

Can parents teach their children to drink alcohol responsibly? Or, is one drop a drop too many?

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Never Stand Still Australian Research Council / Australian Rotary Health / The Foundation for Alcohol Research & Education

Why is adolescent alcohol use a problem?

- Close to **40% of young Australians binge drink** each year and nearly 30% binge drink monthly.¹
- In addition to binge drinking, 10% also place themselves at risk of long-term harm from alcohol.¹
- In 2005-2006, almost 3000 hospital separations resulted from acute alcohol intoxication.
- During 1993-2002, 13% of all deaths in this age group were caused by alcohol use.²

Proportion of Australian adolescents reporting alcohol involvement in the past year, by age and gender, 2008.³

Age (Years)	Male (%)	Female (%)
12	~30	~25
13	~45	~40
14	~60	~55
15	~70	~65
16	~75	~70

1. Australian Institute of Health and Welfare, 2007 National Drug Strategy Household Survey: First results, in *Alcohol Use Statistics Series 2008*. Canberra.
 2. Chikritzos, T. et al. (2008) *Alcohol-related mortality in 15- to 24-year-olds and related trends in Australia*. *National Institute on Alcohol Abuse and Alcoholism*, 2008, p. 1-7.
 3. White et al. (2008) *Australian secondary school students' use of alcohol in 2008*.

Where do adolescents get alcohol from?

Parents are the largest supplier of alcohol to adolescents.¹

- Not surprisingly, the majority of parents (95%) believe it is their responsibility to teach their children when, where and how to drink.²
- The effects of parental supply of alcohol to their children are controversial.¹
- To date, research on the impact of parental supply of alcohol is scarce.^{2,3}

What is the aim of the current research?

To determine if parental supply of alcohol in the Australian context, affects the progression to harmful levels of drinking in adolescence.

1. Davis, C., et al. *Secondary Supply of Alcohol to Minors by Parents and Adults: A Literature Review*. 2008. Prepared for staff of the Australian Government 2008.
 2. Taylor, C. et al. *Parental Supply of Alcohol to Minors: A Review of the Literature*. 2008. Australian Institute of Family Studies, 2008.
 3. Hoops, Sarah, *Teenagers, Parents (2008)*. Parenting influences on adolescent alcohol use. Department of Health and Ageing, Victorian of Family Studies.

Thoughts on supply and adolescent alcohol use

- Genetics and familial factors
- Parental modelling
- Parent approaches to alcohol:
 - a) Early supervised alcohol consumption → Responsible drinking trajectories, Early alcohol use initiation and problem alcohol trajectories
 - b) Delay introduction to alcohol → Responsible drinking trajectories, Poor coping with alcohol exposure when upon legal age
- Other factors?
 - Alcohol availability
 - Parental alcohol-specific rules
 - Intrapsychic factors – intra-personal, internalising and externalising behaviours (eg. Rule breaking, aggressive, anxious, depressed, withdrawn behaviours), or peer influences

Methods

Recruitment

- Year 7 students and one of their parents, recruited via Government, Independent and Catholic Schools during 2010-2011 (49 Grade 7 cohorts from 46 schools).
- Pre-packed information packs distributed to schools → schools mailed packs directly to parents → parents opted into study, consenting at Baseline.

Sample

- A total of 3,996 participants opted into the study.

Procedure

- Surveys offered annually, online or paper.
- Families will be followed for 4 years from 12 years to 16/17 years (and then from 18 years to 20+ years with additional funding)

School Category	%
Independent	49%
Government	39%
Catholic	12%

Area	%
Tasmania	49%
Western Australia	27%
New South Wales	24%

Status	%
Below Average	14%
Average	49%
High Average	37%

Measures

Youth Measures

- Demographics** – gender, age, family composition, money availability.
- Alcohol use** (quantity & frequency, sources of supply, context of consumption) (NDSHS and MTF).
- Alcohol-Related Harms** (School Health & Alcohol Harm Reduction Project).
- Alcohol-Specific Rules** (van der Vorst et al., 2006).
- Parenting Style & Relationships** (Authoritative Parenting Index, Jackson et al., 1998).
- Parental Monitoring** (Silverberg & Small, 1991).
- Peer Substance Use and Approval** (Monitoring the Future Questionnaire, Bachman et al., 2011).
- Youth Self-Report** (Achenbach, 1991).

Parent Measures

- Demographics** – gender, country of birth, education, income.
- Reliability** (Mason & Windle 2001).
- Parent Alcohol Use** (quantity & frequency, family history of alcoholism) (NDSHS).
- Parental Supply of Alcohol** (context, frequency, quantity, supervision).
- Home Alcohol Access** (Komro et al 2007).
- Child's peer substance use** (adapted from the Monitoring the Future, Bachman et al., 2011).
- Family Conflict and Positive Family Relations** (Ary et al., 1999)
- Parental Rules** (adapted from the Children's Report of Parental Behavior Inventory, Schaefer, 1965).
- Parental Monitoring** (Silverberg & Small, 1991).
- Child's academic performance**

Baseline Data

- Of 1,977 families opting into the study, 1,936 parent-child dyads were eligible to participate.
- 97% of eligible participants completed baseline surveys (1,911 parents and 1,909 children). Baseline data was obtained for 1894 complete parent-child dyads.
- The mean age of the children participating is 12.5 years and 55% are male.
- In total, 80% of children live in two-parent households.

Parent Demographics, %	
Which parent are you?	
Mother	86.2%
Father	12.6%
Other (e.g. grandparent, guardian)	1.2%
Born in Australia?	
Yes	73.2%
No	26.8%
Highest Level of Education	
School Certificate	29.6%
Diploma, Trade	33.2%
Tertiary education	37.3%
Employment Status	
Employed (Full or Part time)	81.2%
Unemployed	1.0%
Retired or on pension	1.6%
Other	15.6%
Household Income	
Up to \$34,000	8.6%
\$35,000-\$80,000	24.7%
\$81,000-180,000	48.8%
\$181,001 or more	18.0%



Follow-Up 1

- Follow-Up 1 is currently underway; over 87% of participants have now completed the Follow-Up 1 survey.
- Loss-to-follow-up: 8 families have withdrawn from the study after completing the baseline survey. An additional 3 families have not been able to be contacted for either baseline or first follow up.
- Plan to retain 95% or more of sample.



Baseline Alcohol Use:

Parents

Parent Alcohol Use %	
Ever tried alcohol.	
Yes, at least a full serve	96.5%
Yes, only a sip/taste	2.8%
Any alcohol consumption, last 12 months.	
Yes, at least a full serve	90.2%
Yes, only a sip/taste	3.6%
Frequency of alcohol consumption, last 12 months.	
Daily	2.6%
Weekly	48.7%
Monthly	24.7%
Less than monthly	13.7%
Quantity of alcohol usually consumed, last 12 months.	
7 or more drinks	2.1%
5-6 drinks	4.8%
3-4 drinks	21.4%
1-2 drinks	61.3%



Baseline Alcohol Use:

Youth

Youth Alcohol Use %	
Ever tried alcohol.	
Yes, at least a full serve	5.6%
Yes, only a sip/taste	61.9%
Frequency of alcohol consumption, last 6 months (including a sip).	
Weekly	1.1%
Monthly	4.1%
Less than monthly	14.9%
Quantity of alcohol usually consumed, last 6 months	
5 drinks or more	0.2%
3-4 drinks	0.9%
1-2 drinks	4.6%
Source of first sip of alcohol.	
Parents	78.4%
Family friend, relative or other adult	11.7%
Brother or sister	1.2%
Friends	1.5%
As part of a religious service	5.1%
I got it myself	2.1%



Parental Supply of Alcohol:

Demographics

Estimated odds ratios of parents supplying a sip of alcohol, by demographics		
	OR	χ^2
Parent Age	1.00	0.16
Parent gender (M/F)	1.24	2.43
Australian born	1.23	3.81*
Number of children	0.88	8.99**
Religiosity	0.63	14.31**
Employed	1.18	1.93
Tertiary educated	0.90	1.28
Child's age	1.13	5.11*
Child's gender	0.00	0.00

* p<0.05
** p<0.01



Parental Supply of Alcohol:

Family Factors

Estimated odds ratios of parents supplying a sip of alcohol, by family factors		
	OR	χ^2
Parental responsiveness	0.98	2.09
Parental demandingness	0.97	6.42**
Positive family relations	0.90	1.12
Family conflict	1.12	4.54*
Parental monitoring	0.97	1.31
Consistency of rule enforcement	0.98	3.47
Consistency of discipline	0.99	0.59
Alcohol specific rules	0.51	146.37**
Home access to alcohol	1.13	49.82**

* p<0.05
** p<0.01



Parental Supply of Alcohol: *Parental Modelling*

Estimated odds ratios of parents supplying a sip of alcohol, by parental alcohol modelling factors		
	OR	χ^2
Parent age of first glass of alcohol	0.91	22.90**
Consumed alcohol in past 12 months	6.21	71.18**
Typical frequency of parent alcohol consumption past 12 months		
Monthly use	3.68	79.91**
Weekly use	4.06	
Daily use	5.86	
Frequency of consuming alcohol in presence of child		
Monthly	3.83	83.90**
Weekly	4.24	
Daily	5.50	

* p<0.05
** p<0.01



Parental Supply of Alcohol: *Child Peer, Internalising and Externalising Factors*

Estimated odds ratios of parents supplying a sip of alcohol, by child substance-using peers, and child internalising and externalising behaviours		
	OR	χ^2
Child rule breaking behaviour	1.05	7.79**
Child aggressive behaviour	1.02	1.95
Child withdrawn/depressed behaviour	1.01	0.21
Child anxious/depressed behaviour	1.01	0.26
Child social problems behaviour	1.02	1.50
Parents perceive child's friends drink alcohol regularly	1.39	9.49**

* p<0.05
** p<0.01



Multivariate Analyses

- Demographic, parent, child, family and peer variables were entered into a multivariable logistic regression to investigate which variables were significantly related to parental supply, after taking into account demographic differences. This model was highly significant and accounted for 19.7% of variance in parental supply of alcohol ($\chi^2_{(53, N=1641)}=444.75, p<0.00005, R^2=0.197$).
- Significant relationships include:
 - Parent education ($\chi^2=10.49, p=0.033$).
 - Number of children ($z=-2.84, p=0.004$).
 - Parent age of initiation ($z=-2.02, p=0.043$).
 - Parent ever asking child to bring them an alcoholic drink ($\chi^2=5.34, p=0.021$).
 - Alcohol specific rules ($z=-7.10, p<0.0005$).
 - Frequency of parent heavy drinking ($\chi^2=7.97, p=0.046$).
 - Typical quantity of parent drinking ($\chi^2=14.50, p=0.002$).
 - Parent's perception of whether child's peers have tried alcohol ($\chi^2=152.39, p<0.00005$).



Future Directions:

Tracking the emergence and understanding the meaning of alcohol use disorders in adolescents (Timothy Slade)

Investigators:

Dr Timothy Slade, Dr Wendy Swift, A/Prof Kypros Kypri, Dr Raymondo Bruno, A/Prof Rosa Alati, Dr Louise Mewton, Prof Michael Lynskey, Dr Delyse Hutchinson, Prof Jakob Najman, Prof Maree Teesson, Prof George Patton, Dr Nyanda McBride, Prof Richard Mattick, Tammy Chung.

Background:

- Adolescence is a time of rapidly expanding physical and cognitive development.
- Choices that adolescents make during this critical period can have profound effects for years to come.
- Drinking alcohol is a major milestone for many young Australians.
- Yet a substantial minority who drink will go on to develop an alcohol use disorder (AUD).

Despite the abundance of literature on factors associated with the presence of AUD, very little is known of how AUD develops over the critical adolescent period.



Future Directions:

Tracking the emergence and understanding the meaning of alcohol use disorders in adolescents (Timothy Slade)

Aims:

- To track the emergence of alcohol dependence across the adolescent and young adult years with the ultimate aim of informing developmentally specific prevention and early intervention programs.

Method:

- Using the existing cohort of children who have completed baseline and first follow-up assessments, we will follow participants through adolescence.
- Participants will be interviewed every six months to derive monthly histories of both alcohol use and AUD symptomatology, along with a comprehensive battery of risk factor scales predicting the emergence and course of AUD.
- Anticipated sample size of 660 adolescents.

The results will inform not only the natural history of AUD but will identify specific targets for prevention and early intervention of harmful alcohol use.



Future Directions:

CANDY: Consumption of Alcohol and Neuropsychological Dysfunction in Youth (Janette Smith)

Investigators:

Dr Janette Smith, Dr Raimondo Bruno, A/Prof Allison Fox, A/Prof Kypros Kypri, Dr Nyanda McBride, Prof Richard Mattick, Dr Timothy Slade and Prof Patricia Michie

Background:

- There have been concerns about the effects of adolescent alcohol use on brain development and function.
- Most published research on neuropsychological function in young drinkers is conducted with older adolescents and young adults (aged 16-19).
- This age group already have substantial experience with alcohol.
- Existing research is largely cross-sectional, focusing on the effects of binge drinking on memory.



Future Directions:

CANDY: Consumption of Alcohol and Neuropsychological Dysfunction in Youth (Janette Smith)

Aims:

- The project will examine if there are subtle deficits in cognitive function (particularly, the function of the frontal lobes) associated with low-level and binge alcohol use in adolescents, and whether such deficits precede alcohol use.

Method:

- We will take advantage of a unique opportunity to examine cognitive function in a large cohort of adolescents aged 14-16, using both behavioural and psychophysiological measures.
- Participants will complete a comprehensive battery of executive function and memory tasks in two sessions, two years apart.
- Anticipated sample size of 450 (3 groups of 150: non-drinkers, low-level drinkers and binge-drinkers).

