



*Health information, messaging and warnings on alcohol
packaging: A focus group study with young adult drinkers in
Scotland*

Key Findings Report for Alcohol Focus Scotland

February 2021

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Table of Contents

1. Introduction	1
2. Methodology	1
2.1 Design and Sample	1
2.2 Procedure	2
2.3 Analysis	4
3. Results	5
3.1 Alcohol Consumption	5
3.2 Recall of Health Information and Messaging	5
3.3 Use of Health Information and Messaging	5
3.3.1 Sources of information	5
3.3.2 Current labelling	6
3.3.3 Units	6
3.3.4 ABV	7
3.3.5 Guidelines	7
3.3.6 Please drink responsibly	8
3.3.7 Potentially useful health information	9
3.4 Responses to Health Warnings	10
3.4.1 Size	11
3.4.2 Location	11
3.4.3 Form	12
3.4.4 Content	12
3.5 Additional Suggestions	14
4. Interpretation	14
4.1 Research Limitations	17
5. References	18
6. Appendices	23
Appendix A: Recruitment Questionnaire	23
Appendix B: Participant Information Sheet	26
Appendix C: Data Privacy Notice	28
Appendix D: Participant Consent Form	30

1. Introduction

Globally, alcohol use is associated with substantial health, economic, and social burdens (Cukier et al., 2018; GBD 2016 Alcohol Collaborators, 2018; Ranaweera et al., 2018). Alcohol is a major contributor to disability-adjusted-life-years (Peacock et al., 2018), injuries, and mortality (Rehm et al., 2017). Alcohol misuse is a significant public health issue in the United Kingdom (UK) (Balakrishnan, Allender, Scarborough, Webster, & Rayner, 2009), placing considerable strain on both financial and medical resources (Williams et al., 2018). Scotland registered the highest rate of alcohol-specific deaths in the UK in 2018, with 20.8 deaths per 100,000 people (Office for National Statistics, 2019). Alcohol consumption accounted for 8% of the burden of disease and an estimated 3,705 deaths in Scotland in 2015, with cancer and liver disease the top causes of alcohol-related deaths (Tod et al., 2018).

Alcohol packaging is a suitable place to communicate drinking and health-related information to consumers (Calvert, 2018). However, research suggests that alcohol labelling is generally suboptimal (Petticrew et al., 2016) and fails to address high-risk drinkers (Coomber, Jones, Martino, & Miller, 2017). Critchlow et al. (2019) found that most young drinkers, including almost half of higher-risk drinkers, did not recall seeing any health information, messages or warnings on alcohol packaging in the past month. According to the Royal Society for Public Health (RSPH, 2018), improving alcohol labelling and implementing a best practice labelling scheme could increase awareness of and reduce alcohol-related harms.

Warning labels can be assessed across five areas of effectiveness: attention, reading and comprehension, recall, judgments, and behavioural compliance (Argo & Main, 2004). Health warnings (HWs) in particular are a low-cost, high-reach intervention that can help to inform consumers about the potential harms of consumer products (Rosenblatt et al., 2018). The efficacy of alcohol warning labels (AWLs) may be affected by visibility, saliency, message content, and exposure (May, Elliott, Crabb, Miller, & Braunack-Mayer, 2020). Enhanced AWLs can attract consumer attention, improve engagement, and stimulate a reduction in alcohol use (Hobin et al., 2020a). Displaying a range of health messages on alcohol labels may help to raise awareness of alcohol-related harms (e.g. cancer; Miller, Ramsey, Baratiny, & Olver, 2016) and could support a reduction in drinking (Winstock, Holmes, Ferris, & Davies, 2019).

The current study explored how alcohol packaging could be used more effectively to communicate health information and messaging by researching young adult drinkers' recall, use and perceptions of current alcohol labelling, as well as their responses to front-of-pack HW labels differing in size, form, and content.

2. Methodology

2.1 Design and Sample

Focus groups have previously been used to explore attitudes towards enhanced alcohol labels with more prominent health-related information and messaging (Roderique-Davies, John, Jones, & Leeworthy, 2018; Vallance et al., 2018). Groups were recruited face-to-face by an independent consultant in both urban and rural areas of Glasgow (Scotland) using a brief recruitment questionnaire (Appendix A) which captured demographic and drinking

information. At recruitment, participants were given information about the study (Appendix B) and ethical procedures (Appendix C). Eligible participants were between 18–35 years of age, currently residing in Scotland, and had consumed alcohol in the last 30 days. These criteria were based on an ongoing review of the UK trade press, wherein alcohol producers regularly target adult drinkers aged 18–35 when (re)designing packaging. Young adult drinkers are also an important group for public health (e.g. Patton & Boniface, 2016). Groups (Table 1) were segmented by age (18–24; 25–35), gender (female; male), and social grade (ABC1; C2DE). There was a mix of drinking behaviours present within and between groups regarding the UK Chief Medical Officers' (CMO, 2016) low-risk weekly drinking guidelines (i.e. above and below the 14-unit recommendation). Ethical approval was granted by the University of Stirling (GUEP 668R).

Table 1: Focus Group Demographics

Group	Age	Gender	Social grade	Participants
1	18–24	Female	ABC1	7
2	18–24	Female	C2DE	7
3	25–35	Female	ABC1	6
4	25–35	Female	C2DE	5
5	18–24	Male	ABC1	7
6	18–24	Male	C2DE	6
7	25–35	Male	ABC1	6
8	25–35	Male	C2DE	6

2.2 Procedure

All eight focus groups were conducted in Glasgow (Scotland) in September 2019, each with between five to seven participants ($n=50$). All groups were moderated by DJ. Participants provided informed consent (Appendix D) on arrival. Participants were instructed that all contributions were valued and encouraged, and that they could refrain from answering any questions. All groups lasted approximately 90 minutes and were audio-recorded to facilitate post-group transcription. A semi-structured discussion guide was used to address the research aims and to ensure that common questions were asked across groups.

All groups had two sections. Section 1 (not reported here) discussed alcohol packaging as a promotional tool (e.g. exposure, preferences). Section 2 explored participants' knowledge of alcohol-related harms and sources of information, as well as their recall, use and perceptions of health information and messaging on current alcohol labelling. Participants then interacted with and discussed nine high-quality, mocked-up labels on physical alcohol products (Figure 1), featuring HWs on the front differing in size (small; large), form (text-only; text and related image), and content (general; specific [correlational; causal¹] text). Participants were instructed to imagine that the AWLs could be used across a range of real alcohol products and shown sets of three at a time: general warnings (Figure 2); correlational warnings (Figure 3); causal warnings (Figure 4). Following respective discussions, each set remained on display for comparison. Participants were given time to inspect the products before discussing their perceptions of the various design elements and considering potential ways to improve them. Finally, participants were asked to imagine that they were the ones designing health information and messaging on alcohol labelling and

¹ The text 'alcohol increases risk of liver disease' implies a correlational relationship exists between alcohol and liver disease; the text 'alcohol causes cancer' implies a causal relationship exists between alcohol and cancer.

packaging, and to consider what they think could be most engaging and impactful to include. Participants were given an oral debrief of the study, contact details for Drinkline (alcohol support), and £30 shopping vouchers for their time.

Figure 1: Alcohol packaging displaying warnings differing by size, form, and content



Figure 2: General Warnings



Figure 3: Specific Warnings: Correlational Text



Figure 4: Specific Warnings: Causal Text



2.3 Analysis

Descriptive statistics were generated using SPSS V26 to provide an overview of drinking behaviours in the groups. Audio recordings were transcribed by professional transcribers. Thematic analysis was conducted in line with Braun and Clarke's (2006) guidelines using an inductive approach. All transcripts were rigorously examined for accuracy and familiarity. NVivo 12 Pro was used to develop and revise codes, which were then collated into potential themes. Key themes were named and refined by the research team. Representative quotations were extracted to illustrate key themes.

3. Results

3.1 Alcohol Consumption

While all participants ($n=50$) had consumed alcohol in the last 30 days prior to recruitment, almost all participants ($n=48$) had done so in the last 7 days. Ranging from 2 to 80 units of alcohol, participants ($n=48$) consumed a median of 13.50 units ($SD=13.64$) in the last 7 days, meeting the UK's low-risk weekly drinking guidelines (CMO, 2016). The other participants ($n=2$) each consumed 6 units in the last 14 days.

3.2 Recall of Health Information and Messaging

Participants were asked for their unaided recall of the types of health information and messaging they had noticed on alcohol labelling and packaging. Pregnancy messages and unit information were recalled in every group; alcohol by volume (ABV) was recalled in seven groups; drinking guidelines and 'please drink responsibly' messages were recalled in five groups; nutritional information (e.g. calories), drink-driving and age-restriction messages were recalled in two groups; Drinkaware was recalled in one group. Few recalled seeing Drinkaware signposting on alcohol labelling until prompted but were more familiar with it appearing on advertisements.

3.3 Use of Health Information and Messaging

3.3.1 Sources of information.

Participants were asked about the impacts alcohol can have on people, where they got this information from, and if they ever go online or on Drinkaware's website for information. Notably, none of the participants mentioned using alcohol labelling as a source of information for the potential impacts of alcohol. While the groups were knowledgeable about alcohol-related harms (e.g. physical and mental health) – mainly through social/familial connections, TV campaigns, newspapers, and medical centres – almost no participants went online or used the Drinkaware website to get information about alcohol-related harms.

"I think if you are somebody that needs to know the information, that's the last thing you would do" (18–24 F, C2DE).

"You would never do it before you start drinking. When you are facing the consequences, you would maybe start" (18–24 M, C2DE).

"I feel like for me, if it's not a problem for myself or anybody in my immediate circle, I don't think I would really look [online] for information. Unless I was looking for information for somebody" (25–35 F, C2DE).

"I suppose as well if it's the option of having it on a website or on a bottle, I'm going to take notice of it on a bottle" (25–35 F, ABC1).

3.3.2 Current labelling.

Participants discussed their use of health information and messaging on current alcohol labelling. Most did not use the health information and messaging provided on current alcohol labelling; some were noticing it for the first time while interacting with the physical products.

"I've actually never noticed them" (18–24 F, ABC1).

"People aren't paying attention to it. I wasn't aware of half the information on labels" (25–35 F, C2DE).

"I think people see it, but they don't sit there and read it and take it in" (18–24 F, C2DE).

Many participants believed that alcohol companies seek to minimise the amount, saliency, and effectiveness of health information, messaging and warnings on alcohol packaging.

"It's just there because they have to put it on, isn't it? They don't care" (18–24 F, C2DE).

"It has to be put on there so they'll make it as small and unnoticeable as possible because, let's be honest, promoting the fact that you know you shouldn't be drinking this isn't going to sell bottles" (18–24 F, ABC1).

"It doesn't actually say like how it affects you either; like it just says you shouldn't drink if you're pregnant, don't drink and drive, it doesn't say what it actually does to you, like at all" (18–24 F, ABC1).

"See all the bottles where they've put the risks or the warnings, they've put them because they need to tick a wee box, and they're no' putting them to stand out" (25–35 F, ABC1).

"I feel this [small text-only general warning] is most feasible...because it's the one that the drinks industry would be the least against" (18–24 M, ABC1).

"I cannae see the alcohol companies allowing that [graphic warning images]" (25–35 M, C2DE).

3.3.3 Units.

Units were primarily used to make decisions about driving the day after drinking. This was sometimes considered before consuming alcohol, yet most participants spoke of retrospectively calculating units the following day to assess if they were fit to drive. There was some confusion around the concept and application of units.

"I don't fully understand units. I don't understand how long it takes for [the] units you are drinking to wear off. I don't understand that, and I don't think it's something that's ever been explained to me. I feel it's something that should be explained. Because it's all very fair well putting in the units I drink but half the people drinking like I said earlier – it's not understood. It's never been explained" (18–24 F, C2DE).

Some participants thought it would make units more useful and accessible if more alcohol product packaging stated how many units were in a standard serving for a specific product. This could be clearer and easier for consumers, potentially enabling them to regulate their alcohol intake without having to calculate units based on the total product volume.

“If they switched the units to something everyone recognised, like how many units in millimetres of a can of cider. How many alcohol millilitres because I know how much that is. I can do that in my head” (18–24 M, ABC1).

“Food packaging you get per 100 grams, so you could actually tell what they are trying to say. There is, I don’t know, 4 units per 35 ml or something” (18–24 M, ABC1).

3.3.4 ABV.

ABV was mainly used for determining the strength of alcoholic drinks and the desired outcome. Some used it as an indicator for drinking in moderation; most that made use of ABV used it as a means of accelerating intoxication, choosing not to purchase alcohol *“that’s under a certain percentage”* (25–35 F, C2DE).

“The higher the better I suppose. The higher the percentage the more appealing it is” (18–24 F, C2DE).

One participant (18–24 M, ABC1) used ABV when *“playing catch up”* in social occasions.

“You are going to go and get the highest percentage so you can get there quicker. See that’s the only time that I’ve actually cared about what the actual percentage is” (18–24 M, ABC1).

3.3.5 Guidelines.

Very few participants made use of health advice on limiting the number of units they consumed.

“I don’t think anyone follows them. Like they are just going to drink how much they want to drink” (18–24 F, C2DE).

“I feel like this stage and age in your life, you know what you can drink, how much you should and shouldn’t be drinking, and the guidelines are not going to sway me either way. I’m a grown adult” (25–35 F, ABC1).

“I don’t think I drink enough to need to look at guidelines. Like you said, if you are a responsible drinker” (25–35 F, C2DE).

Many were unaware of the current UK weekly guideline (CMO, 2016).

“I went to my dentist recently and he was going through the questionnaire. He went, ‘how many units are you drinking a week?’. I went, ‘the recommended amount’ and, in my head I’m going, ‘I don’t even know what the recommended amount is’” (25–35 F, ABC1).

“What do they recommend for a week?” (25–35 M, C2DE).

Two participants in the 25–35 F, C2DE group discussed why men had a higher weekly unit allowance than women, unaware that the UK weekly guideline (CMO, 2016) is the same for men and women.

3.3.6 Please drink responsibly.

‘Please drink responsibly’ was largely seen as unhelpful and ambiguous, with general disdain for the message.

“What is drinking responsibly? Is it not drinking a lot? Is it only drinking a couple of times a week? Is it drinking within your house? Is it drinking in a legalised environment? It’s quite vague” (25–35 M, ABC1).

“For me, please drink responsibly, people have different perceptions. For me, drink responsibly is thinking about are you going to be driving tomorrow? Do you need the car? Plan ahead. For other people drinking responsibly could mean something else” (25–35 F, C2DE).

“It’s interesting as well because lots of the people that are going to be buying it are going to be drunk themselves which already lowers your inhibitions. So, I mean your definition of responsibility will change depending on how much you drink” (25–35 M, ABC1).

“I don’t think it has much weight behind it, to be honest. If you look at a can or a bottle of anything and see that little line and go, ‘okay, I’ll drink responsibly’. Realistically, I don’t think it has any impact” (18–24 M, ABC1).

“It’s pointless though because even if you put it in block capitals right at the front, nobody is following that message. If that is the case you are as well taking alcohol off the shelves” (18–24 F, C2DE).

Two participants (25–35 M, ABC1) drew parallels with gambling messages, and questioned the effectiveness of such messages in light of the potentially addictive nature of the products.

P1: “It’s like gambling isn’t it, like ‘gamble responsibly’ ...if you’ve got an addiction to gambling, see reading that, that’s not going to stop you gambling. It’s not going to make you go, ‘right okay, I’m being responsible, I’d better watch what I’m doing’.

P2: No but it’s like the company going, ‘legally, we’ve got to say this’.

P1: Aye, at the very end”.

The placement of the message at the back of the bottle, and its lack of visibility, was also highlighted.

“[The responsible drinking message is] not really visible. It’s always at the back of the bottle or whatever it is” (18–24 F, C2DE).

One participant thought that the variant 'please enjoy responsibly' was positively framed to evoke positive feelings about drinking.

"I mean it's a connotation isn't it? It's a positive experience, you're never going to think, 'oh that's bad'. I'm going to enjoy that. To enjoy something is about the night that you're going to have. The possibility of more" (25–35 M, ABC1).

It was also suggested that alcohol companies may include this message as a means of diverting responsibility and attention for negative outcomes away from them.

"It's like as if this is just covering its arse, the drink companies are like, 'well we told them to drink responsibly, so we can't be blamed for them going out and causing fights and stuff'" (25–35 M, ABC1).

3.3.7 Potentially useful health information.

Participants were asked to think of any other health information that might be useful to include on alcohol labelling and packaging. Without having seen the mocked up labels, many participants spontaneously drew upon tobacco packaging as a potential example for alcohol packaging to learn from.

"Like cigarette packets, they have a picture of what could happen to you. Like, something to do with your lungs or your mouth. It kind of puts you off buying it. On alcohol bottles and stuff, you don't see any pictures, so you can't visualise what could happen to you" (18–24 F, C2DE).

There was moderate support for including nutrition information and ingredients on alcohol labelling. Participants thought that nutrition and ingredients would be useful information for people with health concerns and specific dietary requirements (e.g. allergies). Similarly, some suggested that people on diets or in training would like to have such information available on the label.

"It's just more useful, as you are saying, for people who are diabetic and that but I'm not going to look at the nutrition information on alcohol - I'm not counting my calories or checking my intake of proteins. I'm just out to have a drink, I'll count my calories for meals and that but not really for my drinks" (18–24 M, ABC1).

"If you were following a certain diet as well I suppose you would look for that information. If you were on Slimming World or calorie counting you would maybe look at how many calories - I want to say the nutritional value, but I'm not sure how nutritional it would be, but you know what I mean" (25–35 F, ABC1).

"I sometimes [use] the calories. If I am deciding that I'm going to be good, if I'm at the gym or whatever" (25–35 F, C2DE).

A few participants drew parallels with other consumer goods (e.g. food, makeup), and questioned why alcohol packaging does not carry the same level of information regarding its contents.

"I don't think it matters but, if you are buying something and consuming something, you should see what's in it; if you want to read that or not and if you want to take it on board is up to yourself" (18–24 F, C2DE).

"I think you should put ingredients on everything. Even makeup and skin care and stuff say what's in it" (18–24 F, C2DE).

Some participants assumed that alcoholic drinks already provided ingredients listing by law.

"It doesn't have to have the ingredients on it, it's a requirement? Or is it just food?" (18–24 F, C2DE).

"Have bottles not got ingredients on them?" (18–24 F, C2DE).

Additionally, one participant suggested that displaying the effects of alcohol consumption on labelling may help vulnerable consumers to differentiate between vodka and water (i.e. clear liquids), informing them *"not to drink [vodka] like water"* (18–24 F, ABC1).

3.4 Responses to Health Warnings

There were multiple unprompted references to tobacco warnings in every group. Despite tobacco products setting a precedent, virtually all participants said they would be surprised to see such warning labels on alcohol products.

"Well it would surprise me by the fact that it's not normally there. Which is a really good point that you brought up, because why is it on cigarettes when alcohol does as much damage?" (25–35 F, C2DE).

Some believed AWLs would look unattractive in the home, with suggestions that they could help to inform children and *"younger drinkers"* (25–35 M, C2DE) about the potential harms of alcohol consumption.

"My children might see it as well. That would be the other thing. If my children seen that bottle and read that label they would be like, 'why are you doing that mum?'" (25–35 F, ABC1).

"When I was younger and I used to see cigarette packages sitting on the pavement or stuff like that, I would look at it and think, 'I'm never going to smoke'. So maybe young people would look at that and think, 'I'm not going to drink'" (18–24 M, C2DE).

Almost all participants felt that alcohol products with prominent HWs would become unsuitable gifts and that they would be reluctant to bring them to social gatherings. Some suggested that social media 'influencers' would not include such products in their social media photos.

"I think it would make people drink less. It wouldn't if you were buying it to drink but if you were buying for a gift, you would maybe not buy for a gift" (25–35 F, ABC1).

"Imagine you turned up at someone's party with that? Happy Birthday!" (25–35 F, ABC1).

"I think it would take away the glamorisation of it. People are saying, if it looks fancier they would take it to a dinner party. I think if it looks like that, and I was turning up to somebody's house, I don't think I would want to take that" (18–24 F, C2DE).

While most participants considered some form of enhanced warnings useful, others said they would not like to see them introduced and/or found them unnecessary to have on alcohol packaging as they would *"interrupt the fun"* (18–24 F, ABC1) of socialising.

"I would'nae like it. I'm no' for it at all" (25–35 M, C2DE).

"I feel they've just ruined my Saturday night" (25–35 F, ABC1).

"That one there, 'alcohol damages your health', the one with the actual picture on it. That's just going to kill my buzz if I'm going out, I'm not going to be like, 'class'" (18–24 M, ABC1).

Additionally, some hypothetical aversion tactics emerged in response to the mocked up labels. A few participants in the male groups said they would peel off or hide the label (e.g. by putting bottles in sleeves) to avoid seeing HWs during consumption.

"It does put me off a little bit, but I would just take off the label" (18–24 M, ABC1).

"As soon as I bought it I'd rip it off. One hundred percent I would do that" (25–35 M, C2DE).

3.4.1 Size.

The large text-only warnings were considered more salient than the small text-only warnings. Participants felt that, if their aim was to be attended to, the larger text-only warnings were more eye-catching and required less effort on the part of the consumer, *"because it is just bold and it's in your face"* (25–35 M, C2DE). However, some participants preferred the smaller sizes, finding them less intrusive and more acceptable. One thought that *"small text would be the loophole"* (25–35 M, ABC1) for the alcohol industry.

3.4.2 Location.

The majority of participants agreed that the mocked up labels (Figure 1) showcased the best position for HWs, i.e. *"front and centre"* (25–35 M, ABC1). This was largely seen as the optimal location for impact as it would be at eye-level on shelves.

"It's where it needs to be to catch your eye" (18–24 M, C2DE).

"I think they need to be at the front because, like we've all said, you don't really pay attention to the small text on the back. So, I think it needs to be big and on the front if people are going to pay attention to it" (25–35 F, C2DE).

Some suggested having the warnings at the back, which would still allow consumers to access the information but in a less intrusive way. A few participants thought that having warnings on the neck of bottles or on neck tags might also be useful.

3.4.3 Form.

Most participants preferred the three labels with text and image combinations. The text and image forms helped some to “visualise what could happen” (18–24 F, C2DE). They were deemed more eye-catching and required less cognitive processing than the text-only forms as the message was reinforced by the image. Participants recommended that the image and text should supplement each other and be closely related in connotation.

“The most effective will be the ones with text and image. I don’t personally like it. I don’t think it’s necessarily a great idea per se. But, I’d say that would be the most effective in deterring people” (18–24 M, ABC1).

“It’s definitely more effective having an image regardless. I don’t think the text does enough. I think people need to see that visual lead to go hand in hand with the text on what the warning is” (18–24 M, ABC1).

Like the smaller warnings, those that preferred the text-only forms considered them to be less intrusive and, therefore, more acceptable. Moreover, including an image could help “visual learners” (18–24 F, C2DE) and people with reading difficulties.

“You know what the damage is doing if you’re walking past it. You don’t need to put any effort into reading it” (25–35 M, C2DE).

3.4.4 Content.

Those that supported the introduction of AWLs generally wanted images to be clearly visible, realistic, and unambiguous. For example, some participants disliked the perceived ambiguity of the patient in the hospital bed (Figure 2), while others found the CT scanner (Figure 4) particularly effective as it depicts what could be “waiting for you” (18–24 M, ABC1). Similarly, the majority of participants asserted that warning text should be specific and relevant to real life, incorporating “realistic information” (18–24 F, C2DE) and accurate statistics.

“It’s a bit basic. We already know, everyone knows it damages your health. I think they could have statistics or something” (18–24 F, C2DE).

“Alcohol kills ‘this many’ people in Scotland every year” (25–35 M, ABC1).

While some deemed ‘alcohol damages your health’ too broad and widely known to be effective, others felt it was the appropriate level of severity.

“I think it’s more effective than asking people to ‘please drink responsibly’. It’s outright saying, ‘this can damage your health’, and if it can break through to people, I think it’s kinda worth it” (18–24 M, ABC1).

The specific warnings (Figure 3, Figure 4) were particularly attention-grabbing and taken seriously. Participants noted their relatability and daunting nature, some were taken aback by seeing them presented on alcohol products.

“Cancer is a scary thing. I mean it affects a lot of people” (18–24 M, ABC1).

“It probably sounds quite bad, but people probably fear cancer more than like liver disease; ‘cancer’ is such a scary word” (18–24 F, ABC1).

“I think as well because cancer is...everybody knows somebody that’s suffered from cancer” (25–35 M, ABC1).

“I think today, everything causes cancer. It’s not that scary. Whereas liver disease, you know when you drink it damages your liver” (18–24 F, C2DE).

“I mean I’m not saying cancer isn’t bad, but for the gin one it says, ‘alcohol increases the risk of liver disease’. I mean, there is more and more coming out each day to help and prevent cancer but once your liver is gone, it’s gone. I don’t know if this is bad for me, but I would be more scared of getting liver disease than cancer at this point in time. Just because you can get rid of cancer. You do have a chance of it coming back, but once your liver’s done, you are done, you are waiting on a transplant or something” (18–24 M, ABC1).

Some participants preferred the correlational text (‘alcohol increases risk of liver disease’) as it felt more nuanced than the causal text (‘alcohol causes cancer’), allowing for individual differences such as drinking behaviour and general health. Without statistics and ‘cut-off’ points, some questioned the likelihood of alcohol causing cancer, especially when consumed at moderate levels. Most groups suggested it would be more useful if the type of cancer was specified, as well as the likelihood of developing cancer based on alcohol consumption.

“I can see the point if you put ‘alcohol could cause cancer’ but ‘causes cancer’? I don’t know if I would say that’s 100%, unless you’ve got proof that that is what it’s doing.” (18–24 F, C2DE).

“If they are going to dedicate a space to it, like you said, they are better doing something that’s going to capture your attention, so statistics or what exactly it’s going to affect. Not these standard words” (25–35 F, ABC1).

“Have stuff on the front like risks and what the statistics are – people actually have to look at them” (18–24 M, ABC1).

There was some support for using graphic images or “shocking pictures” (18–24 F, C2DE) like those on tobacco packaging. However, others believed it would not be effective.

“I don’t think it would make much difference to be honest. It’s like what we said earlier on about the smoking packets, some of the images on that are disgusting but people are still buying it and still smoking. If you put images of liver damage on beers, I don’t think that’s going to stop people buying them” (18–24 M, C2DE).

3.5 Additional Suggestions

Participants were asked to imagine that they were designing alcohol labelling/packaging and to consider the types of health information and messaging that they think would be most engaging and impactful. While health-related content was deemed most important, participants expressed moderate support for including social messages on alcohol labelling, as *“there’s a lot of things that come with alcohol”* (18–24 F, C2DE). This was usually in relation to highlighting alcohol’s potential impact on mental health and behaviour, as well as its prevalence in sexual violence. There was limited interest in having financial messages on alcohol packaging as alcohol was commonly seen as something to be enjoyed. In general, participants said they were aware of the financial cost involved and did not need to be reminded via alcohol packaging. Nonetheless, a few participants thought it could be helpful information to include, comparing it to mobile banking apps that allow users to track what they spent their money on.

Displaying various short-term effects (e.g. impairments, nausea, hangovers) as well as long-term effects of alcohol (e.g. liver disease) on labelling was generally supported. Some recommended placing alcohol support information (e.g. helpline contact details) on packaging and stating that alcohol is a potentially addictive substance.

“It’s the obvious ones that they put on the label. They don’t say about the mental effects” (18–24 F, C2DE).

Most participants felt that using more of the surface area available on packaging as well as varying/rotating AWLs could improve their saliency and efficacy over time.

“Maybe each bottle could be different, like different messages” (25–35 F, C2DE).

“Variations of the image, variations of the message” (18–24 M, ABC1).

Finally, participants were asked to think of any other ways alcohol packaging could be used to balance both promotional and health information. The consensus was that warnings should clearly stand out from the product branding and be easily discerned via colours, images and other design features (e.g. font, symbols). One suggestion was to maintain the branding where possible and integrate warning labels. This could be achieved by having the health information and messaging on one side of the label and having the branding on the other. Beyond packaging, participants suggested that advertising by alcohol companies to promote their products could be accompanied by social marketing containing health information. Similarly, a few participants thought that alcohol companies could donate to alcohol support groups to help offset some of the harms caused by alcohol consumption.

4. Interpretation

The participants in this study were current drinkers, yet most did not attend to or meaningfully engage with health information and messaging currently provided on alcohol labels. Most found the health information and messaging provided on current labels to be unnoticeable, obscure and ineffective, which suggests that alcohol labels are not adequately designed to inform consumers about alcohol-related harms. Supporting previous research (RSPH, 2018), hardly any participants used the Drinkaware website or searched online for information about alcohol-related harms, which highlights the importance of alcohol labelling

in communicating alcohol-related health information at the point of purchase and consumption.

Participants were largely unaware of the current UK guidelines (CMO, 2016) and did not find them useful. This is unsurprising given that guidelines are often presented in suboptimal font sizes, more than 70% of alcohol labels do not include the up-to-date guidelines, and almost a quarter contain misleading, out-of-date health information (Alcohol Health Alliance UK, 2020). Although frequently recalled, some participants were unsure of how to use unit information on current labels to moderate their drinking. As supported by previous research (Blackwell, Drax, Attwood, Munafò, & Maynarda, 2018), one participant suggested that providing unit information per serving on labels could facilitate consumers' understanding and use of units, potentially allowing consumers to better regulate their alcohol intake. ABV was primarily used as a guide for either drinking in moderation or to accelerate intoxication, with some participants choosing only to buy products (e.g. wine) above certain thresholds. While 'please drink responsibly' was recalled more from alcohol advertisements than labels, it was largely considered to be an ambiguous and ineffective message. Research suggests that such industry-affiliated terms are strategically ambiguous (Maani Hessari & Petticrew, 2018), and do not reduce consumption (Jones, Hall, & Kypri, 2017).

There was moderate support for including nutrition information and ingredients on alcohol labelling, primarily as a means of informing people with health concerns, specific dietary requirements and for fitness purposes. Some questioned the greater level of information provided on the packaging of other consumer goods (e.g. food, makeup) in comparison to alcohol products, with a few participants assuming that nutrition information and ingredients were required on alcohol labelling. Currently, the strength of alcohol (ABV) and the container's volume is the only information required by law to be shown on alcohol labels (Alcohol Health Alliance UK, 2020). The World Health Organization (WHO) (Jané-Llopis, Kokole, Neufeld, Hasan, & Rehm, 2020) maintains that alcohol labelling should display all recommended nutritional values and ingredients.

The WHO (Jané-Llopis et al., 2020) also recommends that, given the rights of consumers, messages should clearly reflect the risks associated with alcohol consumption and provide warnings to all consumers about its harms. A series of real-world quasi-experimental studies argue that enhanced alcohol labels could be an effective population-level tool for increasing awareness and knowledge of national drinking guidelines (Schoueri-Mychasiw et al., 2020), improving knowledge that alcohol causes cancer (Hobin et al., 2020c), and reducing alcohol consumption (Zhao, Stockwell, Vallance, & Hobin, 2020). Aligning with Vallance et al. (2020a), the present study found moderate support for including HWs on alcohol labels. Those that supported introducing AWLs maintained they should be noticeable, fact-based, and relevant to real life.

Most participants were surprised to see HWs on alcohol products, despite being accustomed to them featuring on tobacco products. Some believed that AWLs would look unsuitable in the home and could help to inform children and potential drinkers about alcohol-related harms. Most felt that AWLs would negatively affect socialising and perceptions of drinking as they were deemed unglamorous and not fun. Many would be reluctant to bring alcohol products with prominent HWs to social gatherings and felt they would no longer be appropriate gifts. Additionally, a few male participants said they would hide or remove the AWLs immediately after purchasing the product.

Although cancer is a leading cause of death in the UK (Hydes, Williams, & Sheron, 2020) and alcohol use is one of the largest modifiable cancer risk factors in Scotland (Public Health Scotland, 2020), some participants were unaware that alcohol causes cancer. This highlights the potential role that enhanced alcohol labelling could have in improving awareness of alcohol-related harms. Cancer warnings are positively associated with consumers' reading of alcohol labels, thinking and talking about them, and self-reported intentions to reduce drinking (Hobin et al., 2020b). Stockwell and colleagues (2020) argue that consumers have a right to know about alcohol-related harms, which can be communicated via labelling. However, the alcohol industry's opposition to proposed cancer warning labels has been well documented, with consistent efforts by the industry to distort or deny the evidence that alcohol is a carcinogen (Petticrew, Maani Hessari, Knai, & Weiderpass, 2018; Vallance et al., 2020b). Several participants anticipated such opposition to enhanced warnings.

Furthermore, the groups displayed a level of suspicion and mistrust of alcohol companies. Some participants contended that the alcohol industry may not want to provide adequate information or salient warnings on alcohol packaging, viewing it as detrimental to sales and perceptions of drinking. This was evident in participants' attitudes towards responsible drinking messages (e.g. ambiguous, positively-framed) and the presentation of information (e.g. small, unnoticeable). Previous research may account for some of the participants' suspicion and mistrust of industry. For example, Petticrew et al. (2016) found that font and pregnancy logos on alcohol labelling were smaller than would be accepted on other potentially harmful products. Lim and colleagues (2019) suggest that websites funded by the alcohol industry omit and misrepresent the evidence on key risks of alcohol consumption during pregnancy.

Aligning with Hobin et al. (2020a), participants attended to the enhanced AWLs and generally found them more engaging than the information provided on current alcohol labels, with some suggesting they may help to reduce consumption. As Winstock et al. (2019) note, personal relevance is a key predictor of individual responses. While the cancer message particularly resonated with participants, others thought the liver disease warning was more effective. There was strong support for rotating a range of HWs – a key tobacco control tool (WHO, 2008) – to maintain saliency and impact over time. As suggested by participants, this could include both short-term (e.g. hangovers) and long-term effects. Participants also recommended that warnings should be adjusted for beverage types to reach all consumers, supporting previous research (Martin-Moreno et al., 2013; Thomson, Vandenberg, & Fitzgerald, 2012).

There were parallels between perceived effective HW design elements on alcohol products and research on tobacco products (e.g. Hammond, 2011). Participants contended that larger warnings were more salient and, therefore, would be more effective at the point of purchase. The front of the bottle was viewed as the optimal position for warnings, concurring with Vallance et al. (2018). Pictorial HWs on alcohol packaging can increase perceptions of associated health risks as well as support intentions to reduce and quit alcohol consumption (Wigg & Stafford, 2016). Comparable to tobacco research (e.g. Noar et al., 2016), participants considered image and text forms more engaging and effective than text-only forms. As in previous AWL research (Blackwell et al., 2018; Miller et al., 2016), participants found specific HWs more believable and effective than general HWs. Furthermore, some participants considered the health information, messaging and warnings provided on alcohol packaging to be less salient and meaningful than those displayed on tobacco packaging and

questioned why consumer products with similar health effects differ in communicating the risks.

4.1 Research Limitations

This study allowed current alcohol consumers to engage with realistic AWLs on physical alcohol products. However, 'forced' exposure to enhanced AWLs in focus groups is not as realistic as a retail setting (e.g. Hobin et al., 2020c). Although a range of views were encouraged and expressed, social desirability bias may have affected some responses. While focus groups facilitate meaningful exploration of a range of topics, they are not generalisable beyond the sample. Future research could include drinkers and non-drinkers, as enhanced AWLs can communicate harms to all consumer profiles.

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6. Appendices

Appendix A: Recruitment Questionnaire

ALCOHOL PACKAGING STUDY 2019

Recruitment Questionnaire

TO BE COMPLETED AT RECRUITMENT

All Questions to be Completed by Recruiter

Q1: What **age** are you? (*Write age in years below*)

IF RESPONDENTS ARE NOT AGED BETWEEN 18-35 YEARS DO NOT RECRUIT.

Q2: Do you currently **reside in Scotland**? (*Circle only one answer*)

Yes	No
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IF RESPONDENTS DO NOT RESIDE IN SCOTLAND DO NOT RECRUIT.

Q3: Are you **male** or **female**? (*Circle only one answer*)

Male	Female
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Q4: Have you **ever** drank alcohol? (*Circle only one answer*)

Yes	No
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IF RESPONDENTS HAVE NEVER DRANK ALCOHOL DO NOT RECRUIT.

Q5: When was the **last time** you drank alcohol? (*Circle only one answer*)

Never
Today
Yesterday
In the past 7 days
In the past 14 days
In the past 30 days
More than 30 days ago

IF RESPONDENTS HAVE NEVER DRANK ALCOHOL OR LAST DRANK ALCOHOL MORE THAN 30 DAYS AGO DO NOT RECRUIT.

Q6: How many of the following drinks did you have **in the past 7 days?** (*Write in below and code later*)

<i>Type</i>	<i>Amount</i>
(A) Pint (568 ml) of beer, lager or cider	
(B) Alcopop (275ml)	
(C) Small glass (125 ml) of wine	
(D) Single (25 ml) measure/shot of spirits	
Total number of units = (see guide below)	

UNIT REFERENCE:

One Pint = 2 UNITS

One Alcopop = 1.5 UNITS

One Small glass of wine = 1.5 UNITS

One Measure of spirits = 1 UNIT

IF THEY SAY LARGE GLASS OF WINE, OR DOUBLE SHOT, THEN JUST DOUBLE THE SCORE.

Q7: What is the occupation of the person in the household who has the greatest income either from employment, pensions, state benefits, investment or any other sources? (*Write in below and code later*)

Appendix B: Participant Information Sheet

Participant Information Sheet

1. Research project title

Young adult's perceptions of alcohol packaging as a form of promotion, and how it could be used more effectively to communicate health messaging.

2. Background, aims of project

I am a PhD research student in the University of Stirling. I would like to invite you to take part in a focus group to talk about alcohol packaging. The aim of the focus group is to explore what you think and feel about the packaging of different alcoholic drinks. This includes your thoughts on how alcohol packaging is used to promote alcoholic products and how alcohol packaging may be used to communicate messages about health.

3. Why have I been invited to take part?

You have been invited because you are a Scottish resident between 18-35 years of age and have had an alcoholic beverage in the past 30 days.

4. Do I have to take part?

No, you do not have to take part. If you do decide to take part, you can withdraw your participation at any time before or during the focus group without needing to explain and without penalty by advising the researcher of this decision. However, once the focus group is complete, it will not be possible to remove individual data.

5. What will happen if I take part?

You will be asked to sign a consent form to participate in one focus group in Glasgow, which will take approximately 90 minutes. You will be encouraged to talk about alcohol packaging and shown various forms of alcohol packaging. The focus group will be audio recorded to enable transcription. You will be given this information sheet and a data privacy notice to keep.

6. Are there any potential risks in taking part?

There are no foreseeable risks in taking part.

7. Are there any benefits in taking part?

You will receive £30 Love2shop vouchers for your time. Your views could help to inform alcohol-related health research and public health policies.

8. Legal basis for processing personal data

As part of the project we will be recording personal data relating to you (name, age, Scottish residency, gender, drinking status and social grade). This will be processed in accordance with the General Data Protection Regulation (GDPR). Under GDPR the legal basis for processing your personal data will be public interest/the official authority of the University. Please refer to the data privacy notice.

9. What happens to the data I provide?

All personal/confidential information, audio recordings and transcriptions will be stored without your name and secured at all times on password-protected computer files accessible only by the researcher and destroyed 10 years from the end of the research, as per University of Stirling policy.

10. Future uses of the data

Due to the nature of this research, it is very likely that other researchers may find the data to be useful in answering other research questions. We will ask for your explicit consent for your data to be shared in this way and, if you agree, we will ensure that the data collected is untraceable back to you before letting others use it.

11. Will the research be published?

The research may be published in relevant academic journals and presented at academic conferences. You will not be identifiable in any publication or presentation. The University of Stirling is committed to making the outputs of research publicly accessible and supports this commitment through our online open access repository STORRE. Unless funder/publisher requirements prevent us, this research will be publicly disseminated through our open access repository.

12. Who has reviewed this research project?

The ethical approaches of this project have been approved by The University of Stirling General University Ethics Panel (GUEP). GUEP Approval Number: 668R.

13. Your rights

You have the right to request to see a copy of the information we hold about you and to request corrections or deletions of the information that is no longer required. You have the right to withdraw from this project at any time without giving reasons and without consequences to you. You also have the right to object to us processing relevant personal data. However, please note that once the data are being analysed and/or results published it will not be possible to remove your data from the study.

14. Who do I contact if I have concerns about this study or I wish to complain?

If you would like to discuss the research with someone, please email the primary researcher, Daniel Jones: daniel.jones@stir.ac.uk. Alternatively, you can email the research supervisor, Dr. Crawford Moodie: c.s.moodie@stir.ac.uk. In case of complaint, you can email the Dean of Health Sciences and Sport, Prof. Jayne Donaldson: jayne.donaldson@stir.ac.uk. You have the right to lodge a complaint against the University regarding data protection issues with the Information Commissioner's Office: www.ico.org.uk/concerns. The University's Data Protection Officer is Joanna Morrow, Deputy Secretary. If you have any questions relating to data protection these can be addressed to: data.protection@stir.ac.uk in the first instance. Telephone: 01786 466940.

15. Support for alcohol issues

This NHS webpage has useful contacts for alcohol problems: www.nhs.uk/live-well/alcohol-support. You can also search for "alcohol support NHS".

Drinkline, the national alcohol helpline, offers a free and confidential service. Call 0300 123 1110 on weekdays from 9am to 8pm, weekends from 11am to 4pm.

Appendix C: Data Privacy Notice

Data Privacy Notice

Research project title: Young adult's perceptions of alcohol packaging as a form of promotion, and how it could be used more effectively to communicate health messaging.

The General Data Protection Regulation (GDPR) harmonises data protection and privacy legislation across Europe. It is designed to ensure that personal information is accurate, appropriate, and properly managed to protect peoples' privacy.

This research study is being conducted by the University of Stirling. We are committed to implementing the GDPR in all of our activities.

This document is our Privacy Notice; it describes why we collect personal information, how we manage this information, and your rights under the GDPR.

We hope the following information is both helpful and reassuring. If you have any questions/concerns or wish to exercise your GDPR rights, please contact us (see below for contact details).

Why does the researcher need any personal data?

We are collecting some basic personal data (name, age, Scottish residency, gender, drinking status and social grade) and some personal data related to alcohol consumption (drinking status). All of the focus group questions are optional, so you can choose not to answer a question.

We are holding the focus groups to help us understand 18-35 year-olds' attitudes and views on alcohol packaging: perceptions of alcohol packaging as a form of promotion, and how it could be used more effectively to communicate health messaging. We are only collecting the information (data) we need to help us do this.

What is the legal basis for processing any data you choose to give us?

As part of the project we will be recording some personal data relating to you. This will be processed in accordance with the GDPR. Using GDPR terminology our legal basis for processing your personal data will be a 'task in the public interest'. Agreeing to take part and answering these questions means you understand, and are OK with this.

Strong measures are in place to keep what you say confidential. The only time we may have to break confidentiality is if we believe that someone could be seriously hurt or there is a serious risk to security.

What do we do with the answers that you give?

All focus groups will be audio-recorded, analysed, and stored (processed) by the researcher at the University of Stirling. The audio recordings will be transcribed by a professional transcriber. The audio recordings will never be heard by anyone but the researcher and a professional transcriber. The whole typed up transcripts will only be seen by the researcher and supervisory team, also employees of the University of Stirling. Your data will not be shared with anyone external to the University.

All audio recordings of the focus groups and transcripts will be stored on a hard drive at the University, that only the researcher has access to via a password. All paper documents will be securely locked in a drawer that only the researcher can access. Your name will never be used in any of the analysis, including transcripts, or the findings.

The researcher will make sure to take account of everyone's answers to write reports and research articles and give talks as part of the study. The researcher might use some of your words when they write and speak about the study. However, they will not include your name or anything else which could identify you.

How long do we keep your data?

The researcher will keep the information you give for 10 years after the study finishes. After this time, all paper and electronic data and permission (consent) forms will be securely deleted or destroyed.

What are your rights?

Please remember that you can stop at any time before or during the focus groups.

You have the right to request to see a copy of the information we hold about you and to request corrections or deletions of the information that is no longer required. To safeguard your rights, we will use the minimum personally-identifiable information possible. For more information about your rights please see the Information Commissioner's Office guidance: www.ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/individual-rights.

To exercise these rights please use the following contact details.

Contact details

You have the right to lodge a complaint against the University regarding data protection issues with the Information Commissioner's Office: www.ico.org.uk/make-a-complaint.

The University's Data Protection officer is Joanna Morrow, Deputy Secretary. If you have any questions relating to data protection these can be addressed to: data.protection@stir.ac.uk in the first instance. Telephone: 01786 466940.

Appendix D: Participant Consent Form

Participant Consent Form

GUEP Approval Number: 668R

Participant number:

Research project title: Young adult's perceptions of alcohol packaging as a form of promotion, and how it could be used more effectively to communicate health messaging

	Please initial box
I confirm that I have read and understood the information sheet (Version 3 date: 22/08/2019) explaining the above research project and I have had the opportunity to ask questions about the project.	
I understand that my participation is voluntary and that I am free to withdraw my participation before or during the focus group without giving a reason, and without any penalty. I understand that after the focus group it will not be possible to remove my data from the study.	
I understand that my responses will not be linked to my name and I give permission for members of the research team to have access to my responses.	
I consent to being audio recorded.	
I understand how audio will be used in research outputs. I am aware that I will not be named in any research outputs, but I could be identified by people I know through the stories I tell.	
I give permission to be quoted in any publication where my name will not be used.	
I agree for research data collected in the study to be given to researchers to be used in other research studies. I understand that any data that leave the research group will not have my name linked to it. I understand that no data will be shared with anyone outside of the EU.	
I understand that transcripts will be deposited in a data archive for a minimum period of 10 years. I understand that all researchers accessing my data will uphold all ethical standards at all times.	
I understand that alcohol companies will not have access to the data.	
I confirm that I am aged 18 years or older.	
I agree to take part in this study.	

Name of Participant:

Signature:

Date:

Name of Researcher:

Signature:

Date: