

Supporting adherence to UK lower-risk alcohol guidelines amongst middle-aged risky drinkers: A proof-of-concept evaluation of a brief intervention

December 2025

Authors: Thorneloe, R.J¹., Tkacova, D¹., Garstang, K²., Hope, D¹., Rutkauskas, L³., Humphreys, H¹., Arden. M.A⁴

¹Centre for Behavioural Science and Applied Psychology, Sheffield Hallam University

²School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham

³Centre for Regional Economic and Social Research (CRESR), Sheffield Hallam University

⁴School of Psychology, Manchester Metropolitan University

Contact: Rachael.Thorneloe@shu.ac.uk

Contents

Executive Summary	3
Main report	
Background.....	4
Theory of Change.....	5
Aims.....	6
Research questions.....	6
Interventions.....	7
Methods.....	9
Trial design.....	9
Findings.....	11
Reflections.....	32
Conclusions.....	34
Recommendations.....	34
References.....	35

Recommended citation:

Thorneloe, R.J., Tkacova, D., Garstang, K., Hope, D., Rutkauskas, L., Humphreys, H., Arden. M.A (2025). *Supporting adherence to UK lower-risk alcohol guidelines amongst middle-aged risky drinkers: a proof-of-concept evaluation of a brief intervention*. A report commissioned by Cambridgeshire County Council.

Contact: Rachael.Thorneloe@shu.ac.uk

Executive Summary

Sheffield Hallam University were commissioned by Cambridgeshire County Council and Peterborough City Council to undertake research to understand the barriers and facilitators for seven health behaviours. These reports are available [here](#) (under 'healthy behaviours'). Following consultation with Cambridgeshire County Council, intervention recommendations for physical activity, alcohol consumption, and smoking in adults were taken forward for proof-of-concept testing. This report presents the findings for the **alcohol** proof-of-concept evaluation. The findings for the smoking intervention and the physical activity intervention are presented in separate reports.

Aim: The aim of the randomised trial was to test whether positively or negatively framed health messages about alcohol consumption (with and without a self-affirmation activity which asks people to reflect on their core values or strengths to reduce defensiveness towards health messages) increases intentions to drink alcohol within UK lower risk guidelines amongst middle-aged risky drinkers.

Methods: Middle-aged (35 – 59 years) risky drinkers were recruited via Prolific (an online panel of people who are willing to participate in online research) and invited to participate in an online study. Participants were randomised to one of four interventions:

- (1) A negatively framed message about the harms of excessive drinking
- (2) A positively framed message about the benefits of drinking alcohol within UK lower risk alcohol guidelines
- (3) A brief self-affirmation task, followed by the negatively framed message
- (4) A brief self-affirmation task, followed by the positively framed message

The primary outcome was intentions to drink alcohol within UK lower risk guidelines.

Findings: We found that intentions increased across all conditions over time, but no differences emerged between the different interventions.

However, we found that a task that asks people to reflect on their personal core values and strengths (self-affirmation) before viewing a message that educates and persuades people about the harms of excessive drinking (negatively framed message) increased perceptions of perceived susceptibility to developing health risks due to alcohol consumption (including when compared to others their age who drink alcohol), and people believed that the message was persuasive/ acceptable and personally relevant to them.

We found that a message that educates and persuades people about the benefits of drinking in moderation (positively framed message), with or without a self-affirmation task, made people feel more positive.

Recommendations:

We recommend that :



A brief message that asks people to reflect on their personal core values and strengths (self-affirmation), alongside messages about the harms of alcohol consumption, may help support middle-aged risky drinkers to engage with such messages by increasing perceptions of perceived susceptibility about the harms of excessive drinking, and increasing message acceptance and personal relevance.



Messages about the benefits of drinking alcohol in moderation, with or without a self-affirmation message, may help facilitate motivation to initiate behaviour change by increasing positive feelings.

Main report

Background

In 2016, the UK Chief Medical Officers published low risk drinking guidelines and advised that for both men and women, it is safest not to drink more than 14 units per week, spread over three or more days, and to have several alcohol-free days each week [1]. We conducted a survey and interviews with residents in Cambridgeshire to identify key barriers and facilitators for drinking alcohol within UK lower risk guidelines [2]. We then used the Behaviour Change Wheel [3] to make theory-informed intervention recommendations for supporting drinking alcohol within the guidelines.

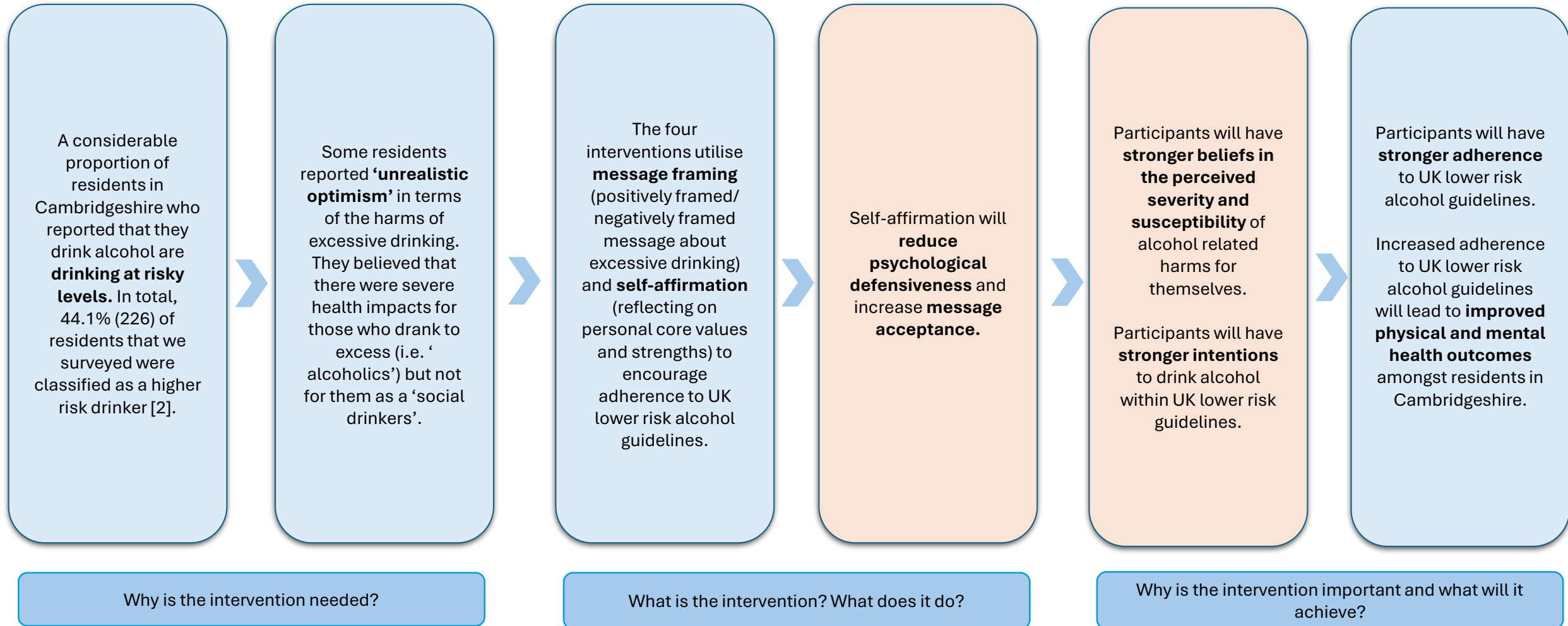


We found that some people who were drinking at higher risk levels showed ‘unrealistic optimism’ in terms of the harms of excessive drinking. They believed that there were severe health impacts for those who drank to excess (i.e. ‘alcoholics’) but not for them as a ‘social drinkers’. They were broadly optimistic that alcohol was not currently impacting their health and would not likely become a problem for them in the future.

Some people who are drinking at higher risk levels would therefore benefit from communications that address this optimistic bias. They need support to understand that they (rather than others) are currently at risk of experiencing negative health and social effects of drinking.

Sheffield Hallam University were commissioned by Cambridgeshire County Council to undertake a proof-of-concept evaluation of this intervention. The Theory of Change for this intervention is presented on the following slide.

Theory of Change



The outcomes to be examined in this proof-of-concept evaluation are those in the orange boxes.

Aims

The aim of the randomised trial was to test whether message framing (positively/ negatively framed) with or without a self-affirmation task (reflecting on personal core values and strengths) could increase intentions to drink alcohol within UK lower risk guidelines amongst middle-aged adults (35 – 59 years) who are drinking at risky levels.

We tested four interventions:

- (1) A negatively framed message about the harms of excessive drinking
- (2) A positively framed message about the benefits of drinking alcohol within UK lower risk alcohol guidelines
- (3) A brief self-affirmation task, followed by the negatively framed message
- (4) A brief self-affirmation task, followed by the positively framed message

The primary outcome was intentions to drink alcohol within UK lower risk guidelines.

The secondary outcomes were message acceptability and defensiveness towards the message, perceived susceptibility and severity of health risks associated with risky drinking, perceived confidence (self-efficacy) to drink alcohol within UK lower risk guidelines, and perceived confidence that drinking alcohol within UK lower risk guidelines will reduce health risks.

Research questions

The primary research questions were:

1. Can a brief intervention increase intentions to drink alcohol within UK lower risk guidelines?

The secondary research questions were:

1. Can a brief intervention increase message acceptance, persuasiveness, positive affect, and reduce message defensiveness?
2. Can a brief intervention increase perceived susceptibility and severity of health risks associated with risky drinking, increase perceived confidence (self-efficacy) to drink alcohol within UK lower risk guidelines, and increase perceived confidence that drinking alcohol within UK lower risk guidelines will reduce health risks (response efficacy)?

Interventions – message framing



Intervention 1: Participants are presented with a *negatively-framed message* that educates and persuades people about the risks of excessive drinking.

“Drinking more than 14 units of alcohol per week, even when spread over 3 or more days, can put your health at serious risk. In the short term, it increases the chances of accidents, injuries, impaired judgement, and unpleasant hangovers than can affect your daily life.

Over time, regularly drinking above these guidelines significantly increases your risk of developing chronic health conditions, such as liver disease, and several types of cancer, such as breast, liver, and oesophageal cancer. Excessive alcohol intake can also contribute to high blood pressure, heart disease, mental health issues, and weakened immune function”.



Intervention 2: Participants are presented with a *positively-framed message* that educates and persuades people about the benefits of drinking alcohol with UK lower risk guidelines.

“Keeping your alcohol intake to no more than 14 units a week, spread over at least 3 days, means you’re much less likely to suffer from those unpleasant hangovers, helping you wake up feeling refreshed and ready for the day, with more energy and focus.

By drinking within these limits, you can still enjoy a pleasant buzz, without putting your health at risk. Staying within these guidelines lowers your risk of developing serious alcohol dependency in the future, helping you maintain control over your drinking habits, and protecting your long-term mental and physical health.”



Interventions – self-affirmation



Intervention 3: Participants are asked to complete a *self-affirmation task* [4, 5] and are then presented with a *negatively-framed message* that educates and persuades people about the risks of excessive drinking.



Intervention 4: Participants are asked to complete a *self-affirmation task* [4, 5] and are then presented with a *positively-framed message* that educates and persuades people about the benefits of drinking alcohol with UK lower risk guidelines.

Self-affirmation task [4, 5]

Participants are presented with the following stem:

“If I feel threatened or anxious, then I will...”

Participants are then presented with four options

1. *“... think about the things I value about myself,”*
2. *“... remember things that I have succeeded in,”*
3. *“... think about what I stand for,”*
4. *“... think about things that are important to me”*

Participants are asked to write out their chosen option on three blank lines in an implementation intention format.

“If I feel threatened or anxious, then I will think about the things I value about myself”

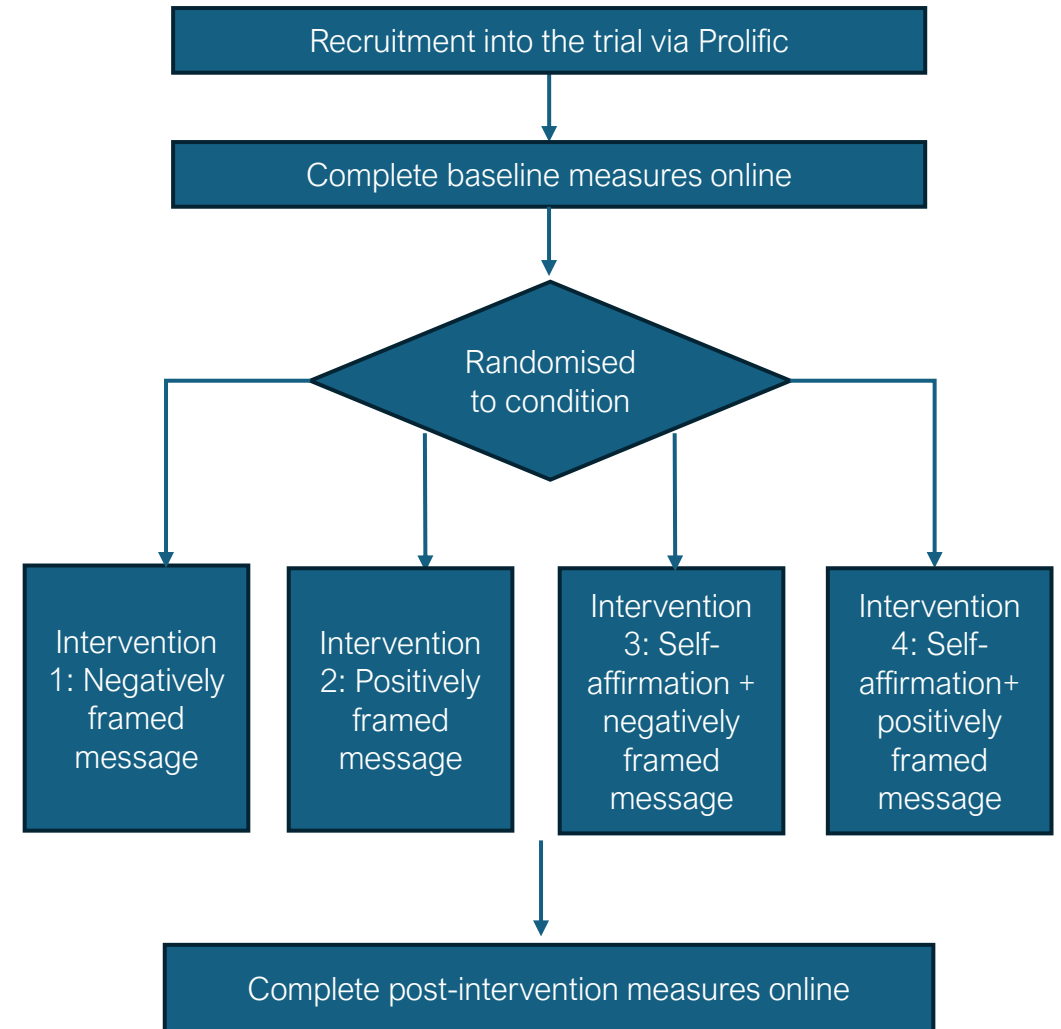
Methods

Individuals were recruited via Prolific, an online panel of people who are willing to participate in online research. Participants who were middle-aged (35 – 59 years), risky drinkers but not dependent on alcohol (using AUDIT-C [6] and living in Cambridgeshire and postcode areas that share a geographical border with Cambridgeshire and Peterborough* were asked if they would be willing to participate in the study. All trial data were collected online (using Qualtrics) via a survey.

- In the baseline survey, we measured sample characteristics (demographics), perceptions of risk and coping (perceived susceptibility, severity, self-efficacy, response efficacy), and intentions to drink alcohol within UK lower risk guidelines.
- Immediately after completing the baseline survey, participants were randomised to one of the four intervention arms.
- After completing the intervention, we measured responses to the messages (perceived message acceptance, relevance, defensiveness, and positive affect) and repeated the measures of perceptions of risk and coping, and intentions to drink alcohol within UK lower risk guidelines.

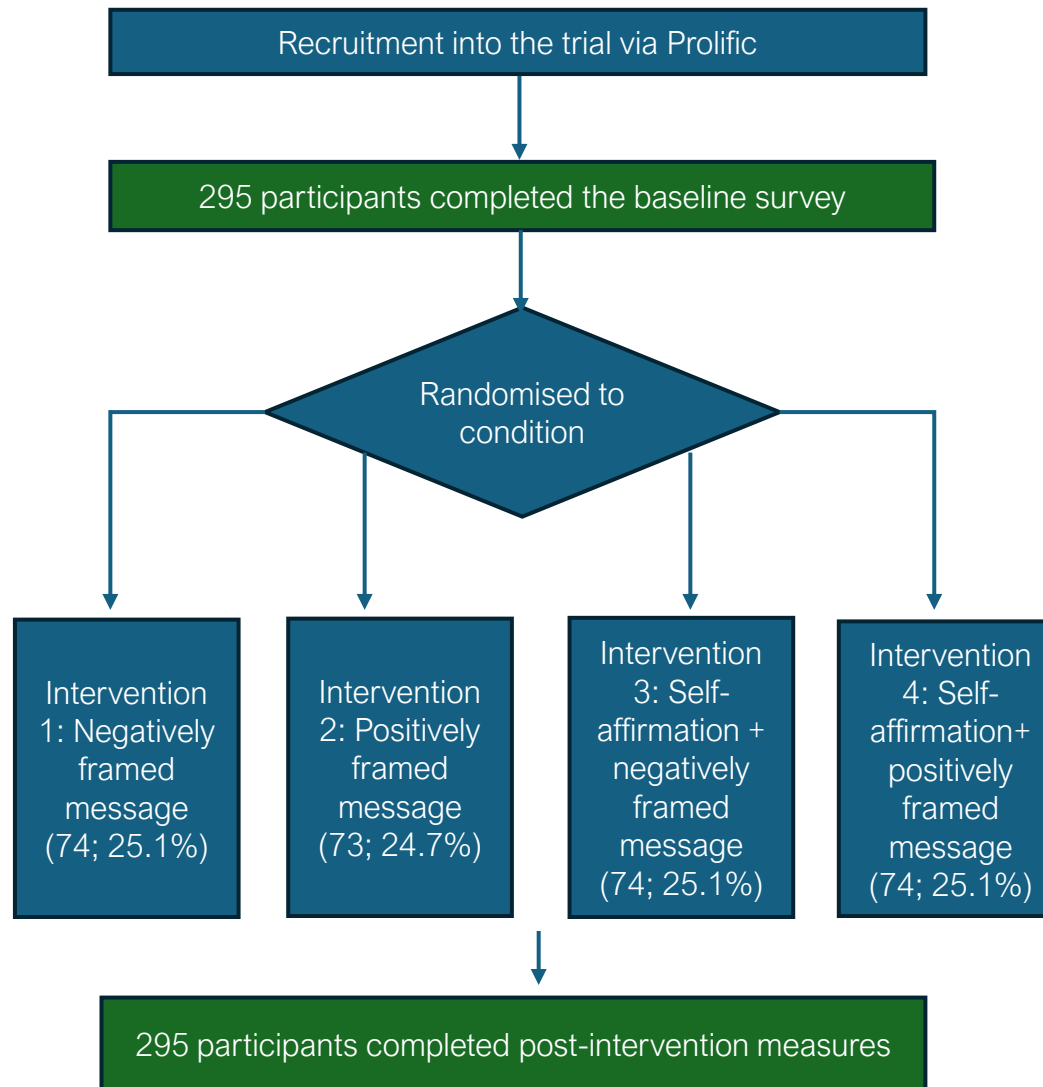
Participants received payment for completing the survey. Ethical approval was obtained from Sheffield Hallam University (ER81593923) and local approval was obtained from Cambridgeshire County Council (090925KG).

Trial design



*We recruited from Cambridgeshire, postcode areas that share a geographical border with Cambridgeshire (Chelmsford, Colchester, Ipswich, Peterborough, Stevenage) and postcode areas that share a geographical border with Peterborough (Lincoln, Nottinghamshire, Leicestershire, Northampton, Milton Keynes).

Findings – Recruitment



Findings – Participants

This slide presents the demographic characteristics of the 295 participants who completed the baseline survey. All participants were middle-aged (35 – 59 years) risky drinkers but not dependent on alcohol (using AUDIT-C [6]).

Variable		Value
Age		45.87 ± 7.41, range 35-59
Gender	Male	131 (44.41%)
	Female	163 (55.25%)
	Prefer to self-describe	1 (0.34%)
Education	No formal educational qualifications	3 (1.02%)
	O-level/GCSE/BTEC equivalent	38 (12.88%)
	GCE/A-level/BTEC equivalent	88 (29.83%)
	Degree	114 (38.64%)
	Postgraduate degree	46 (15.59%)
	Other	6 (2.03%)
Ethnicity	White British	264 (89.49%)
	White other	15 (5.08%)
	Mixed/multiple or other ethnic groups	9 (3.05%)
	Asian or Asian British	2 (0.68%)
	Black/ African/ Caribbean/ or Black British	4 (1.36%)
	Other	1 (0.34%)

Variable		Value
Income	< £10,000	6 (2.04%)
	£10,001 - £20,000	15 (5.10%)
	£20,001 - £30,000	29 (9.86%)
	£30,001 - £40,000	42 (14.29%)
	£40,001 - £50,000	35 (11.90%)
	£50,001 - £60,000	45 (15.31%)
	£60,001 - £70,000	30 (10.20%)
	£70,001 - £80,000	20 (6.80%)
	£80,001 - £90,000	23 (7.82%)
	£90,001 - £100,000	13 (4.42%)
	£100,001 plus	29 (9.86%)
	Prefer not to say	7 (2.38%)
Employment ^a	Employed	256 (86.78%)
	Unemployed	13 (4.41%)
	Other	24 (8.14%)
	Prefer not to say	2 (0.68%)

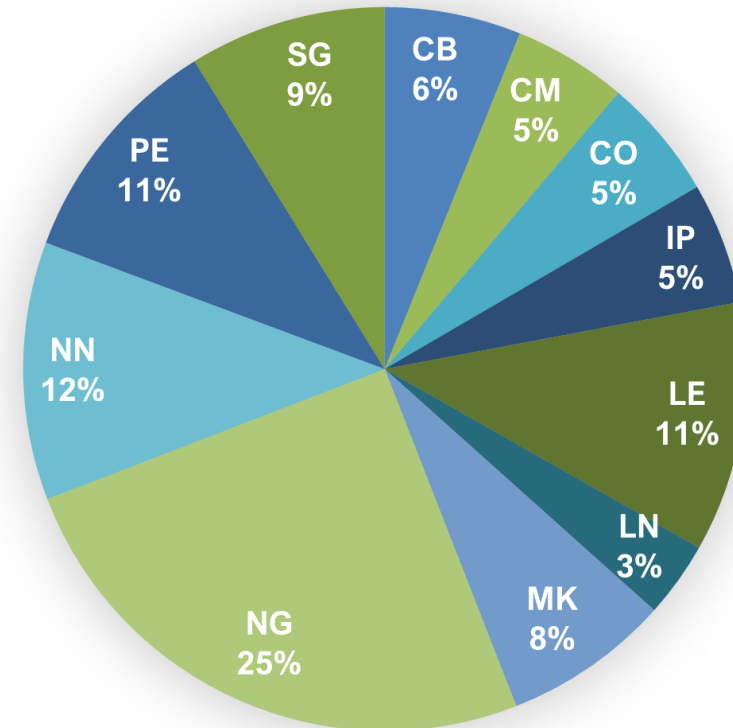
a = employed categories are = Full-time, part-time, self-employed/ freelance, on maternity/ paternity, signed off sick short-term/ temporary; Not employed categories are = Unemployed and looking for work, Unemployed and not looking for work; Other employment categories are = retired, in full time education or training, looking after home or family, Unpaid carer, long-term sick or disabled, other.

Findings – Participants

Participants were recruited from Cambridgeshire, and from geographical areas that share a border with Cambridgeshire and Peterborough. These postcode areas were:

- Cambridge (CB)
- Chelmsford (CM)
- Colchester (CO)
- Ipswich (IP)
- Leicester (LE)
- Lincoln (LN)
- Milton Keynes (MK)
- Nottingham (NG)
- Northampton (NN)
- Peterborough (PE)
- Stevenage (SG)

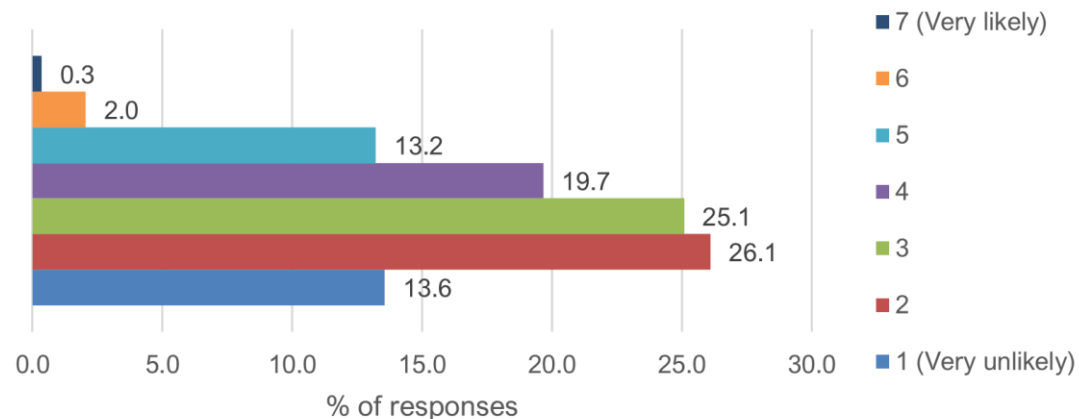
What is your postcode?



Findings – Perceptions of risk (susceptibility)

Before the intervention, participants were asked questions about their perceptions of risk. All items were scored on a scale of 1 to 7, with higher scores indicating stronger **perceived susceptibility** of health risks due to alcohol consumption for themselves and compared to others their age.

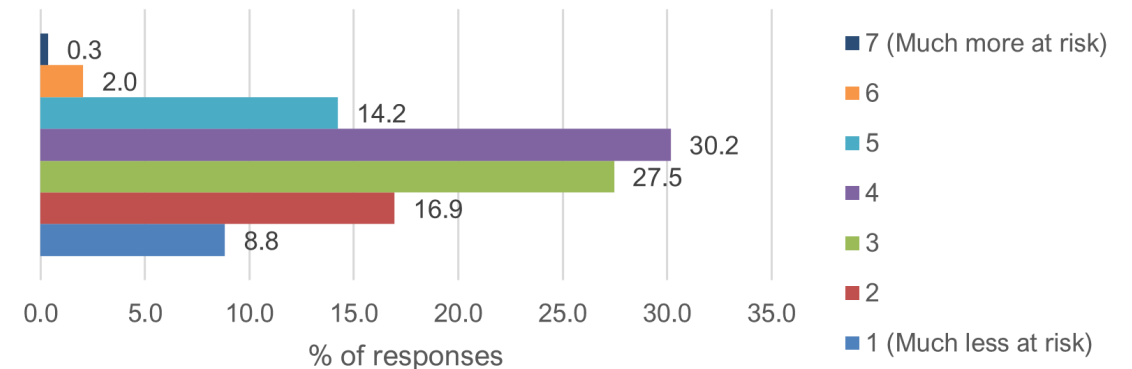
How likely do you think it is that you could develop health problems due to your alcohol consumption?



The mean (standard deviation) score for perceived risk of developing health problems due to their alcohol consumption was 3.00 (1.33) and below the scale mid-point.

As shown in the graph, a considerable proportion of the sample perceived their risk of developing health problems as a result from their alcohol consumption to be very unlikely (13.6%), unlikely (26.1%) or somewhat unlikely (25.1%).

Compared to others your age who drink alcohol, how at risk do you think you are to experience health problems related to drinking alcohol?



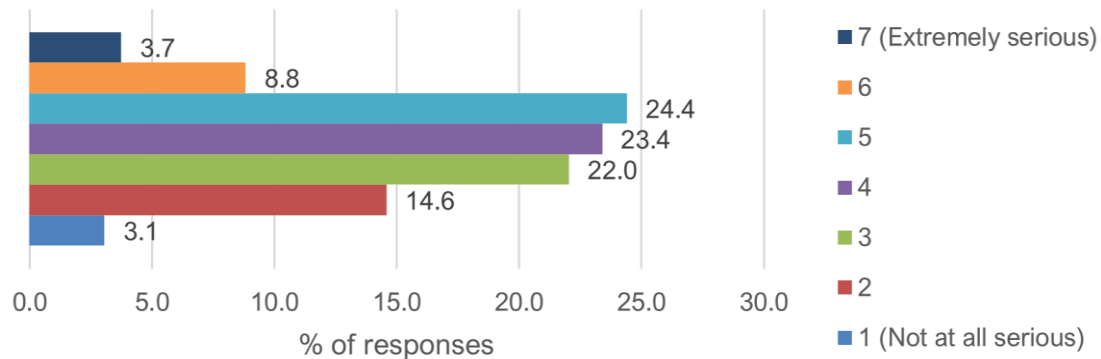
The mean (standard deviation) score for perceived risk of developing health problems due to their alcohol consumption *compared to others their age* was 3.32 (1.24) and below the scale mid-point.

As shown in the graph, a considerable proportion of the sample perceived their risk of developing health problems as a result from their alcohol consumption compared to others their age to be neutral (30.2%) and a bit less at risk (27.5%).

Findings – Perceptions of risk (severity)

Before the intervention, participants were asked questions about their perceptions of risk. All items were scored on a scale of 1 to 7, with higher scores indicating stronger **perceived severity** of health risks due to alcohol consumption for themselves and compared to others their age.

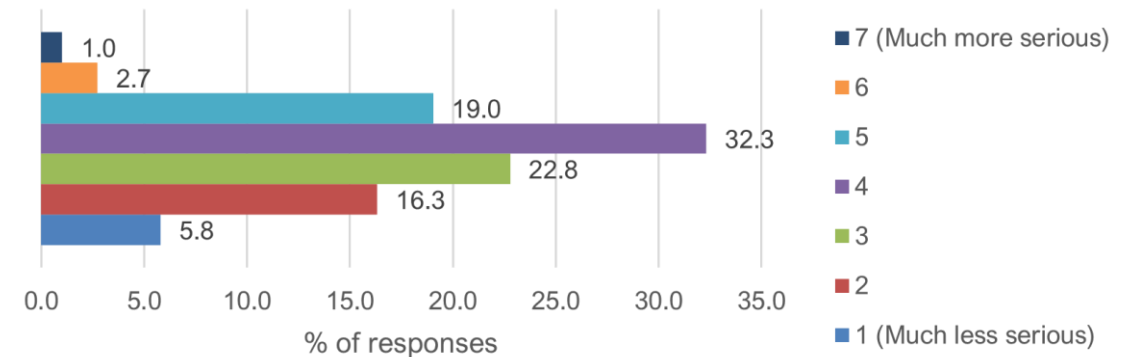
If you were to experience health problems caused by drinking alcohol, how serious do you think these problems would be for you?



The mean (standard deviation) score for perceived severity of health risks caused by drinking alcohol was 3.93 (1.42) and below the scale mid-point.

As shown in the graph, a considerable proportion of the sample perceived the seriousness of health risks caused by drinking alcohol to be somewhat serious (24.4%), neutral (23.4%), and a bit less serious (22.0%).

Compared to others your age who drink alcohol, how serious do you think the health problems you might experience from drinking would be?

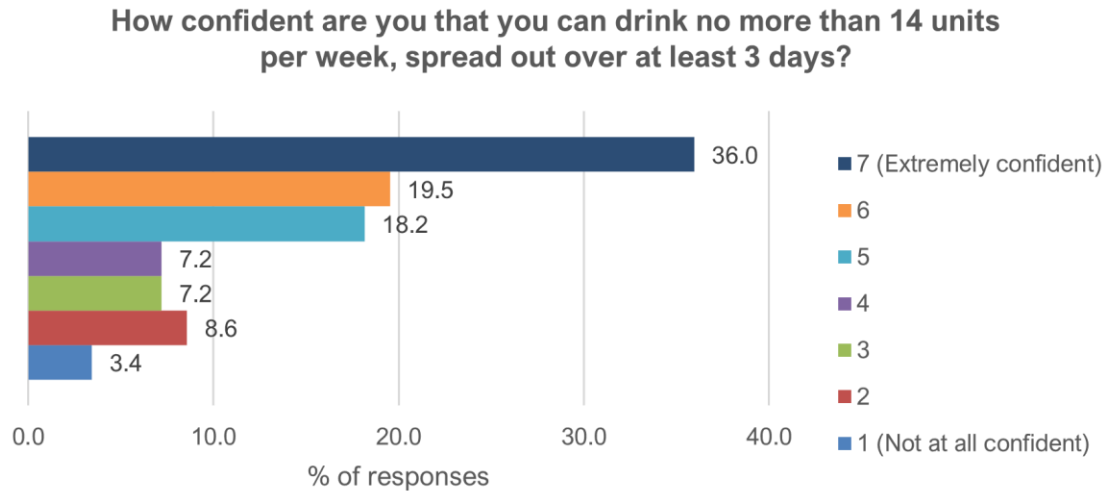


The mean (standard deviation) score for perceived severity of health risks caused by drinking alcohol *compared to others their age* was 3.55 (1.26) and below the scale mid-point.

As shown in the graph, a considerable proportion of the sample perceived the seriousness of health risks caused by drinking alcohol compared to others their age to be neutral (32.3%) compared to others.

Findings – Coping (self-efficacy)

Before the intervention, participants were asked questions about their coping appraisals. The item was scored on a scale of 1 (not at all confident) to 7 (extremely confident), with higher scores indicating stronger **perceived confidence** (self-efficacy) that they can drink alcohol within UK lower risk guidelines.



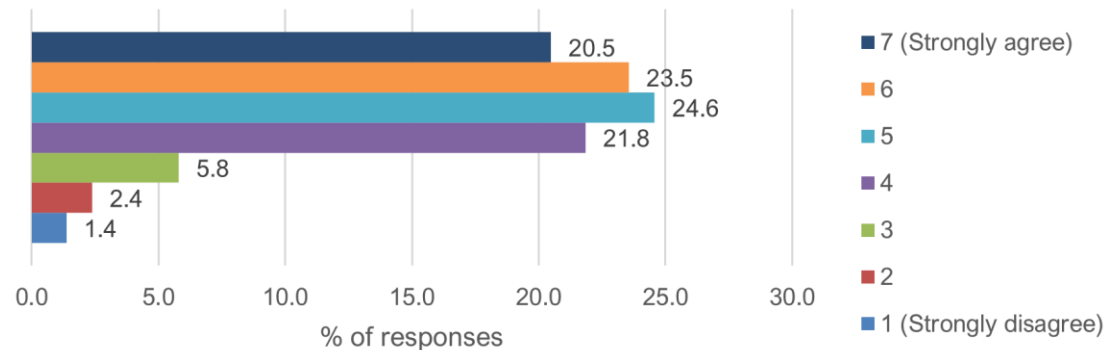
The mean (standard deviation) score for perceived confidence that they can drink alcohol within UK lower risk guidelines was 5.30 (1.80) and above the scale mid-point.

As shown in the graph, a considerable proportion of the sample (36.0%) were extremely confident in their ability to drink according to the UK lower risk guidelines.

Findings – Coping (response efficacy)

Before the intervention, participants were asked questions about their coping appraisals. The item was scored on a scale of 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating stronger **perceived confidence** that drinking within UK lower risk guidelines will reduce their risk of health problems and have important health benefits (response efficacy).

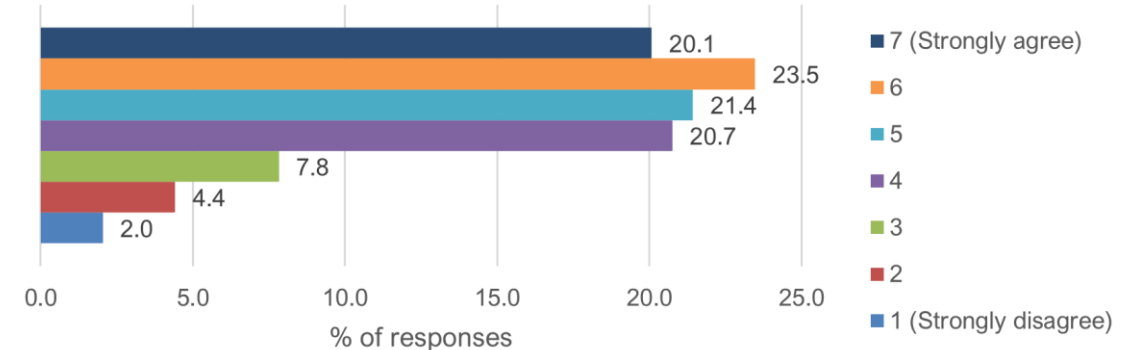
To what extent do you agree that drinking no more than 14 units per week, spread out over at least 3 days, will reduce your risk of health problems?



The mean (standard deviation) score for perceived confidence that drinking alcohol within UK lower risk guidelines will reduce their *risk of health problems* was 5.18 (1.38) and above the scale mid-point.

As shown in the graph, a considerable proportion of the sample somewhat agreed (24.6%) and agreed (23.5%) that drinking according to the UK lower risk guidelines will reduce their health problems.

To what extent do you agree that drinking no more than 14 units per week, spread out over at least 3 days, would have important benefits for your health?

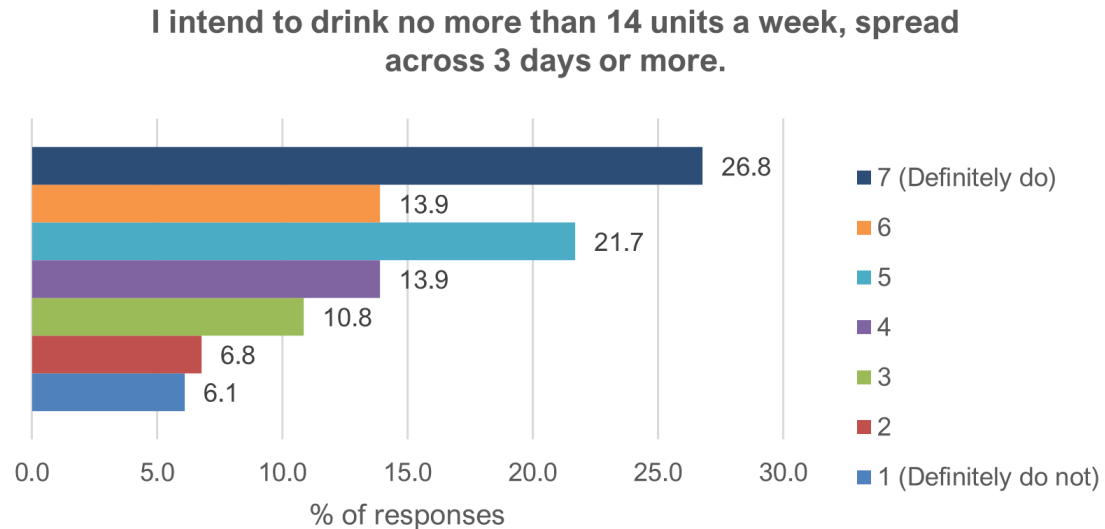


The mean (standard deviation) score for perceived confidence that drinking alcohol within UK lower risk guidelines will have *important health benefits* was 5.06 (1.51) and above the scale mid-point.

As shown in the graph, a considerable proportion of the sample agreed (23.5%) that drinking according to the UK lower risk guidelines will reduce their health problems.

Findings – Intentions to drink alcohol within UK lower risk guidelines

Before the intervention, participants were asked whether they intend to drink alcohol within UK lower risk guidelines. The item was scored on a scale of 1 (definitely do not) to 7 (definitely do), with higher scores indicating stronger **intentions** to drink no more than 14 units a week, spread across 3 days or more.



The mean (standard deviation) score for intentions to drink alcohol within UK lower risk guidelines was 4.87 (1.83) and above the scale mid-point.

As shown in the graph, a considerable proportion of the sample (26.8%) definitely intend to drink according to the UK lower risk guidelines.

All participants were classified as a risky drinker, which suggests that people were not currently doing this.

Findings – Unrealistic optimism



Participants viewed themselves as being unlikely to develop health problems as a result of their drinking (*perceived susceptibility*) and viewed themselves as being less at risk of developing alcohol-related health problems compared with others their age who drink alcohol (*comparative perceived susceptibility*).



Participants viewed the health risks associated with drinking alcohol to be somewhat severe for themselves (*perceived severity*) and viewed such health risks to be less severe for themselves compared with others their age who drink alcohol (*comparative perceived severity*).

However, participants reported that they were confident that they could drink alcohol within UK lower risk guidelines (*self-efficacy*) and were confident that drinking alcohol within UK lower risk guidelines would reduce their risk of health problems and have important health benefits (*response efficacy*).



This suggests that participants had **unrealistic optimism** in terms of the harms of their excessive drinking. They were confident that drinking alcohol within UK lower risk guidelines would have positive health benefits and were confident about their ability to drink alcohol within these guidelines. Although they viewed the health risks associated with drinking alcohol to be somewhat severe for themselves, they did not perceive themselves to be susceptible to the health risks associated with excessive drinking. They viewed such risks to be more for other people their age who are risky drinkers.

Research Question 1: Can a brief intervention increase intentions to drink alcohol within UK lower risk guidelines?

	N	Pre-intervention intentions score	Post-intervention intentions score
		Mean (SD)	Mean (SD)
Intervention 1: Negatively framed	74	4.92 (1.81)	5.19 (1.81)
Intervention 2: Positively framed	73	5.21 (1.69)	5.36 (1.78)
Intervention 3: Self-affirmation + negatively framed	74	4.53 (1.85)	4.82 (1.90)
Intervention 4: Self-affirmation + positively framed	74	4.84 (1.95)	5.36 (1.57)

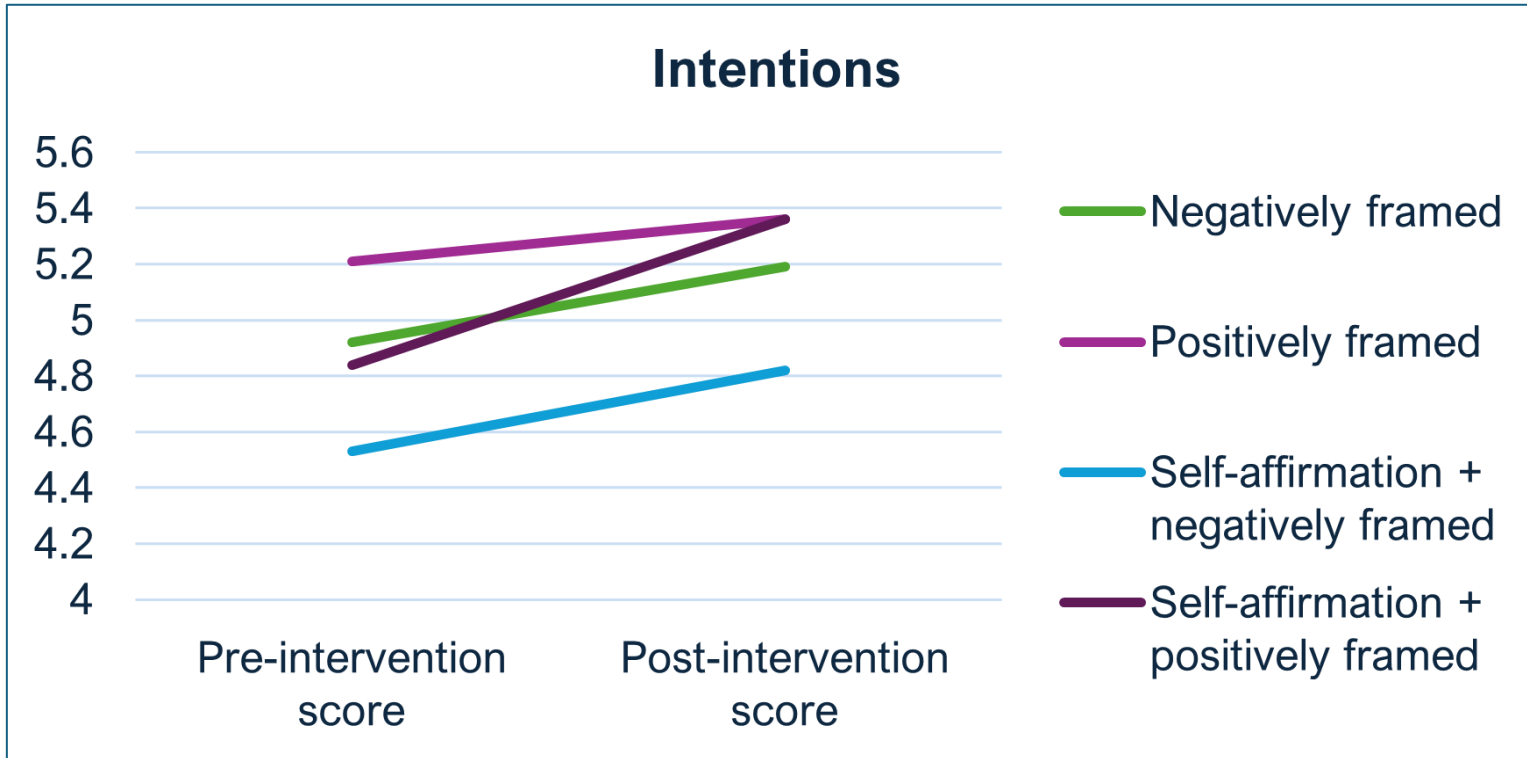
An "intent to treat" approach was used to analyse the data, which **included all participants** regardless of adherence to instructions.

There was a main effect of time ($p < .001$) on participants' intentions score across all measurements. There was no effect of intervention ($p = .168$).

The effect of time did not differ between intervention conditions, as evidenced by the non-significant interaction effect between time and intervention ($p = .362$).

This means that intentions differed before and after the interventions, across all conditions.

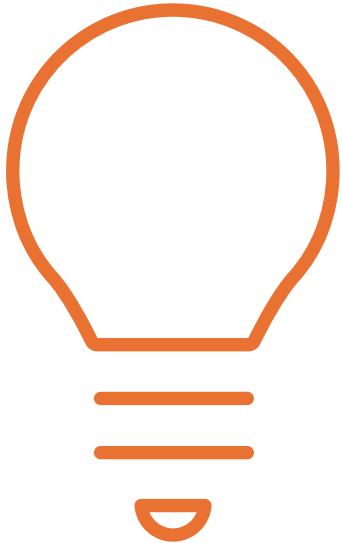
Research Question 1: Can a brief intervention increase intentions to drink alcohol within UK lower risk guidelines?



As shown in the graph, intentions to drink alcohol within UK lower risk guidelines **increased** across all four interventions.

As all groups showed similar changes over time, we cannot conclude that any intervention produced effects beyond those attributable to other factors, such as time.

Research Question 1: Summary



Overall, we found that intentions to drink alcohol within UK lower risk guidelines increased over time.

✓ Across all four intervention groups combined, intentions increased significantly.

However, the interventions did not differ in their effectiveness.

As we did not have a 'no intervention' control group, we don't know whether the interventions themselves caused the change in intentions, or whether time (or other factors) caused the increase in intentions.



Research Question 2: Can a brief intervention increase message acceptance, personal relevance, positive affect and reduce defensiveness?

After the intervention, we asked participants some questions about the messages they had seen. These were:

- **Message acceptance** - *“The message made me think about my own health”* [7]
- **Personal relevance** - *“I don’t think this risk concerns me”* [7]
- **Defensiveness** - *“This message exaggerates the risk”* [8]
- **Positive affect** - *“Overall the message made me feel positive”*

All items were scored on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating stronger agreement with the statement. The personal relevance item was reverse coded, so higher scores indicated stronger personal relevance.

An "intent to treat" approach was used to analyse the data, which **included all participants** regardless of adherence to instructions. The analysis showed that there was a main effect of intervention on:

- ✓ Message acceptance ($p = .021$)
- ✓ Personal relevance ($p = .012$)
- ✓ Positive affect ($p < .001$)
- X There was no effect on defensiveness ($p = .247$).

Differences in message acceptance, personal relevance, positive affect by type of intervention are presented on the following slides.

Research Question 2: Can a brief intervention increase message acceptance, personal relevance, positive affect and reduce defensiveness?

“The message made me think about my own health”

There was a significant difference in **message acceptance** between those who viewed the negatively framed message and those who completed the self-affirmation task and viewed the positively framed message ($p = .043$).

This means that:

- ✓ Participants who viewed the **negatively framed message** reported that the message was **more persuasive**, than those who completed the self-affirmation task and viewed the positively framed message.

There was a significant difference in message acceptance between those who completed the self-affirmation task and viewed the positively framed message, and those who completed the self-affirmation task and viewed the negatively framed message ($p = .050$).

- ✓ Participants who completed the **self-affirmation task and viewed the negatively framed message** reported that the message was **more persuasive**, than those who completed the self-affirmation task and viewed the positively framed message.

Message acceptance		
Intervention group assigned	Comparison group	Mean Difference
Positively framed	Negatively framed	-0.41
	Self-affirmation + Positively framed	0.27
	Self-affirmation + Negatively framed	-0.40
Negatively framed	Self-affirmation + Positively framed	0.68*
	Self-affirmation + Negatively framed	0.01
Self-affirmation + Positively framed	Self-affirmation + Negatively framed	-0.66*

* = Significant. A positive value means the scores are lower in the comparison group, whereas a negative value means scores are higher in the comparison group.

Research Question 2: Can a brief intervention increase message acceptance, personal relevance, positive affect and reduce defensiveness?

"I don't think this risk concerns me"

There was a significant difference in **personal relevance** between those who viewed the positively framed message and those who completed the self-affirmation task and viewed the negatively framed message ($p = .044$).

- ✓ Participants who completed a **self-affirmation task and viewed the negatively framed message** reported that the message was **more personally relevant**, than those who viewed the positively framed message.

There was a significant difference in personal relevance between those who completed the self-affirmation task and viewed the positively framed message and those who completed the self-affirmation task and viewed the negatively framed message ($p = .014$).

- ✓ Participants who completed a **self-affirmation task and viewed the negatively framed message** reported that the message was **more personally relevant**, than those who completed a self-affirmation task and viewed the positively framed message.

Personal relevance		
Intervention group assigned	Comparison group	Mean Difference
Positively framed	Negatively framed	-0.28
	Self-affirmation + Positively framed	0.10
	Self-affirmation + Negatively framed	-0.67*
Negatively framed	Self-affirmation + Positively framed	0.38
	Self-affirmation + Negatively framed	-0.39
Self-affirmation + Positively framed	Self-affirmation + Negatively framed	-0.77*

* = Significant. A positive value means the scores are lower in the comparison group, whereas a negative value means scores are higher in the comparison group.

Research Question 2: Can a brief intervention increase message acceptance, personal relevance, positive affect and reduce defensiveness?

“Overall the message made me feel positive”

There was a significant difference in **positive affect** between those who viewed the **positively framed message** and those who viewed the negatively framed message ($p < .001$) and those who completed a self-affirmation task and viewed the negatively framed message ($p < .001$). This means that:

- ✓ Participants who viewed the **positively framed message** reported that the message made them **feel more positive**, compared with those who viewed the negatively framed message (with or without a self-affirmation task).

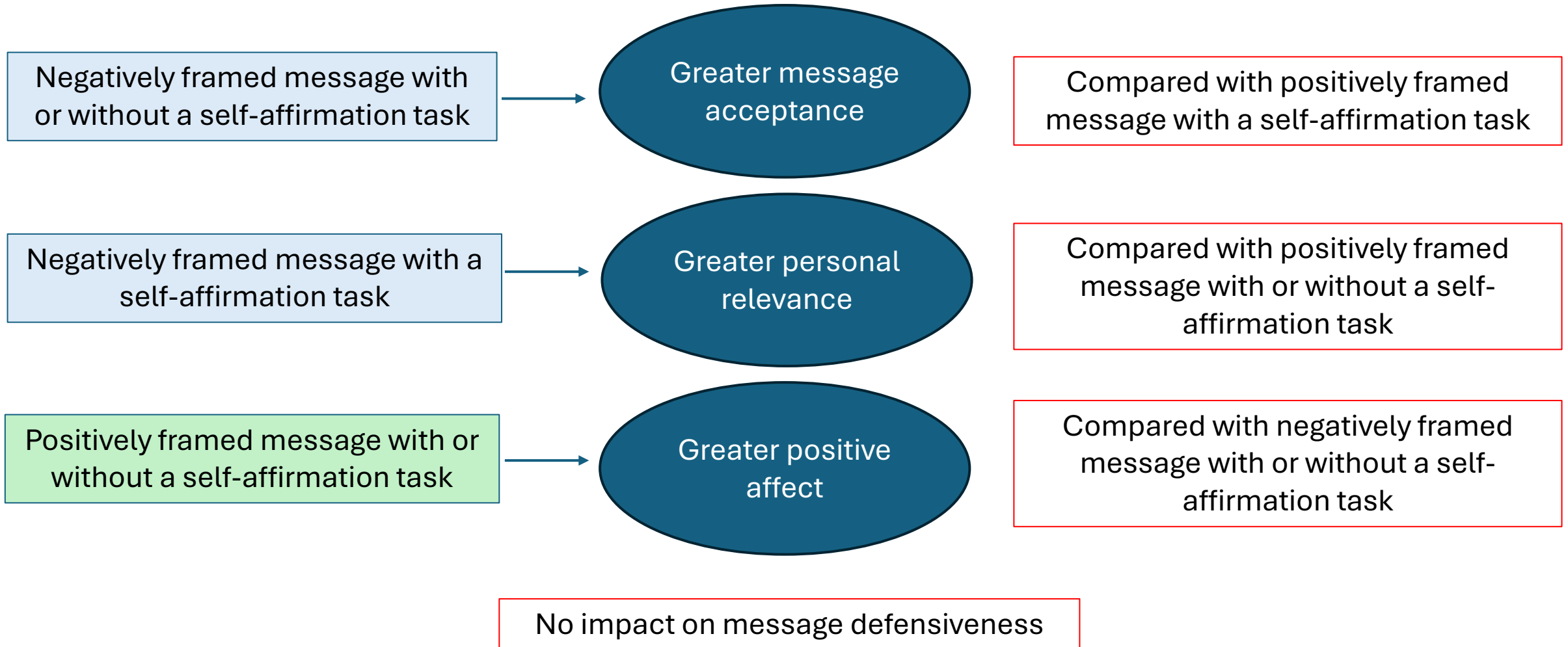
There was a significant difference in **positive affect** between those who completed a **self-affirmation task and viewed the positively framed message**, and those who viewed the negatively framed message ($p < .001$) and those who completed the self-affirmation task and viewed the negatively framed message ($p < .001$). This means that:

- ✓ Participants who completed a **self-affirmation task and viewed the positively framed message** reported that the message made them **feel more positive**, compared with those who viewed the negatively framed message (with or without a self-affirmation task).

Positive affect		
Intervention group assigned	Comparison group	Mean Difference
Positively framed	Negatively framed	1.13*
	Self-affirmation + Positively framed	-0.07
	Self-affirmation + Negatively framed	1.20*
Negatively framed	Self-affirmation + Positively framed	-1.20*
	Self-affirmation + Negatively framed	0.07
Self-affirmation + Positively framed	Self-affirmation + Negatively framed	1.27*

* = Significant. A positive value means the scores are lower in the comparison group, whereas a negative value means scores are higher in the comparison group.

Research Question 2: Summary



Research Question 3: Can a brief intervention increase perceived risk and coping?

Perceived susceptibility

"How likely do you think it is that you could develop health problems due to your alcohol consumption?"

There was a **main effect of intervention on perceived susceptibility** to health problems ($p = .020$), controlling for pre-intervention scores as participants significantly differed between conditions before taking part in the intervention ($p = .028$).

There was a significant difference between those who completed a self-affirmation task and viewed the positively framed message, and those who completed a self-affirmation task and viewed the negatively framed message ($p = .013$).

- ✓ Participants who completed a **self-affirmation task and viewed the negatively framed message** reported **higher perceived susceptibility** compared to those who completed a self-affirmation task and viewed the positively framed message.

Perceived susceptibility		
Intervention group assigned	Comparison group	Mean Difference
Positively framed	Negatively framed	-0.09
	Self-affirmation + Positively framed	0.19
	Self-affirmation + Negatively framed	-0.29
Negatively framed	Self-affirmation + Positively framed	0.28
	Self-affirmation + Negatively framed	-0.20
Self-affirmation + Positively framed	Self-affirmation + Negatively framed	-0.47*

An ANCOVA was conducted to explore the main effect of intervention on perceived susceptibility, controlling for pre-intervention perceived susceptibility. The analysis was powered to detect a small effect size (0.2), with 0.8 power (requiring 277 participants in total). Our sample size was powered for RQ1 and RQ2, and RQ3 is exploratory.

* = Significant. A positive value means the scores are lower in the comparison group, whereas a negative value means scores are higher in the comparison group.

Research Question 3: Can a brief intervention increase perceived risk and coping?

Comparative susceptibility

"Compared to others your age who drink alcohol, how at risk do you think you are to experience health problems related to drinking alcohol?"

There was a main effect of intervention on comparative susceptibility ($p = .007$).

There was a significant difference between those who viewed the positively framed message with ($p = .014$) or without ($p = .015$) a self-affirmation task, compared to those who completed a self-affirmation task and viewed the negatively framed message.

- ✓ Participants who completed a **self-affirmation task and viewed a negatively framed message** reported **higher comparative susceptibility** compared to those who viewed the positively framed message (with or without a self-affirmation task).

Comparative perceived susceptibility		
Intervention group assigned	Comparison group	Mean Difference
Positively framed	Negatively framed	-0.34
	Self-affirmation + Positively framed	0.00
	Self-affirmation + Negatively framed	-0.69*
Negatively framed	Self-affirmation + Positively framed	0.34
	Self-affirmation + Negatively framed	-0.35
Self-affirmation + Positively framed	Self-affirmation + Negatively framed	-0.69*

An ANOVA was conducted to explore the main effect of intervention on comparative susceptibility. The analysis was powered to detect a medium effect size (0.25), with 0.8 power (requiring 180 participants in total). Our sample size was powered for RQ1 and RQ2, and RQ3 is exploratory.

* = Significant. A positive value means the scores are lower in the comparison group, whereas a negative value means scores are higher in the comparison group.

Research Question 3: Can a brief intervention increase perceived risk and coping?

Perceived severity

"If you were to experience health problems caused by drinking alcohol, how serious do you think these problems would be for you?"

There was no main effect of intervention on perceived severity of risk ($p = .069$).

Comparative severity

"Compared to others your age who drink alcohol, how serious do you think the health problems you might experience from drinking would be?"

There was no main effect of intervention on comparative severity of risk ($p = .091$).

Research Question 3: Can a brief intervention increase perceived risk and coping?

Self-efficacy

"How confident are you that you can drink no more than 14 units per week, spread out over at least 3 days?"

There was no main effect of intervention on self-efficacy ($p = .753$).

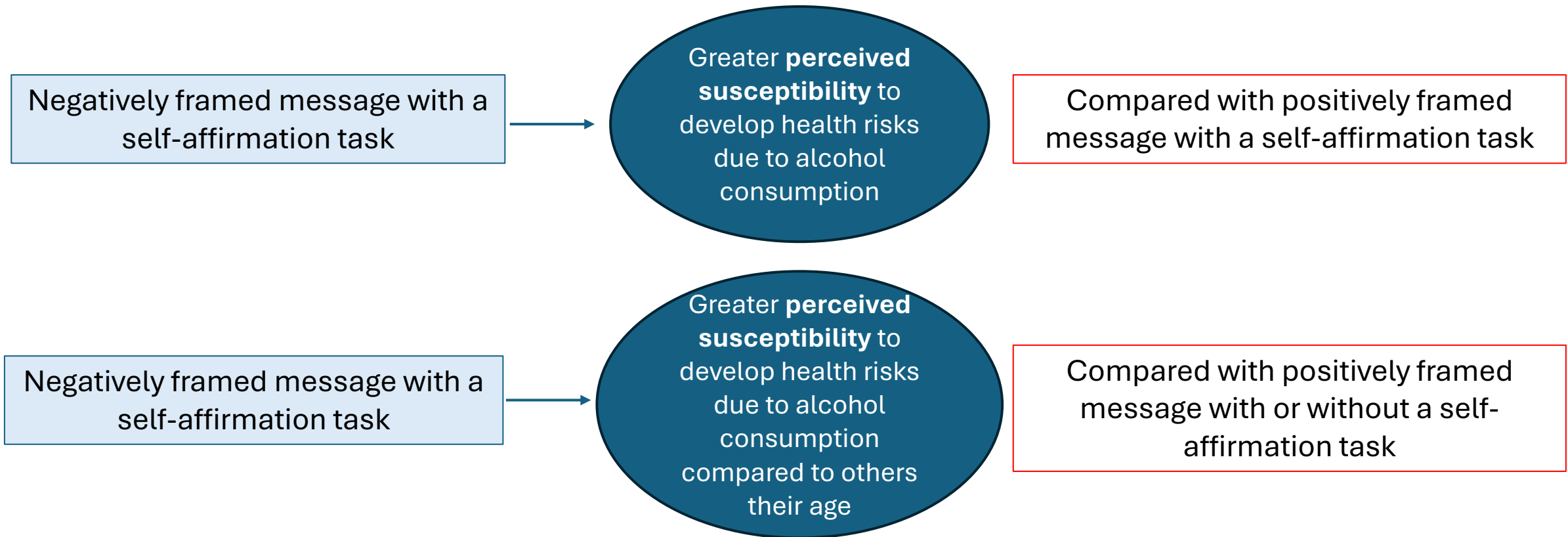
Response efficacy

"To what extent do you agree that drinking no more than 14 units per week, spread out over at least 3 days, will reduce your risk of health problems?"

"To what extent do you agree that drinking no more than 14 units per week, spread out over at least 3 days, would have important benefits for your health?"

There was no main effect of intervention on perceived self-efficacy that drinking within UK lower risk guidelines will reduce health risks ($p = .398$) or that it would increase health benefits ($p = .494$).

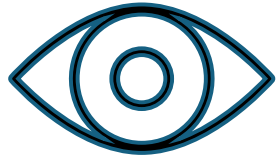
Research Question 3: Summary



No impact on: **perceived severity** of health risks due to alcohol consumption for themselves and compared to others their age; perceived confidence (**self-efficacy**) that they can drink alcohol within UK lower risk guidelines; perceived confidence that drinking within UK lower risk guidelines will reduce their risk of health problems and have important health benefits (**response efficacy**).

Reflections

Unrealistic optimism



- Public health messaging often focuses on the harms or risks of excessive drinking (as opposed to the benefits of drinking within moderation).
- This is a type of **loss-framed message** (it emphasises the costs of not taking action).
- We have shown that middle-aged risky drinkers may have 'unrealistic optimism' [2] and view their risk of health problems from excessive drinking to not be relevant for themselves but for others their age who are risky drinkers.
- Middle-aged risky drinkers may not engage with alcohol risk messages if they do not view themselves as being at risk of alcohol-related health problems.
- We have shown that a **brief self-affirmation task before a negatively-framed message** increased middle-aged risky drinkers **perceived susceptibility** to developing health risks due to alcohol consumption (including when compared to others their age who drink alcohol), and they believed that the **message was acceptable** and **personally relevant** to them.
- This suggests that a brief self-affirmation task may help middle-aged risky drinkers to **engage** with risk messages about alcohol consumption and this may impact on subsequent alcohol consumption.



- A brief self-affirmation statement that asks participants to reflect on their core values or strengths could be included on standard alcohol risk messages [5].
- Self-affirmation activities could be incorporated into supportive conversations delivered by trained alcohol-support professionals. However, because many middle-aged drinkers do not recognise their own risky drinking and are therefore unlikely to seek such support, self-affirmation cannot be used exclusively in this context.

Reflections

Positively framed messaging



- Positively framed messages are those that emphasise the benefits of taking action.
- These are a type of **gain-framed message**.
- While we found that a self-affirmation task and a negatively framed message about the harms of risky drinking resulted in changes in perceived risk of the harms of excessive drinking, a positively framed message that focused on the **benefits of drinking alcohol in moderation** (with or without a self-affirmation task) increased positive affect – it made people **feel more positive**.
- When people feel good, it may facilitate motivation to initiate behaviour change [9].

Translating good intentions into action



- We recommend that future work explores whether the increases in intentions amongst the four types of messaging are due to the intervention or other factors. This can be achieved by including a **'no intervention'** control group.
- Goal setting and planning interventions have been shown to be effective in supporting people to translate good intentions into action [10, 11]. We recommend testing whether a **goal setting/ planning intervention**, in combination with messaging, can result in changes in perceived confidence (self-efficacy) to drink alcohol in moderation, and subsequently changes in alcohol behaviour.

Conclusions

We tested whether negatively or positively framed messages (with and without a self-affirmation task) could increase intentions to drink alcohol within UK lower risk guidelines amongst middle-aged risky drinkers.

We found that intentions increased across all conditions over time, but no differences emerged between the different interventions.

However, we found that a task that asks people to reflect on their personal core values and strengths (self-affirmation) before viewing a message that educates and persuades people about the harms of excessive drinking (negatively framed message) increased perceptions of perceived susceptibility to developing health risks due to alcohol consumption (including when compared to others their age who drink alcohol), and people believed that the message was persuasive/ acceptable and personally relevant to them.

We found that a message that educates and persuades people about the benefits of drinking in moderation (positively framed message), with or without a self-affirmation task, made people feel more positive.

Recommendations

Some people who are drinking at higher risk levels may show 'unrealistic optimism' in terms of the harms of excessive drinking. People who are drinking at higher risk levels may benefit from communications that address this optimism bias, by helping them to understand that they (rather than others) are currently at risk of experiencing negative health and social effects of drinking.

We recommend that:

- A brief message that asks people to reflect on their personal core values and strengths (self-affirmation), alongside messages about the harms of alcohol consumption, may help support middle-aged risky drinkers to engage with such messages by increasing perceptions of perceived susceptibility about the harms of excessive drinking, and increasing message acceptance and personal relevance.
- Messages about the benefits of drinking alcohol in moderation, with or without a self-affirmation message, may help facilitate motivation to initiate behaviour change by increasing positive feelings.

References

1. Department of Health. (2016). UK Chief Medical Officers' Low Risk Drinking Guidelines. [online]. Available from: https://assets.publishing.service.gov.uk/media/5a80b7ed40f0b623026951db/UK_CMOs_report.pdf
2. Arden, M.A., Beresford, R., Wilcockson, H., Clarke, E., Garstang, K., Paddock, D., Lamb, M., Humphreys, H., Thorneloe, R.J. (2025). Supporting residents in Cambridgeshire who drink alcohol to follow UK lower risk drinking guidelines. Phase one report: Insight gathering and intervention recommendations. A report commissioned by Cambridgeshire County Council. Available from: <https://cambridgeshireinsight.org.uk/wp-content/uploads/2025/06/Behavioural-Insights-Research-Phase-1-report-ALCOHOL-CONSUMPTION.pdf>
3. Michie, S., Atkins, L., & West, R. (2014). The Behaviour Change Wheel: A Guide to Designing Interventions. Great Britain: Silverback Publishing.
4. Harris, P.R., Napper, L., Griffin, D.W., Schuez, B., Stride, C. (2011). Developing a measure of spontaneous self-affirmation. Unpublished work.
5. Armitage, C. J., Harris, P. R., & Arden, M. A. (2011). Evidence that self-affirmation reduces alcohol consumption: randomized exploratory trial with a new, brief means of self-affirming. *Health Psychology*, 30(5), 633.
6. Alcohol Use Disorders Identification Test Consumption (AUDIT-C) Available from https://assets.publishing.service.gov.uk/media/6357a7d7e90e0777a45a9caa/Alcohol-use-disorders-identification-test-for-consumption-AUDIT-C_for-print.pdf
7. Harris, P. R., Mayle, K., Mabbott, L., & Napper, L. (2007). Self-affirmation reduces smokers' defensiveness to graphic on-pack cigarette warning labels. *Health Psychology*, 26(4), 437.
8. Sherman, D. A., Nelson, L. D., & Steele, C. M. (2000). Do messages about health risks threaten the self? Increasing the acceptance of threatening health messages via self-affirmation. *Personality and Social Psychology Bulletin*, 26(9), 1046-1058.
9. Mikels, J. A., Young, N. A., Liu, X., & Stine-Morrow, E. A. (2021). Getting to the heart of the matter in later life: The central role of affect in health message framing. *The Gerontologist*, 61(5), 756-762.
10. Epton, T., Currie, S., & Armitage, C. J. (2017). Unique effects of setting goals on behavior change: Systematic review and meta-analysis. *Journal of consulting and clinical psychology*, 85(12), 1182.
11. Gollwitzer, P. M., & Sheeran, P. (2006). Implementation intentions and goal achievement: A meta-analysis of effects and processes. *Advances in experimental social psychology*, 38, 69-119.

Recommended citation:

Thorneloe, R.J., Tkacova, D., Garstang, K., Hope, D., Rutkauskas, L., Humphreys, H., Arden, M.A (2025). *Supporting adherence to UK lower-risk alcohol guidelines amongst middle-aged risky drinkers: a proof-of-concept evaluation of a brief intervention*. A report commissioned by Cambridgeshire County Council.

Contact: Rachael.Thorneloe@shu.ac.uk