

Can alcohol education make a difference?

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Can education programmes affect young people's knowledge, attitude, and behaviour towards alcohol? Are intervention materials necessarily more effective when associated with in-service training in their use? This article describes an experiment which sought to measure changes in 13-year-olds as a result of using an 'alcohol education' package.

The literature on the effectiveness of alcohol and drugs education paints a generally pessimistic picture, suggesting that the majority of programmes are ineffective if not counterproductive (Bagnall & Plant, 1987). However, comprehensive conclusions about the effectiveness of such education programmes are difficult to make. Critics frequently fail to take account of different evaluation strategies and, perhaps more importantly, different educational approaches (Milgram, 1987). In addition the evaluation method itself often lacks scientific rigour (Randall & Wong, 1976). Some evaluations have concluded that the educational intervention actually increased the likelihood of drug experimentation (de Haes, 1987). It is important to note, however, that these findings all concerned programmes based simply on substance-based information and warnings of dangers.

A more promising approach to drugs education appears to be one which includes social skills, and thus shifts the emphasis away from the psychoactive substance in isolation. The 'social skills' approach has produced encouraging results in the context of tobacco education

(Gillies & Willcox, 1984), especially when peer-tutoring is included, but will an effective approach to tobacco education be equally effective for illicit drugs or alcohol? The goals of such programmes may differ. This is important in terms of prevention or minimising harm, especially in a school setting.

Evaluating an alcohol programme for 13-year-olds

The study described in this article is a controlled evaluation of the effectiveness of a school-based alcohol education programme for 13-year-olds. The programme rationale and development, which have been described in detail elsewhere (Bagnall, 1987) emphasised pupil participation. It comprised a manual for teachers and a master set of pupil worksheets for each activity, for reproduction as required. The manual explained the aims and rationale of the package to teachers, and included suggested guidelines for classroom administration. Brief and simply-defined learning outcomes were provided for each individual activity. The content of these activities focused on aspects of alcohol and its effects which are relevant to the lifestyles of 13-year-olds.

The package began with an activity on choice and decision-making, which illustrated the need for accurate information in making rational choices. The information component included exercises concerning the relative strength of different alcoholic drinks such as beers, spirits and cider, and the effects of alcohol on the body and behaviour. These concentrated on short- rather than long-term effects and included discussion of the risks of intoxication most relevant to this age group, for example as cyclists or swimmers.

Social pressures

One of the most innovative aspects of this alcohol education package was its basis on a 'social influences' approach as defined by Hansen *et al.* (1988). Thus, in addition to information about alcohol and its effect, the programme developed critical awareness of some of the social influences on young people to drink alcohol. These include parental attitudes to under-age alcohol consumption, peer group pressure, and mass media messages, and were examined by means of group discussion, story completion, and optional role play.

The package was structured to help young people begin to develop the knowledge and skills necessary to make informed decisions about their own alcohol-related behaviour. Although such decisions will include that of "saying no", the package did not preach total abstinence. This would be wholly unrealistic, given the evidence that around 90% of 13-year-olds already have some experience of alcohol (Marsh, Dobbs & White, 1986; Bagnall, 1988).

Selecting the survey groups

Nine comprehensive schools from three regions in Britain participated in the study - three from the Highland region in Scotland, three from Berkshire in England, and three from Dyfed in South Wales. This resulted in a total study group of 1560 pupils.

The overall research design had three principal stages:

1. *Baseline survey* A questionnaire was

completed by all children within the year group being studied in the nine selected schools. This was designed to elicit data on alcohol related knowledge, attitudes, and behaviour of the complete study group.

2. *Development and administration of the package* One school from each region seconded two specialist teachers for a short period to assist with the development of the package. This involvement of 'workers from the chalk face' is seen as a major strength of the study. These teachers were then responsible for teaching it to all their pupils. This group (S1) was seen to represent an 'in-service' training approach. The second school (S2) in each region had no involvement in the development of the educational materials, and class teachers in these schools were asked to teach the package after a 30-minute introduction. This 'off-the-shelf' approach was intended to simulate the more likely implementation of alcohol education, with no in-service component. The third school in each region (S3) had no exposure to the alcohol education, and served as a control.

3. *Follow-up survey* This entailed re-administration of the questionnaire to the complete study group in all nine schools, approximately 10 months after completion of the educational intervention.

Measuring changes

The two surveys were administered to complete year groups in their schools by the author, with the assistance of either colleagues or supply teachers. In order to reassure the young respondents about confidentiality, no class teachers were present during questionnaire completion. The main purpose of the study was to analyse the shift in knowledge, attitudes, and behaviour between baseline and follow-up surveys. Comparison between control and intervention group schools would give an indication of the effectiveness of the alcohol education package.

Detailed findings from the baseline survey have been discussed elsewhere (Bagnall, 1988). As noted there, the study group does not constitute a nation-

ally representative sample, thus imposing limitations on the extent to which the survey results can be generalised. Nevertheless a brief comparison of the baseline and follow-up survey results sets this evaluation study in context. This summary is presented below. The first figures quoted are from the baseline (wave 1) data, while the figures in parentheses show the equivalent data for the same respondents from the follow-up (wave 2) survey.

Alcohol consumption and its effects

Of the 3rd-year pupils in the survey, 96% (98%) had at some time tasted an alcohol drink, with the most common age for first taste being 11-12 years. Of the 20% who reported the first taste at under eight years, the majority were males. For 81%, parents had provided the first taste, and for 84% this had occurred in the family home.

The majority of 13-year-olds had not had alcohol to drink for three months or more; however 15% (23%) had consumed alcohol in the last seven days (with males accounting for 62% (51%) of this group).

For 39% (23%) the most alcohol ever drunk on one occasion was less than half a pint of beer or its equivalent. For 9% (22%) the maximum consumption was equal to four pints of beer or more (with males accounting for 73% (68%) of this group).

The questionnaire results showed that 20% (33%) of the sample had at some time had a hangover. For most this had been experienced only once, with 1% (4%) of the sample reporting more than four hangovers in the last six months, while 27% (29%) had had a stomach

Table 1. Average score on knowledge quiz (maximum score 15) – changes between waves 1 and 2.

Group	Average score (total correct)		Change in average score
	Wave 1	Wave 2	
Intervention group 1 (S1)	6.1	7.9	+1.8
Intervention group 2 (S2)	6.7	8.3	+1.6
Control group (S3)	6.4	7.4	+1.0

upset as a result of alcohol consumption, and 4% (6%) had experienced an alcohol-related accident or injury.

As in other surveys of this age group, the great majority of young people in this study would appear to drink alcohol neither frequently nor excessively. Despite this, the effects of intoxication have already been experienced by a considerable proportion of 13-year-olds, especially males, consequently putting themselves and others at risk of alcohol-related accidents and injury. Such misuse is worthy of concern, and justifies a constructive response.

Comparison of the findings for wave 1 and wave 2 show a consistent increase in alcohol-related behaviour levels and experience in the 15 months between the two surveys. For this particular study the important issue is not simply the levels of alcohol-related factors, but the differences in these between the youngsters who received the educational intervention and those who did not. The remainder of this article will concentrate on these findings.

Alcohol-related knowledge

This was assessed by a quiz of 15 items about alcohol-related 'facts' (for example, the equivalent strengths of different alcoholic drinks). All schools increased their average score for knowledge about alcohol between the two waves of data collection, although there is still scope for improvement. As Table 1 illustrates, the increase in average score was slightly larger for the two groups that received the alcohol education package. While not statistically significant, this difference between the groups suggests that the activities concerning 'factual' aspects of

Table 2. Some 'individual knowledge' scores, showing the percentage of each group that were wrong or didn't know in the wave 1 test but were correct in the wave 2 test

Quiz item	Improved knowledge within group			Significance tests
	S1	S2	S3	
A single whisky (pub measure) is stronger than 1 pint of beer . .	27.0	26.9	11.7	F = 4.86; df = 1,4; p<0.1
Alcohol harms more people in Britain than do illegal drugs such as heroin or cocaine	28.2	32.7	25.2	F = 8.18; df = 1,4; p<0.05

Table 3. Measured changes in attitude towards alcohol before and after the intervention. (A 'positive attitude' means approval of drinking.)

Change	Group S1		Group S2		Group S3 (control)	
	Positive	Negative	Positive	Negative	Positive	Negative
% increase	63.5	34.3	59.8	43.4	59.2	30.8
% decrease	25.5	56.4	26.8	46.8	26.1	57.1
% unchanged	11.0	9.3	13.4	9.8	14.7	12.0

alcohol had played some part in improving these young people's knowledge about alcohol.

This was further supported by analysis of individual knowledge items – see Table 2. From this, it is clear that the intervention group (S1 and S2 combined) had increased some aspects of knowledge significantly more than the control group (S3).

Alcohol-related attitudes

These were measured using a set of 20 statements about alcohol, reflecting a mixture of favourable and unfavourable attitudes towards its use. Respondents were asked to tick whether they agreed, disagreed, or were not sure about each of these statements.

Table 3 illustrates the findings for alcohol-related attitudes. For all schools, there was a significant increase in positive attitudes between waves 1 and 2 for intervention and control groups. It might have been expected that the educational intervention would result in a less positive attitude to alcohol; this however was not supported. For negative attitudes, two

out of three control group schools showed a significant decrease. This suggests that pupils receiving the education package were a little more likely to maintain a negative attitude about alcohol, thus indicating that the package may have had a modest impact on such attitudes.

Alcohol-related behaviour

Table 4 shows a selection of some of the behavioural measures used. The percentages indicate the proportion who responded 'No' at wave 1 and 'Yes' at wave 2. As illustrated by these examples there was a consistent trend for the percentage increase to be greater for control group schools (S3) than for those who received the alcohol education. For statistical reasons it is not always possible to attribute this difference to the educational intervention; but the analyses did indicate that pupils who did not receive the alcohol education were significantly more likely to have drunk alcohol in the last 7 days. In addition, their reported maximum consumption was likely to be higher. This suggests the educational intervention

Table 4. The percentage of each group responding 'No' at wave 1 and 'Yes' at wave 2.

Behavioural measures	S1	S2	S3	Significance tests
Ever had a hangover?	18.1%	14.8%	20.8%	NS
Ever had an alcohol-induced stomach upset?	13.7%	13.4%	16.1%	NS
Ever drunk more than 3 units of alcohol at once?	36.8%	38.9%	45.6%	F = 4.32; df = 1, 4; p<0.1
Have you consumed alcohol within the last 7 days?	20.7%	24.6%	31.3%	F = 10.47; df = 1,4; p<0.05
[Increased average frequency of alcohol consumption]	50.4%	53.4%	56.0%	NS

had some impact on the consumption of these young people.

Conclusion

On the basis of these findings, it is reasonable to conclude that the educational intervention in this study had a modest impact on the study group. An increase in knowledge about alcohol can be attributed to the package, although its influence on attitudes is less clear-cut. Exposure to the package also appears to have exerted some restraining influence on alcohol consumption. Furthermore, the qualitative findings from teachers indicated that the educational programme had successfully achieved its major objectives of providing teachers with an inexpensive and 'user-friendly' alcohol education package.

Headteachers and educational administrators are seldom willing or able to allocate much time in their curriculum to alcohol education. Consequently, the intervention in this study was minimal. It is unrealistic to expect large changes in youngsters' knowledge, attitudes and behaviour as a direct result of four hours' teaching spread over a period of several weeks, so it is encouraging to be able to draw the preliminary conclusion that, unlike some previous drug education programmes, *this package was not counter-productive*. On the contrary, it appears to have resulted in some modest and broadly beneficial influences on young people's alcohol-related knowledge, attitudes, and behaviour.

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