


DRUG & ALCOHOL FINDINGS *Research analysis*

This entry is our analysis of a study added to the Effectiveness Bank. The original study was not published by Findings; click [Title](#) to order a copy. Free reprints may be available from the authors – click [prepared e-mail](#), [Links](#) to other documents. [Hover over](#) for notes. [Click to](#) highlight passage referred to. [Unfold extra text](#)  The Summary conveys the findings and views expressed in the study. Below is a commentary from Drug and Alcohol Findings.

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▶ **Personalised normative feedback for preventing alcohol misuse in university students: Solomon three-group randomised controlled trial.**

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Modern preventive interventions to reduce young people's drinking rely heavily on correcting misperceptions that their peers drink more, but among 2611 students recruited from 122 UK universities, no reliable impacts were found, results in line with disappointing results from other studies.

SUMMARY During university or college years students typically drink more than their non-university peers and can escalate drinking to dangerous levels, a pattern associated with a range of alcohol-related problems. One way to attempt to moderate drinking is to provide 'social normative feedback', a type of preventive intervention based on the fact that young people tend to overestimate alcohol consumption amongst their peer groups, resulting in motivation or 'peer pressure' to drink more to catch up with their peers and be 'normal'. Social norms theory suggests that correcting this misperception will lead young people to attenuate their drinking.

The featured study tested this expectation among university students in the UK. Its main objective was to assess the effectiveness of computer-generated normative feedback delivered by email in reducing alcohol-related problems, but it also investigated whether the intervention would have greater impact when applied to all students versus just those identified as higher risk drinkers.

To join the study participants had to be first- or second-year UK university undergraduate students. In academic year 2008/9, 2611 from 122 universities were recruited through university information systems and online social networking sites, incentivised by entry into a prize draw. Typically they were aged 17–19 and at the start of the trial **averaged** nearly six UK units or approaching 50g alcohol on a typical drinking occasion.

After completing an online baseline assessment which asked about their drinking, around a third were randomly allocated to be emailed brief personalised normative feedback which graphically compared their drinking with the average among their student peer group. Also provided was general information about alcohol and how at their current drinking levels it might affect them, on how much they might be spending annually on alcohol, and on the calories their drinking might account for. Details of recommended sensible drinking levels were also provided. Another third of the students were randomly allocated to go through only the baseline assessments. These two sets were reassessed six months later. The remaining third of students were neither assessed at baseline nor received any intervention. All the participants were (re)assessed 12 months later to see how their drinking and related problems had been affected by the intervention and/or by being asked about their drinking during baseline assessments. At this stage only 1050 or 40% could be followed up.

To test the effectiveness of the intervention among higher risk drinkers, students were selected who at baseline scored as hazardous drinkers on the **AUDIT** alcohol-risk screening questionnaire and who also drank above the then recommended weekly consumption limits for their sex. These students – just over two-thirds of all the assessed students – averaged nearly 7 UK units per drinking occasion, but on alcohol-related problems scored slightly lower than the overall average.

Main findings

None of the 12-month follow-up drink-related assessments significantly differed between the two sets of students not offered the feedback intervention, suggesting that merely being asked about drinking as part of the baseline assessments had no impact. Given this, further analysis focused on comparing the intervention students with students also assessed at the start of the trial but not offered feedback on the results.

When evaluated across all these students it seemed the feedback intervention had no consistent impact. Of five measures of drinking or related problems assessed at both six and 12 months, and analysed in two different ways, a significant difference emerged for just two of the 20 comparisons. In both, the proportion drinking on at least a weekly basis at the six-month follow-up was lower among students sent the feedback intervention. The raw figures were 38% versus 42%. By 12 months this difference had narrowed and was no longer statistically significant. At no stage did quantities consumed or frequency of drinking or related problems significantly differ, and nor too did the students' estimates of the degree to which at events like parties they drank more or less than their peers, or the consequences and effects they expected from drinking.

Among the two-thirds of students categorised as higher risk drinkers, results were very similar. Again, only the proportions of students drinking on at least a weekly basis were significantly lowered by the intervention – in this case, in both types of analysis at six months, and at 12 months in one of the two ways of analysing the figures. At six

Key points
From summary and commentary

Social norms theory suggests that correcting misperceptions that their peers drink more than them will lead young people to attenuate their drinking.

The featured study tested this expectation among 2611 students from 122 universities in the UK, a third of whom were randomly allocated to emailed computer-generated feedback on their drinking along with other advice and information.

Few and unreliable statistically significant impacts led the researchers to conclude that the feedback intervention had not motivated the students to reduce their drinking.

in both types of analysis at six months, and at 12 months in one of the two ways of analysing the figures. At six months the raw figures were 61% versus 66% and at 12 months, 42% versus 49%.

The authors' conclusions

A UK web-based personalised normative feedback intervention did not motivate university students to reduce their drinking, a finding in agreement with those of some (but not all) similar studies. Neither was there any evidence that simply asking students about their drinking led to any change in behaviour.

The reasons why this study did not find significant effects when some others (1 2 3) have is not clear. It might be an example of the recognised process of initially positive research findings ultimately being found to be false. Another possibility is that the UK offers a more challenging context for such interventions, perhaps because heavy drinking is relatively common and culturally accepted. Alternatively, the intervention – derived from studies in other countries – may not have been sufficiently adapted for the UK.

Low follow-up rates mean the results may have been different if more students had been followed up. Also, it seems unlikely that the students who heard about and were attracted to the trial (Facebook accounted for 78%), and of these the minority who completed follow-ups, were representative of the whole student population. It could be that among these students the intervention was ineffective even though similar interventions have worked with other selections of students. However, other similar large European trials (1 2 3) have also found non-significant intervention effects.

An important conclusion of the featured study and of these other European studies is that students generally do not find brief personalised feedback interventions for risky drinking acceptable and are not attracted to them, and will not use them unless forced to for breaking university rules on drinking or advised to by their university's medical centre.

FINDINGS COMMENTARY In our [hot topic](#) on normative education and feedback of the kind tested in the featured study, we commented, "Science is littered with shining discoveries which became tarnished as accumulating data forced a reappraisal. In substance misuse, 'normative education' retains some of its shine, but what seemed the great hope for school- and college-based prevention now seems a tactic of limited application and inconsistent impact." That also is one of the guesses made by the analysts in the featured study to explain their findings that the intervention could not reliably be shown to have had any significant impacts. Reinforcing the 'no effect' implication is that these results extended beyond drinking to the normative beliefs and expectations about drinking which the intervention should more directly have impacted, and which were meant in turn to affect drinking.

Other similar British trials have also been unconvincing, including a [trial](#) among university students of a web-based intervention based on correcting normative beliefs and an earlier similar trial (1 2) from the same lead author. Like the featured trial, both trials suffered substantial drop-out. The earlier trial's finding of a greater reduction among intervention students in the average amount drunk on a single occasion was slight and not matched by overall drinking reductions, and it was unclear how missing data had been accounted for. In the later trial just a third of the students had completed the follow-up assessment which produced the most promising finding, a small extra reduction in the amount drunk over the past week among students immediately offered feedback on their drinking versus those who had to wait. This one finding only reached statistical significance after using the available data to predict how much the missing students would have drunk. Other analyses produced no significant effects.

Elsewhere, large 'real-world' trials of computerised brief alcohol interventions for students [have also found](#) at best minor and unreliable effects. A [review](#) of such interventions among students and non-students found a much smaller reduction in drinking among student populations. Though amalgamated across all the trials the reduction was statistically significant, in most individual trials it was not. In these studies students were drinking less overall than older people, yet were in a setting where heavy single-occasion drinking may be an accepted rite of passage. For both reasons students have less incentive to act on information and advice which would lead drinkers responsible for families and jobs to cut back.

A [later review](#) involving two of the authors of the featured analysis was not convinced that any appreciable benefits had been found among students. The reviewers had as far as possible amalgamated results from 66 studies involving 43,125 university or college students who had been randomly allocated to feedback comparing their drinking with their peers versus no intervention or an alternative. Their 'plain-language' conclusion was, "Social norms interventions are not effective enough to reduce alcohol misuse among university or college students." Expanding on this, they said their results indicated that "no substantive meaningful benefits are associated with social norms interventions for prevention of alcohol misuse among college/university students. Although some significant effects were found, we interpret the effect sizes as too small ... to be of relevance for policy or practice. Moreover, the statistically significant effects are not consistent for all misuse measures, heterogeneity was a problem in some analyses and bias cannot be discounted as a potential cause of these findings."

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