

Short communication

Drinking and smoking as concurrent predictors of illicit drug use and positive drug attitudes in adolescents

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Abstract

The study investigates the relationship between smoking and drinking, and the use of illicit drugs in a cohort of London adolescents. A high prevalence of drug experimentation and positive attitudes to illicit drug use were characteristic of those who both drank alcohol and smoked cigarettes on a regular basis. There was then a clear hierarchy in which lower prevalence of use and more negative attitudes marked those who only smoked, then those who only drank, while non-smokers and non-drinkers (the largest group) had lowest lifetime and recent drug use prevalence and the most negative attitudes about drug use. © 2000 Elsevier Science Ireland Ltd. All rights reserved.

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1. Introduction

Kandel and Yamaguchi (1993) have argued that the use of alcohol and tobacco tends to precede and to increase the risk of initiating illicit drug use. According to Kandel (1975), adolescents are very unlikely to experiment with marijuana without prior experimentation with one of the alcoholic beverages or with cigarettes. Similarly, Torabi et al. (1993) found that regular smokers are more likely to drink and 10–30 times more likely to use illicit drugs than non-smokers.

However, the transition to illicit drug experimentation may involve attitudinal as well as behavioural components (Ajzen, 1991). Best and Barrie (1997) reported that positive attitudes about the use of illicit drugs are positively associated with drug use in adolescents, indicating attitude-behaviour consistency. The current investigation assesses the association between drinking, smoking, drug attitudes and drug use in an adolescent population.

The aim of the study is to show that tobacco and alcohol use by adolescents increases the risk of substance use, a risk that is mediated by perceptions of illicit drug use. This will test the hypothesis of Hanna and Grant (1999) that smoking plays as powerful a role as drinking in the development of illicit substance use problems in adolescents. Adolescent drinking and smoking are hypothesized as precursors of a generalised attitudinal positivity about substance use that may well precede or sustain drug involvement. Although it is not possible in a cross-sectional study to demonstrate cause, the study aims to demonstrate the intimate and formative role of alcohol and tobacco in adolescent drug use.

2. Method

Data were collected using a self-completion questionnaire distributed in eight secondary schools between September 1996 and June 1997 ($n = 2441$). An additional sample of 420 ethnic minority children from the same schools was added subsequently (ethnic origin

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effects reported elsewhere). Data were collected using an anonymous, self-completion questionnaire of around 40 min duration covering attitudes (see Appendix A), knowledge and behaviour about substance use. Subjects were asked if they had ever used an illicit drug – if the answer was affirmative there were further items to measure the type of drug and the frequency of use.

The study included 2971 children (mean age 13.6, $SD = 2.80$), of whom 2207 (74.3%) were white, 399 (13.5%) Asian, 241 (8.0%) black and 124 (4.2%) 'of mixed race or other ethnic origin'. The sample comprised 1076 males (31.2%) and 1785 females (68.9%). One hundred and ten participants failed to report their gender.

3. Results

Of the total sample, 754 (25.4%) reported regular drinking (defined as 'at least once a week') and 265 (8.9%) regular smoking (defined as smoking 'regularly' or 'every day', which were alternative options on a tick box item – these were both categorised as regular smokers). These 'drinker' and 'smoker' categories lead to four subgroups:

1. 2151 (75.2%) who neither smoked nor drank on a regular basis ('neither' group),
2. 555 (19.4%) who drink but do not smoke ('drinkers only'),
3. 66 (2.3%) who smoke but do not drink ('smokers only'), and
4. 199 (7.0%) who both smoke and drink ('both').

Alcohol consumption is more prevalent than is smoking (only 26.4% of regular drinkers also smoke regularly), while smoking but not drinking is relatively unusual (75.1% of smokers also drink). Twenty per cent reported lifetime illicit drug use and 8.9% reported illicit drug use in the month preceding interview. Those who have ever used drugs ($t = 21.5$; $P < 0.001$) and those who have used illicit drugs in the last month ($t = 52.1$; $P < 0.001$) reported more positive drug attitudes than non-users on a 5-item drug attitude scale.

For all three measures used – drug use in the last month, drug use ever and drug attitudes, there is a clear

pattern according to drinking and smoking behaviours. Students who do not drink or smoke have the least drug involvement, while those who do both have the highest. Those who only drink have lower levels of drug experience and more negative drug attitudes than those who only smoke (see Table 1). While only 2.9% of those who neither drink nor smoke have used an illicit drug in the last month (and only 7.3% have ever done so), 45.7% of drinkers and smokers have used illicit drugs within the last month, and more than 80% of this group have ever done so.

The non-drinking, non-smoking group have the most negative drug attitudes (mean = -3.2), followed by non-smoking drinkers (mean = -1.8), followed by non-drinking smokers (mean = -0.5), while those who do both (mean = 0.6) have the most positive attitudes.

Finally, the attitudinal difference persists even when those who have ever used an illicit drug are excluded from the analysis. Although the group sizes for this analysis are very variable (with only 30 in the group who smoke but do not drink), the same pattern persists. Here again, the 'neither' group (mean = -3.4) have the most negative attitudes, while the drinking and smoking group have the most positive (mean = -0.4). Smokers only have more positive attitudes than the group who only drink.

4. Discussion

A relationship is found between alcohol and tobacco use and drug use and attitudes in adolescents. Participants who both drink and smoke regularly report the highest levels of drug use and the most positive drug attitudes, while those who neither drink nor smoke have the lowest levels of use and the most negative attitudes about drug use. There is also evidence of a clear progression on each of the measures with smokers who do not drink reporting higher levels of use and less negative attitudes about drug use than drinkers who do not smoke. This supports the Hanna and Grant (1999) conclusion that smoking has as powerful a role as drinking in the development of illicit substance use problems.

Table 1
Drug use (last month and lifetime) and drug attitudes as a function of the frequency of drinking and smoking

Total sample	Neither ($n = 2151$)	Smokers ($n = 66$)	Drinkers ($n = 555$)	Both ($n = 199$)	χ -value	Significance
Drug use in the last month	2.9%	31.8%	13.7%	45.7%	508.6	$P < 0.001$
Lifetime drug use	7.3%	54.5%	33.2%	80.9%	839.8	$P < 0.001$
					<i>F</i> -value	
Drug attitudes	-3.2	-0.5	-1.8	0.6	93.9	$P < 0.001$
No drug use sub-sample	($n = 1993$)	($n = 30$)	($n = 371$)	($n = 38$)		
Drug attitudes	-3.4	-0.8	-2.6	-0.4	18.6	$P < 0.001$

While it is impossible to infer causality from cross-sectional results, the data provide strong support for the role alcohol, and especially tobacco, may play in the onset and continuation of illicit drug use. Regular drinking and smoking are associated at not only a behavioural level but also at an attitudinal one, with drug involvement. This is not merely a function of cognitive consistency as the attitudinal difference (and the rank ordering of the four groups) persists even when those with any experience of drug use are excluded from the analysis.

The role of drug attitudes should also be recognised as an indicator of both current behaviour and as a risk factor for substance use which, when combined with regular licit substance use, may predict stage development in a substance using career (Kandel, 1975) or act as a marker for the expansion of a more generalised deviant career (Moffitt, 1993). For purposes of drug education and prevention alcohol and tobacco should be regarded not only as precursors but also as bridges and bolsters in an illicit substance career.

Appendix A. Attitudes to illicit drugs

	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
(1) Cannabis should be made legal					
(2) Taking drugs is just a bit of fun					
(3) Taking drugs is dangerous because you don't really know what you are taking (scoring reversed)					
(4) Taking drugs is OK if you are careful and you know what you are doing					
(5) Most young people who use drugs come to little harm					

References

- Ajzen, I., 1991. The theory of planned behaviour. *Org. Behav. Hum. Decis. Process.* 50 (2), 179–211.
- Best, D., Barrie, A., 1997. Impact of illicit substance activity on young people. *J. Subst. Misuse* 2, 197–202.
- Hanna, E., Grant, B., 1999. Parallels to early onset of alcohol use in the relationship of early smoking with drug use and DSM-IV drug and depressive disorders: findings from the National Longitudinal Epidemiologic Survey. *Alcohol Clin. Exp. Res.* Mar. 23 (3), 513–522.
- Kandel, D., Yamaguchi, K., 1993. From beer to crack: developmental patterns of drug involvement. *Am. J. Public Health* 83 (6), 851–855.
- Kandel, D., 1975. Stages in adolescent involvement in drug use. *Science* 190, 912–914.
- Moffitt, T., 1993. Adolescence-limited and life-course-persistent antisocial behaviour: a developmental taxonomy. *Psychol. Rev.* 100 (4), 674–701.
- Torabi, M., Bailey, W., Majd-Jabbari, M., 1993. Cigarette smoking as a predictor of alcohol and other drug use by children and adolescents: evidence of the 'gateway drug effect'. *J. School Health* 63 (7), 302–306.