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### ► Effectiveness of experimenter-provided and self-generated implementation intentions to reduce alcohol consumption in a sample of the general population: a randomized exploratory trial.

Armitage C.J. [Request reprint](#)

Health Psychology: 2009, 28(5), p. 545–553.

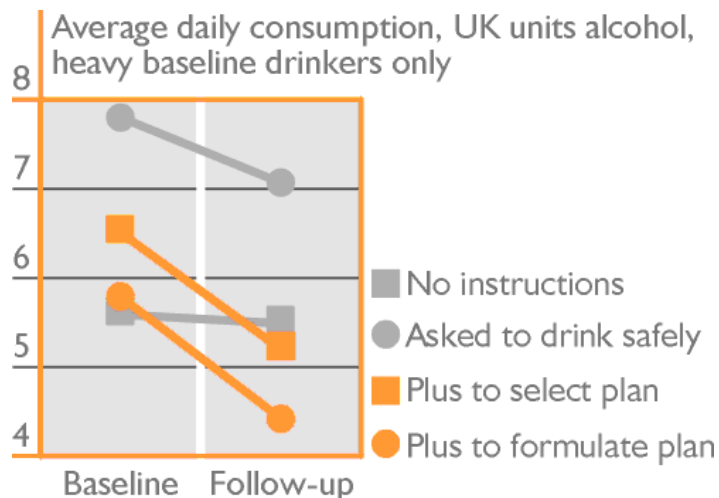
When researchers surveyed people's drinking and then asked them to make concrete plans to drink sensibly, a month later the heavy drinkers among them had significantly cut their consumption. This British study could help extend the reach of brief intervention programmes.

**Abstract** For many behaviours simply instructing people to change and to make concrete 'if-then' plans or 'implementation intentions' ('If I find myself in this situation, *then* I will do/not do this') has on average a substantial impact – a simple, low-cost tactic which can be widely implemented in very brief face-to-face encounters or in writing using a uniform script. This British study is the first to have investigated whether such an intervention would reduce drinking in a sample of the general adult population. Also the study sought to disentangle the effects of just being asked to reduce drinking, from that of also being asked to make or choose an if-then plan about how to do so. In brief it found that people drinking over the national limits, who were asked not just to stick to these limits, but also to plan how to do so, made short-term drinking reductions of the order seen after other brief interventions.

The study recruited its participants and conducted the interventions at workplaces and social and commercial premises such as shopping centres in a northern English city. At these locations researchers asked 471 people to participate in a study of their beliefs about alcohol. Of these, 248 (53%) agreed and completed the baseline pre-intervention survey; all but seven were resurveyed a month later to find out how they had responded. In [broad terms](#) they were typical of the English population; in particular, roughly the same proportion (a third) exceeded government-recommended drinking limits.

Once recruited, participants were left alone to complete the survey. Among other

questions, it asked them what types and number of alcoholic drinks they consumed in a typical week. A header on each page reminded them of **UK safe-drinking limits**. Though the survey was the same for everyone, there were either none or one of three types of instructions at the end (described below). These four variants of the survey form were sorted into a random order and sequentially handed to participants without the data-gatherers knowing who had got which. A code chosen by the participant was used to link baseline to follow-up surveys.



The four variants were:

- no instructions;
- a **strong request** to plan to drink safely and a space to write down their plans;
- the same request plus an instruction to choose and write down in the space provided one of **three pre-set** if-then plans;
- the same request plus **an instruction** to formulate and write down their own plans in the space provided.

A month later none of the interventions had materially affected the alcohol consumption of the two thirds of people already drinking within guidelines. In contrast, the four variants of the baseline survey had significantly different impacts on the heavy-drinking third. Among these, the greatest reductions (down about **1.3 or 1.4 units** a day from on average about 6 units) were in the groups asked to choose or to formulate a plan ► *chart*. Both these instructions were significantly more effective than just asking people to plan to drink within the guidelines (reduction from **7.8 to 7.1 units** a day) or giving no instructions at all (virtually no change).

The net result was that after being asked to select and write down a plan, the equivalent of 10 out of 100 people moved to drinking within recommended limits. For the group asked to formulate and write down their own plans, the corresponding figure was 18 out of 100.

Though it was among the most effective options, across the whole sample just 29% fully complied with the pre-set plan instructions by copying down the one they had selected; however, all but two partially complied by marking their choice. The degree of compliance made no difference to the degree of drinking reductions nor did the choice of plan. In contrast, whether people complied with the instruction to formulate and write down their own plan was decisive; regardless of the type of plan they formulated, the roughly half who followed the instruction cut their drinking by nearly a unit a day; on average the remainder made virtually no reduction.

Also assessed were changes in whether people said they had made a detailed plan to drink within national guidelines, whether they definitely intended to do so, their confidence in their abilities to do so, and the degree

to which they felt they monitored and controlled their drinking. None of these were affected differently by the variants of the baseline survey.

For the author the key finding was that whether presented with a selection or asked to write down their own, supplementing a request to plan to drink moderately with an instruction to choose/make a concrete plan led to significantly greater drinking reductions, seemingly without affecting the drinker's awareness of the process. These findings are in line with studies suggesting that pre-planning of this kind helps instil an automatic reaction to the situation planned for. The **magnitude of the impact** was comparable to that of short-term follow-ups of **brief alcohol interventions** in general among non-treatment populations, yet the featured study's interventions were briefer than many 'brief interventions', they were not tailored in any way to the individual, and the study was conducted not in the controlled environment of a clinic, but in locations such as workplaces and shopping centres. These simple but effective interventions may confer even greater benefits in clinical practice. Heavier drinkers most often followed the instruction to formulate their own plans. These compliers made the greatest reductions, suggesting this tactic may have a role among people seeking or in need of help for problem drinking.

## FINDINGS

These comments are expanded on and added to under the subheadings below. The tactics tested in the featured study and in others of alcohol implementation intentions are already embedded in the **brief intervention protocol** recommended for GPs in England. One way to see the study is that it stripped down this protocol to those shared elements, including the selection or formation of concrete plans to drink within guidelines, and reformatted them as a *very* brief written intervention requiring no clinical contact ► *more below*. Such interventions also share similarities with brief interventions based on motivational interviewing, a popular and effective format, and show once again that written materials can be an effective alternative to face-to-face advice. Brevity, low staffing requirements and feasibility in non-clinical settings mean these interventions offer a way to extend the reach of brief interventions beyond hospitals and GPs' surgeries.

The featured study overcame one limitation of two similar earlier studies in England, both of which recruited only university students ► *more below*. But all three had very short follow-up periods – at the most eight weeks. Certainly brief interventions **can have** long-lasting effects. It remains to be seen whether impacts of this type of intervention would persist in the absence of follow-up monitoring and the authority and gravity given by advice from a professional who has identified that you personally are at risk.

### About the study

Inevitably there are questions over whether the results of the study would be replicated in routine practice across the adult population. Nearly half the people asked to participate declined, a result which might simply mean that they happened (for example) to be busier, but which might also reflect characteristics such as preparedness to reflect on their drinking which could affect how they responded to the interventions. Those who participated had already **committed to cooperate** with the study before they encountered the interventions, a sequence which would not occur in normal practice. Research subjects often do not clearly distinguish the research part of the process from the intervention, so some may have felt obliged to follow instructions and perhaps even to

try to implement plans. The effect would have been to magnify the impacts of the active interventions. Against this, impacts could actually be greater in normal practice, when the instructions might for example be delivered and their implementation monitored by a figure such as GP in a surgery rather than a researcher in a shopping centre.

There were hints in the findings that asking people to formulate and write down their own plans led to a more polarised response than providing pre-set plans. Some degree of compliance with the instructions was easier when options were set out in advance and participants could just select one. Demanding more intellectual effort and insight, the 'formulate your own' instruction polarised the sample in to compliers and non-compliers and, associated with this, in to those who on average did or did not reduce their drinking. Since it was the heavier drinkers who tended to comply with the instructions, it suggests this variant may best stimulate clinically meaningful change at the heavier end of the spectrum of risky drinking in the general non-treatment population.

### Other implementation-intention studies

A **meta-analysis** combining results from studies of interventions involving instructions to make if-then plans **found that** on average these had (in relation to brief interventions generally) a substantial impact on behaviours as diverse as getting down to writing a CV, recycling waste, or adopting a low-fat diet. The analysts argued that concrete if-then plans make it more likely that the intention to change will be realised because they create a strong mental link between an anticipated situation and an effective action to achieve the intended goal, preparing the ground in advance and shielding the person from distracting or contrary influences.

Of the 63 reports combined in this analysis, just one involved drinking. Later the same lead author conducted another alcohol study. Both involved university students in England. **In the first** students were lectured about the risks of 'binge' drinking and asked to drink within recommended limits. About half were then randomly allocated to receive written materials which asked them to choose one of six ways to refuse a drink (such as, "No thanks, I am driving") or to formulate their own. They were also asked to say when and where they would do this, adding the 'if' component of their if-then plan. Relative to those just asked to change, two weeks later those also asked to make a concrete plan had 'binged' less often and reduced their binge drinking more, despite not consciously having a stronger intention to avoid excessive drinking. **In the later study, moderate-drinking** students completed surveys to record their weekend (Friday and Saturday night) drinking habits. Half were also randomly allocated to be given a leaflet which told them the recommended drinking limits, pointed out the benefits of reducing their drinking, asked them to select one of six concrete ways of doing so, and to decide when and where they would implement this plan. Eight weeks later the surveys were repeated. Results were analysed for the subsamples of students who had previously drunk excessively on Fridays or Saturdays. Students asked to choose a plan were now drinking less on Fridays than those not asked to make plans, and among the women, fewer were now drinking to excess. Possibly because such drinking was more deeply embedded, there were no impacts on drinking among men or on Saturdays.

### Parallels with other brief interventions

Typical and promising brief alcohol advice approaches for primary care have been

codified by the [How much is too much?](#) project, whose materials are recommended in [English commissioning guidelines](#) ► *below*. The project's [brief intervention protocol](#) contains elements very similar to the intervention tested in the featured study and others. It calls for patients to be reminded of safer drinking guidelines and of how much they are drinking, says they should aim to drink within the guidelines, and asks them to make and record a concrete plan to do so. To aid this process it offers [a menu](#) of plans they can select from and/or an opportunity to formulate their own plans.

There is also a striking parallel between the presumed mechanisms of change in the featured study and those of motivational interviewing, the most common basis for brief alcohol interventions. Studies have found that the strength (the difference, for example, between 'I hope to' and 'I will') of a client's commitment to change versus non-change as expressed towards the end of a motivational interview predicted who later would control their substance use (1 2). The end of each session was decisive rather than average commitment strength across the session, because it was then that clients were faced with concretising the discussion into an explicit and viable change plan. When it worked, the therapy did so by fostering expressions of strong commitment leading to concrete plans.

So too in the featured study, the agreement to participate in the study, the survey getting patients to rehearse how much they drank, the reminder on each page of how much was safe to drink, and the request to drink within these limits, led up to an opportunity to choose or formulate a concrete plan and to write it down or at least say it oneself, an action which at face value represents a [strong commitment](#) to change. When no such plan was either chosen or written down, drinking reductions were significantly less likely. This can be thought of as mini-motivational-style process conducted entirely in writing and without therapist input.

There were other parallels too. When motivational interviews are conducted with (as in the featured study) people who are not seeking treatment, feedback of assessment results [significantly augments](#) their effectiveness. Feedback was also implicit in the featured intervention, but (as with [motivational interviewing](#)) it did not maximise change unless accompanied by a concrete, explicit, commitment to change and a change plan. In these populations, too, a motivational approach conducted according to a common template [works as well](#) as a non-standardised one. So too in the featured study, the interventions followed a common template which the participant filled in according to their individual preferences.

Also in non-treatment seeking populations, very brief interventions and those based entirely or primarily on written materials are often just as effective as longer face-to-face interventions (1 2). As in the featured study, typically these materials enable the recipient to compare themselves against drinking norms, offer advice, and seek commitment to change.

## Policy context

[English guidelines](#) for commissioning brief interventions from GPs recommend [an approach](#) similar in several ways to that tested in the featured study and in the other alcohol implementation intention studies described [above](#). The commissioning guidelines designate such services as 'enhanced', meaning that GPs are not required to undertake this work unless they have agreed to do so under contract to their local health authority, and authorities are not required to ensure its provision in their areas. As [feared](#) by England's national alcohol charity, in 2008 an [audit](#) of health service provision found that



systematic screening by GPs was the exception and few patients were screened or offered brief advice, undermining the hoped-for public health benefits of a mass programme. The same year the system was reinforced by a [new requirement](#) for health commissioners to organise for GPs in their areas to screen adult patients newly registering with the practice, [incentivised](#) by a payment for each screening. These initiatives follow the commitment to selective screening and brief intervention in the 2004 [English national alcohol strategy](#) and [resultant practice guidelines](#).

Scotland has similar [practice recommendations](#) and a [national policy](#) which prioritises screening and brief intervention in primary care, antenatal care, and accident and emergency departments, backed by a health service target for 2008/09–2010/11 to deliver 149,449 brief interventions across the three years supported (as in England) by dedicated funding. Set [in the context](#) of what was in any event 111,200 primary care consultations for alcohol misuse in a single year in 2006/07, this target of around 50,000 a year across all three priority settings seems less ambitious. In the first year of the policy 26,499 brief interventions [were recorded](#).

*Thanks for their comments on this entry in draft to Katie Lock of the Institute of Health and Society at Newcastle University in England. Commentators bear no responsibility for the text including the interpretations and any remaining errors.*

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