Parental guidance about drinking: Relationship with teenage psychoactive substance use

Patrick Miller, Martin Plant*

Alcohol & Health Research Unit, University of the West of England, Blackberry Hill, Bristol BS16 1DD, United Kingdom

ABSTRACT

Parental guidance concerning alcohol was explored using data from a 2007 survey of 2179 UK school students aged 15 and 16 years. Cluster analysis based on questions about parental advice was used to establish seven student groups. Associations between groups, other family background and psychoactive substance use variables were explored. Substance use was least common amongst students whose parents discouraged drinking and those who claimed to have received no parental guidance. The heaviest substance users were teenagers from families with more favourable, tolerant attitudes to alcohol and intoxication and among students who failed to answer the questions about parental guidance. These scored highly on cannabis and other drug use. The cluster in which there was comprehensive discussion with the parents about alcohol use had an intermediate position in relation to substance use. In logistic regressions parental guidance was consistently associated with substance use with several other background variables controlled.

Introduction

Clearly parents have a very important role to play in the extent to which their teenage children become involved with potentially hazardous health-related behaviours. These include the use of alcohol, tobacco and illicit drugs, sexual behaviour (condom and other contraceptive use, age of first sexual experience, number of partners). It is evident that the degree of monitoring parents exert on their adolescent children bears a strong relationship to their offspring's behaviour. Parental monitoring, communication and parenting styles have, for example, been shown to be related to adolescent sexual risk taking, condom use and mental health problems (Hess, 1995; Huebner & Howell, 2003; Hutchinson, Jemmott, Sweet Jemmott, Braverman, & Fong, 2003; O'Brien & Scott, 2007; Whitaker & Miller, 2000). In addition, it has been reported that parental trust, together with monitoring and supervision are associated with adolescent risk taking (Borawski et al., 2003).

Parents' general attitudes and behaviour in relation to alcohol and other drugs are also important (Engels et al., 2007; Järvinen & Room, 2007; Ledoux, Miller, Choquet, & Plant, 2002; Miller & Plant, 2003; Velleman & Orford, 1999). Family structure (intact compared to single parent) also showed a relationship to substance use but this appeared to be mediated by other factors such as social support (Ledoux et al., 2002; Miller, 1997). It has been reported that childhood and adolescent drinking predicts alcohol use and alcohol-related problems in adult life (Dubow, Boxer, & Huesman, 2008; Englund, Egeland, Olivia, & Collins, 2008; Fillmore, 1988; Maggs, Patrick, & Feinstein, 2008; Merline, Jager, & Schulenberg, 2008; Peck, Vida, &

Eccles, 2008; Pitkänen, Kokka, Lyyra, & Pulkkinen, 2008; Schulenberg & Maggs, 2008; Zucker, 2008). It has also long been noted that patterns of alcohol and other drugs use and their related problems may be transmitted from one generation to another (Jessor et al., 1991; Jessor & Jessor, 1977; Plant & Plant, 1992). As noted by Engels et al. (2007), parents act as important socialising agents for their children:

"In the past decade only a few (prospective) studies have been conducted – and almost exclusively from North-American samples – demonstrating that parents' own alcohol use as well as concrete parenting practices like setting alcohol-specific norms and rules, frequently of communication about drinking issues and the availablity of alcohol in the household are associated with adolescent drinking." (p. 102).

The nature of parenting has been identified as having an influence on the subsequent development of an individual's later drinking (Barnes & Farrell, 1992; Ennett, Bauman, Foshee, Pemberton, & Hicks, 2001; Jackson, Henriksen, & Dickinson, 1999; Ledoux et al., 2002; Miller & Plant, 2003; Mounts, 2000; Wood, Read, Mitchell, & Brand, 2004). Barnes (2005) has reported that "parental nurturance" might reduce the likelihood of later heavy drinking and other deviant behaviours. Van Der Vorst, Engels, Meeus, Dekovi, Van Leeuwe (2005); Van Der Vorst, Engels, Meeus, Deković (2006 a); Van Der Vorst, Engels, Meeus, Deković (2006b) concluded from Dutch research that adolescent drinking was inversely associated with rule setting by parents. Moreover, the imposition of alcohol-specific rules by parents was associated with a later onset of drinking by adolescents. Baumrind (1991) considered parenting in terms of commitment and the balance between 'demandingness' and responsiveness. Authoritative parents who were both responsive and demanding were successful in protecting their adolescent children from substance use. Parental guidance has been noted as a factor in reducing the influence of alcohol advertising on children and adolescents (Austin, Chen, & Grube, 2006). Parental guidance has also been credited with reducing student drinking (Birtalan, 2005). Even so, Engels et al. (2007) concluded that parents appeared to lose their ability to influence their children's drinking as the latter grew older. They concluded that:

"Thus, for parents it might be wise to undertake actions to prevent their teenager from drinking heavily or starting very early, and affiliating with (heavy) drinking friends, when they still are an important socialisation source for their child." (p. 112)

Moreover, it is evident that drinking patterns and levels of alcohol-related problems vary considerably amongst young people from different countries. The United Kingdom, for example, has high rates of both heavy drinking and its adverse effects amongst among teenagers (British Medical Association, 2008; Hibell et al., 2004; Plant & Plant, 2006).

This paper explores what might well be an important mediating factor i.e. the guidance, or lack of it, that parents had reportedly given their teenage children concerning one form of health risk behaviour, the consumption of beverage alcohol. The expectations were that, where parents had discussed alcohol carefully with their children and given them an informed balanced view, this would reduce extreme and deviant experimentation by their children. Those children that received little or no guidance would be heavier users of alcohol, tobacco and illicit drugs. The aims of the study were:

1) To classify the parental guidance given and examine its extent e.g. what proportion of teenagers in the UK received adequate formal information; what proportion were prohibited from consuming alcohol or getting drunk.

2) To study associations between the extent and content of parental guidance and several other background variables found to be related to teenage substance use. The literature suggested that these background variables might be considered in five groups: related to parental monitoring, parental support, parental attitudes to substance use, the influence of friends and other factors. Parental monitoring and negative parental attitudes to drug use have both been found (see above) to be associated with lower teenage substance use. Parental support seemed less important (Miller & Plant, 2003) but still showed some relationships with drug use (Ledoux et al., 2002). The strongest associations with teenage drug use, however, have been consistently found with peer group influences (e.g. Ledoux et al., 2002; Miller, 1997; Miller & Plant, 2003). The aim was to ascertain whether there would be any correspondence between these five groups of family background variables and parental guidance.

3) To address the question of whether parental guidance could add anything to predictions of substance use over and above those made from peer group influences and some of the other background variables

Method

Fieldwork and data processing

This study was conducted as part of the 35 country European School Survey Project on Alcohol and other Drugs (ESPAD). This study has been conducted previously in 1995, 1999 and 2003 (Hibell et al., 1997, 2001, 2004). Even so, it is a cross-sectional investigation, not a prospective study of a single group of respondents. Fieldwork for the survey that is now reported which covered school pupils born in 1991 took place from March to July 2007. The sample covered the UK as a whole, making

no distinction between England, Scotland, Wales and Northern Ireland. Funds were sufficient for surveying approximately 120 schools covering two classes from each school. Lists were available for the whole UK detailing both the state and the independent schools and the total number of pupils in each. Schools were sampled from this list with probability proportional to size making no other distinctions. Participating schools then supplied a list of all their classes containing pupils born in 1991, and two of these classes were randomly sampled from these lists. The field work on these two classes was carried out by a designated teacher during the period March to July 2007. First a consent form was sent to the parents of each child involved (a required procedure in the UK) requesting them to inform the school if they did not want their child to participate. Next, the standard ESPAD questionnaire was administered to each class under 'examination' conditions. Instructions to the students emphasised that each student had been randomly chosen, that the answers were anonymous and totally confidential, that participation was voluntary and that answers need not be given to questions which the subject found objectionable. On completion of the questionnaire the respondent sealed it into a separate brown envelope. After the administration the local organiser completed a sheet detailing the numbers of pupils present, the numbers absent and the reasons for absence. The first step in processing the returned questionnaires was to remove and discard questionnaires from students not born in 1991. After coding one open-ended question, additional to the ESPAD ones, the questionnaire responses were keyed onto a data base. Data cleaning was accomplished centrally with a standard cleaning program devised to streamline data cleaning in all the ESPAD countries taking part. This program identified and removed the output from a small number of students who probably had not taken the questionnaire seriously and, for a few questions, imputed missing responses where other data from the student indicated clearly what the answer was likely to have been. These manipulations were minimal and did not involve any weighting of imputed data.

Materials

The questionnaire used in the UK included all the ESPAD core questions covering substance use and also gender, hobbies, family situation, parental educational level, parental monitoring and relationships with peers and parents. Other optional sections used in the UK included parental attitudes, respondent's self-esteem and level of depression and household chores usually performed. At the end of the questionnaire came two other short sections which were not part of ESPAD. The first was included at the request of the Joseph Rowntree Foundation, a charity. It consisted of three questions concerning the legal status of cannabis. The second extra section concerned the extent to which respondents' parents had given them any guidance relating to alcohol and its effects and is the main subject of this paper.

The questionnaire was successfully pretested on a small study group of children in a school in the Bristol area prior to use in the survey.

The parental guidance questions (all scored as yes/no)

T1 Have your parents/guardians given you any advice about drinking alcohol?

☐ None whatever (skip to question T4)

Tick all that apply

☐ They have forbidden me to drink alcohol
☐ They have laid down rules about what I may or may not do with regard to alcohol
☐ Discussed it as something important without laying down rules
☐ Nothing formal but it has been mentioned in conversation from time to time

T3 Did your parents/guardians (tick all that apply)

☐ Suggest limits for how often you should drink?
☐ Suggest limits for how much alcohol you should drink at a time?
☐ Tell you anything about units of alcohol, how much there is in each kind of drink?
☐ Suggest ways of saying 'no' to unwanted offers of a drink?
☐ Encourage you to try out getting drunk?
☐ Discourage you from ever getting drunk?
☐ Talk about the short-term bad effects of too much alcohol (hangovers etc)?
☐ Talk about the good effects (feeling happy and sociable etc)?
☐ Talk about the longer term health risks of too much (liver disease etc)?
☐ Let you try small amounts at a very early age?

The family background variables used as predictors of parental guidance are set out in Table 1 together with the substance use variables.

Table 1
The family background and substance use variables.

Variable	How scaled
Parental monitoring variables	
Parent's knowledge of respondent's whereabouts on Saturday night	4-point scales from 'usually know' to 'usually don't know'
My parents set definite rules about what I can do at home	5-point scales from 'almost always' to almost never'
My parents set definite rules about what I can do outside the home	
My parents know who I am with in the evening	
My parents know where I am in the evening	
Parental support variables	
Relationships with mother and father (separate scales)	5-point scales from 'very satisfied' to 'dissatisfied'
I can easily get warmth and caring from my mother and/or father	5-point scales from 'almost always' to almost never'
I can easily get emotional support from my mother and/or father	
I can easily get money as a gift from my mother and/or father	
Parental attitude variables	
Father's and mother's attitudes to smoking (separate scales)	3-point scale from 'would allow' to 'would not allow'
Father's and mother's attitudes to getting drunk (separate scales)	4-point scales from 'would not allow it' to 'would approve of it'
Father's and mother's attitudes to cannabis (separate scales)	
Parents/guardians allow/encourage student to drink with the family	Yes/no
Variables reflecting the influence of friends	
Going out in the evening	5-point scale from 'never' up to 'almost every day'
Most or all friends drink and most or all friends get drunk	Yes/no
At least a few friends use cannabis	Yes/no
I can easily get warmth and caring from my friends	5-point scales from 'almost always' to 'almost never'
I can easily get emotional support from my friends	
Other variables	
Gender	Male/female
Respondent's impression of their average grade	8-point scale, high numbers = low grades
Parental educational level	either parent completed university/ neither did
Problems with parents due to pupil's own alcohol use	Yes/no
Intact non-intact family	both parents present v other family types
Family financial position relative to other families	7-point scale from 'very much better off' to 'very much less well off'
Rosenberg (1965) self-esteem scale	31 points
Six-item depression scale	19 points
Respondent's rating of their schoolwork ability	7-points from 'excellent one of the best' to 'poor one of the worst'
How legal should cannabis be?	4-points from 'fully legal' to 'illegal serious offence'
The Bjarnason anomie scale (Bjarnason, 2009)	5-points from 'totally agree' to 'totally disagree'
You can break most rules if they don't seem to apply	
I follow whatever rules I want to follow	
In fact there are very few rules absolute in life	
It is difficult to trust anything because everything changes	
In fact nobody knows what is expected of him/her in life	
You can never be certain of anything in life	
Substance use variables	
Abstainer	All these were dichotomies derived from longer scales
Lifetime use of alcohol 40+ times and being drunk 6+ times	
Five + drinks in a row at least once in the past 30 days	
Seriously drunk on the last drinking occasion	
Ever smoked cigarettes and ever smoked cigarettes daily	
Cannabis use lifetime, in past year and in past 30 days	
Ever used any illicit drug other than cannabis	

Analysis

1) In order to be able to give clear descriptions of parental guidance it was felt that a categorical approach would be best, i.e. to seek out clusters of subjects differing on parental guidance. Exploratory principal components analysis was first performed on the T1 and T3 items listed above excluding subjects who said they had received no guidance whatever. This was done purely to suggest how many clusters it might be reasonable to seek. It yielded five principal components and accordingly five groups of subjects were sought using cluster analysis. This done, two other clusters were designated, these being those who said they had received no guidance and those who failed to answer the T1 and T3 questions. This gave seven clusters covering the whole sample.

2) The separate relationships between all the background variables described above and parental guidance as seen in these seven clusters were examined using Chi-square and one-way ANOVA.

3) A discriminant analysis was run using all the predictor variables found significant in steps 2 and 3.

4) The relationships between the seven clusters and the substance use variables were examined.

5) Using logistic regression, models were tested including the seven clusters and other selected background variables to predict substance use. Parental monitoring, attitude and support variables were not controlled in these analyses as it was felt there might be too much overlap with parental guidance which is the main feature of this paper.

Results

Response

The survey was carried out between March and June 2007. Information was obtained from 2179 school students (1004 boys and 1175 girls) aged 15 and 16 years attending 99 schools. Fieldwork was unexpectedly arduous and time-consuming. A total of 203 schools were sampled of which 117 agreed to participate. Ultimately, 18 of the latter failed to take part. The final school response was 48.8%. The most common reasons given for school refusals was that the school had taken part in other research projects and the fact that staff or students were already overloaded with these commitments. There were no discernible differences in the types of schools co-operating and not co-operating. The response rate of students in participating schools was high, at 83.6%. Most non-participants were either ill or absent with permission on the day of the data gathering within their schools. It is emphasised that the information considered in this paper was derived from self-reports by teenagers. No independent or substantiating information was elicited from their parents or other individuals.

The description of parental guidance

Principle components analysis with varimax rotation on the T1 and T3 items excluding subjects who said they received no guidance yielded 5 components accounting for 57.8% of the variance. A k-means cluster analysis for 5 clusters was then performed and the results of this and the relationships of the clusters to the factors are given in Table 2. The

Table 2
Description of the Clusters (% scoring yes and mean factor scores).

	Limits $N = 355$	Discourage use $N = 211$	Occasional mention $N = 353$	Thorough Discussion $N = 318$	Favourable $N = 205$	Chi-square*
Forbidden to drink	5.9	**31.8**[a]	15.0	3.5	*1.0*	151.2
Laid down rules	30.4	39.8	21.5	**75.2**	7.3	322.2
Discussed but no rules	50.4	34.1	*1.7*	22.6	**53.2**	265.5
Nothing formal	11.0	*7.6*	**65.4**	8.5	51.2	444.8
Suggest limits on drinking frequency	61.7	*5.7*	8.2	**85.5**	39.5	582.0
Suggest limits on quantity	65.1	*3.8*	15.9	**87.4**	63.4	569.3
Tell about units of alcohol	9.3	19.4	*8.5*	**54.1**	36.1	263.2
Suggest ways of saying no	13.2	66.4	*13.0*	**74.2**	31.2	443.0
Encourage getting drunk	3.7	3.3	*2.8*	**9.7**	7.8	22.8
Discourage getting drunk	*26.2*	**82.9**	30.6	72.3	30.7	313.2
Talk about the short-term bad effects	*11.3*	68.2	14.4	87.4	**95.1**	764.5
Talk about the good effects	4.5	6.6	*4.2*	23.6	**47.8**	263.9
Talk about the long-term health risks	*9.6*	76.3	10.8	**85.5**	51.2	649.7
Let try small amounts at an early age	30.7	*23.7*	41.1	45.3	**86.8**	215.3
						F*
Factor 1	−.90	.78	−.74	**1.02**	.45	783.9
Factor 2	.56	−1.10	−.72	**.84**	.11	423.1
Factor 3	−.48	−.63	.49	−.29	**1.09**	202.0
Factor 4	.40	.04	−.44	−.44	**.70**	88.5
Factor 5	*.01*	−.35	−.06	.11	**.27**	12.0

* All *P* values are < .001.
[a] Percentages in bold are the highest in the row, those in italics the lowest.

resulting five clusters each had a large N. Further, each of the five principal components discriminates the five clusters beyond the .001 level.

The first cluster ($N = 355$, making up 16.3% of the total sample) has been designated the '*limits*' cluster. Parents of these children were likely to rely on suggesting limits on frequency of drinking and quantity consumed. In comparison with other clusters they were rather unlikely either to say much about the effects of alcohol or to encourage getting drunk. The '*discourage use*' cluster ($N = 211$, 9.7%) is characterised by emphasis on forbidding any drinking, discouraging getting drunk and dwelling on the negative effects of alcohol. Children in the '*occasional mention*' cluster ($N = 353$, 16.2%) receive no formal guidance just passing mention in conversation. Children in this cluster are particularly unlikely to have had any rules about alcohol laid down. Parents of the '*thorough discussion*' cluster ($N = 318$, 14.6%) tend to have laid down rules, talked to their children about the long and short-term risks, suggested limits on frequency and quantity, described units of alcohol and suggested ways of saying no. The main distinguishing characteristic of the '*favourable*' cluster ($N = 205$, 9.4%) is that the short-term effects of alcohol both good and bad have received attention. Children in this cluster are also the most likely to have been allowed to try small amounts when young and to have had alcohol discussed but no rules laid down. To these were added the '*no guidance group*' ($N = 462$, 21.2%) who said they had received no guidance at all from their parents and the '*no answer*' group ($N = 275$, 12.6%) who failed to answer most or all of the parental guidance questions. Thus one important finding is that over one fifth of the sample say they received no guidance about alcohol from their parents while, at the other end of the scale the two smallest groups (both under one tenth of the sample) asserted either that their parents were totally unfavourable and controlling towards alcohol or were highly permissive towards it.

Relationships between the clusters and the family background and other variables

Tables 3a and b set out the relationships between the seven clusters and those other variables described above which significantly distinguished the clusters. The '*no answer*' group was included only for variables which came earlier in the

Table 3a
The seven clusters and discrete family background variables scored as dichotomies (% in each cluster).

	No guidance (N = 462)	Limits (N = 355)	Discourage use (N = 211)	Occasional mention (N = 353)	Thorough discussion (N = 318)	Favourable (N = 205)	No answer[a] (N = 275)	Chi-square
Parental attitude variables								
Encouraged drink with family (% yes)	*50.4*	76.4	54.8	67.0	78.9	**91.6**	–	162.6***
Father on smoking (% forbid)	62.3	55.7	**77.6**	63.6	65.9	56.4	*53.6*	39.6***
Mother on smoking (% forbid)	64.3	62.3	**77.1**	64.5	72.3	*57.4*	60.9	29.0***
Mother on getting drunk (%forbid)	29.6	13.7	**47.1**	24.0	21.8	*8.9*	30.0	186.9***
Father on getting drunk (%forbid)	32.1	17.3	**44.8**	26.3	22.9	*10.4*	25.6	143.5***
Mother on cannabis (%forbid)	87.6	83.6	**93.7**	83.5	93.0	*74.4*	83.1	51.3***
Father on cannabis (%forbid)	82.5	79.9	85.8	78.6	**86.6**	*72.5*	76.3	24.2***
Parental support variables								
Relationship to mother (% satisfied)	86.2	**92.4**	85.7	*82.1*	89.3	83.4	85.0	20.9**
Variables involving the influence of friends								
Friends drink (% most or all)	68.3	77.6	70.5	75.5	75.9	**90.1**	64.4	52.0***
Friends get drunk (% most or all)	52.0	63.4	57.7	60.2	56.2	**67.05**	*56.3*	18.9**
Friends use cannabis (% a few or more)	*59.1*	70.3	64.9	64.2	61.2	**73.6**	62.0	20.5**
Other variables								
Gender (% female)	48.7	51.0	**71.1**	57.8	61.3	57.1	*37.5*	71.3***
Parental education (% university)	47.6	46.7	51.0	52.3	54.3	**66.5**	*41.9*	34.1***
Problems with parents due to alcohol (% yes)	*11.3*	22.6	18.8	15.2	18.4	15.1	**24.6**	30.2***
Should cannabis be legal? (%legal)	24.8	31.6	*23.1*	30.7	29.9	**37.9**	–	16.9**
Engages in hobbies (% weekly +)	62.1	58.6	67.9	63.7	**68.7**	65.4	*53.7*	19.9**

**P < .01 ***P < .001.
[a] This group is excluded on variables which came later in the questionnaire and on which the majority failed to answer. Bold = higher figure in line. Italics = lowest figure in line.

Table 3b
The seven clusters and continuous family background variables (mean, sd).

	No guidance (N = 462)	Limits (N = 355)	Discourage use (N = 211)	Occasional mention (N = 353)	Thorough discussion (N = 318)	Favourable (N = 205)	No answer[a] (N = 275)	F
Parental monitoring variables								
Rules at home	**2.87 (1.24)**	2.67 (1.10)	*2.23 (1.04)*	2.83 (1.22)	2.37 (1.09)	2.77 (1.11)	2.67 (1.27)	12.1***
Rule outside home	**3.11 (1.28)**	2.82 (1.08)	*2.35 (1.12)*	2.98 (1.16)	2.45 (1.13)	2.98 (1.16)	3.02 (1.29)	18.1***
Know who with	2.08 (1.17)	1.88 (1.01)	*1.77 (1.12)*	2.00 (1.08)	1.79 (1.02)	1.93 (1.10)	**2.20 (1.20)**	5.4 ***
Know where I am	2.06 (1.16)	1.91 (1.08)	1.85 (1.11)	1.99 (1.08)	*1.84 (1.07)*	1.96 (1.12)	**2.24 (1.22)**	4.0 ***
Saturday night	1.81 (.96)	1.82 (.92)	1.73 (.88)	1.83 (.91)	*1.64 (.81)*	1.81 (.88)	**1.95 (1.01)**	2.91**
Parental support variables								
Warmth and caring	**1.86 (1.07)**	1.57 (.84)	1.55 (.94)	1.79 (1.01)	*1.46 (.78)*	1.61 (.92)	1.80 (1.09)	8.4 ***
Emotional support	**2.03 (1.18)**	1.62 (.90)	1.66 (1.11)	1.93 (1.11)	*1.57 (.88)*	1.69 (.98)	1.92 (1.13)	10.3 ***
Get gift of money	2.21 (1.14)	2.16 (1.08)	2.09 (1.08)	2.32 (1.14)	*2.06 (1.09)*	**2.37 (1.23)**	2.16 (1.15)	2.7 *
Variables involving the influence of friends								
Friends warmth and caring	**2.15 (1.18)**	1.85 (.99)	1.73 (1.04)	1.97 (1.14)	*1.69 (.92)*	1.82 (1.13)	2.11 (1.20)	8.4***
Friends emotional support	2.14 (1.25)	1.83 (1.07)	*1.67 (1.01)*	1.97 (1.16)	*1.67 (.92)*	1.81 (1.13)	**2.20 (1.25)**	10.3***
Other variables								
Family poor compared to other families[a]	3.43 (1.05)	3.53 (1.01)	3.45 (.98)	**3.59 (1.00)**	3.41 (.98)	**3.59 (.92)**	*3.36 (.97)*	2.3*
School grade [a]	4.63 (2.11)	4.65 (2.09)	4.16 (1.98)	4.34 (2.12)	4.31 (2.01)	3.95 (2.09)	**5.53 (2.24)**	15.03***
Break rules	2.87 (1.12)	2.84 (1.07)	**3.04 (1.05)**	2.80 (1.04)	3.00 (1.06)	*2.73 (1.03)*	–	3.1**
Follow what rules I want	3.02 (1.17)	3.14 (1.14)	3.19 (1.20)	2.93 (1.18)	**3.29 (1.16)**	*2.96 (1.90)*	–	4.4***
Few rules absolute in life	2.97 (1.11)	3.09 (1.08)	3.25 (1.10)	2.99 (1.10)	**3.31 (1.10)**	*2.91 (1.17)*	–	5.6***
Difficult to trust anything	2.61 (1.04)	2.67 (1.05)	2.77 (1.13)	*2.59 (1.06)*	**2.86 (1.15)**	2.67 (1.08)	–	2.9*
Nobody knows expected	*2.55 (1.03)*	2.56 (.99)	2.63 (1.07)	2.61 (1.05)	**2.81 (1.11)**	2.64 (1.01)	–	2.8*

*P < .05 **P < .01 ***P < .001.

[a] This group is excluded on variables which came later in the questionnaire and on which the majority failed to answer. Bold = higher figure in line. Italics = lowest figure in line.

questionnaire where only a few failed to answer the questions. Table 3a shows, for instance, that there is a large gender difference with 71.1% of students in the *discourage use* cluster being female as against only 37.5% in the *no answer* group. In Table 3b, for example, the *no guidance* group is least likely to be burdened with parental rules at home and the *discourage the use* cluster the most likely.

There are indeed correspondences between the five groups of background variables as set out above and the parental guidance clusters. Parental monitoring appears strongest in the *discourage the use* and *thorough discussion clusters* and weakest in the *no guidance* and *no answer* groups. Parental attitudes to substance use are generally most negative in the *discourage the use* cluster and most positive in the *favourable cluster*. Good parental support is most likely to be seen in the *thorough discussion* cluster. Pupils in the *favourable* cluster tend to be the most likely say that most of their friends are substance users with pupils in the *no answer* and *no guidance* clusters being the least likely to claim this. Students in the *no answer* and *no guidance* clusters are the least likely to be able to get caring and support from their best friend, while at the other end on this come the *thorough discussion* and *discourage use* clusters. Concerning the other variables studied, university education and the belief that cannabis should be legal are most prevalent in the *favourable* cluster. Problems with parents due to alcohol occurs most in the *no answer* and least in the *no guidance* group. The *thorough discussion* cluster are the highest scorers on the Bjarnason scales thus believing in general that rules are to be observed and that you can be certain of important things in life. The *discourage the use* cluster contains the highest proportion of females.

Discriminant analysis

This constitutes a further attempt to determine associations between the clusters and other variables. It was performed using all the variables which had significantly distinguished the clusters except for those where numbers in the *no answer* cluster were insufficient. The results are set out in Table 4. Seven of the variables proved significant in deriving three functions all of which were significant at $p < .001$. On the first function a poor school grade, low support from parents and male gender distinguish the *no answer* and *no guidance* clusters at one end from the *discourage use* and *thorough discussion* clusters at the other. The second function discriminates the *favourable* cluster from the *discourage use* cluster, with students where mother is not very much against substance use and most of the friends drink being in the former. On the third function female gender, good school grades and no problems with parents due to alcohol separate

Table 4
Discriminant analysis.

	Structure Matrix			
	Function 1	Function 2	Function 3	
Gender	**−.50**	−.13	**.33**	
Average grade	**.42**	−.19	**−.50**	
Problems with parents due to alcohol	−.08	−.02	**−.47**	
Emotional support from parents	**.44**	−.15	**.33**	
Mother on getting drunk	.03	**.83**	−.23	
Mother on cannabis	.21	**.47**	.06	
Friends drink	−.22	**.45**	.16	
	Functions at the group centroids			% correctly classified*
No guidance	**.35**	−.15	.16	19.0
Limits	−.06	.23	−.27	14.9
Discourage use	−.44	−.53	.13	39.3
Occasional Mention	.06	.08	**.23**	6.8
Thorough Discussion	−.40	−.05	−.15	32.4
Favourable	−.12	**.57**	.21	35.6
No answer	**.50**	−.17	−.37	41.8
Overall				24.7

*using equal prior probabilities for the clusters.

the *occasional mention* and *favourable* clusters from the *no answer* and *limits* clusters. Overall 24.7% of students are correctly classified.

The seven clusters and substance use

Table 5 sets out the findings. The *no guidance* students are the least likely to use cigarettes and illicit substances and are also at the low end of alcohol use. The *no answer* cluster contains the highest percentage of smokers and illicit drug users and the *favourable* cluster the highest percentage of heavy alcohol users.

Models of substance use

Logistic regression models were explored predicting five or more drinks in a row in the past 30 days, daily cigarette smoking, lifetime cannabis use and lifetime use of drugs other than cannabis. In addition to the parental guidance clusters the predictor variables selected were gender, parental education level, family financial position, self-esteem,

Table 5
The seven clusters and substance use %.

	No guidance (N = 462)	Limits (N = 355)	Discourage use (N = 211)	Occasional mention (N = 353)	Thorough discussion (N = 318)	Favourable (N = 205)	No answer (N = 275)	Overall (N = 2179)	Chi-square
Never drink Alcohol	14.1	3.7	**15.5**	5.8	2.9	*1.0*	10.9	8.0	77.9***
Used alcohol 40 + times in lifetime	30.7	46.3	*26.2*	39.3	37.0	**54.7**	41.1	38.7	57.4***
Drunk 6+ times in lifetime	24.2	35.3	*23.8*	31.0	31.8	**42.6**	38.6	31.7	37.1***
Five drinks in a row at least once past 30 days	*39.0*	64.8	43.1	55.7	54.9	**65.7**	60.7	53.8	84.5***
Seriously drunk on the last drinking occasion	18.6	**30.9**	*18.1*	21.4	22.9	27.0	26.2	23.4	23.6***
Ever smoked cigarettes	*44.3*	55.6	46.2	55.1	48.6	59.0	**59.6**	52.0	29.1***
Ever smoked cigarettes daily	*17.0*	22.3	17.6	18.1	22.3	23.3	**30.2**	21.1	22.1***
Ever used cannabis	*21.6*	34.4	23.7	26.9	26.3	33.7	**38.5**	28.7	36.2***
Used cannabis in the past 12 months	*15.3*	28.7	20.0	19.5	20.3	27.5	**30.2**	22.3	37.3***
Used cannabis in the past 30 days	*7.6*	14.4	9.0	8.3	11.7	13.8	**16.5**	11.2	22.2***
Ever used any illicit drug other than cannabis	*14.1*	22.5	18.5	19.5	16.7	**25.4**	21.1	19.1	17.5**

**P < .01 ***P < .001. Bold = higher figure in line.

depression, emotional support from friends, use of the internet, going out in the evenings, frequently indulging in a hobby and friends substance use. Variables were entered stepwise using the likelihood ratio method and the .05 significance level. The *no guidance group* was chosen as the reference for parental guidance as it was the largest group and likely to have few heavy substance users. The results are set out in Tables 6a and b. As expected, friends substance use figures strongly in all the predictions. Emotional support from friends and use of the internet were never found to be significant predictors once other variables were entered. Gender, family financial position and parental education were each significant only once, with girls being more likely than boys to smoke cigarettes daily, students from poorer families being less likely to have had five drinks in a row and students whose parents had been to university being less likely to smoke daily. Having a hobby was protective against binge drinking and cigarette smoking but not cannabis use. Poor self-esteem was significantly associated with substance use on all four dependent variables and students who went out more frequently in the evenings were also likely to be substance users. Being very depressed was associated with lifetime use of drugs other than cannabis. Regarding parental guidance, students in the *no guidance* clusters were less likely than those in all other clusters bar *discourage use* to have had five drinks in a row in the past 30 days. On daily cigarette smoking the *no answer* group stands out as having within it students who smoked daily. The *limits, favourable* and *no answer* students were more likely than *no guidance* ones to have used cannabis and the same was true for lifetime use of other substances.

Table 6a
Logistic regressions: parental guidance and other variables predicting five drinks in a row and daily smoking.

	B	S.E.	Wald	df	Sig	Odds ratio
	Five drinks in a row					
	Cox & Snell R square = .24 Nagelkerke R square = .32% correct = 71.8					
Family poor	−.252	.106	5.637	1	.018	.777
Most friends get drunk	1.563	.106	216.353	1	.000	4.775
Self-esteem[a]			17.678	2	.000	
medium	−.432	.131	10.935	1	.001	.650
good	−.514	.129	15.762	1	.000	.598
Parental guidance[b]			65.102	6	.000	
limits	1.089	.171	40.555	1	.000	2.972
Discourage use	.098	.196	.252	1	.615	1.103
Occasional mention	.662	.166	15.803	1	.000	1.938
Thorough discussion	.735	.173	18.076	1	.000	2.085
Favourable	1.150	.205	31.370	1	.000	3.159
No answer	.786	.206	14.514	1	.000	2.194
Evening going out[c]			102.284	2	.000	
sometimes	.860	.111	59.573	1	.000	2.362
Almosts daily	1.524	.173	77.235	1	.000	4.593
Hobbies[d]			15.812	2	.000	
weekly	−.464	.124	14.075	1	.000	.629
Almost daily	−.390	.132	8.769	1	.003	.677
Constant	−1.216	.186	42.800	1	.000	.296
	Daily cigarette smoking					
	Cox & Snell R square = .23 Nagelkerke R square = .36 % correct = 85.2					
Female	.484	.145	11.218	1	.001	1.623
Parents been to university	−.390	.135	8.324	1	.004	.677
Self-esteem			34.953	2	.000	
medium	−.529	.153	12.013	1	.001	.589
good	−1.025	.177	33.600	1	.000	.359
Parental guidance			20.460	6	.002	
limits	.208	.216	.931	1	.335	1.232
Discourage use	−.338	.274	1.518	1	.218	.713
Occasional mention	−.053	.222	.056	1	.813	.949
Thorough discussion	.062	.227	.074	1	.785	1.064
Favourable	.442	.253	3.061	1	.080	1.556
No answer	.833	.252	10.901	1	.001	2.301
Evening going out			35.558	2	.000	
sometimes	.506	.155	10.663	1	.001	1.659
Almosts daily	1.150	.193	35.475	1	.000	3.158
Most friends smoke	2.135	.139	237.018	1	.000	8.460
Hobbies			18.426	2	.000	
Weekly	−.591	.155	14.543	1	.000	.554
Almost daily	−.560	.169	10.951	1	.001	.571
Constant	−2.280	.227	100.749	1	.000	.102

[a] reference group is poor self-esteem.
[b] reference group is 'no guidance'.
[c] reference group is 'seldom'.
[d] reference group is 'less than weekly'.

Table 6b
Logistic regressions: parental guidance and other variables predicting lifetime cannabis use and lifetime use of other drugs.

	B	S.E.	Wald	df	Sig	Odds ratio
	Lifetime cannabis use					
	Cox & Snell R square = .20 Nagelkerke R square = .28 % correct = 74.2					
Self-esteem[a]			7.382	2	.025	
medium	−.189	.136	1.944	1	.163	.828
good	−.378	.139	7.377	1	.007	.685
Parental guidance[b]			18.464	6	.005	
limits	.539	.183	8.714	1	.003	1.714
Discourage use	.002	.224	.000	1	.994	1.002
Occasional mention	.304	.187	2.629	1	.105	1.355
Thorough discussion	.304	.195	2.438	1	.118	1.355
Favourable	.540	.212	6.518	1	.011	1.717
No answer	.727	.229	10.068	1	.002	2.070
Internet almost daily	−.318	.121	6.975	1	.008	.727
Evening going out[c]			72.465	2	.000	
sometimes	.813	.131	38.674	1	.000	2.255
Almosts daily	1.376	.169	66.429	1	.000	3.957
Friends use cannabis	2.330	.179	169.930	1	.000	10.275
Constant	−3.319	.241	189.004	1	.000	.036
	Lifetime use drugs other than cannabis					
	Cox & Snell R square = .11 Nagelkerke R square = .18 % correct = 80.4					
Self-esteem[a]			7.342	2	.025	
medium	−.398	.150	6.996	1	.008	.672
good	−.293	.162	3.263	1	.071	.746
Depression[d]			10.078	2	.006	
Somewhat depressed	.245	.175	1.965	1	.161	1.277
Very depressed	.547	.180	9.227	1	.002	1.729
Evening going out[c]			48.998	2	.000	
sometimes	.665	.146	20.660	1	.000	1.944
Almosts daily	1.238	.178	48.267	1	.000	3.450
Friends use cannabis	1.480	.174	72.436	1	.000	4.394
Parental guidance[b]			13.972	6	.030	
limits	.564	.201	7.853	1	.005	1.758
Discourage use	.322	.241	1.791	1	.181	1.380
Occasional mention	.389	.206	3.555	1	.059	1.475
Thorough discussion	.234	.218	1.150	1	.284	1.263
Favourable	.716	.227	9.942	1	.002	2.046
No answer	.561	.249	5.074	1	.024	1.753
Constant	−3.569	.278	164.232	1	.000	.028

[a] reference group is poor self-esteem.
[b] reference group is 'no guidance'.
[c] reference group is 'seldom'.
[d] reference group is 'well'.

Discussion

This paper has explored teenagers' accounts of what their parents said to them concerning alcohol. It has also studied the associations between these accounts and their use of various substances. As noted above, this was a cross-sectional study of self-reported information obtained from a large representative sample of children in the UK. No 'independent' information was obtained either from parents or other individuals. It should be noted, however, that parents appear to underestimate the extent to which their offspring engage in health risk behaviours (Stanton et al., 2000). Because of its cross-sectional nature there can be no definitive conclusions drawn about causation in relation to legal or illicit drug use. The exact timing of any guidance given is not known. Therefore it is possible, for instance, that parental guidance was given in response to a particular instance of heavy or 'binge' drinking rather than occurring before it.

Bearing this caveat in mind there are nonetheless some interesting indications regarding the extent and nature of reported parental guidance about alcohol. It was possible to describe the scene in terms of six clusters with reasonably large numbers in each (seven groups if those who failed to answer the relevant questions are included).

The first cluster, with an N of 462 constituted 21.2% of the sample. Students within it stated that they had received *no guidance* from their parents regarding alcohol. The cluster contained a slightly larger proportion of boys than the overall average and was also distinguished by a relative lack of rules about behaviour within and without the home and by somewhat less warm and supportive relationships with parents and friends. The big surprise was that these students turned out to be amongst the lowest users of legal or illicit drugs. This applied to all four categories of substance use examined, i.e. cigarette smoking, alcohol consumption, cannabis use and use of drugs other than cannabis. Compared to other clusters few of these teenagers had ever had problems with their parents because of their own alcohol consumption. Relatively small numbers reported that their friends drank, became drunk and used cannabis. Families in this cluster would appear to be those in which

the teenagers were simply not interested in alcohol and illicit drugs. (The cluster has the second highest proportion of teetotallers). Perhaps the parents were less anxious and concerned about their children than in some other clusters. This might account for the relative lack of restrictions and emotional warmth perceived by the teenagers and also for the reported lack of any attempt by the parents to pre-empt dangerous substance use. No problems had arisen and, until they did no guidance would be provided.

The second cluster, labelled *limits* comprised 16.3% of the sample. The main features here are that the parents reportedly tended to have suggested limits on the frequency/quantity of alcohol consumption but have failed to discourage their offspring from getting drunk or to inform them about any of the short and long-term bad effects of heavy drinking. For a relatively large proportion there had reportedly been discussions with the parents about alcohol but no rules had been laid down. This cluster contained the largest proportion of teenagers claiming to have been seriously drunk on the last drinking occasion. It seems possible that the suggestion of limits by the parents may often have been in response to an episode of heavy drinking. The large majority of students in this cluster indicated that their friends drank, periodically became drunk and used cannabis. This cluster contained students who were amongst the heaviest users in all four substance categories.

The cluster labelled *discourage use* contained only 9.7% of the sample. It was characterised by parents who reportedly had negative attitudes towards alcohol and a tendency to want to control their children. It is noteworthy that 71% of students in this cluster were female. This may suggest that many parents are more anxious and controlling towards their daughters than towards their sons. Another possibility is that the genders differ on how they construct what their parents told them with girls more likely to feel controlled than boys and therefore being more likely to be found in this cluster. By far the highest proportions of these respondents (31.8%) had been forbidden to drink altogether and/or discouraged from getting drunk (82.9%). There was also a high proportion of teetotallers in this cluster. Formal rules tended to have been laid down about what these teenagers may do, both within and beyond, the home. Moreover, parents usually knew exactly where they were. This cluster exhibited low proportions of substance users on all the indicators examined.

The *occasional mention* cluster contained 16.2% of the sample. Its only clear distinguishing feature was that these students reported that they had received 'nothing formal but it has been mentioned in conversation from time to time'. Seldom had any definite rules been laid down, encouragement to get drunk was rare, and few of these respondents had been provided with information about 'units' of alcohol. On the whole they indicated having received only low emotional support from parents, but had few problems with them due to alcohol. Their average school grades were quite good and there was a small preponderance of females. Compared to the other clusters they tended to be in the middle on all the substance use indicators. The minimal guidance these students had received seems to be the next step up from having had no guidance at all. Perhaps these teenagers showed a slightly greater interest in the drug scene than the 'no guidance' children, but not to any obviously harmful degree. The parents of such individuals may not have seen any reason to intervene.

In the *'thorough discussion'* cluster, which comprised 14.6% of the sample, the parents had reportedly carefully discussed alcohol with their children. There were strong tendencies for rules regarding alcohol to have been laid down, limits on quantity and frequency and ways of saying 'no' to drinks to have been suggested, getting drunk to have been discouraged and units of alcohol to have been described together with all its effects, particularly the long term ones. On the other hand few students in this cluster reported having been forbidden to drink and a large proportion have been allowed to try small amounts of alcohol when young. The positive effects of alcohol had been mentioned to 23.6% and a small proportion (9.7%) reported that they had even been encouraged to try getting drunk. Most of the respondents had been encouraged to drink with their families. Compared to other clusters the parents came down fairly hard on cannabis use and on cigarette smoking. However, the relationships between parents and children and also the relationships between the children and their friends, were described as being good. There was a larger than average preponderance of girls in this cluster. In addition, the proportion of those claiming to have a hobby engaged in at least once a week was the highest. These students also seemed to be the most law-abiding according to the Bjarnason anomie scales and also tended to regard their environment as fairly certain and unchanging. This cluster again came out in the middle on substance use – neither highest nor lowest on any of the indicators. Thus, on the basis of these self reports, careful parental education appeared not to have had a totally suppressing effect on legal or illicit drug use. Experimentation with some substances had continued, but perhaps, one might speculate, in a more controlled manner with the teenagers being aware of the risks.

The *'favourable'* cluster contained only 9.4% of the sample. Alcohol had reportedly been discussed but no rules had been laid down in relation to its consumption. The short-term negative effects had been mentioned to 95.1% of the students in the cluster, but there had been less emphasis on the long-term health risks associated with heavy drinking. The most distinctive features were that mention had been made of the short-term positive effects of drinking to nearly half the students. In addition, large majorities had been allowed to try small amounts of alcohol when young and were encouraged to drink with their families. Parental attitudes towards substance use appeared more relaxed with the lowest percentages of all the clusters forbidding smoking, getting drunk and using cannabis. The cluster also contained the highest proportion of parents at least one of whom had attended university. Students in this cluster were on the opposite pole in relation to the Bjarnasson anomie scales to the *'thorough discussion'* students. They believed that rules could be broken and that life was uncertain. The cluster contained the highest proportion of respondents who had been intoxicated more than six times in their lifetime and who had engaged in binge drinking in the past 30 days. There was also a high proportion of smokers, the highest proportion that has ever tried an illicit drug other than cannabis and the highest proportion believing that cannabis should be legal.

Only a little light can be thrown on the 12.6% of the sample who gave *'no answer'* to the relevant questions on parental guidance. There may have been two main reasons for this. Firstly, the questions come near the end of a long questionnaire. Some respondents may simply not have had enough time to complete this fully. Secondly, on average, their reported school grades were the lowest. This raises the question of whether they were more likely to be involved in the drug scene outside school. Some of the non-responders may also have been the less academically inclined teenagers who were more likely to be involved in illicit drug use. This group contained the highest proportion of boys and the lowest proportion of those who had at least one university educated parent. On average their school grades were the lowest. Emotional support from parents and friends was also reportedly low. In addition, their parents were reportedly less likely than those of the parents of teenagers in other clusters to know where their offspring were or who they were with during their leisure time. This group contained the highest proportions of tobacco smokers and cannabis users. They were the second highest group for 'binge' drinking and having being drunk at some time.

When the parental guidance clusters are compared to the background variables taken singly there are several interesting associations. For instance parents who *discouraged the* use of alcohol were likely to monitor their offspring more closely and to hold negative attitudes to substance use. Their children's friends tend not to be high substance users. Children in the *thorough discussion* cluster are conspicuous for being well supported both by their parents and their friends and for beliefs that rules should be observed and that there are certainties in life. Pupils in the *favourable* cluster have the most substance using friends while those in the *no answer* and *no guidance* groups are lowest on emotional support from friends. It is noteworthy that the *no guidance* group is the least likely to report trouble with their parents due to their own alcohol use. In general, the presence of these associations may serve as construct validity for the parental guidance classification.

The main conclusion to be drawn from the logistic regression analyses is that, while what the peer group does is always the strongest predictor of substance use, parental guidance also matters. Prohibitions concerning drug use and strict rules concerning behaviour did appear to have an effect. This is consistent with previous reports by Engels et al. and Van Der Vorst et al.. It should be noted that Engels et al. have noted that the peer group becomes increasingly important as teenagers grow older. Surprisingly, the present study also showed that teenagers who reported having received <u>no parental guidance</u> about alcohol were <u>not</u> heavy substance users.

Perhaps what this study has shown is that the parental guidance given on alcohol may be best seen as part of a more general family ethos. Family ethos has, of course, been neither measured nor defined in this study. However, it seems possible to put forward some hypotheses. For instance, it could be that in some families drugs are not a problem, therefore no guidance is necessary. In others there may be an atmosphere of strict prohibition. In yet others all important issues concerning life are carefully discussed in an informed way. In others again the parents may be relaxed about drugs, may have experimented themselves, and may even mildly encourage their children to experiment. It should once more be emphasised that this study had two major limitations. Firstly, the findings described were based upon unverified self-reports by teenagers. These reports often related to events that may have occurred many years previously and about which recall may have been poor or biased. Secondly, this survey was a cross-sectional venture, so few, if any, definitive causal conclusions are warranted.

The literature on the association between parental communication with adolescents generally suggests that this is linked with health risk behaviours. Even so Ennett et al. (2001) did not find any connection between such communication and the age at which adolescents had begun to use alcohol and tobacco. Are there any conclusions to be drawn from the current study about possible interventions to prevent binge drinking and dangerous substance use? The *'thorough discussion'* cluster occupies a middle position on the substance use indicators and students in the *'no guidance'* cluster were not heavy users. Therefore the effects of a thorough education concerning alcohol appear to be somewhat limited. This is consistent with extensive international evidence showing that alcohol education has a very poor track record in influencing drinking behaviour (Foxcroft, Ireland, Lister-Sharp, & Breen, 2003; Foxcroft, Lister-Sharp, & Lowe, 1997; Plant & Plant, 2006).

Prohibition of alcohol use is another matter, the *'discourage use'* cluster exhibited low levels of substance use on all the indicators. A prospective study would be required to investigate this properly. In later years important and significant differences could well become apparent. This could be tested by surveying a sample of people, say, in their early twenties concerning parental guidance given on alcohol. A further drawback is the relatively high proportion of the sample that failed to answer the parental guidance questions. This group clearly did contain some of the highest proportions of heavy/risky substance users. Intriguingly this *'no answer'* group was similar to the *'no guidance'* cluster on two of the three discriminant functions, i.e. the two groups were alike in showing a higher than average percentage of males, relatively low academic performance, poor emotional support from parents, the mother relatively unfavourable to getting drunk and lower proportions of friends who drink. Yet they were at opposite ends of the spectrum on the substance use indicators. It is tempting to speculate that the *'no answer'* respondents had indeed received little guidance on alcohol and that the difference in substance use outcome between them and the *'no guidance'* respondents was that the latter were not interested in heavy substance use and had caused no trouble to their parents over the issue. These findings warrant further investigation from a prospective perspective and in a variety of drinking cultures.

The only general recommendations that might be made concerning parental guidance is that, in accord with Hughes et al. (2008), every effort should be made to ensure that parents are well informed about alcohol. This particularly applies to knowledge about alcohol 'units' (in the United Kingdom) or 'standard drinks' in some other countries. Relatively few of the students in this study appeared to have been told about these and thus would have little idea about the recommended guidelines concerning low risk drinking. Parents should also attempt to be warm, supportive and available. They should also set clear general rules related to the use of alcohol and other substances.

References

Austin, E. W., Chen, J. C., & Grube, J. W. (2006). How does alcohol advertising influence underage drinking? The role of desirability, identification and scepticism. *Journal of Adolescent Health, 38*, 376–384.

Barnes, G. M. (2005). Adolescent alcohol abuse and other problem behaviours: their relationships and common parental influences. *Journal of Youth and Adolescence, 13*, 329–348.

Barnes, G. M., & Farrell, M. P. (1992). Parental support and control as predictors of adolescent drinking, delinquency and related problem behaviours. *Journal of Marriage and the Family, 54*, 763–776.

Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence, 11*, 56–95.

Birtalan, D. (2005). Parental guidance regarding alcohol is the most effective influence on student drinking. [Report related to Tufts Alcohol and Drug Use Survey]. http://list.web.net/archives/apolnet-!/2005-March/000202.html.

Bjarnason, T. (2009). Anomie among European adolescents: conceptual and empirical clarification of a multilevel sociological concept. *Sociological Forum, 24*, 135–161.

Borawski, E., Ievers-Landis, C., Lovegreen, L., & Trapl, E. (2003). Parental monitoring, negotiated unsupervised time, and parental trust: the role of perceived parenting practices in adolescent health risk behaviors. *Journal of Adolescent Health, 33*, 60–70.

British Medical Association. (2008). *Tackling alcohol misuse in the UK*. London: British Medical Association.

Dubow, E. F., Boxer, P., & Huesman, L. R. (2008). Childhood and adolescent predictors of early and middle adulthood alcohol use and problem drinking: the Columbia county longitudinal study. *Addiction, 103*, 36–47.

Engels, R. C. M. E., De Leeuw, R. N. H., Poelen, E. A. P., Van Der Vorst, H., Van Der Zwaluw, C. S., & Van Leeuwe, J. F. W. (2007). The impact of parents on adolescent drinking and friendship selection processes. In M. Järvinen, & R. Room (Eds.), *Youth drinking cultures: European experiences* (pp. 101–118). Aldershot: Ashgate.

Englund, M. M., Egeland, B., Olivia, E. M., & Collins, W. A. (2008). Childhood and adult predictors of heavy drinking and alcohol use in early adulthood: a longitudinal developmental analysis. *Addiction, 103*, 23–35.

Ennett, S. T., Bauman, K. E., Foshee, Pemberton, M., & Hicks, K. A. (2001). Parent–child communication about adolescent tobacco and alcohol use: what do parents say and does it affect youth behaviour? *Journal of Marriage and Family, 63*, 48–62.

Fillmore, K. (1988). *Alcohol across the life course: A critical review of seventy years of international research*. Toronto: Addiction Research Foundation.

Foxcroft, D., Ireland, D., Lister-Sharp, D. J., & Breen, R. (2003). Longer-term primary prevention for alcohol misuse in young people: a systematic review. *Addiction, 98*, 397–411.

Foxcroft, D. R., Lister-Sharp, D., & Lowe, G. (1997). Alcohol misuse prevention for young people: a systematic review reveals methodological concerns and lack of reliable evidence of effectiveness. *Addiction, 92*, 531–537.

Hess, L. (1995). Changing family patterns in Western Europe: opportunities and risk factors for adolescent development. In M. Rutter, & D. Smith (Eds.), *Psychosocial disorders in young people: Time trends and their causes* (pp. 104–193). Chichester: Wiley.

Hibell, B., Andersson, B., Bjarnason, T., Kokkevi, A., Morgan, M., & Narusk, A. (1997). *The 1995 ESPAD report: Alcohol and other drug use amongst students in 26 European countries*. Stockholm: Swedish Council for Information on Alcohol and Other Drugs.

Hibell, B., Andersson, B., Balakireva, O., Bjarnasson, T., Kokkevi, A., & Morgan, M. (2001). *The 1999 ESPAD report: Alcohol and other drug use among students in 30 European countries*. Stockholm: Swedish Council for Information on Alcohol and other Drugs.

Hibell, B., Andersson, B., Bjarnasson, T., Ahlström, S., Balakireva, O., Kokkevi, A., et al. (2004). *The 2003 ESPAD report: Alcohol and other drug use among students in 30 European countries*. Stockholm: Swedish Council for Information on Alcohol and other Drugs.

Huebner, A., & Howell, L. (2003). Examining the relationship between adolescent sexual risk-taking and perceptions of monitoring, communication, and parenting styles. *Journal of Adolescent Health, 33*(2), 71–78.

Hughes, S., Bellis, M., Hughes, K., Tocque, K., Morleo, M., Hennessey, M., et al. (2008). *Risky drinking in north-west schoolchildren and its consequences: A study of fifteen and sixteen year olds*. Liverpool: Centre for Public Health, Faculty of Health and Applied Social Sciences, Liverpool John Moores University.

Hutchinson, M., Jemmott, J., Sweet Jemmott, L., Braverman, P., & Fong, G. (2003). The role of mother–daughter sexual risk communication in reducing sexual risk behaviors among urban adolescent females: a prospective study. *Journal of Adolescent Health, 33*, 98–107.

Jackson, C., Henriksen, L., & Dickinson, D. (1999). Alcohol-specific socialization, parenting behaviours and alcohol use by children. *Journal of Studies on Alcohol, 60*, 362–367.

Järvinen, M., & Room, R. (2007). In M. Järvinen, & R. Room (Eds.), *Youth drinking cultures: European experiences* (pp. 1–15). Aldershot: Ashgate.

Jessor, R., Donovan, J. E., & Costa, F. (1991). *Beyond adolescence: Problem behavior and young adulthood*. New York: Cambridge University Press.

Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.

Ledoux, S., Miller, P., Choquet, M., & Plant, M. (2002). Family structure, parent-child relationships, alcohol and other drug use among teenagers in France and the United Kingdom. *Alcohol and Alcoholism, 37*, 52–60.

Maggs, J. L., Patrick, M. E., & Feinstein, L. (2008). Childhood and adolescent predictors of heavy drinking and alcohol use disorders in early adulthood: a longitudinal developmental analysis. *Addiction, 103*, 7–22.

Merline, A., Jager, J., & Schulenberg, J. E. (2008). Adolescent risk factors for adult alcohol use and abuse: stability and change of predictive value across early and middle adulthood. *Addiction, 103*, 84–99.

Miller, P. (1997). Family structure, personality, drinking, smoking and illicit drug use: a study of UK teenagers. *Drug and Alcohol Dependence, 45*, 121–129.

Miller, P., & Plant, M. A. (2003). The family, peer influences and substance use: findings from a study of UK teenagers. *Journal of Substance Use, 8*, 19–26.

Mounts, N. S. (2000). Parental management of adolescent peer relationships: what are its effects on friend selection? In K. Kerns, J. M. Contreras, & A. M. Neal-Barnett (Eds.), *Family and peers: Linking two social worlds* (pp. 167–193) Westport: Praeger.

O'Brien, C., & Scott, J. (2007). The role of the family. In J. Coleman, & A. Hagell (Eds.), *Adolescence, risk and resilience: Against the odds* (pp. 17–39). Chichester: Wiley.

Peck, S. C., Vida, M., & Eccles, J. S. (2008). Adolescent pathways to adult drinking: sport activity involvement is not necessarily risky or protective. *Addiction, 103*, 69–83.

Pitkänen, T., Kokka, K., Lyyra, A.-L., & Pulkkinen, L. (2008). A developmental approach to alcohol drinking behaviour in adulthood: a follow-up study from age 8 to age 42. *Addiction, 103*, 48–68.

Plant, M. A., & Plant, M. L. (1992). *Risktakers: Alcohol, drugs sex and youth*. London: Tavistock.

Plant, M. A., & Plant, M. L. (2006). *Binge Britain: Alcohol and the national response*. Oxford: Oxford University Press.

Rosenberg, M. (1965). *Society and adolescent self-image*. Princeton, New Jersey: Princeton University Press.

Schulenberg, J. E., & Maggs, J. L. (2008). Destiny matters: distal developmental influences on adult use and abuse. *Addiction, 103*, 1–6.

Stanton, B., Li, X., Galbraith, J., Cornick, G., Feigelman, S., Kaljee, L., et al. (2000). Parental underestimates of adolescent risk behavior: a randomized, controlled trial of a parental monitoring intervention. *Journal of Adolescent Health, 26*, 18–26.

Van Der Vorst, H., Engels, R. C. M. E., Meeus, W., Dekovi, M., & Van Leeuwe, J. (2005). The role of alcohol specific socialization on adolescents' drinking behaviour. *Addiction, 100*, 1464–1474.

Van Der Vorst, H., Engels, R. C. M. E., Meeus, W., & Deković, M. (2006a). The impact of rules, parental norms and parental alcohol use on adolescent drinking behaviour. *Journal of Child Psychology and Psychiatry, 46*, 1299–1306.

Van Der Vorst, H., Engels, R. C. M. E., Meeus, W., & Dekovic, M. (2006b). Parental attachment, parental control and early development of alcohol use: a longitudinal study. *Psychology of Addictive Behaviors, 20*, 107–116.

Velleman, R., & Orford, J. (1999). *Risk and resilience: adults who were the children of problem drinkers*. Amsterdam: Harwood Academic Publishers.

Whitaker, D. J., & Miller, K. S. (2000). Parent–adolescent discussions about sex and condoms: impact on peer influences of sexual risk behavior. *Journal of Adolescent Research, 15*, 251–273.

Wood, M. D., Read, J. P., Mitchell, R. E., & Brand, N. H. (2004). Do parents matter? Parent and peer influences on alcohol involvement among recent high school graduates. *Psychology of Addictive Behaviors, 18*, 19–30.

Zucker, R. A. (2008). Anticipating problem alcohol use developmentally from childhood into middle adulthood: what have we learned? *Addiction, 103*, 100–109.