *among those who used alcohol in the last six months

Based on data from the 2010 National Drug Strategy Household Survey (AIHW, 2011), it was estimated that in the general Australian population, 43.9% of 20-29 year-olds had used alcohol on a weekly basis and 2.1% had used alcohol on a daily basis in the past year. As such, the proportion of the 2012 REU sample that had used alcohol at least weekly (but not daily: 76%), is substantially higher relative to those aged 20-29 nationally (43.9%). Similarly, the proportion of REU reporting recent daily use of alcohol in 2012 was 6%, compared to 2.3% among those aged 20-29 in the general population nationally.

Risk of alcohol related harm among REU

According to the current Australian guidelines (NHMRC, 2009), drinking no more than two standard drinks on any one day reduces the lifetime risk of harm from alcohol-related disease or injury. Among the 2012 REU sample, 87% reported drinking more than two drinks in a typical session, which is substantially greater than the proportion (26.9%) of the general population (aged 20-29) in 2010 (AIHW, 2011).

The National Health and Medical Research Council guidelines (2009) also indicate that drinking no more than four standard drinks on any one day reduces the risk of alcohol related injury arising from that occasion. Three-fifths of the 2012 REU sample (64%) reported that they consumed more than 4 standard drinks in a 'typical' drinking session over the past year (Table 2), which is similar to the proportion of the general population (aged 20-29) who reported drinking this quantity 'at least once' in the past year (60.4%). In addition, 45% of the REU sample typically drank 2-3 times per week, and when they did so typically consumed more than 4 standard drinks. While the question wording differs slightly between the EDRS and NDSHS, it is clear that this is substantially higher

than the proportion (26%) of the general population (aged 20-29) who drank more than 4 standard drinks at least once weekly during the past year (AIHW, 2011).

Table 2. Quantity of alcohol used in a typical session in the past 12 months, 2006-2012

	2006 n=744	2007 n=738	2008 n=677	2010 n=684	2011 n=573	2012 n=605
No. of standard drinks on a typical day (%)						
None	-	5	3	2	2	4
1-2	19	-	13	18	12	9
3-4	25	16	25	27	22	23
5-6	22	29	24	22	23	23
7-9	16	28	17	12	16	16
10 or more	17	23	19	18	25	25
Typically consume more than 2 standard drinks in a typical day (%)	81	96↑	84↓	79↓	86↑	87
Typically consume more than 4 standard drinks in a typical day (%)	56	79↑	59↓	52↓	64↑	64

Source: EDRS REU interviews

Note: these data are based on questions 1 and 2 of the AUDIT which was not included in the survey in 2009 or prior to 2006; ↑/↓ significant increase/decrease from previous year based on 95% CIs ($p < .05$)

Concurrent ecstasy and alcohol use among REU

The majority of the REU interviewed in 2012 (76%) had consumed alcohol along with ecstasy last time they used it (Table 3), and three-fifths (64%) reported that they consumed more than 5 standard drinks on this occasion. Since 2003 there have been significant increases in the proportion of REU interviewed who typically used more than 5 standard drinks in combination with ecstasy; more recently, in 2010 there was a significant increase in the proportion who reported using more than 5 standard drinks the last time they took ecstasy.

Table 3. Use of alcohol in combination with ecstasy in the last six months among REU who responded to each question, 2003-2012

	2003 N=809	2004 N=852	2005 N=810	2006 N=752	2007 N=741	2008 N=678	2009 N=752	2010 N=693	2011 N=574	2012 N=607
Use alcohol with ecstasy (%)	n=805 57	n=850 64↑	n=809 72↑	n=752 70	n=741 76↑	n=677 81↑	n=538 70	n=689 84↑	n=563 81	n=603 76↓
> 5 standard drinks with ecstasy (%)	37	44↑	52↑	50	58↑	62↑	59	69↑	68	64
Use alcohol in comedown from ecstasy (%)	n=804 31	n=849 30	n=809 42↑	n=752 33↓	n=741 40↑	n=677 39	n=538 21	n=692 10↓	n=568 14↑	n=604 12
> 5 standard drinks in come down (%)	22	20	30↑	21↓	30↑	24↓	13	5↓	10↑	9

Source: EDRS REU interviews

Note: ↑/↓ significant increase/decrease from previous year based on 95% CIs ($p < .05$); question wording changed from 'typical session' to 'last occasion of use' from 2009 onwards, thus direct comparisons were not made between 2008 and 2009

Just over 1 in 10 of those interviewed in 2012 (12%) reported that last time they took ecstasy; they also consumed alcohol when they were coming down from ecstasy. Most of these (9% of the sample) had drunk more than 5 standard drinks on this occasion. The proportion of REU who reported that they 'typically' use using more than 5 standard drinks during comedown (2003-2008), and the proportion who reported this on the last occasion of use (2009-2012) has varied over the years with no consistent trends noted.

Two-fifths (39%) of the REU reported a 'binge' session of drug use in the previous six months (Table 4), which is defined as 48 hours or more of continuous drug use without sleep. Almost one-third (31%) drank alcohol in a binge drug use session, and over one-quarter of the sample (27%) used more than >5 standard drinks in one of these binge sessions. The proportion reporting use of alcohol in a binge drug use session has fluctuated over the years, with significant increases noted in 2005, 2006, 2009, and 2011 relative to the year prior, and significant decreases noted in 2004, 2007, and 2008. The proportion reporting use of > 5 standard drinks in

a binge drug use session was significantly greater in 2011 and 2012 relative to 2009 and 2010.

Risk of alcohol dependence among REU

REU who participated between 2006-2008 and 2010-2012 completed the Alcohol Use Disorders Identification Test (AUDIT; Saunders et al., 1993). The AUDIT was designed by the World Health Organization as a brief screening scale to identify individuals with alcohol problems, including those in early stages. It is a 10-item scale, designed to assess three conceptual domains: alcohol intake, dependence, and adverse consequences (Reinert & Allen, 2002). Total AUDIT scores of 8 or more are recommended as indicators of hazardous and harmful alcohol use, as well as possible alcohol dependence (Babor et al., 2001). The higher the score above 8, the greater the severity of problems that people are experiencing from alcohol use.

The median AUDIT score of the REU interviewed nationally has ranged between 12 and 15 (Table 5), with higher scores reported between 2010 and 2012 (14-15) relative to those reported between 2006 and 2008 (12-13). Of those REU who completed the AUDIT, a large majority (70-84%) scored 8 or more, a level at which alcohol intake may be considered hazardous, with significant increases noted in 2007 and 2010 relative to the previous year.

Table 4. Use of alcohol in a binge session[^] of drug use among REU who responded to the binge drug use question, 2003-2012

	2003 N=809	2004 N=852	2005 N=810	2006 N=752	2007 N=741	2008 N=678	2009 N=752	2010 N=693	2011 N=574	2012 N=607
Binge drug use in last 6 mths (%) [^]	51	43↓	49↑	49	44	34↓	36	34	41↑	39
Used alcohol in binge session (%)	n=808 24	n=836 18↓	n=808 26↑	n=749 49↑	n=740 27↓	n=641 22↓	n=750 27↑	n=693 26	n=570 32↑	n=605 31
Used > 5 standard drinks in binge session	n/a	n/a	n/a	n/a	n/a	n/a	23	22	28↑	27

Source: EDRS REU interviews

[^]drug use for more than 48 hours continuously with no sleep

Note: ↑/↓ significant increase/decrease from previous year based on 95% CIs ($p < .05$)

Total AUDIT scores can also be used to place respondents into one of four 'zones', or risk levels. Zone 1 (scores ranging 0-7) reflects low-risk drinking or abstinence, zone 2 (scores ranging 8-15) reflects alcohol use in excess of low-risk guidelines¹, zone 3 (scores ranging 16-19) reflects harmful or hazardous drinking, and those in zone 4 (scores ranging 20-40) may be referred to evaluation and possible treatment for alcohol dependence.

Table 5 shows the proportion of REU categorised within each of the AUDIT risk categories between 2006 and 2012. In 2012, 17% of the REU who completed the AUDIT scored in zone 1, one-third (37%) scored in zone 2, one-fifth (19%) scored in zone 3, and one-quarter (27%) scored in zone 4. The proportion of the REU sample classified in zone 4 – and hence possibly alcohol dependent – was higher between 2010-2012 compared to 2006-2008, and a significant increase was found between the 2008 and 2010 samples (Table 5). The proportion of REU classified in zone 4 has increased for both males and females over the years of the EDRS surveys, with a significant increase found for males between the 2008 and 2010 samples.

Table 5. AUDIT scores among National EDRS sample, 2006-2012

	2006 n=737	2007 n=734	2008 n=671	2010 n=674	2011 n=566	2012 n=592
Mean AUDIT score	12.6	12.7	13.5	14.8	15.0	14.8
Median AUDIT score (range)	12 (0-38)	12 (0-37)	13 (0-35)	14 (0-38)	15 (0-38)	15 (0-34)
AUDIT score >8 (%)	70	76↑	77	84↑	84	83
Persons						
Zone 1 (%)	27	24	23	16	16	17
Zone 2 (%)	40	43	41	39	38	37
Zone 3 (%)	16	15	16	20	21	19
Zone 4 (%)	17	18	20	26↑	26	27
Males	n=464	n=424	n=384	n=392	n=388	n=382
Zone 1 (%)	25	24	23	13	14	16
Zone 2 (%)	39	39	40	37	36	40
Zone 3 (%)	18	16	16	21	22	17
Zone 4 (%)	18	21	21	29↑	28	28
Females	n=273	n=310	n=285	n=282	n=178	n=208
Zone 1 (%)	30	25	21	19	19	20
Zone 2 (%)	43	49	44	42	42	32
Zone 3 (%)	13	13	16	18	18	24
Zone 4 (%)	15	13	19	21	21	25

Source: EDRS REU interviews

Note: The AUDIT was not included in 2009 or prior to 2006;
 ↑significant increase from previous year based on 95% CIs ($p < .05$);
 significant differences examined for zone 4 only

CONCLUSIONS & IMPLICATIONS

High risk alcohol consumption is common among samples of regular ecstasy consumers in Australia; and rates of high risk alcohol consumption patterns is greater among REU in comparison to similar age groups in the general population (aged 20-20). In addition there is evidence for increases in risky alcohol use patterns over time, including consumption of alcohol in combination with ecstasy.

Notwithstanding the potential harms associated with alcohol by itself, using ecstasy and alcohol concurrently carries additional risks. Concurrent ecstasy and alcohol use has been positively associated with the total number of reported adverse effects after ecstasy use, such as paranoia, irritability, confusion, and moodiness. This suggests that they can have a synergistic effect, in that the combination can make the severity of adverse effects greater than would be experienced by using either drug on its own (Fisk, Murphy, Montgomery, Hadjiefthyvoulou, 2011). Concurrent alcohol and ecstasy use has also been shown to reduce the subjective sedation induced by alcohol, with no effect on actual psychomotor abilities which continue to be impaired by alcohol (Hernandez-Lopez et al., 2002). Moreover, studies in animals suggest that concurrent administration of alcohol and MDMA may increase the potential of MDMA to damage brain cells (Hamida et al., 2008; Izco, Orio, O'Shea, & Colado, 2007).

Lastly, the proportion of REU scoring in Zone 4 on the AUDIT, and hence likely to be experiencing alcohol use disorders, has been increasing over time, for both males and females. For scores in this range, it is quite likely that participants have experienced some clear harms following their alcohol use – problems with remembering events that occur while drinking, feeling guilty or remorseful for things done during drinking and/or being injured during drinking. Despite one in four REU interviewed scoring in this zone – both males and females – just 17% of these had accessed any form of help for their use. As such, it is clear that greater emphasis needs to be placed on getting safer drinking information to REU, and helping consumers to better identify when they may be experiencing harms from their drinking. There are numerous high-quality programs that may suit REU – such as the drinksmeter website and smartphone app (www.drinksmeter.com) or the 24-hour web-based counselling services at www.counsellingonline.org.au.

¹ It should be noted that this threshold for low risk is based on standards employed in the 2007 National Drug Strategy Household Survey, which represents a threshold substantially higher than that specified by the National Health and Medical Research Council in their revised guidelines (2009). However, the thresholds use in the Household Survey have been reported here in order to facilitate comparisons with such national indicators.

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