Beliefs of young people and their parents about the harmfulness of alcohol, cannabis and tobacco for mental disorders

Dan I Lubman, Leanne Hides and Anthony F Jorm

ABSTRACT

Objective: To ascertain the beliefs of young people and their parents about the role of alcohol, tobacco and marijuana in the prevention and treatment of mental disorders.

Design, setting and participants: Between May and August 2006, a national computer-assisted telephone survey was conducted on a representative sample of Australian youths aged 12–25 years. 3746 young people and 2005 of their parents were presented with a case vignette portraying psychosis, depression, depression with alcohol misuse, or social phobia in a young person.

Main outcome measures: Participants' beliefs regarding the role of substance use in preventing or dealing with mental disorders in young people.

Results: Over 85% of participants agreed that alcohol, tobacco and marijuana were harmful for the young people in the vignettes, and over 80% of youths agreed that not using marijuana or drinking alcohol in excess would reduce the risk of developing a similar problem.

Conclusion: Young people and their parents are fully aware of the negative impact of substance use on mental disorders. Translating this knowledge into behavioural change will be a major challenge for future public health campaigns.

MJA 2007; 187: 266–269

Recent research highlighting the links between early onset of substance use and mental health problems later in life has increased public and political concerns about the use of alcohol and illicit drugs by young people.[1-4] Teenagers who regularly smoke tobacco appear to be more likely to have mental health problems in later adolescence,[5] while early onset of regular cannabis use has been consistently associated with later psychotic symptoms or disorder.[4,6] Although few epidemiological studies have found a direct link between early onset of alcohol consumption and the development of anxiety or depressive disorders in young adulthood (after adjusting for other risk factors),[7] teenagers who misuse alcohol report higher rates of mental disorders[8,9] and attempted suicide.[10]

Complementing existing drug prevention strategies, the Australian Government has recently launched a campaign specifically aimed at improving community awareness of the link between illicit drugs and the development of mental disorders.[11] However, little is known about young people's knowledge and beliefs regarding the role of licit and illicit substances in the prevention and treatment of mental disorders, or what variables predict their beliefs. Here, we report the first national survey addressing this issue in young people and their parents.

METHODS

The sample

Between May and August 2006, a national computer-assisted telephone survey was conducted on a representative sample of Australian youth. Interviewers ascertained whether any residents in the household were within the age range of 12–25 years and selected one for interview using the nearest-birthday method. If the young person lived with one or more parents, then the parent with the nearest birthday (Kish method of random selection) was also invited to be interviewed.

The interview

The interview was based on a case vignette of a young person (John or Jenny) with a mental disorder. On a random basis, respondents were read one of four vignettes — depression, depression with alcohol misuse, social phobia, or psychosis (schizophrenia)[12] — portraying a person aged 15 years (for participants aged 12–17 years) or 21 years (for participants aged 18–25 years) of the same sex as the participant. If a parent was interviewed, he or she was read the same vignette as his or her child.

All respondents were then asked a series of questions that assessed sociodemographic characteristics, mental health literacy, stigma, exposure to mental disorders, beliefs about interventions and prevention for the mental disorder in the vignette, psychological distress (using the K6 screening scale[13]), and exposure to mental health media campaigns. To assess their beliefs about using substances to deal with mental disorders, young people were asked: *Do you think the following are likely to be helpful, harmful or neither for John/Jenny?* The actions that followed were:

- Using alcohol to relax;
- Smoking cigarettes to relax;
- Using marijuana to relax;
- Cutting down on use of alcohol;
- Cutting down on smoking cigarettes; and
- Cutting down on use of marijuana.

Parents were asked the same questions as their children.

Young people were also asked: *If a young person did the following, do you think it would reduce their risk of developing a problem like John's/Jenny's?* The actions that followed, using a *yes*, *no*, *depends*, *don't know* response format, were:

- Not using marijuana; and
- Not drinking alcohol in excess.

Parents were asked similar questions about what they could do to reduce their child's risk. A distractor item, "Avoiding sugary foods", was also included in this section to determine the potential role of demand characteristics within the survey. While there is no supporting evidence that avoiding sugary foods has a role in preventing mental disorders, this item was deemed to have sufficient face validity as a positive health behaviour (given that it is a focus of many health promotion campaigns).

Statistical analysis

The data were analysed using per cent frequencies with 95% confidence intervals, with the sample divided by age group into "adolescents" (aged 12–17 years) and "young adults" (aged 18–25 years). Logistic regression analyses were performed to determine if age group, sex or psychological distress score were predictors of substance use beliefs among young people.

1 Frequency (95% CI) of beliefs of young people and their parents about the use of substances and avoiding sugary foods (distractor item) to deal with or prevent mental disorders

Group holding belief	Vignette: Depression	Depression with alcohol misuse	Social phobia	Psychosis
Harmful for person in vignette to use alcohol to relax				
Adolescents	91% (87%–94%)	95% (92%–97%)	90% (86%–93%)	92% (89%–95%)
Young adults	90% (87%–93%)	96% (94%–97%)	85% (81%–89%)	95% (93%–97%)
Parents	95% (93%–97%)	96% (93%–97%)	95% (92%–97%)	96% (93%–98%)
Harmful for person in vignette to use marijuana to relax				
Adolescents	94% (91%–96%)	97% (94%–99%)	94% (91%–97%)	95% (93%–97%)
Young adults	92% (89%–94%)	92% (89%–94%)	90% (87%–93%)	91% (88%–94%)
Parents	94% (91%–96%)	94% (91%–97%)	96% (94%–98%)	94% (90%–96%)
Harmful for person in vignette to smoke cigarettes to relax				
Adolescents	94% (91%–96%)	96% (94%–98%)	93% (89%–95%)	95% (92%–96%)
Young adults	89% (85%–91%)	92% (89%–94%)	91% (88%–93%)	88% (85%–91%)
Parents	95% (93%–97%)	94% (91%–96%)	97% (95%–98%)	92% (89%–95%)
Helpful for person in vignette to cut down on alcohol				
Adolescents	88% (83%–91%)	95% (93%–97%)	84% (79%–88%)	89% (85%–92%)
Young adults	90% (86%–92%)	94% (91%–96%)	86% (83%–89%)	91% (88%–93%)
Parents	90% (97%–93%)	93% (90%–96%)	90% (86%–93%)	91% (88%–94%)
Helpful for person in vignette to cut down on marijuana				
Adolescents	93% (89%–95%)	96% (93%–98%)	92% (89%–95%)	92% (88%–94%)
Young adults	90% (86%–93%)	93% (90%–95%)	90% (87%–92%)	91% (87%–93%)
Parents	89% (86%–92%)	91% (87%–93%)	92% (88%–94%)	92% (89%–94%)
Helpful for person in vignette to cut down on cigarettes				
Adolescents	92% (88%–94%)	94% (91%–96%)	90% (87%–93%)	90% (86%–92%)
Young adults	85% (81%–89%)	90% (87%–93%)	86% (83%–89%)	88% (84%–91%)
Parents	86% (83%–89%)	90% (86%–92%)	89% (86%–92%)	86% (83%–89%)
Not using marijuana will reduce risk of developing problem like person in vignette				
Adolescents	95% (92%–97%)	93% (89%–95%)	91% (87%–94%)	95% (92%–97%)
Young adults	92% (89%–95%)	93% (90%–95%)	89% (86%–92%)	91% (88%–93%)
Not drinking alcohol to excess will reduce risk of developing problem like person in vignette				
Adolescents	92% (88%–94%)	91% (87%–94%)	89% (85%–92%)	89% (86%–92%)
Young adults	87% (84%–90%)	89% (86%–92%)	82% (78%–86%)	85% (81%–88%)
Avoiding sugary foods will reduce risk of developing problem like person in vignette				
Adolescents	52% (46%–57%)	46% (41%–52%)	39% (34%–45%)	41% (36%–46%)
Young adults	48% (43%–53%)	50% (46%–55%)	41% (36%–46%)	35% (30%–40%)
Parents	50% (45%–55%)	46% (41%–51%)	52% (47%–57%)	47% (42%–52%)

Adolescents = youths aged 12–17 years. Young adults = youths aged 18–25 years. ◆

RESULTS

Of the 6087 youth sample members who met inclusion criteria and could be contacted, 3746 completed interviews (response rate, 61.5%). There were 835 males and 798 females in the adolescent group, and 958 males and 1155 females in the young adult group. Of the 2925 youth respondents with a parent in the household, 2005 parents (68.5%) completed interviews.

Box 1 shows the beliefs of young people and their parents about the use of substances in preventing or dealing with mental disorders. Over 85% of young people and parents agreed that alcohol, marijuana and tobacco were harmful for the young people in the vignettes to use for relaxation, and a similar proportion indicated that it would be helpful for them to cut down on use of these substances. Over 80% of young people also agreed that not using marijuana or drinking alcohol in excess would reduce the risk of developing a problem like the person in the vignette. However, only about half the young people and their parents rated avoiding sugary foods as an important preventive measure.

In terms of predictors of substance use beliefs of young people (Box 2), female participants were two to three times more likely to describe alcohol, tobacco and marijuana use as harmful. Older participants (ie, those aged 18–25 years) were less likely to report the belief that use of these substances, particularly marijuana, is harmful. Importantly, young people with higher levels of psychological distress were also less likely to report alcohol, marijuana and tobacco use as harmful.

DISCUSSION

Over 85% of youth respondents agreed that alcohol, tobacco and marijuana were harmful for the young people portrayed in the vignettes. In addition, most young people reported that not using marijuana or not drinking excessively would reduce the risk of developing mental health problems like the people in the vignettes. Parents reported similar views to their children.

These findings strongly suggest that young people and their parents are fully aware of the negative impact of substance use on mental disorders, and that neither licit nor illicit substances are appropriate self-help strategies. On one hand, these findings are extremely encouraging, suggesting that health information regarding the link between substance use and mental disorder has been absorbed by young people and their parents. On the other hand, such beliefs are in sharp contrast to the high rates of alcohol, tobacco and cannabis use among young people,[14,15] suggesting that this knowledge does not readily translate into behaviour. In fact, these data are consistent with previous substance misuse awareness and education campaigns, where individuals reported being aware of the negative effects of alcohol and drug use, but showed limited evidence of actual behaviour change as a result.[7]

Despite the encouraging nature of our findings, there are important caveats that need to be considered. First, this type of study is vulnerable to demand characteris-

2 Odds ratios (*P* values) from logistic regressions predicting beliefs of young people by sex, age and psychological distress (K6 scale[13]), for each vignette*

Belief (by vignette)	Female sex	Older age group†	Higher K6 score
Harmful for person in vignette to use alcohol to relax			
Depression	**3.72 (0.000)**	0.89 (0.610)	0.96 (0.105)
Psychosis	**2.87 (0.000)**	1.45 (0.160)	**0.93 (0.023)**
Social phobia	**2.92 (0.000)**	**0.56 (0.011)**	0.95 (0.054)
Depression with alcohol misuse	**1.88 (0.047)**	1.30 (0.389)	**0.92 (0.024)**
Harmful for person in vignette to use marijuana to relax			
Depression	**2.93 (0.000)**	**0.58 (0.031)**	**0.91 (0.000)**
Psychosis	**2.53 (0.000)**	**0.42 (0.000)**	**0.93 (0.009)**
Social phobia	**2.40 (0.001)**	**0.58 (0.046)**	**0.91 (0.001)**
Depression with alcohol misuse	1.45 (0.171)	**0.55 (0.038)**	**0.91 (0.002)**
Harmful for person in vignette to smoke cigarettes to relax			
Depression	**2.99 (0.000)**	0.67 (0.150)	**0.94 (0.046)**
Psychosis	**2.62 (0.000)**	**0.59 (0.042)**	**0.88 (0.000)**
Social phobia	**3.84 (0.000)**	**0.54 (0.023)**	**0.94 (0.034)**
Depression with alcohol misuse	**3.22 (0.000)**	**0.36 (0.002)**	**0.92 (0.015)**
Helpful for person in vignette to cut down on alcohol			
Depression	**1.57 (0.040)**	1.18 (0.462)	0.97 (0.262)
Psychosis	1.28 (0.250)	1.50 (0.055)	0.97 (0.344)
Social phobia	0.94 (0.750)	0.99 (0.939)	1.00 (0.870)
Depression with alcohol misuse	1.11 (0.716)	0.78 (0.391)	0.96 (0.194)
Helpful for person in vignette to cut down on marijuana			
Depression	**1.88 (0.003)**	**0.56 (0.010)**	**0.95 (0.049)**
Psychosis	1.46 (0.067)	0.88 (0.546)	0.96 (0.170)
Social phobia	**0.61 (0.017)**	0.72 (0.125)	0.98 (0.361)
Depression with alcohol misuse	1.18 (0.496)	0.66 (0.102)	0.96 (0.155)
Helpful for person in vignette to cut down on cigarettes			
Depression	1.46 (0.109)	0.83 (0.427)	**0.93 (0.009)**
Psychosis	**1.62 (0.039)**	0.98 (0.942)	**0.92 (0.004)**
Social phobia	**0.63 (0.047)**	0.88 (0.567)	0.95 (0.069)
Depression with alcohol misuse	1.35 (0.273)	0.59 (0.074)	**0.93 (0.029)**
Not using marijuana will reduce risk of developing problem like person in vignette			
Depression	**1.90 (0.023)**	0.93 (0.785)	**0.93 (0.029)**
Psychosis	**2.50 (0.001)**	0.64 (0.073)	0.96 (0.261)
Social phobia	**1.64 (0.023)**	0.70 (0.120)	1.03 (0.386)
Depression with alcohol misuse	1.71 (0.053)	1.15 (0.611)	**0.93 (0.016)**
Not drinking alcohol to excess will reduce risk of developing problem like person in vignette			
Depression	**1.67 (0.016)**	**0.62 (0.032)**	0.98 (0.438)
Psychosis	**1.60 (0.017)**	0.69 (0.057)	0.98 (0.436)
Social phobia	1.35 (0.104)	**0.59 (0.007)**	0.99 (0.791)
Depression with alcohol misuse	1.00 (0.994)	0.90 (0.633)	1.00 (0.987)

* Significant effects ($P < 0.05$) shown in **bold**. † Older age group = young adults (aged 18–25 years). ◆

tics, especially given the extensive media coverage on substance use and mental health over recent years. Thus, the high rates of endorsement for the harmfulness of these substances across all mental health conditions by both young people and their parents may be due to respondents only reporting what they perceived to be the most socially acceptable answers. However, this only occurred for the identified drugs, and was not apparent for the distractor item, suggesting that respondents did not simply endorse every possible healthy option.

Second, although participants uniformly identified the use of all three drugs as mental health risks, this does not necessarily mean that they were well informed about the nature of such risks. Indeed, it may be that participants were aware of the general negative association between substance use and mental health, but were not able to discriminate between the differing patterns of mental health risk associated with each substance. If this is the case, we need to consider whether this general level of community awareness is sufficient, or whether we need to promote greater understanding of the differing mental health risks associated with each substance.

So what lessons can we draw when designing public health campaigns? Our findings suggest that simply raising awareness of the link between substance use and mental disorder in the general population is not sufficient. Young people's motivation to abstain from or maintain low levels of substance use will depend on their own perceptions of how vulnerable they are to developing mental disorders, as well as the extent to which they believe that not using substances will help them avoid mental disorders.[16] Our finding of differential beliefs by sex, age and level of psychological distress regarding the harmfulness of drug use reinforces this notion, and suggests that public health campaigns need to provide clear, credible, evidence-based information that specifically targets different populations (ie, young males v females, adolescents v young adults, high v low levels of psychological functioning).

It is also important to highlight that beliefs about substance use in clinical samples of young people with substance misuse and/or mental disorders may differ from those at the general population level. More comprehensive health information would likely need to be delivered to these groups, given the complexity of co-occurring disorders and the increased likelihood of differential substance effects.

An important requirement of any public health campaign addressing the link between substance use and mental disorder would be to ensure that people with mental illness are not further stigmatised.[17] Instead, campaigns should incorporate messages that focus on improving mental health literacy and help-seeking. Health education programs could also help young people identify

potential barriers to action (eg, peer pressure), develop and build confidence in preventive strategies (eg, drug refusal skills), and promote positive self-help strategies and coping skills.[16,18]

Given the clear mismatch between drug use knowledge and behaviour, future research will be essential in determining the effectiveness of public health campaigns in preventing substance misuse and associated mental disorders in young people, as well as their impact on stigmatisation and help-seeking behaviour.

ACKNOWLEDGEMENTS

Annemarie Wright and Amy Morgan assisted with the organisation of the survey. Claire Kelly, Robyn Langlands, Betty Kitchener and Len Kanowski had input into the survey content. Darren Pennay and Graham Challice from the Social Research Centre provided advice on survey methodology. Funding was provided by the National Health and Medical Research Council, the Colonial Foundation and *beyondblue*.

COMPETING INTERESTS

None identified.

AUTHOR DETAILS

Dan I Lubman, PhD, FRANZCP, FAChAM, Senior Lecturer
Leanne Hides, BBehSc(Hons), PhD(Clin), Research Fellow
Anthony F Jorm, PhD, DSc, Professorial Fellow
ORYGEN Research Centre, Department of Psychiatry, University of Melbourne, Melbourne, VIC.
Correspondence: dan.lubman@mh.org.au

REFERENCES

1 Brook JS, Cohen P, Brook DW. Longitudinal study of co-occurring psychiatric disorders and substance use. *J Am Acad Child Adolesc Psychiatry* 1998; 37: 322-330.
2 Patton GC, Coffey C, Carlin JB, et al. Cannabis use and mental health in young people: cohort study. *BMJ* 2002; 325: 1195-1198.
3 Teesson M, Degenhardt L, Hall W, et al. Substance use and mental health in longitudinal perspective. In: Stockwell T, Gruenewald PJ, Toumbourou J, Loxley W, editors. Preventing harmful substance use: the evidence base for policy and practice. Chichester, UK: John Wiley and Sons, 2005: 43-51.
4 Arseneault L, Cannon M, Witton J, Murray RM. Causal association between cannabis and psychosis: examination of the evidence. *Br J Psychiatry* 2004; 184: 110-117.
5 Mathers M, Toumbourou JW, Catalano RF, et al. Consequences of youth tobacco use: a review of prospective behavioural studies. *Addiction* 2006; 101: 948-958.
6 Semple DM, McIntosh AM, Lawrie SM. Cannabis as a risk factor for psychosis: systematic review. *J Psychopharmacol* 2005; 19: 187-194.
7 Loxley W, Toumbourou JW, Stockwell T, et al. The prevention of substance use, risk and harm in Australia: a review of the evidence. Canberra: National Drug Research Institute and Centre for Adolescent Health, 2004.
8 Clark DB, Pollock N, Bukstein OG, et al. Gender and comorbid psychopathology in adolescents with alcohol dependence. *J Am Acad Child Adolesc Psychiatry* 1997; 36: 1195-1203.
9 Rohde P, Lewinsohn PM, Seeley JR. Psychiatric comorbidity with problematic alcohol use in high school students. *J Am Acad Child Adolesc Psychiatry* 1996; 35: 101-109.
10 Miller JW, Naimi TS, Brewer RD, Jones SE. Binge drinking and associated health risk behaviors among high school students. *Pediatrics* 2007; 119: 76-85.
11 Jorm AF, Lubman DI. Promoting community awareness of the link between illicit drugs and mental disorders [editorial]. *Med J Aust* 2007; 186: 5-6.
12 Jorm AF, Wright A, Morgan AJ. Beliefs about appropriate first aid for young people with mental disorders: findings from an Australian national survey of youth and parents. *Early Intervention in Psychiatry* 2007; 1: 61-70.
13 Kessler RC, Andrews G, Colpe LJ, et al. Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychol Med* 2002; 32: 959-976.
14 European Monitoring Centre for Drugs and Drug Addiction. Annual report 2005: the state of the drugs problem in Europe. Lisbon: EMCDDA, 2005.
15 Australian Institute of Health and Welfare. 2004 National Drug Strategy Household Survey: detailed findings. Drug Statistics Series No. 16. Canberra: AIHW, 2005. (AIHW Cat. No. PHE 66.)
16 Glanz K, Rimer BK, Lewis FM, editors. Health behavior and health education: theory, research and practice. San Francisco: Jossey-Bass, 2002.
17 Corrigan PW, Lurie BD, Goldman HH, et al. How adolescents perceive the stigma of mental illness and alcohol abuse. *Psychiatr Serv* 2005; 56: 544-550.
18 Jorm AF, Griffiths KM. Population promotion of informal self-help strategies for early intervention against depression and anxiety. *Psychol Med* 2006; 36: 3-6.

(Received 12 Dec 2006, accepted 5 Jun 2007) ❑