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# Unconvincing and ineffective: Young adult responses to current Australian alcohol product warnings

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#### Abstract

**Objective:** Public health literature suggests that alcohol warnings on products could be utilised to effectively communicate the risks of alcohol consumption. However, there is a lack of research regarding how consumers perceive such warnings. This qualitative study aimed to understand young adult drinkers' perceptions of current voluntary Australian alcohol product warnings. **Method:** Six focus groups (n = 40) were conducted to examine impressions, reactions, and thoughts about current alcohol warnings on Australian products. Participants were alcohol-consuming male and female (55%) university students from Victoria, Australia, aged 18–25 years (M = 20.54, SD = 2.17). Focus groups were video recorded, transcribed verbatim, and analysed thematically. **Results:** Three broad themes emerged from the data: (1) participants' lack of understanding of DrinkWise as an industry-funded body; (2) a belief the warnings were too small, hard to find, vague, and conveyed weak messages; and (3) the current Australian warnings would not encourage them to change their drinking behaviour or to seek further information about the harms of alcohol. **Conclusions:** Our sample of current Australian young adults perceived the alcohol warning messages to be unconvincing and did not deter them from drinking to excess. These findings suggest that alcohol warnings need to be prominent on alcohol product labels, include images, and contain targeted messages.

Key words: alcohol, cognitive response, emotional response, product warnings, qualitative, young adults

# What is already known about this topic?

- 1. Voluntary alcohol consumer information messages on Australian alcohol products were implemented in 2011.
- 2. Researchers criticise the current Australian consumer warnings as having vague wording and images, and lacking visual impact to generate an emotional response.
- 3. Quantitative literature indicates consumers are typically unaware of these Australian alcohol product messages.

Australian adults aged 18–24 years are most likely to drink at harmful levels on a single occasion at least weekly and 18% of people within this age group consume 11 or more standard drinks at least monthly (Australian Institute of Health and Welfare, 2014). Furthermore, more than 40% of young people report having consumed more than 20 standard drinks on a single occasion during their high-

# What this paper adds?

- This is the first study to demonstrate that consumers are equally as critical of current alcohol product warning messages as researchers.
- Results indicated that current alcohol product warnings fail to effectively convey consequences of alcohol consumption or deter young adult drinkers from high-risk drinking.
- The development and implementation of new, larger mandatory alcohol product warnings using images and targeted messages is recommended.

risk drinking episodes (Chikritzhs & Pascal, 2004), and 47% of alcohol-related deaths in Australia can be attributed to single sessions of heavy episodic drinking (Stockwell et al., 1998). Warnings on products, in the context of a comprehensive set of interventions, have the potential to inform consumers of the likely harms of risky drinking, and how consumers might reduce this risk (Anderson, Chisholm, & Fuhr, 2009; Foundation for Alcohol Research and Education [FARE], 2011; Wilkinson & Room, 2009).

Labelling alcohol products with health-risk information or warnings is not currently mandatory for Australian alcohol producers and retailers. In 2011, an independent government review recommended that all alcohol product

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labels contain a health warning (Australia and New Zealand Food Regulation Ministerial Council, 2011). Alcohol industry public relation organisation DrinkWise (an organisation primarily funded by the alcohol industry with a large industry representation on the board of directors; Babor, 2009; Miller, de Groot, McKenzie, & Droste, 2011) developed voluntary consumer messages for alcohol products in Australia, which the organisation cites are designed to 'inform and educate' (DrinkWise Australia, 2014b) consumers about health risks associated with alcohol use. These voluntary consumer messages depict the core line of 'Get the facts', which encourages drinkers to visit the DrinkWise website to research the harms of drinking. In conjunction with the 'Get the facts' logo, Australian alcohol product warnings may also include one of four messages/images: 'It is safest not to drink while pregnant'; an image of a silhouette of a pregnant woman with a strike through; 'Is your drinking harming yourself or others?'; or, 'Kids and alcohol don't mix'. The most recently available audit of alcohol product labels indicates that warnings are depicted on only approximately one in three alcohol products (FARE, 2013).

Reviews of quantitative literature indicate alcohol warnings do not have a significant impact on drinking behaviour, but can generate discussions of drinking and increased awareness of negative health effects of drinking (Stockwell, 2006; Wilkinson & Room, 2009). Research indicates that alcohol warnings can be more effective through the use of general, positively framed health statements (Jarvis & Pettigrew, 2013; Pettigrew et al., 2014), using messages that address known consumer knowledge gaps (Scholes-Balog, Heerde, & Hemphill, 2012), and rotating the messages used on products (Wilkinson & Room, 2009). Recent Australian quantitative research shows that current drinkers are typically not aware of current warnings nor do they use the DrinkWise website depicted on each label (Coomber, Martino, Barbour, Mayshak, & Miller, 2015). Past qualitative research has focused on assessing responses to prototype warnings created by researchers to gauge reactions to specific message characteristics, such as shocking imagery associated with alcohol-related harms (FARE, 2011; Thomson, Vandenberg, & Fitzgerald, 2012). However to date, a qualitative examination of current drinkers' responses to the voluntary consumer messages featured on alcohol products in Australia has not yet been conducted. For instance, while researchers criticise the current Australian consumer warnings as having vague wording and images, and lacking in the visual impact needed to generate an emotional response (FARE, 2011; Ferrence, Hammond, & Fong, 2007; Smith, Atkin, & Roznowski, 2006; Thomas, 2012), there has been no research directly assessing whether consumers themselves view the warnings in this way. Therefore, this study aimed to explore young adult (18-25 years) drinkers perceptions of current consumer messages as depicted on Australian alcohol products using qualitative methods.

## METHOD

This study was approved by the Deakin University Human Research Ethics committee. University students from Victoria aged 18–25 years (M = 20.54 years, SD = 2.17 years) were recruited via advertisements on class websites and Facebook groups affiliated with Deakin University. Students who responded to the online advertising were emailed information about the project, at which point they decided if they wanted to take part. Six focus groups (n = 5-8) in each group, total n = 40) were conducted to explore impressions, reactions, and thoughts about DrinkWise warnings, pictorial warnings (FARE, 2011), and graphic warnings (developed for this study). This study reports findings on the DrinkWise warnings only. Preliminary coding indicated data saturation was reached by the completion of the sixth focus group, and as such recruitment and data collection were ceased (Morse, 1995). These focus groups were segmented by gender (females, n = 22; males, n = 18), due to differences in drinking norms and consumption patterns (Roche et al., 2009; Yusuf & Leeder, 2015), and were 45-60 min in length. Participants completed the three-item Alcohol Use Disorders Identification Test-C (AUDIT-C) (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998) to assess drinking behaviour before the commencement of discussion, along with demographic information; 88.9% (n = 16) males and 90.9% (n = 20) of females were classified as high-risk drinkers (both short- and long-term risk). Participants received an AU\$30 retail voucher as recompense for time and travel.

Focus groups were conducted by an experienced facilitator (AH) and observed by KC. Participants were provided with two sets of materials to view: the first portrayed enlarged images of each DrinkWise warning and the second portrayed images of alcohol products featuring the warnings. Images were used rather than real-life props to allow for a consistent presentation across all warning types and to maintain consistency with prior research. A semi-structured interview schedule was used to guide group discussion, with additional probes and prompts applied in situ when appropriate (see Table 1 for questions).

Each focus group was video recorded with participant consent and transcribed verbatim by the research team. Transcriptions were then coded and analysed using NVivo 11 by KC and AH (QSR International, Doncaster, VIC, Australia). Each transcript was read and an initial inductive, open coding process was used by each coder. Coding was conducted on a sentence-by-sentence basis, with sentences of the transcripts attributed to generated themes (Boyatzis, 1998). A reiterative process was used, with codes and themes were compared across transcripts and appropriately revised as new themes emerged. A double-coding approach was applied to establish

#### Table 1 Focus group schedule

1. What are you overall impressions of the warnings?

2. What messages do you think the warnings are trying to convey?

- 3. Which warnings would:
  - a. Make you stop and think about your drinking (why/why not)?
    - b. Encourage you to drink less (why/why not)?
    - c. Elicit and emotional response (why/why not)?
    - d. Generate discussion among your friends and/or family about drinking (why/why not)?
- 4. Did you notice the DrinkWise website in the warning?
- 5. Would you visit the DrinkWise website (why/why not)?

the integrity of thematic analysis (Boyatzis, 1998); however, statistical inter-rater reliability analysis was not conducted. Instead, the two coders engaged in regular in-depth discussions after independently coding the data according to their unique inductive code frameworks to establish consensus on appropriate thematic labels and data categorisation. During this coding process, themes, and subthemes were challenged and refined to ensure qualitative reliability of analysis (Boyatzis, 1998). Individual quotes are provided to illustrate the final themes and subthemes.

#### **RESULTS AND DISCUSSION**

While the initial participant selection framework was stratified by gender, we found each group discussed very similar issues, had similar reactions to the warnings, and conveyed consistent overarching thoughts. Therefore, we have not presented findings by gender nor have we compared participant responses by gender. Analysis and interpretation of the data are presented as key themes and subthemes. Three main themes relating to our sample of young adults' perceptions of the current Australian warnings emerged from the analysis: the DrinkWise organisation; impressions of the warnings; and behaviour change.

#### Theme 1: Knowledge of DrinkWise

Participants rarely reported having heard of DrinkWise, and none identified that it was an industry funded/controlled body. Participants familiar with the name 'DrinkWise' believed it to be an Australian government organisation. While DrinkWise initially received one-off government funding, it remains an industry-backed organisation that does not promote effective evidence-based interventions (Bond, Daube, & Chikritzhs, 2009; Hall & Room, 2006; Miller & Kypri, 2009; Miller, Kypri, Chikritzhs, Skov, & Rubin, 2009). One female (Group 4) explained, 'I was under the impression it was a government thing', while another female (Group 4) thought the 'organisational' element of the DrinkWise website address indicated it was a government-run organisation. Well, I'm just assuming 'cos it's drinkwise.org.au, so that's a government website (female, Group 4)

Participants unfamiliar with DrinkWise similarly reported it was a government initiative (e.g., 'It's a government-run scheme, isn't it?' (male, Group 2), 'I assume it's some sort of government set-up thing' (female, Group 1)). Several participants across groups reported DrinkWise seemed to be an educative organisation whose purpose was to minimise harms from alcohol misuse.

It's just an agency that's in place to inform people about the consequences (male, Group 6)

By associating the DrinkWise organisation with the authority of the Australian government, consumers may be less likely to question the information offered on the Drink-Wise website, or the intended effectiveness of the warning message designs.

#### Theme 2: Impressions of the warnings

There was a tendency for participants to be critical of the design of the DrinkWise warnings. This criticism was frequently contextualised by participants' impression that the intention of the warnings was to simply advise about harms associated with alcohol use, rather than to deter consumption. This is reflected DrinkWise's stated aim of the warnings as being 'consumer information messages' (DrinkWise Australia, 2014b), rather than explicit warnings against alcohol use.

#### Reason for warnings

Participants expressed a variety of opinions as to why the warnings were on packaged alcohol, including to provide 'information' about alcohol consumption and its consequences, 'advice' against drinking to vulnerable groups such as pregnant women and children (e.g., 'advice for pregnant women' (male, Group 2)), and as a 'warning' against dangerous alcohol use (e.g., 'they'd have to have some signs on there...warning people, just in case bad things do happen' (female, Group 4)). Some participants believed alcohol companies were legally obliged to have the warnings on their products: 'they legally have to [have the warning]' (female, Group 5). A small number of participants reported the warning seemed like a self-serving guard against legal action by consumers experiencing alcohol-related harm; '...they're just putting it on there 'cos they don't want to be litigated' (female, Group 4).

## Warning design and salience

Some participants reported seeing warnings while drinking packaged alcohol, while most explained they had never noticed the warnings on their drinks before (e.g., 'Before I came into this room [study location], I had no idea that these were even on the bottles' (female, Group 4)). This lack of awareness is consistent with prior quantitative literature (Coomber et al., 2015). Those who were familiar with alcohol product warnings indicated that the most memorable warning was the pictogram of a pregnant woman raising a wine glass to her mouth with a strikethrough.

That [pregnancy image warning] was the only one I actually recognise (female, Group 5)

For participants unfamiliar with the warnings, this image was also the most salient feature of the warnings when viewed in the study setting. Given the use of symbols and imagery increases the salience of warnings on labels, enhances the memory of a warning, and facilitates comprehension of the warning message (Argo & Main, 2004; Wogalter, Conzola, & Smith-Jackson, 2002), it is unsurprising participants reported noticing the image of the pregnant woman rather than other textual design aspects.

It's like you know what that symbol [referring to pregnancy pictogram] means straight away (female, Group 4) You notice the picture one, with the pregnant lady, 'cos the others are just more words and you don't – there are so many words on the bottle that you don't really take them in (female, Group 1)

The wider product label design (e.g., colour scheme, product information) was also commented on as rendering the warning even more difficult to see, consistent with past observations by public health researchers (FARE, 2011; Ferrence et al., 2007; Smith et al., 2006; Thomas, 2012).

I just feel like they're made to not stand out, to be as invisible as possible (male, Group 6)

...they've specifically tried to make it [the warning] sort of blend in with the rest of the label. Like with the Carlton Draught it's sort of that reddy colour and then like the yellow one, whatever that's called, then it's, like, yellow. So, you pretty much just see it as one image and not the distinct thing you should be drawn to (female, Group 5)

A key component of the current warnings is the presence of the DrinkWise organisation website address, which purports to educate alcohol consumers further about reducing alcohol misuse (DrinkWise Australia, 2014a). However, participants gave mixed reports about the salience of this web address on the warnings; some described it as salient, while others did not recognise the text as indicating a web address until other group members highlighted it in conversation.

I just actually saw the DrinkWise [web address], and then just sort of scanned through...didn't realise there was other stuff (female, Group 5)

I really didn't pay any attention to it [web address]. I just looked at the message first (male, Group 6)

# Size and placement

Upon first viewing the warnings in the study setting, most participants commented on the small size of the warning relative to the overall product brand labels (e.g., 'It took me a while to find it actually. I couldn't even find it [on the bottle images]. Like, what am I looking at?' (female, Group 5)). This led to participants questioning whether the warnings were sincere given their perceived small size and discreet placement.

I don't think it's displayed well enough for it to be a serious warning...because it's so tiny, it doesn't feel like they're caring whether we see the label or not. I don't see it as a legitimate warning (female, Group 1)

I sort of think they've put it as a small label because at the end of the day they're trying to sell a product...they don't want people to notice it too much (male, Group 3)

When viewing the materials, participants across groups also commented on how the typical placement of the warning on the lower back of the product reduced the visibility of the warning: 'They've crammed it into an inconspicuous corner' (male, Group 2). Some participants also reported the placement of the warning on the back of the product near other label features (e.g., barcode, ingredients list) obscured the information conveyed (e.g., 'It just looks like it's information on the drink or ingredients or whatever' (female, Group 1)).

# Warning message quality

While public health researchers state that Australian alcohol warnings use of vague wording and images and a of lack visual impact to generate an emotional response (FARE, 2011; Ferrence et al., 2007; Smith et al., 2006; Thomas, 2012), our findings indicate that consumers themselves may also perceive warnings in this way. Participants reported the overall quality of the messages conveyed by the alcohol warnings was poor (e.g., '...it's like they're doing the bare minimal they have to do' (female, Group 5)). Most participants stated that they could not relate to the warning messages, or they perceived the warnings to be irrelevant to them as an individual or member of a group. This suggests that the use of relevant, at-risk target groups in the warning message (such as young university students or weekend risky-drinkers (Kuntsche & Cooper, 2010; Parker & Williams, 2003) could increase young people's engagement with alcohol warnings.

I think something with these labels...they aren't really relevant to at least our age gaps [sic] a lot of the time (male, Group 6) I don't really feel anything [reading the warnings] 'cos I think that's for someone else, that's not for me. So don't even worry about it (female, Group 4)

I just see that [warnings] and think that wouldn't apply to me (female, Group 5)

Consistent with previous quantitative research (Coomber et al., 2015), there was a lack of engagement with the warnings. Participants reported the advice conveyed by the warning messages was uninformative, describing the content of the messages as 'common sense' (male, Group 2), 'common knowledge' (female, Group 4), 'logical' (female, Group 1), 'information we're already aware of' (female, Group 1), information 'they already know' (male, Group 2), and information that 'speaks for itself' (male, Group 3). Interestingly, some participants extended this perception of 'low value' information to the DrinkWise website, despite never having accessed it. The use of messages containing less well known facts, such as the link between alcohol use and cancer (Bowden, Delfabbro, Room, Miller, & Wilson, 2014), could facilitate a reduction in drinking behaviour among young adults by challenging stereotypes about alcohol-related diseases, which are commonly associated with chronic misuse rather than moderate, frequent use (Green, Polen, Janoff, Castleton, & Perrin, 2007).

The alcohol warnings were often viewed in terms of weakness, with adjectives such as 'weak' (male, Group 2), 'not effective' (male, Group 2), and 'a waste of time' (male, Group 3) used. Participants reported the warnings framed messages as suggestions or recommendations rather than direct statements persuading against alcohol misuse. When discussing the pregnancy messages, participants noted the warnings conveyed the sentiment that consuming alcohol while pregnant was '...not that big of a deal' (female, Group 5). One female (Group 1) suggested the message regarding avoiding alcohol while pregnant was 'almost like an option', while a male described the pregnancy warning label as 'a mild suggestion' (Group 2).

I think technically they [warnings] don't even say that drinking while pregnant is a bad thing, or you should not do it – it just says 'it's safest not to' (male, Group 3)

The indirect nature of the 'Alcohol and kids don't mix', and 'Is your drinking harming yourself or others?' warnings was also seen as reducing the seriousness of the message. The use of indirect warnings made the messages 'ambiguous' (female, Group 1), 'vague' (female, Group 1; male, Group 3), and 'too general' (male, Group 3).

These ones are kind of just...it's kind of just like a nudge, like, [putting on sing-song voice], 'oh you know, kids and alcohol don't mix', so it's kind of just playful (male, Group 3) Participants highlighted the absence of specific consequences of alcohol misuse in framing the messages, and explained this reduced their perception of the warnings' relevance and importance to them.

I think it's kind of implied...there will be consequences, but basically it's up to you to extract the consequences [from the warnings] yourself (male, Group 6)

There's no real reality check...it's just, I mean with the [alcohol] warning signs, nothing at all, no sense of this could happen to me in the future if I drink too much (male, Group 2).

#### Theme 3: Behaviour change

Participants across groups believed the warnings would not influence their drinking behaviour. This is consistent with quantitative research indicating alcohol warnings on products do little to change behaviour (Scholes-Balog et al., 2012; Stockwell, 2006; Wilkinson & Room, 2009). They unanimously stated these warnings would not encourage them to drink less alcohol per session or drink less frequently.

I guess I'd stop for a split second, but [shrugs] that's pretty much it (male, Group 3).

If you're already buying something, I just think it's a bit pointless...you're not really turning it over and being like, oh better not [drink] (female, Group 5)

Some participants stated that the warning messages also did not encourage them to seek further information about alcohol misuse, including from the DrinkWise web address.

I don't think it [the warnings] would really prompt anyone about our age to actually go onto the website and look at these facts (female, Group 1)

I feel [the web address] is not that direct because no one will go – no one after reading it will go and actually get the facts (male, Group 6)

Contrary to prior research, all participants indicated that the warnings would not generate any discussion with their family or peers, with risky alcohol use considered an issue outside of their social circle (e.g., 'It's not about us drinking or anything, it's always about oh those people do it, that's why they should read this' (female, Group 5)). Participants reported that any potential discussion would likely centre around humour rather than the risks of alcohol (e.g., 'No. Unless it was in a joking sort of way' (male, Group 3)).

## CONCLUSIONS AND IMPLICATIONS

While limited research exists (e.g., Heaps & Henley, 1999), little is known about how to effectively increase consumer knowledge of alcohol harms and translate such knowledge using psychological techniques into behaviour change. Nonetheless, message persuasion and behaviour change theory suggests that the use of straightforward warning messages that convey new information to consumers (Cameron, 2009; Hovland, Janis, & Kelley, 1953) may lead to consumer behaviour change by inducing negative feelings about drinking (Michie, Atkins, & West, 2014; Michie & Johnston, 2012; Michie, van Stralen, & West, 2011). This is the first qualitative study to examine young adult drinker's perceptions of alcohol warnings currently used on Australian alcohol products. While this study was an initial exploratory study—with further research utilising larger samples, differing age groups, non-student populations, people from regional locations, and warnings as depicted on actual products rather than prints required-there are indications that young adult drinkers perceive current alcohol warnings to lack meaning and impact.

The current findings also indicate that greater action is required on the part of government to make it clear to consumers that DrinkWise is an industry-funded body. Overvaluing health-related messages from an alcohol industry organisation could potentially impact the effectiveness of other campaigns by non-industry interest groups designed to reduce alcohol misuse in Australia (Hall & Room, 2006; Miller & Kypri, 2009). This is especially important when considering the evidence on the way in which the tobacco industry (Savell, Gilmore, & Fooks, 2014), and subsequently the alcohol industry (Bond et al., 2009; Savell, Fooks, & Gilmore, 2016), uses such bodies to build consumer support and sway political decision-making by making their brand more salient than the health message it is meant to be conveying (Miller et al., 2011).

While research literature has criticised current Australian alcohol warnings as being too small and lacking in salience (FARE, 2011; Ferrence et al., 2007; Smith et al., 2006; Thomas, 2012), this is the first study to demonstrate that consumers are equally cynical about the warning messages currently utilised. Our findings suggest young adult consumers believe that there is a lack of sincere effort to reduce harms, with an approach to perceiving product warnings as serving only to 'avoid litigation' from consumers. However, it must be noted that this cynicism may be driven by participants' consumption behaviour-the majority of our sample were categorised as risky drinkers. Risky drinkers may perceive fewer problems with their drinking behaviour (Creyer, Kozup, & Burton, 2002), and thus have a negative response towards product warnings and perceive the warnings as less believable (Andrews, Netemeyer, & Durvasula, 1991). Further research is needed among low to moderate alcohol users. In line with prior research, participants stated that they would not alter their drinking behaviour in response to exposure the warnings (Stockwell, 2006; Wilkinson & Room, 2009); however, participants also stated they would not be motivated to discuss the warnings with others, contrary to this prior literature. Lack of motivation to discuss the warnings with family and friends appeared to stem from the perceived ambiguity and vagueness of the messages, coinciding with beliefs discounting their personal risk of alcohol harm through drinking.

Given the perceived relevance of a warning message is dependent upon the wider societal context in which it is used (Stockley, 2001), any messages used need to be set within the context of a comprehensive suite of interventions (Alcohol Education and Rehabilitation Foundation, 2010; Anderson et al., 2009; Elliott & Miller, 2014; FARE, 2011; Stockwell, 2006; Wilkinson & Room, 2009). Based on the success of tobacco labelling (Hammond, 2011; Wilkinson & Room, 2009), graphic, highly visible alcohol warnings with targeted messages placed on the front of products, with these messages reinforced through media campaigns, may have greater potential to reduce alcohol consumption and alcohol-related harms. Further research is needed to examine the impact of larger, graphic alcohol warnings, particularly among at-risk groups.

This study suggests that current Australian alcohol warnings represent regulatory failure and are not conveying information about alcohol use to consumers. Given the majority of Australians support the use of health information labelling on alcohol products (FARE, 2015), the development and implementation of new, larger mandatory alcohol product warnings using images and targeted messages is recommended.

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### **Conflict of interest**

Peter Miller receives funding from Australian Research Council and Australian National Health and Medical Research Council, grants from NSW Government, National Drug Law Enforcement Research Fund, Foundation for Alcohol Research and Education, Cancer Council Victoria, Queensland government and Australian Drug Foundation, travel and related costs from Australasian Drug Strategy Conference. He has acted as a paid expert witness on behalf of a licensed venue and a security firm. Kerri Coomber receives funding from Australian Research Council and Queensland Government.

## REFERENCES

- Alcohol Education and Rehabilitation Foundation (2010). *Alcohol product labelling: Health warning labels and consumer information*. Deakin West, Australia: Author.
- Anderson, P., Chisholm, D., & Fuhr, D. C. (2009). Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. *The Lancet*, *373*, 2234–2246 https://doi. org/10.1016/S0140-6736(09)60744-3
- Andrews, J. C., Netemeyer, R. G., & Durvasula, S. (1991). Effects of consumption frequency on believability and attitudes toward alcohol warning labels. *Journal of Consumer Affairs*, 25, 323–338 https://doi.org/10.1111/j.1745-6606.1991.tb00008.x
- Argo, J. J., & Main, K. J. (2004). Meta-analyses of the effectiveness of warning labels. *Journal of Public Policy and Marketing*, 23, 193–208 https://doi.org/10.1509/jppm.23.2.193.51400
- Australia and New Zealand Food Regulation Ministerial Council (2011). *Labelling logic: Review of food labelling law and policy (2011)*. Canberra, Australia: Commonwealth of Australia.
- Australian Institute of Health and Welfare (2014). 2013 National Drug Strategy Household Survey report. Drug statistics series no. 28. Cat. No. PHE 183 (). Canberra, Australia: Author.
- Babor, T. F. (2009). Alcohol research and the alcoholic beverage industry: Issues, concerns and conflicts of interest. *Addiction*, 104, 34–47 https://doi.org/10.1111/j.1360-0443.2008. 02433.x
- Bond, L., Daube, M., & Chikritzhs, T. (2009). Access to confidential alcohol industry documents: From 'big tobacco' to 'big booze'. *Australasian Medical Journal*, 1, 1–26 https://doi.org/10.4066/ AMJ.2009.43
- Bowden, J. A., Delfabbro, P., Room, R., Miller, C. L., & Wilson, C. (2014). Alcohol consumption and NHMRC guidelines: Has the message got out, are people conforming and are they aware that alcohol causes cancer? *Australian and New Zealand Journal* of *Public Health*, 38, 66–72 https://doi.org/10.1111/1753-6405. 12159
- Boyatzis, R. E. (1998). Transforming qualitative information: Thematic analysis and code development. London, England: Sage.
- Bush, K., Kivlahan, D. R., McDonell, M. B., Fihn, S. D., & Bradley, K. A. (1998). The audit alcohol consumption questions (audit-c): An effective brief screening test for problem drinking. *Archives of Internal Medicine*, 158, 1789–1795 https://doi.org/10. 1001/archinte.158.16.1789
- Cameron, K. A. (2009). A practitioner's guide to persuasion: An overview of 15 selected persuasion theories, models and frameworks. *Patient Education and Counseling*, 74, 309–317 https://doi. org/10.1016/j.pec.2008.12.003
- Chikritzhs, T., & Pascal, R. (2004). Trends in youth alcohol consumption and related harms in Australian jurisdictions, 1990-2002: National Alcohol Indicators Bulletin no. 6. Perth, Australia: National Drug Research Institute, Curtin University of Technology.
- Coomber, K., Martino, F., Barbour, I., Mayshak, R., & Miller, P. (2015). Do consumers 'get the facts'? A survey of alcohol warning label recognition in Australia. *BMC Public Health*, 15, 816 https://doi.org/10.1186/s12889-015-2160-0
- Creyer, E. H., Kozup, J. C., & Burton, S. (2002). An experimental assessment of the effects of two alcoholic beverage health warnings across countries and binge-drinking status. *Journal of Consumer Affairs*, *36*, 171–202 https://doi.org/10.1111/j.1745-6606. 2002.tb00429.x
- DrinkWise Australia. (2014a). *About DrinkWise*. Retrieved from https://drinkwise.org.au/about-us/about/#
- DrinkWise Australia. (2014b). *Get the facts: Labelling on alcohol products and packaging*. Retrieved from https://drinkwise.org.au/our-work/get-the-facts-labeling-on-alcohol-products-and-packaging/#

- Elliott, J., & Miller, E. (2014). Alcohol and cancer: The urgent need for a new message. *Medical Journal of Australia, 200,* 71–72 https://doi.org/10.5694/mja13.10426
- Ferrence, R., Hammond, D., & Fong, G. (2007). Warning labels and packaging. In R. Bonnie, K. Stratton, & R. Wallace (Eds.), *Ending* the tobacco problem: Blueprint for the nation. Committee on reducing tobacco use: Strategies, barriers, and consequences. (pp. 435–448). Washington, DC: National Academy Press.
- Foundation for Alcohol Research and Education (2011). *Alcohol health warning labels: Attitudes and perceptions*. Canberra, Australia: Author.
- Foundation for Alcohol Research and Education (2013). *Annual label audit*. Canberra, Australia: Author.
- Foundation for Alcohol Research and Education (2015). *Annual alcohol poll 2015: Attitudes and behaviours*. Canberra, Australia: Author.
- Green, C. A., Polen, M. R., Janoff, S. L., Castleton, D. K., & Perrin, N. A. (2007). "Not getting tanked": Definitions of moderate drinking and their health implications. *Drug and Alcohol Dependence*, 86, 265–273 https://doi.org/10.1016/j.drugalcdep. 2006.07.002
- Hall, W., & Room, R. (2006). Assessing the wisdom of funding DrinkWise. *Medical Journal of Australia, 185,* 635–636.
- Hammond, D. (2011). Health warning messages on tobacco products: A review. *Tobacco Control*, 20, 327–337 https://doi.org/10. 1136/tc.2010.037630
- Heaps, C. M., & Henley, T. B. (1999). Language matters: Wording considerations in hazard perception and warning comprehension. *The Journal of Psychology*, 133, 341–351 https://doi.org/10. 1080/00223989909599747
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion; psychological studies of opinion change*. New Haven, CT: Yale University Press.
- Jarvis, W., & Pettigrew, S. (2013). The relative influence of alcohol warning statement type on young drinkers' stated choices. *Food Quality and Preference, 28*, 244–252 https://doi.org/10.1016/j. foodqual.2012.08.011
- Kuntsche, E., & Cooper, M. L. (2010). Drinking to have fun and to get drunk: Motives as predictors of weekend drinking over and above usual drinking habits. *Drug and Alcohol Dependence*, 110, 259–262 https://doi.org/10.1016/j.drugalcdep.2010.02.021
- Michie, S., Atkins, L., & West, R. (2014). *The behaviour change wheel: A guide to designing interventions*. Surry, England: Silverback Publishing.
- Michie, S., & Johnston, M. (2012). Theories and techniques of behaviour change: Developing a cumulative science of behaviour change. *Health Psychology Review*, *6*, 1–6 https://doi.org/10.1080/ 17437199.2012.654964
- Michie, S., van Stralen, M. M., & West, R. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science*, *6*, 42 https://doi.org/10.1186/1748-5908-6-42
- Miller, P. G., de Groot, F., McKenzie, S., & Droste, N. (2011). Vested interests in addiction research and policy. Alcohol industry use of social aspect public relations organizations against preventative health measures. *Addiction*, 106, 1560–1567 https://doi. org/10.1111/j.1360-0443.2011.03499.x
- Miller, P. G., & Kypri, K. (2009). Why we will not accept funding from Drinkwise. *Drug and Alcohol Review*, 28, 324 https://doi.org/ 10.1111/j.1465-3362.2009.00072.x
- Miller, P. G., Kypri, K., Chikritzhs, T. N., Skov, S. J., & Rubin, G. (2009). Health experts reject industry-backed funding for alcohol research. *Medical Journal of Australia*, 190, 713.
- Morse, J. M. (1995). The significance of saturation. *Qualitative Health Research*, *5*, 147–149 https://doi.org/10.1177/1049732395 00500201

- Parker, H., & Williams, L. (2003). Intoxicated weekends: Young adults' work hard–play hard lifestyles, public health and public disorder. *Drugs: Education, Prevention and Policy, 10,* 345–367 https://doi.org/10.1080/0968763031000140200
- Pettigrew, S., Jongenelis, M., Chikritzhs, T., Slevin, T., Pratt, I. S., Glance, D., & Liang, W. (2014). Developing cancer warning statements for alcoholic beverages. *BMC Public Health*, 14, 786 https://doi.org/10.1186/1471-2458-14-786
- Roche, A., Bywood, P., Freeman, T., Pidd, K., Borlagdan, J., & Trifonoff, A. (2009). *The social context of alcohol use in Australia*. Adelaide, Australia: National Centre for Education and Training on Addiction.
- Savell, E., Fooks, G., & Gilmore, A. B. (2016). How does the alcohol industry attempt to influence marketing regulations? A systematic review. *Addiction*, 111, 18–32 https://doi.org/10.1111/add.13048
- Savell, E., Gilmore, A. B., & Fooks, G. (2014). How does the tobacco industry attempt to influence marketing regulations? A systematic review. *PLoS One*, 9, e87389 https://doi.org/10.1371/ journal.pone.0087389
- Scholes-Balog, K. E., Heerde, J. A., & Hemphill, S. A. (2012). Alcohol warning labels: Unlikely to affect alcohol-related beliefs and behaviours in adolescents. *Australian and New Zealand Journal of Public Health*, *36*, 524–529 https://doi.org/10.1111/j.1753-6405. 2012.00934.x
- Smith, S., Atkin, C., & Roznowski, J. (2006). Are "drink responsibly" alcohol campaigns strategically ambiguous? *Health Communication*, *20*, 1–11 https://doi.org/10.1207/s15327027hc2001\_1
- Stockley, C. S. (2001). The effectiveness of strategies such as health warning labels to reduce alcohol-related harms—An Australian

perspective. International Journal of Drug Policy, 12, 153–166 https://doi.org/10.1016/S0955-3959(01)00077-9

- Stockwell, T. (2006). *A review of research into the impacts of alcohol warning labels on attitudes and behaviours*. Victoria, Canada: Centre for Addictions Research of British Colombia.
- Stockwell, T., Masters, L., Philips, M., Daly, A., Gahegan, M., Midford, R., & Philp, A. (1998). Consumption of different alcoholic beverages as predictors of local rates of night-time assault and acute alcohol-related morbidity. *Australian and New Zealand Journal of Public Health*, 22, 237–242 https://doi.org/10.1111/j. 1467-842X.1998.tb01180.x
- Thomas, M. (2012). *Alcohol warning labels do they work?* Canberra, Australia: Department of Parliamentary Services.
- Thomson, L. M., Vandenberg, B., & Fitzgerald, J. L. (2012). An exploratory study of drinkers views of health information and warning labels on alcohol containers. *Drug and Alcohol Review*, 31, 240–247 https://doi.org/10.1111/j.1465-3362.2011.00343.x
- Wilkinson, C., & Room, R. (2009). Warnings on alcohol containers and advertisements: International experience and evidence on effects. *Drug and Alcohol Review*, 28, 426–435 https://doi.org/10. 1111/j.1465-3362.2009.00055.x
- Wogalter, M. S., Conzola, V. C., & Smith-Jackson, T. L. (2002). Research-based guidelines for warning design and evaluation. *Applied Ergonomics*, 33, 219–230 https://doi.org/10.1016/S0003-6870(02)00009-1
- Yusuf, F., & Leeder, S. R. (2015). Making sense of alcohol consumption data in Australia. *Medical Journal of Australia*, 203, 128–130 https://doi.org/10.5694/mja15.00151