



**The role of alcohol packaging as a marketing and social marketing tool: A mixed
methods study in the United Kingdom**

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Abstract

Background: Alcohol packaging is an important marketing communications tool and can be used to deliver alcohol-related health information. This thesis had two main aims: 1) to explore how alcohol companies use packaging as a promotional tool and its impact on young adult drinkers; 2) to explore how young adult drinkers engage with the health-related information, messaging and warnings currently on packaging, their support for displaying health-related information, messaging and warnings on packaging, and their response to a range of novel, on-pack health warnings. **Methods:** A mixed methods design was used with three interlinked studies. First, six years of trade press magazines ($n=696$) in the United Kingdom (UK) covering a 10-year period (2008–2017) were reviewed to explore the role of alcohol packaging as a marketing tool. Second, eight focus groups with 18–35 year-old current drinkers ($n=50$) in Scotland were conducted to explore perceptions of, and engagement with, current packaging from marketing and social marketing perspectives, and reactions to novel on-pack health warnings. Third, a cross-sectional online survey and experiment with 18–35 year-old current drinkers ($n=1,360$) in the UK was conducted to examine the role of alcohol packaging as a tool for promotion and health messaging. **Findings:** The mixed methods findings indicate that alcohol packaging is a powerful, multifunctional marketing vehicle, used by companies to target consumer profiles (e.g. young adults, females); capture attention; create appeal; encourage product trial and purchase; and, ultimately, increase revenue. Most participants engaged with, and were influenced by, alcohol packaging as a promotional tool. Furthermore, alcohol packaging has significant potential to deliver health messaging, increase awareness of harms, and counteract the appeal of alcohol products. **Conclusion:** Alcohol packaging is a multifaceted marketing tool and could be an effective means of communicating alcohol-related health information, potentially supporting a reduction in consumption and related harms.

Dedication

To my wife, Lilian, thank you for all your love, support and understanding throughout this PhD; I sincerely could not have done it without you and will be forever grateful.

Eu te amo e que Deus continue abençoando nossas vidas.

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Finally, in the words of Homer Simpson: 'To alcohol [packaging]: the cause of, and solution to, all of life's problems'.

List of outputs

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Jones, D., Moodie, C., Purves, R. I., Fitzgerald, N., & Crockett, R. (2022b). The role of alcohol packaging as a health communications tool: An online cross-sectional survey and experiment with young adult drinkers in the United Kingdom. *Drug and Alcohol Review*, 41(5), 1206–1215. doi: 10.1111/dar.13469

Jones, D., Moodie, C., Purves, R. I., Fitzgerald, N., & Crockett, R. (2021). Health information, messaging and warnings on alcohol packaging: A focus group study with young adult drinkers in Scotland. *Addiction Research and Theory*, 29(6), 469–478. doi: 10.1080/16066359.2021.1884229

Jones, D., Moodie, C., Purves, R. I., Fitzgerald, N., & Crockett, R. (2023). Engagement with, and influence of, alcohol packaging as a promotional tool: An online cross-sectional survey with young adult drinkers in the United Kingdom. [Manuscript in preparation]. Institute for Social Marketing and Health, Faculty of Health Sciences and Sport, University of Stirling.

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Jones, D. (2022). *Alcohol packaging could have an important role in delivering health messaging*. Alcohol Health Alliance UK. <https://ahauk.org/alcohol-packaging-could-have-an-important-role-in-delivering-health-messaging>

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List of abbreviations

ABV	Alcohol by volume
AOR	Adjusted odds ratio
AUDIT-C	Alcohol Use Disorders Identification Test for Consumption
BLR	Binary logistic regression
CSM	Critical social marketing
ISMH	Institute for Social Marketing and Health
MMR	Mixed methods research
NHS	National Health Service
PCA	Principal components analysis
PMP	Price-marked pack
RQ	Research question
UK	United Kingdom
WHO	World Health Organization

Chapter One: Introduction

1.1 Introduction

This chapter discusses pertinent subject areas to contextualise the PhD thesis and orient readers, including alcohol consumption and related harms (1.2), alcohol marketing and consumption (1.3), and the role of alcohol packaging as a marketing tool (1.3.2), before evaluating alcohol marketing policy and self-regulation (1.4), with a particular focus on the Portman Group (1.4.1) and the role of alcohol packaging as a health messaging tool (1.4.2). Chapter One ends by describing the gaps in the literature (1.5) and providing an overview of the thesis structure to signpost readers (1.6). The ensuing research questions (RQs) and hypotheses are presented in Chapter Two with further literature and key issues explored in the study chapters (Three, Four and Five), leading to a discussion in Chapter Six regarding implications of the study findings for future policy and in directing future research work.

1.2 Alcohol consumption and related harms

As defined by the World Health Organization (WHO, 2022a), ‘alcohol is a psychoactive substance with dependence-producing properties that has been widely used in many cultures for centuries’. The literature suggests that people may be motivated to drink alcohol for a variety of reasons, including enhancement (e.g. positive mood or well-being), social influences (e.g. conformity), and as a means of coping with negative emotions (e.g. perceived stress) (Abbey et al., 1993; Kuntsche et al., 2005). While figures from 2016 indicate that over half (3.1 billion people, 57%) of the global population aged ≥ 15 years had abstained from drinking alcohol in the previous 12 months, approximately 2.3 billion people were current drinkers (WHO, 2018), with global alcohol sales totalling over \$1.5 trillion in 2017 (Jernigan & Ross, 2020). More recently, it is estimated that 1.34 billion (1.03 billion males, 312 million females) people aged ≥ 15 years consumed harmful levels of alcohol across 204 countries and territories in 2020, with males aged 15–39 years consuming particularly harmful amounts, primarily in Australasia, Western Europe, and Central Europe (Bryazka et al., 2022).

Alcohol is a powerful, toxic chemical which can negatively affect almost every part of the human body, including the brain, bones and heart, resulting in a wide range of short- and

long-term effects (B. O. Anderson et al., 2023; National Health Service [NHS], 2022). There is a causal link between the harmful use of alcohol and over 200 disease and injury conditions, including major noncommunicable diseases (e.g. cardiovascular diseases and seven types of cancer), resulting in 3 million deaths worldwide every year (i.e. 5.3% of all deaths) (WHO, 2022a). Approximately 5.1% of the global burden of disease and injury, measured in disability-adjusted life years (DALYs), is attributable to alcohol (WHO, 2022a). Notably, harmful use of alcohol can lead to disability and death relatively early in life, with an estimated 13.5% of total deaths in people aged 20–39 years due to alcohol (WHO, 2022a). Globally, alcohol consumption was associated with an estimated 741,300 new cancer cases in 2020 (Rumgay et al., 2021). Ethanol (alcohol) is thought to cause cancer through biological mechanisms when the body breaks down the compound, meaning that consumption of any beverage containing alcohol, regardless of price, quality or brand, carries a risk of developing cancer (WHO, 2023). In the European Union (EU), cancer is the leading cause of death – with an incidence rate that is steadily increasing – and most of all alcohol-attributable deaths are because of different types of cancers (WHO, 2023). In the UK, alcohol-specific deaths (i.e. health conditions where each death is a direct consequence of alcohol consumption, e.g. alcoholic liver disease) have risen year-on year since 2019, with 9,641 deaths due to alcohol-specific causes registered in 2021 (Office for National Statistics, 2022). Notably, alcohol use is the biggest risk factor for death, ill-health and disability among those aged 15 to 49 in the UK (Alcohol Health Alliance UK, 2022).

Furthermore, the harmful use of alcohol is associated with a range of mental and behavioural disorders, including alcohol dependence, as well as significant social and economic burdens in many countries (Manthey et al., 2021; WHO, 2022a). A recent systematic review and modelling study found that the reported costs from alcohol consumption account for an equivalent of 1.5–2.6% of the study location’s gross domestic product (GDP), with the majority of costs stemming from productivity losses (Manthey et al., 2021). In the UK, alcohol misuse is estimated to cost the NHS £3.5 billion and wider UK society £40 billion per year (Oxford Health NHS, 2022), with over 1.2 million violent incidents related to alcohol misuse in England alone each year (NHS, 2022). Therefore, alcohol has been described as a commodity of concern to public health (WHO, 2022c), with current evidence indicating that there is no safe level of consumption for health (WHO, 2023).

1.3 Alcohol marketing and consumption

The term ‘alcohol marketing’ encapsulates the broad range of methods employed to sell alcohol to consumers (Alcohol Health Alliance UK, 2022). Similar to the marketing of other fast-moving consumer goods (e.g. packaged food), alcohol marketing uses a combination of the ‘four Ps’ of the marketing mix (product, price, place, promotion) to increase sales and, subsequently, consumption (Institute for Alcohol Studies, 2020). This is, in part, achieved by reaching more customers or encouraging existing customers to purchase more via exposure to broadcast, print and online advertising (e.g. social media platforms), sales promotions (e.g. buy one, get one free offers), product placement (e.g. movies, series) and sports sponsorship (e.g. football teams) (Alcohol Change UK, 2022; Alcohol Health Alliance UK, 2022). Alcohol marketing plays several important corporate roles including catching consumers’ attention, gaining new consumers, developing brand awareness and loyalty, influencing consumers to associate drinking with desirable or pleasant experiences, and normalising drinking (Alcohol Change UK, 2022; Brindiamo Group, 2021; WHO, 2022c).

Alcohol marketing is widespread globally and a key element of the alcoholic drinks industry (Jernigan & Ross, 2020), with companies availing of considerable marketing freedom in most countries (O’Brien et al., 2022) and significantly investing in, and benefitting from, marketing strategies. For instance, Diageo reportedly spent almost £1.8 billion on marketing activities in 2017 and over £2.7 billion in 2022, with net sales rising from £12.1 billion to £15.5 billion and operating profit rising from £3.6 billion to £4.4 billion during the same period (Marketing Week, 2022). Like other successful multinational alcohol companies, Diageo (as cited in Marketing Week, 2022) use their ‘deep understanding of consumers’ to quickly respond to changes in trends and behaviours, while ‘investing strongly’ in marketing and innovation to adapt to the economic climate at the time (e.g. inflation, recession). It has been argued that alcohol companies operating in the UK and elsewhere are highly resilient in times of crises (e.g. COVID-19 pandemic) and that brands are quickly able to adapt their marketing strategies to remain profitable (Atkinson et al., 2021).

While the effects of alcohol marketing are often subtle and may be driven by subconscious processes (Stautz et al., 2016), evidence shows that it creates both immediate (i.e. increased sales resulting in excessive consumption) and insidious (i.e. development of drinking cultures that are resistant to change) risks to public health (Stautz et al., 2017), as well as leading to an underestimation of the risks associated with consumption (Gallopel-

Morvan et al., 2017b). Current evidence suggests that the association between alcohol marketing and drinking behaviours (i.e. onset during adolescence and binge drinking) among young people is causal (Sargent & Babor, 2020). Studies have also demonstrated that alcohol companies are highly financially dependent upon heavy drinkers and that advertising is often aimed at younger drinkers to encourage them to become the “heavy-using loyalists of tomorrow” (Alcohol Change UK, 2022; Bhattacharya et al., 2018; Hessari et al., 2019). Indeed, Bhattacharya et al. (2018) estimate that, were all consumers in England to reduce their drinking to within guideline levels (i.e. 14 units per week), alcohol sales revenue could decline by 38% (£13 billion). A rapid review of 11 studies, which focused on participants who were either recovering from an alcohol use disorder or consuming harmful levels of alcohol, found that many of those with or at risk of alcohol problems pay attention to alcohol advertisements and may find them appealing, and that advertisements can positively influence alcohol-related emotions and cognitions (T. Langley et al., 2022). Among people recovering from an alcohol use disorder, alcohol marketing could have an effect on craving and may be perceived to trigger a desire to drink (T. Langley et al., 2022). However, the authors note that the effect of alcohol advertising on alcohol use was only examined in one small experimental study with young adult heavy drinkers, which did not find a clear effect (T. Langley et al., 2022).

Two systematic reviews of longitudinal studies in a wide range of countries found a positive relationship between level of marketing exposure and level of alcohol consumption in youth, with young people who have greater exposure to alcohol marketing more likely, subsequently, to initiate alcohol use and drink at hazardous levels (P. Anderson et al., 2009; Jernigan et al., 2017). A cross-sectional survey in the UK with a demographically representative sample of adolescents and young adults aged 11–19 years found that 82% of the participants recalled seeing at least one form of alcohol marketing in the past month (e.g. adverts on television), concluding that young people above and below the legal purchasing age are aware of a variety of alcohol marketing (Critchlow et al., 2019). Moreover, for current drinkers, alcohol marketing awareness was related to increased consumption and greater likelihood of higher-risk consumption, while ownership of alcohol branded merchandise (e.g. clothing) was related to susceptibility to drinking for never drinkers (Critchlow et al., 2019). Given that alcohol marketing results in greater levels of consumption at a population level, alcohol-related harms may also increase (Alcohol Change UK, 2022).

1.3.1 Packaging as a marketing tool

Product packaging serves multiple functions, including protecting the contents, improving storage and transportation, providing key information, offering convenience in use, and promoting the product (Geddes, 2021; Kingfisher Packaging, 2020). Academic focus on the importance of packaging as a marketing tool is growing (Rundh, 2016). Packaging is considered a versatile form of marketing communications as it is usually present at the point of purchase, engaging target consumers as they inspect packs to learn more about a product (Abdalkrim & AL-Hrezat, 2013; Behaeghel, 1991). Packaging plays a major role in attracting and maintaining consumer attention, helping to establish brand identity and differentiation, while shaping perceived product quality, consumer satisfaction and repeat custom (Abdalkrim & AL-Hrezat, 2013; Ampuero & Vila, 2006; Gómez et al., 2015; Mensah et al., 2022; Rundh, 2016; Silayoi & Speece, 2007; Venter et al., 2011; Wyrwa & Barska, 2017). Packaging is particularly effective at the point of sale, whereby a combination of visual cues like pack graphics (e.g. colour, images), structure (e.g. format, size) and promotions (e.g. competition, sponsorships) enable packs to entice consumers and drive purchase (Mohebbi, 2014; Venter et al., 2011; Wyrwa & Barska, 2017). Product packaging is one of the first means of engaging with potential customers and the final opportunity to persuade consumers before brand choice (Kingfisher Packaging, 2020; McDaniel & Baker, 1977); therefore, companies undertake extensive market research to ensure pack elements are optimally designed to reach target consumers, create awareness and interest, and influence purchasing decisions (Ampuero & Vila, 2006; Kingfisher Packaging, 2020).

1.3.2 Alcohol packaging as a marketing tool

For the purpose of this thesis, ‘alcohol packaging’ refers to the container (e.g. bottle, can, carton), any external wrapping, and all the information that is displayed on the pack (e.g. via labels), as well as graphical (e.g. colour, image), structural (e.g. size, shape) and promotional (e.g. sponsorship, competition) features. The term ‘green packaging’ is used herein to encompass environmentally-friendly and sustainable pack initiatives, as well as any corporate social responsibility activities promoted on packaging, such as donating a percentage of sales to a charity, i.e. any feature of the packaging which may help convey the product, brand and/or producer as environmentally-friendly and/or socially responsible.

While there is a paucity of academic research on, and understanding of, the role of alcohol packaging as a marketing medium, which this thesis aimed to address, current evidence suggests that alcohol packaging plays an important role in adolescents' drinking behaviour by creating appeal, influencing product trial and choice (Morey et al., 2017; Purves et al., 2018), and may encourage purchase and consumption among adults (Barber & Almanza, 2006). A case study in Brazil exploring the influence of packaging on 74 participants' acceptance and purchase intention of craft and industrial beers suggested that labels can create interest in products and, potentially, influence consumers' attitudes and behaviour (de Paula et al., 2021). Similarly, a study with 390 Vietnamese beer-drinkers found that packaging format (e.g. bottle vs. can) is an important extrinsic cue, which can influence perceptions of product quality and guide product choice (Thong et al., 2018). An experiment with 12- to 30-year-old Australians ($n=350$) found a positive association between pack appeal and palatability ratings, with products that usually come in small and colourful bottles (e.g. alcopops) particularly appealing to younger participants (Gates et al., 2007). In the UK, a study with 94 drinkers concluded that pack size affects whether products are considered to contain a single drink or multiple drinks, which could have implications for self-monitoring of alcohol consumption (Kersbergen et al., 2022).

Furthermore, it has been argued that alcohol packaging has become increasingly gendered, whereby women are targeted by alcohol companies through a combination of strategies including the creation of products directed at women (e.g. pink packaging), using gender-stereotypical lifestyle messages (e.g. slimness/weight), offering female-oriented accessories (e.g. make-up) and conveying messages of empowerment (Atkinson et al., 2019; Institute for Alcohol Studies, 2020; Lufkin, 2020; Murray, 2012). Given that three quarters of the alcohol consumed worldwide is done so by males, increasing alcohol consumption among women represents an important growth opportunity for alcohol marketers (WHO, 2022c). AB InBev (as cited in WARC, 2018), the world's largest brewer, conducted in-depth research to better understand women's perceptions and behaviours in the beer sector, building on significant consumer insights to engage with the female market segment and addressing gendered-myths regarding beer consumption 'to create an inclusive category'. Alcohol companies engage in corporate social responsibility initiatives, on topics like breast cancer and domestic violence, and work with highly-accomplished women in their field (e.g. sports, arts) to promote alcohol brands (WHO, 2022c). Indeed, Atkinson et al. (2022) contend that the wider alcohol marketing mix encourages women to consume alcohol by both perpetuating and challenging gender stereotypes, potentially appealing to a wider range of women, with

alcohol companies' purported commitment to equality at odds with alcohol-related harms that exacerbate health and social inequalities.

While there is a paucity of academic studies critically analysing the role of alcohol packaging as a marketing tool, alcohol companies are acutely aware of its importance, investing significantly in pack (re)designs and conducting extensive research on the myriad impacts of packaging. Evidence from the 'grey literature' demonstrates that alcohol packaging is a multifunctional marketing tool and valuable brand platform for companies, which can be used to reflect brand stories, elicit responses and create a unique selling point to increase stand out from competitors in crowded markets, potentially having a strong impact on consumer attention, expectations of taste, and purchase decisions (Boxmart, 2019; Cook, 2022; Dutta, 2022; Future Market Insights, 2022; ODM Group, 2022). Like the packaging of other fast-moving consumer goods (e.g. packaged food), seeing alcohol packaging is often a consumer's first experience of the product, playing a key role in attracting consumers and conveying important brand information, while shaping first impressions (e.g. perceived quality and value) in physical and online retail settings (Lyon, 2020; ODM Group, 2022). Alcohol packaging is a vehicle for alcohol companies to promote their products and engage target consumers, providing convenience, influencing purchase and encouraging brand loyalty via a range of strategically designed pack elements such as graphics (e.g. colour, typography), structure (e.g. size, format), promotions (e.g. sponsorship, limited-edition) and environmentally-friendly, 'green' credentials (e.g. corporate social responsibility initiative) (Beverage Industry, 2018; Beverage Trade Network, 2015; Boxmart, 2019; Brindiamo Group, 2018; Cook, 2022; Dutta, 2022; Future Market Insights, 2022; Lyon, 2020). Figures 1.1–1.7 provide a non-representative sample of alcohol packaging from different countries to illustrate some of the ways alcohol packaging is used as a marketing tool.

Notably, packaging (re)designs can help alcohol companies recover during periods of stagnation, capitalise during times of growth, and generally improve sales. For instance, WhistlePig, a luxury whisky brand, increased its revenue and reached more than 16% of its target market by employing a sophisticated pack design to increase appeal (Dutta, 2022). Carlsberg released limited-edition packaging for its København Collection in 2017 to revitalise the brand in the UK as part of a £15 million marketing investment, with the aim of connecting with millennial drinkers and arresting decline in consumption of its beer, which had fallen consistently for the previous three years (FoodBev Media, 2017). In keeping with the simplicity of Danish design, a variety of cans and bottles of Carlsberg depicted a different ingredient in the beer, with the company stating that the 'designs communicate Carlsberg's

unique place in beer in a manner that we believe will engage millennials’ (Carlsberg, 2017, as cited in FoodBev Media, 2017). It has been noted that well-designed alcohol packaging can help create emotional connections between consumers and brands by aligning with people’s beliefs, values and personalities (ODM Group, 2022). Perennially associated with football (see Figure 1.1), Budweiser released limited-edition packs featuring the Premier League trophy and logo and an on-pack competition to highlight its sponsorship of the Premier League, offering consumers the chance to win food vouchers, signed football jerseys and ‘PerfectDraft’ machines to improve the pouring of pints at home, with consumers entering a competition by uploading a photo of their pack to a dedicated website designed to engage shoppers and encourage sales (Paul, 2020). The company further explained the rationale for its sponsorship and packaging initiative, which clearly demonstrates the powerful commercial role of alcohol packaging, as follows:

We know the off-trade has seen a significant increase in demand during lockdown and we want to help our customers continue this momentum. The return of the new football season will be a great opportunity to do this. Our competition is just one of the ways Budweiser Brewing Group is using the power of its iconic brands to help drive consumers in-store and we look forward to working closely with our customers and retail partners to make the most of the Premier League’s hugely anticipated return (Budweiser, 2020, as cited in Paul, 2020)

Figure 1.1: Promotion: sponsorship



Notes: Budweiser beer multipack highlighting sponsorship of the 2018 FIFA World Cup. Bahia, Brazil.

Figure 1.2: Structure: size



Notes: Selection of Domus brandy in large and small bottles. Bahia, Brazil.

Figure 1.3: Graphics: colour



Notes: Salton wine in a colourful box to celebrate Festa Junina ('June Festival' in English). Bahia, Brazil.

Figure 1.4: Premium packaging



Notes: Johnnie Walker whisky bottle. Glasgow, United Kingdom.

Figure 1.5: 'Green' packaging



Notes: Carlsberg beer multipack highlighting a corporate social responsibility initiative, i.e. partnership with World Wildlife Fund (WWF) to help 'protect UK ocean wildlife'. Stirling, United Kingdom.

Figure 1.6: Promotion: competition/prize



Notes: Guinness stout multipack highlighting the chance to win a '£5,000 Guinness experience', with entry via quick response (QR) code. Stirling, United Kingdom.

Figure 1.7: Innovative structure



Notes: Mini-kegs of beer: Heineken, Tiger, Birra Moretti. Stirling, United Kingdom.

1.4 Alcohol marketing policy and self-regulation

Given the increasing use of sophisticated alcohol marketing techniques, which are often targeted at, and particularly harmful to, young people and heavy drinkers, there is a need for more effective regulation both nationally and internationally (WHO, 2022c). Regions with young and growing populations, such as Africa and Latin America, are being particularly targeted (WHO, 2022c). While many countries have adopted some form of restrictions on

alcohol marketing, they generally tend to be suboptimal and focused on traditional media types (WHO, 2022c). For instance, a WHO (2018) study found that just under half of responding countries did not have digital alcohol marketing regulations (internet, 48%; social media, 47%), suggesting that regulation in many countries has not yet caught up with technological advancements in marketing, with total bans most common for national television (26%) and national radio (26%). Few governments have regulations pertaining to the use of alcohol packaging as a marketing tool. Thailand's 'marketing rule' is a notable exception with its strict prohibitions on a range of on-pack words (e.g. exaggerated descriptions of the product's qualities and benefits) and images (e.g. athletes, musicians and cartoons), which were commonly used by alcohol companies in Thailand, and labels needing to be approved by an administrative agency (A. D. Mitchell & O'Brien, 2020; O'Brien & Mitchell, 2018). Regulations like these demonstrate an understanding that alcohol companies use packaging as a powerful marketing tool, which requires the attention of governments (Kaewpramkusol et al., 2019; A. D. Mitchell & O'Brien, 2020).

Despite the serious risks alcohol poses to global health, controls on alcohol marketing are significantly weaker than those for other psychoactive products (WHO, 2022c). For instance, longstanding attention and work by national governments and the public health community to restrict the promotion of tobacco products, including cross-border issues related to tobacco production and marketing, has resulted in life-saving reductions in tobacco use and exposure globally (WHO, 2022c). Evidence suggests that reducing the burden from harmful use of alcohol through better, properly enforced and more consistent regulation of alcohol marketing could also save and improve lives worldwide (WHO, 2022a, 2022b). For example, Norway's total ban on alcohol advertising across all media types had an immediate and enduring, albeit moderate, impact on consumption levels in the population (WHO, 2022c).

Globally, one of the most common approaches regarding the impact of alcohol marketing on young people has been for government to rely on alcohol industry self-regulation (WHO, 2014). However, existing self-regulatory systems have been criticised for not meeting their intended goal of protecting vulnerable populations from alcohol marketing in terms of reducing problematic content or limiting youth exposure (Noel, Babor, et al., 2017; Noel & Babor, 2017). Research has found that complaints processes lack standardisation across countries, with questions concerning the training and neutrality of industry adjudicators and few complaints being upheld against advertisements regarding violations of self-regulatory codes (Noel & Babor, 2017). It has been argued that alcohol

industry self-regulation is ineffective at removing potentially harmful content and does not serve public health goals, which can be partially explained by significant conflicts of interest and procedural weaknesses that may undermine legitimate complaints (Noel & Babor, 2017). Fundamentally, self-regulation of the alcohol market hinders the capacity for comprehensive scrutiny and oversight, with the public health goals of reducing the negative individual and societal impacts of alcohol marketing directly in conflict with the corporate aims of alcohol marketers (Alcohol Concern, 2018).

1.4.1 The Portman Group

The UK operates a co- and self-regulatory system, whereby alcohol companies have some control over how the industry is regulated (Alcohol Change UK, 2022). There are three main regulatory organisations in the UK, with no single regulator responsible for all elements of the alcohol marketing mix: 1) the Advertising Standards Authority, which oversees alcohol advertising and gets its funding from the advertising industry; 2) Ofcom, which oversees sponsorship of television shows; and 3) the Portman Group, which oversees alcohol packaging and labelling and gets its funding from the alcohol industry (Alcohol Change UK, 2022).

Established in 1989 and a key regulator of alcohol marketing since 1996, the Portman Group hosts an Independent Complaints Panel which adjudicates on complaints relating to the naming, packaging and promotion of alcoholic beverages according to a Code of Practice (Alcohol Concern, 2018; Portman Group, 2019). The Portman Group (2019) note that the Code of Practice is supported by the alcohol industry, which includes producers, importers, wholesalers, retailers and trade associations; provides a procedural framework in terms of influencing, regulating and controlling industry practice; and ensures that ‘alcohol is promoted in a socially responsible way, only to those aged 18 and over, and in a way that does not appeal particularly to those who are vulnerable’ (p.3). The Code of Practice outlines several aspects of packaging and promotional material that should be adhered to, including clearly communicating the alcoholic nature of a drink, not having a particular appeal to under-18s, and not suggesting any association with sexual activity or sexual success (Portman Group, 2019). Numerous Panel decisions have been effective in removing products from the market that were deemed to have breached the Code (Alcohol Concern, 2018), with the CEO of the Portman Group (Lambert, as cited in Bayley, 2022) contending that it ‘work[s]

effectively with a responsible sector to... eliminate irresponsible marketing, and discourage those under 18 from being attracted to alcohol'. The Portman Group (2022) recently updated its alcohol labelling guidelines, described as a 'voluntary best practice initiative to increase consumers' awareness and understanding' (p.3), to provide producers with recommendations on how to communicate a range of alcohol-related information across multiple channels (e.g. packaging, online), including 'units; the Chief Medical Officers' low risk drinking guidelines; advice on drinking during pregnancy; a responsibility statement; the promotion of Drinkaware advice; calorie content; nutritional information; drink-driving messages; and the communication that alcohol is an age-restricted product' (p.3).

However, the Portman Group have been criticised for serving industry interests, undermining public health and ineffectively regulating alcohol marketing (Alcohol Concern, 2018; Hawkins & McCambridge, 2021; McCambridge et al., 2014). The Independent Complaints Panel has been questioned for its lack of oversight and scrutiny; meaning that, despite the independence or quality of its constituent members, the overall system is not fully accountable to the public (Alcohol Concern, 2018). Panel decisions have been found to be inconsistent and subjective over time, and often not based on explicit presentations of the rationale or the evidence underpinning the issues (Alcohol Concern, 2018). A recent report highlighted that 85% of formal complaints deliberated on by the Independent Complaints Panel were related to whether instances of alcohol packaging and marketing were particularly appealing to under-18s, which represented the Code category with the most complaints in 2022, with most of the complaints (76%) not upheld (Bayley, 2022). While the Portman Group (as cited in Bayley, 2022) have argued that this indicates a strong alignment between alcohol producers and its Code of Practice, the disparity between the number of complaints made and upheld could also be partially explained by the ambiguous wording of the rules in the Code, how they are interpreted by members of the public and Panel, and what they actually mean in practice. This is evident in current self-regulated marketing codes in other countries, which have been criticised for containing vague language that may enable alcohol companies to circumvent the guidelines and could hinder the implementation of codes (Noel, Lazzarini, et al., 2017).

Furthermore, there is a lack of meaningful sanctions to deter alcohol companies from violating existing codes in the UK, processes are often retrospective, reactive and slow, and the codes fail to meet their stated aim of protecting young people (Boniface et al., 2021). Researchers have argued that, if alcohol companies do not adhere to their own regulations, the purpose and design of marketing codes needs to be questioned, proposing that the

implementation of alcohol marketing self-regulation in the UK, US and Brazil was likely a tactic to delay statutory regulation rather than to serve public health interests (Noel, Lazzarini, et al., 2017). Shortcomings like these have, in part, led to calls for a fully independent body to regulate alcohol marketing in the UK more effectively, which would be subject to significantly greater levels of public accountability and scrutiny (Alcohol Concern, 2018; Boniface et al., 2021). This could improve the consistency of decision-making, allow for more research evidence to be explicitly applied regarding the mechanisms of marketing influence and offer greater protection to vulnerable populations from marketing (e.g. people in recovery, children), while also providing a more robust, transparent appeals processes (Alcohol Concern, 2018; Boniface et al., 2021). It has been suggested that a fully independent regulator, operating on a statutory basis, would not only help to reduce and enforce breaches of good practice, but may also support a reduction of alcohol-related harms (Alcohol Concern, 2018; Noel, Lazzarini, et al., 2017). The WHO (2020b) contends that, as a significant public health concern, effective regulation of alcohol marketing requires political will.

1.4.2 Alcohol packaging as a health messaging tool

Although alcohol consumption poses serious risks, awareness of potential harms is relatively low, with alcoholic beverages remarkable as consumer products in that they provide relatively little consumer information on the packaging (e.g. via labels) (WHO, 2018, 2022b). It has been argued that, following the example set by tobacco products, alcohol consumers should be objectively informed about the risk of health conditions related to alcohol consumption, especially for serious diseases like cancer where public awareness tends to be low in most countries (B. O. Anderson et al., 2023; WHO, 2023). On-pack messaging is one means of providing alcohol-related information at the point of purchase and consumption, with the potential to deliver important messages to current and potential consumers (e.g. children). Displaying sufficient, evidence-based and optimally-designed alcohol-related health information on packaging would help consumers to make informed decisions and increase awareness of potential harms (WHO, 2022b).

However, unlike medicine, food products and soft drinks, current alcohol labelling practices across countries are not standardised (WHO, 2022b). There is significant evidence that voluntary industry commitments regarding labelling practices are insufficient to address

the inconsistency and inadequacy of alcohol labelling (Alcohol Health Alliance UK, 2020; Jernigan & Ross, 2020; Petticrew et al., 2020; Tinawi et al., 2018; WHO, 2022b). While many countries reportedly require labels to display the alcohol content of the product (i.e. percentage of pure alcohol), it is much less common for countries to require basic consumer information (e.g. ingredients, allergens, calories, additives, vitamins), with few countries requiring that labels display the number of standard drinks in the container (WHO, 2018). Although some countries require warnings on alcohol packaging, these are usually focused on underage drinking or drink-driving, with varying guidelines on message formatting and very few countries requiring the rotation of warning messages (WHO, 2018). For example, Brazil requires the following message in bold letters on labels (front or back) of beverages with an alcohol by volume (ABV) content above 13%: ‘Avoid excessive consumption of alcohol’ (‘Evite o consumo excessivo de álcool’ in Portuguese) (Alcohol and Tobacco Tax and Trade Bureau, 2022). Kenya requires labels of beverages with an ABV of 0.5% or higher to include at least two out of a range of five health warning messages on a rotating basis, covering no less than 30% of the total surface area of the pack, including ‘Not for sale to persons under the age of 18 years’ (‘Haiuzwi kwa watu walio chini ya umri wa miaka 18’ in Kiswahili) and ‘Do not drive or operate machinery’ (‘Usiendeshe au kuendesha mashine’ in Kiswahili) (International Alliance for Responsible Drinking, 2021).

Under UK law, food and non-alcoholic drinks packaging is required to display nutritional information and cigarette packaging must display health warnings; alcohol packaging requires neither (Alcohol Health Alliance UK, 2021). In the UK, alcohol packaging is legally required to display volume, strength/ABV and whether any of the 14 most common allergens are present (Alcohol Health Alliance UK, 2021; UK Parliament, 2021), with the inclusion and presentation (e.g. font size, placement, percentage of label coverage) of other product and health-related information (e.g. low-risk drinking guidelines, nutritional information, health warnings) self-regulated by alcohol companies, and no legal restrictions regarding on-pack promotions, single-serve product availability or the display of alcohol in retail outlets (e.g. supermarkets). It has been argued that self-regulation enables alcohol companies to use packaging to communicate misinformation regarding alcohol-related health and for marketing purposes (O’Brien et al., 2021). Moreover, alcohol packaging in the UK is not commensurate with potential harms and does not adequately inform consumers, let alone change drinking behaviours (Alcohol Health Alliance UK, 2020). Messaging is considered suboptimal and of limited relevance to consumers (e.g. ‘Please drink responsibly’), with small fonts and warning logos (e.g. pregnancy) usually on

the back of the product (Petticrew et al., 2016). Figures 1.8–1.10 provide a non-representative sample of alcohol packaging from different countries to illustrate some of the issues with current on-pack provisions of health messaging, e.g. small, unnoticeable, ambiguous and on the back of packs.

Figure 1.8: On-pack information, messaging and warnings



Notes: Birra Moretti beer bottle, back label. Stirling, United Kingdom.

Figure 1.9: On-pack warnings and nutritional information



Notes: Heineken beer multipack, back of can. Dublin, Ireland.

Figure 1.10: On-pack warnings and nutritional information



Notes: Guinness stout multipack, back of can. Dublin, Ireland.

Including warnings on the packaging of potentially harmful consumer products is a low-cost, high-reach and well-established means of communicating these risks to the public (Giesbrecht et al., 2022; Gold et al., 2021; Rosenblatt et al., 2018). For instance, health warnings on tobacco products – a key tobacco control tool required by most countries (WHO, 2013; Moodie et al., 2020) – have been shown to attract and hold attention, increase knowledge of smoking-related harms, and deter uptake of smoking among non-smokers (Hammond, 2011; Moodie et al., 2020; Noar et al., 2016). A study in the US estimated that reduced prenatal smoking arising from graphic warning labels could result in hospital cost savings of \$1.2 billion to \$2.0 billion over 30 years (Tauras et al., 2017). An uncontrolled before and after study in the Netherlands tested the effect of including warning symbols on each patient's ($n=197$) unit dose packaging stating whether or not a medication could be crushed, as well as educating staff in nursing homes, concluding that warning symbols (in conjunction with education) reduced erroneous crushing of medication, which is a well-established and commonly-occurring issue in nursing homes (Van Welie et al., 2016). Research indicates that packaging design (e.g. colour) affects consumers' risk perceptions of household chemical products, with consumers better at judging the risks associated with a product and taking more appropriate safety precautions when elements that impede risk perception are absent from the packaging (e.g. images of flowers or food) (Buchmüller et al., 2022). An online experiment with chemical household product (e.g. detergents) users from

France, Poland, Spain and Sweden ($n=1,800$) found that most participants preferred simplified warning labels, with the authors highlighting that conveying on-pack information clearly and concisely (e.g. more prominent use of pictograms) was supported by consumers, without negatively impacting label effectiveness (Geuens et al., 2021). Additionally, warnings on paint stripper products could help to reduce the number and extent of injuries resulting from using them, such as accidental inhalation of vapours from paint stripper products containing methylene chloride, which has caused injuries and deaths (Nemire, 2016).

It is important to understand whether warnings work, with effectiveness usually evaluated across five domains: attention, reading and comprehension, recall, judgements, and behavioural compliance (Argo & Main, 2004). While alcohol health warning labels are regarded as a potential policy approach to reduce alcohol consumption – which could support, and be supported by, other policies (e.g. restrictions on alcohol marketing, promotion of low-risk drinking guidelines) (J. Zhao et al., 2020) – warnings can be implemented and evaluated in several ways that can affect whether they can be considered effective, including the purpose of the warnings (e.g. raise awareness, change behaviour) and how they are designed (e.g. message content, saliency), formatted (e.g. size, placement) and engaged with (e.g. exposure) (May et al., 2019; WHO, 2022b).

Comprehensive reviews of the on-pack alcohol warnings literature indicate that salient warnings with messages pertaining to specific health conditions can positively influence consumers' attention, comprehension, recall, judgment and behavioural compliance, and could help increase awareness of alcohol-related harms and reduce population-level alcohol consumption as part of wider alcohol policy initiatives (Brennan et al., 2022; Dimova & Mitchell, 2021; Kokole et al., 2021). Well-designed warnings can affect other behaviours such as looking for further information, visiting a website, and communicating with others about alcohol-related harms (Clarke, Pechey, Kosīte, et al., 2020). Findings from experimental studies indicate that warning labels can increase self-reported intentions to reduce consumption (WHO, 2022b). For example, an online experimental study with adult drinkers ($n=1,755$) in Australia tested the effects of three different types of health warning labels (text-only, text and pictogram, text and photograph, i.e. intervention conditions) depicting long-term harms during an initial session and repeated follow-ups over the subsequent eight days (Brennan et al., 2022). Compared to those in the no health warning control, participants who viewed combined text and pictogram warnings were more likely to express intentions to avoid drinking alcohol completely in the next month

(post-exposure) and to drink less alcohol in the next week (follow-up), with participants in all three intervention conditions reporting higher levels of negative emotional arousal (follow-up) and lower levels of positive emotional arousal (follow-up) (Brennan et al., 2022). The authors note that there would likely be public health benefits were any of the three types of warnings to be implemented, suggesting that the text and pictogram format is particularly promising (Brennan et al., 2022).

Studies indicate that improving the design of warnings on alcohol products, such as displaying a range of general and specific health-related messages in prominent positions (i.e. front of pack), may help attract consumer attention, improve engagement, increase awareness of alcohol-related harms, and support a reduction in alcohol use (Hobin et al., 2020; Miller et al., 2016; Sillero-Rejon et al., 2020; Wigg & Stafford, 2016; Winstock et al., 2020). A series of real-world quasi-experimental studies conducted in Canada found that improving on-pack health messaging by varying highly visible labels (e.g. brightly coloured) with a selection of impactful messages (e.g. ‘Alcohol can cause cancer’) could be an effective population-level method of increasing awareness and knowledge of national drinking guidelines (Schoueri-Mychasiw et al., 2020), improving knowledge that alcohol causes cancer (Hobin et al., 2020), and reducing alcohol consumption (J. Zhao et al., 2020).

Furthermore, current evidence suggests that larger warnings with a combination of text and image are likely to have some desired impact on knowledge, awareness of potential risks and drinking behaviour of those who are exposed to the warnings (Giesbrecht et al., 2022). Given their relative salience, which requires less cognitive effort to process, larger warnings are more capable of reducing positive product evaluations than smaller warnings, with some evidence that positively-framed warnings are considered more believable than those using fear-based wording and numerical evidence (WHO, 2022b). Similarly, warnings with image and text combined enhance the level of attention that the warning receives when compared to packs with a text-only warning or no warning (WHO, 2022b). This may be explained by the increased visual appeal and salience of alcohol warnings (e.g. images), which help to catch people’s attention and convey information while combatting literacy and other educational issues (WHO, 2022b). Evidence indicates that moderately-severe images (e.g. abstractions of organs) are more effective than highly-severe images (e.g. photographs of organs) at drawing attention and affecting judgements without eliciting as much negative reaction (Clarke et al., 2021; Pechey et al., 2020; Wigg & Stafford, 2016; WHO, 2022b). Notably, ambiguous wording like ‘can cause’ is perceived as less believable than ‘increases risk’, with causality language generally considered more effective than phrases like ‘may

contribute to' or 'could lead to' (WHO, 2022b). Similarly, it has been argued that messages which could be interpreted as implying the existence of safe levels of alcohol consumption during pregnancy should be avoided, e.g. 'It's safest not to drink while pregnant (Kokole et al., 2021; O'Brien, 2019; Tinawi et al., 2018; WHO, 2022b).

1.5 Gaps in the literature

There are severable gaps in the literature, which this thesis aimed to address. There is a lack of academic research exploring the capacity for alcohol packaging to function as a marketing tool to advance alcohol industry interests (Chapter Three), e.g. increase brand appeal, target market segments, and increase sales. Given that very little is known about the marketing role alcohol packaging fulfils and how its restriction could affect consumer behaviour, further investigation is clearly necessary (A. D. Mitchell & O'Brien, 2020). In particular, there is a significant lack of academic studies examining industry sources (e.g. trade press, Chapter Three) to gain valuable insight into how, and why, alcohol companies use packaging as a marketing medium. A mixed methods approach (Chapter Two) would be particularly useful to better understand how alcohol companies use a combination of pack elements to engage consumers and explore, in-depth, how consumers respond to packaging as a promotional tool (e.g. perceptions, behaviours, Chapters Four and Five).

There are numerous studies exploring the role of packaging for non-alcoholic beverages, such as mineral water, cola drinks, fruit juice and milk (Joubert & Poalses, 2012; Maher, 2012; Méndez et al., 2011; van den Berg-Weitzel & van de Laar, 2001), as well as products with comparable health risks to alcohol, like tobacco (Moodie & Hastings, 2010). For alcohol, in contrast, studies tend to focus on traditional and digital alcohol marketing channels (Critchlow et al., 2016; Farrell & Gordon, 2012). Furthermore, the few studies to explore alcohol packaging as a promotional tool have been conducted with children and adolescents (e.g. S. C. Jones & Reis, 2011; Morey et al., 2017; Purves et al., 2018), and while they are key populations, so too are adults, the legitimate and primary targets for such communications (Critchlow & Moodie, 2021). The grey literature in the UK suggests that alcohol producers often target young adults when (re)designing packaging (Bell, 2020; Boggis, 2008; Clark, 2008). They also represent a key group for public health messaging given the high levels of potentially harmful drinking (Patton & Boniface, 2016), yet are somewhat overlooked in alcohol marketing research (Critchlow & Moodie, 2021).

While the role of health warnings on alcohol packaging is a growing area of research, there are important gaps in the literature, such as the need for more qualitative research exploring consumers' engagement with health information, messaging and warnings currently provided on alcohol packaging (e.g. whether they engage with it) and response to salient health warnings (e.g. large, front-of-pack with image and text combined). Despite the resurgence of academic interest in warning labels, more attention is required in this area (Hassan & Shiu, 2018), with a lack of studies on what may constitute the most effective health warning format (Brennan et al., 2022). Notably, more research is needed on the impact of warnings on drinking behaviour (WHO, 2022b). By engaging with consumers and exploring their reactions to a range of on-pack warnings (Chapters Four and Five), this thesis aimed to contribute to the scientific body of knowledge regarding the potential acceptance and impact of well-designed on-pack warnings.

1.6 Thesis structure

Having detailed the general area of research in Chapter One, Chapter Two presents the framework (critical social marketing) and overall design (mixed methods) of the studies in this thesis, before providing the research questions and hypotheses. Chapter Three presents the findings from a comprehensive analysis of the UK trade press, demonstrating the powerful marketing role played by alcohol packaging and its value to alcohol companies. Chapter Four explores the marketing and social marketing capabilities of alcohol packaging using focus groups with young adult drinkers in Scotland. Chapter Five examines this further via a cross-sectional online survey and experiment with young adult drinkers across the UK. Finally, Chapter Six concludes the thesis by summarising the findings, considering future directions for research and policy, providing reflections on the research process and offering final remarks.

Chapter Two: Study framework and design

2.1 Introduction

This chapter presents the research framework and an overview of the study design used to address the gaps in the literature noted in Chapter One. It begins by outlining critical social marketing (section 2.2), the framework which underpinned the research, before presenting the research questions and hypotheses (2.3) and explaining why a mixed methods design was considered most appropriate (2.4). This chapter ends with an overview of, and rationale for, each of the three studies (2.5–2.7). Given that most of the studies in this thesis have been published in academic journals, the methods (design, sample, materials, procedure), as well as analyses and results, for each of the three respective studies are fully explained in Chapter Three (Study 1), Chapter Four (Study 2) and Chapter Five (Study 3), with a synopsis provided here.

2.2 Research framework: Critical social marketing

Building on Kotler and Zaltman's (1971) seminal article, social marketing has been defined as 'the application of marketing knowledge, concepts and techniques to enhance social as well as economic ends. It is also concerned with analysis of the social consequence of marketing policies, decisions and activities' (Gordon, 2011, p.90). Critical scholarship strengthens social marketing as an approach to behaviour and social change for social good (Dibb, 2014). This thesis adopted a critical social marketing (CSM) framework to explore the role of alcohol packaging as a marketing tool and how it could be used more effectively for health messaging to better inform consumers and mitigate alcohol-related harms. CSM considers 'the impact of commercial marketing and business on society and/or critically analyses social marketing theories, concepts, discourses and practice, to generate critique, conflict and change that facilitates social good' (Gordon, 2018, p.86). CSM entails critically examining the influence of commercial marketing on society to generate knowledge and understanding, inform upstream activities and contribute to the development of downstream social marketing interventions (Gordon, 2011). 'Upstream' is the application of social marketing to address causes of societal issues via public health advocacy, policies, and

regulations, whereas ‘downstream’ refers to the application of social marketing principles and practices to attempt to change individual behaviour (Noble, 2006).

Understanding how companies selling potentially unhealthy commodities market their products, and the impact on consumer behaviour, has clear policy relevance. In the tobacco field, for instance, decades of research exploring how tobacco companies have promoted their products, and how these promotional efforts influence how people think, feel and act with respect to tobacco use, has underpinned legislation (Harris et al., 2006; MacFadyen et al., 2001; Moodie et al., 2008; Pierce et al., 1999). For example, CSM research in the UK analysed tobacco industry internal documents and found that multiple communication channels were used to create influential marketing campaigns aimed at encouraging people to initiate and continue smoking, with young people specifically targeted through marketing content designed to appeal to them (Hastings & MacFadyen, 2000). Such research, in conjunction with the work of civil society, the tobacco control lobby and heightened political and societal concern, led to the Tobacco Advertising and Promotion Act (TAPA) in 2002, which banned most tobacco marketing in the UK (Gordon, 2011).

Tobacco companies, in response to TAPA, switched their marketing spend to unregulated channels, such as point of sale displays in tobacco-selling retailers and also packaging. Further work in the UK, using a CSM approach, helped to highlight how retail tobacco displays and packs were being used by tobacco companies to capture attention and increase interest in their products (Ford et al., 2012; Hastings et al., 2008), as well as providing an insight into how consumers responded to these marketing strategies (Ford et al., 2013; Spanopoulos et al., 2012; Stead et al., 2016). This work helped inform legislation in the UK banning the open display of tobacco products in the retail environment and also requiring cigarettes and rolling tobacco to be sold in standardised (or plain) packaging (Ford et al., 2020; Haw et al., 2020; Moodie, Angus, et al., 2021). These examples illustrate how research with a CSM perspective can aid understanding of the commercial determinants of health and inform policies intended to benefit society as a whole (Gordon, 2011).

CSM can also be used to study alcohol marketing and how it affects society (Gordon, 2011). The significant range and impact of alcohol-related harms (see Chapter One) has led to increased interest in potential contributory factors regarding drinking behaviours (Gordon, 2011), including the impact of targeted alcohol marketing on market segments such as young people above and below the legal purchasing age (Critchlow et al., 2019; Gordon et al., 2010; Niland et al., 2017; Sargent & Babor, 2020), consumers in low and middle income countries (Farrell & Gordon, 2012), and females (Atkinson et al., 2019, 2022). For example, research

with secondary school pupils in Scotland found positive relationships between awareness of, exposure to, and engagement with, alcohol marketing, and drinking behaviours and attitudes towards alcohol (Gordon et al., 2009). Studies like these have informed upstream advocacy and could inform policies to reduce alcohol consumption and related harms (Gordon, 2011).

2.3 Research aim, questions and hypotheses

Given the gaps in the literature identified in Chapter One, the aim of this thesis was to more fully understand how alcohol packaging is being used in the UK as a marketing tool, and how it could be used to better inform consumers of some of the risks associated with alcohol use. To meet this aim, each study was designed to address a series of interlinked RQs, which are presented below.

2.3.1 Study one: Trade press analysis

RQ1: How is packaging used by alcohol companies to market their products?

RQ2: Which consumer profiles (e.g. age, gender) are most frequently targeted by alcohol packaging designs?

RQ3: What are the intended and observed impacts of alcohol packaging designs?

2.3.2 Study two: Focus groups

RQ4: How do young adult drinkers perceive, and engage with, alcohol packaging as a promotional tool?

RQ5: How do young adult drinkers perceive, and engage with, the health-related information, messages and warnings currently included on alcohol packaging?

RQ6: How do young adult drinkers perceive, and engage with, mock-up health warnings (e.g. image and text combined) displayed on alcohol packaging?

2.3.3 Study three: Cross-sectional survey and experiment

RQ7: How do young adult drinkers engage with alcohol packaging as a marketing tool, and what influence does it have?

RQ8: To what extent are young adult drinkers exposed to, and engaging with, the health-related information, messages and warnings displayed on alcohol packaging?

RQ9: To what extent do young adult drinkers support displaying product and health-related information on alcohol packaging?

RQ10: What are the effects of front-of-pack warnings (e.g. product appeal and social acceptability, drinking behaviours), and which warning designs are most effective?

2.3.3.1 Hypotheses

RQ7 and RQ10, explored in the survey, were suitable for traditional null hypothesis significance testing via inferential statistics, with the remaining RQs either qualitative (RQs1–6) or descriptive (RQ8, RQ9) in nature. Five research hypotheses were derived from the literature presented in Chapter One and the trade press analysis (Chapter Three).

H₁: Females will be more likely than males to be highly influenced by alcohol packaging as a marketing tool.

H₂: Participants shown products with warnings will be more likely to rate them as unappealing and socially unacceptable compared to the control group.

H₃: Participants shown products with large warnings (with or without images) will be more likely to rate them as unappealing and socially unacceptable compared to those shown small-text only warnings.

H₄: Participants shown products with warnings will be more likely to have positive cognitive and behavioural impact ratings compared to the control group.

H₅: Participants shown products with large warnings (with or without images) will be more likely to have positive cognitive and behavioural impact ratings compared to those shown small-text only warnings.

2.4 Mixed methods design

2.4.1 Overview

Mixed methods research (MMR) has been defined as an intellectual and practical synthesis based on qualitative and quantitative approaches, which acknowledges the value of these traditional research methods while offering a versatile third paradigm option to provide the most informative, complete, balanced, and useful insights (Johnson et al., 2007). The key justification for, and central premise of, MMR is that combining qualitative and quantitative methods enables a better understanding of research problems and complex phenomena than either approach can achieve on its own (Creswell & Plano-Clark, 2007). Combining qualitative and quantitative research components can contribute to answering research questions, broaden and solidify a study's conclusions, and meaningfully contribute to the literature (Schoonenboom & Johnson, 2017). Ultimately, MMR seeks to improve knowledge and validity (Schoonenboom & Johnson, 2017). This is achieved by mixing perspectives regarding data collection, analyses and inferences, supporting breadth and depth of understanding and corroboration (Johnson et al., 2007).

However, MMR has notable limitations that should be acknowledged. MMR is complex to plan and conduct (Wisdom & Creswell, 2013). Data collection and analysis can be both labour and time-intensive, while integrating qualitative and quantitative data can be difficult for researchers, with minimal guidance on how to merge data from different sources (Dawadi et al., 2021; Wisdom & Creswell, 2013). The variety of methods means that researchers may need to retrain or learn new skills outside of their area of expertise (Wisdom & Creswell, 2013). Different methods must be able to meet the research aim(s) and be suitably combined to ensure that the research is robust and reliable (Wisdom & Creswell, 2013). Despite these challenges, MMR has become increasingly popular in social and behavioural sciences as it offers a refreshing and important alternative to mono-method approaches, helping researchers to explore diverse viewpoints and understand relationships between the complex layers of multifaceted research questions (Shorten & Smith, 2017; Timans et al., 2019).

2.4.2 Applications

Alcohol research globally has benefited from mixed methods approaches. For instance, one study in Australia employed MMR to assess warning label awareness and attention by triangulating objective (eye-tracking) and self-report (survey) approaches, with the authors arguing that practitioners consider using mixed methods where feasible (Pham et al., 2018). MMR has been used to refine the content and design of an alcohol reduction app in the UK to enhance its functionality and potential effectiveness as a support tool by incorporating new and existing evidence from different sources (Garnett et al., 2021). MMR has helped to understand the nuanced influences of cultural context on beliefs about self-care during pregnancy and abstaining from alcohol among young adult women in rural North American communities (Castro & Coe, 2007). MMR in China has elucidated the characteristics of young people who drink and do not drink alcohol by exploring alcohol expectancies, cultural orientation and self-efficacy (Newman et al., 2006). It has been argued that MMR could be particularly useful in low and middle income countries to better understand increases in alcohol consumption and related harms while accounting for complex and dynamic motives for consuming alcohol (Dumbili, 2014).

2.4.3 Rationale for mixed methods

This PhD thesis employed a concurrent triangulation design, an efficient and popular approach to MMR (Creswell & Plano-Clark, 2017), with three interlinked studies intended to inform and complement each other: a content analysis of the UK trade press (Chapter Three), focus group discussions (Chapter Four), and an online cross-sectional survey and experiment (Chapter Five). Concurrent triangulation designs collect and analyse both qualitative and quantitative data in parallel and then merge the two for a complete understanding of a phenomenon or to compare individual results (Creswell et al., 2003; Venkatesh et al., 2013). Incorporating a variety of methods helped to provide a more comprehensive understanding of how alcohol packaging is being used by alcohol companies, how it is viewed by young adult drinkers, and whether novel health warnings may help reduce the promotional influence of the packaging and increase awareness of harms.

Building on the strengths outlined above (2.4.1), there are several reasons why this PhD thesis employed MMR. Using both qualitative and quantitative methods enhanced the integrity and comprehensiveness of findings, while compensating for the limitations inherent

in mono-method designs (Bryman, 2006). For instance, the trade press (Chapter Three) and focus group (Chapter Four) studies helped to inform the topics and framing of questions in the cross-sectional survey (Chapter Five) and illustrated the findings by offering potential explanations. Given that combining methods can improve contextual understanding (Bryman, 2006), the trade press provided a rich insight into how and why alcohol companies use alcohol packaging and its constituent features (e.g. pack design, promotions) to engage and target consumers and influence purchasing behaviours, which was further explored in the focus groups and survey with a key demographic for alcohol companies and public health messaging alike. Furthermore, integrating different methods and findings from different perspectives (industry and young adult consumers) helped to improve the usefulness of results to practitioners and other stakeholders (Bryman, 2006). It also allowed for unexpected findings to be uncovered and delved into. For example, most focus group participants (Chapter Four) retained empty alcohol packaging, which was echoed in the survey findings (Chapter Five).

2.4.4 Philosophical underpinnings

It is important to acknowledge underlying philosophical assumptions when conducting research, particularly in MMR where the increased complexity introduced by mixing methods can lead to inconsistent or contradictory study combinations (McChesney, 2021; Mertens, 2019). MMR can be driven by practical and philosophical considerations and has been characterised as a mixture of ontological and epistemological assumptions, requiring an epistemological framework that acknowledges the ‘realities’ (ontologies) highlighted by different research methods (Ghiara, 2020; Ma, 2012; McChesney, 2021). MMR embraces multiple paradigms or worldviews (i.e. beliefs and values), as opposed to the usual association of certain paradigms with quantitative research and others with qualitative research (Creswell & Plano-Clark, 2017). It also enables academics to consider paradigms that may encompass all qualitative and quantitative research (Creswell & Plano-Clark, 2017).

Two epistemological positions have been identified as particularly important in the MMR discourse: a positivist approach that produces quantitative methods, and a constructivist approach that leads to qualitative methods (Timans et al., 2019). For MMR to be feasible, the discrepancies between both forms of research must be considered reconcilable (Timans et al., 2019). This PhD study adopted a pragmatist approach to situating

MMR within a paradigmatic structure (McChesney, 2021). Pragmatism is a popular variant of the dual/dialectical position and provides philosophical foundation for MMR whereby paradigms are considered logically independent and do not affect each other, allowing for paradigms to be mixed and matched to address the research questions (McChesney, 2021; Morgan, 2014).

2.5 Study one: Trade press analysis

This study analysed the content of UK trade press magazines to explore the ways in which alcohol companies use packaging as a form of marketing, the intended and observed impacts of packaging designs, and which consumer profiles are targeted via packaging. The trade press, also referred to as trade publications, journals, or magazines, provides an extensive, specialised means of communicating news, information, opinion, and advertisements about an industry to its stakeholders, with leading publications regarded highly by businesses as key sources of information (Corrigan, 2018). Indeed, trade publications are often considered the “voice” of an industry (Peck, 2015).

Furthermore, the trade press allows industries to advertise internally and offers a promotional platform (Corrigan, 2018). Corrigan (2018) explains that many trade publications generate revenue by aggregating decision makers’ attention and selling it to industry-specific advertisers, often providing free copies to those in positions of power regarding purchasing decisions (e.g. executives). Considering this valuable audience, interested parties, such as alcohol companies, also aim to harness trade press communications for promotional purposes (Corrigan, 2018). Just as the alcohol industry extensively monitors research and researchers (G. Mitchell & McCambridge, 2022), so too can academics learn from industry sources. The present study (Chapter Three) examined the content of six years’ worth of printed trade magazines ($n=696$) in the UK covering a 10-year period (2008–2009; 2012–2013; 2016–2017), including advertisements, product reviews, editorials, interviews and opinion pieces.

2.5.1. Design rationale

The trade press can also be used to study industries, practices, policy making, and related discourses, providing crucial, and otherwise difficult to obtain, insights into industry motivations and practices as demonstrated by industry executives and professionals

(Corrigan, 2018). The UK trade press meets the four “quality control criteria” for assessing documents (J. Scott, 1990): 1) authenticity in terms of soundness and authorship; 2) credibility regarding accuracy and sincerity; 3) representativeness of the totality of relevant documents; and 4) providing clear and comprehensible evidence for researchers. The concept of the present study is simple yet rich: critically examine what industry actors are saying and doing with regards to alcohol packaging to get a better understanding of the multifaceted role it performs and its significance to alcohol companies. Given the target audience of professional readers, the trade press is replete with frank, insider knowledge, attitudes and worldviews; thus providing invaluable, timely and accurate coverage of industry practices (Corrigan, 2018).

Nonetheless, some of the limitations of using the trade press as a research tool include distorted reporting, atypical coverage, and opaque language, which can all impede analysis (Corrigan, 2018). Manually reading and extracting data is labour and time-intensive, which is further apparent when coding and analysing large datasets with several aspects to consider. Researchers, of course, have no control over the content of secondary sources, which may be limited in parts and cannot definitively assess causality given their retrospective nature (Wickham, 2019).

Despite competition from digital media, printed materials remain key resources for research (Corrigan, 2018). While trade press subscriptions for those outside of the industry can be cost prohibitive (Corrigan, 2018), printed trade magazines have been studied by the Institute for Social Marketing and Health (ISMH) team at the University of Stirling for decades, so were readily available and free of charge for the present study, with no ethical approval required to use the magazines. For instance, ISMH researchers have analysed the content of trade journals to explore how tobacco companies in the UK prepared for, and responded to, standardised packaging of cigarettes and rolling tobacco (Moodie et al., 2018), while others have reviewed the trade press to examine the role of glassware as a marketing tool, finding that glassware is an important means of recruiting customers, refreshing brands, enhancing profits and increasing consumption (Stead et al., 2014).

Moreover, trade press analyses can be triangulated with other methods (Corrigan, 2018). Indeed, the trade press largely informed the content of the focus group discussions (Chapter Four) and survey questions (Chapter Five). For instance, the role of alcohol packaging in catching consumers’ attention, creating appeal and targeting specific consumer profiles, frequently captured in the trade press analysis, was further explored in each of the other studies.

2.6 Study two: Focus groups

This study explored the experiences and perceptions of alcohol packaging as a marketing and social marketing tool among young adult (18–35) drinkers in Scotland ($n=50$). Participants initially discussed their engagement with alcohol packaging and views on its promotional role. Thereafter, perceptions of the product and health-related information currently provided on alcohol packaging in the UK was explored, and reactions to products with novel front-of-pack health warnings differing in size (small, large), form (text-only, pictorial [text-and-image]) and message content (general, specific). Full study details, including design limitations, are discussed in Chapter Four.

2.6.1. Design rationale

Focus groups are a suitable technique in MMR for gathering different types of evidence (e.g. opinion) to enable a better understanding of social issues (Nyumba et al., 2018; Ryan et al., 2014). While research on warnings on alcohol products is growing, most studies have been quantitative in nature (e.g. Clarke et al., 2021; Gold et al., 2021; Pechey et al., 2020; Winstock et al., 2020). Focus groups have, however, been used in previous alcohol research to gauge consumer acceptability of enhanced alcohol labels (Vallance et al., 2018) and explore responses to, and effectiveness of, on-pack warnings (Coomber et al., 2017, 2018) and message content (Hassan et al., 2022).

Focus group discussions provide a space for participants to express relevant ideas and topics of interest in ways that researchers may not have anticipated (Smithson, 2000). This was of particular importance in the present study as it allowed young adult drinkers to freely discuss their real-life experiences with alcohol packaging as a form of marketing and their views on how it could be used as a social marketing tool (see Chapter Four). On a practical level, focus groups cater for realistic engagement with, and discussion of, physical stimuli such as product packaging. Moderators have a degree of control over proceedings and can guide the discussion to align with the research aims, while the dynamics of a live conversation allow for follow-up questions and a more natural form of expression compared to close-ended survey questions, for instance. Indeed, findings from the focus groups helped to inform survey questions (Chapter Five), particularly the warning items measuring product appeal and social acceptability, and cognitive and behavioural impacts. As both of these

studies employed current drinkers in the UK aged 18 to 35, it was particularly useful to draw upon qualitative findings when developing the survey.

2.7 Study three: Online cross-sectional survey and experiment

This study examined the experiences and perceptions of young adult (18–35) drinkers in the UK ($n=1,360$) regarding alcohol packaging as a marketing and social marketing tool. The survey measured participants' engagement with, and the influence of, alcohol packaging from a marketing perspective, exposure to, and engagement with, the product and health-related information currently provided on alcohol packaging in the UK, and support for including product and health-related information on packs. The experimental component examined participants' responses to randomly allocated products with either branding as usual or additional novel health warnings. Full study details, including design limitations, are presented in Chapter Five.

2.7.1 Design rationale

Survey research can gather large amounts of information from a diverse cohort in a short period of time (T. L. Jones et al., 2013). Online surveys are more cost-effective than traditional approaches (face-to-face, postal or telephone survey) and are suitable for collecting data on sensitive topics with hard-to-reach samples (Regmi et al., 2016). As such, non-probability online surveys have become increasingly popular in social science and policy research, surpassing more established methods (Lehdonvirta et al., 2021). Indeed, online surveys are now routinely used, globally, to help both inform and evaluate a range of tobacco control policies, including new warnings on packs, standardised packaging and flavour bans (Gravely et al., 2022; Moodie, Best, Hitchman, et al., 2021; Moodie, Best, Lund, et al., 2021). Similarly, online surveys and experiments are now commonly used in alcohol advertising and packaging research (Clarke et al., 2021; Clarke, Pechey, Mantzari, et al., 2020; Critchlow & Moodie, 2021; Gallopel-Morvan et al., 2017a, 2022; Sillero-Rejon et al., 2020; Winstock et al., 2020). Survey experiments are a central methodology across the social sciences (Mullinix et al., 2015), allowing researchers to obtain sociodemographic and attitudinal data which may help to interpret results from the experimental component.

2.7.1.1 River sampling

Participants were recruited by “river” sampling, also referred to as intercept sampling or real-time sampling, which is the original and simplest means of online recruitment (Lehdonvirta et al., 2021). River sampling recruits potential participants by inviting them to complete a survey via a link advertised somewhere it is likely to reach members of the target population (Lehdonvirta et al., 2021). The name comes from the idea of researchers using the traffic flow of a website to “catch” some of the users “floating by” (Lehdonvirta et al., 2021). River sampling provides a “fresher” sample of survey takers than online panels, which are mostly comprised of repeatedly surveyed members, granting researchers access to large, diverse samples in real time (Callegaro et al., 2014; Comley & Beaumont, 2011).

However, river sampling has been criticised for its lack of representativeness, topical self-selection bias, and the uncertainty in predicting how long it may take to achieve the desired number of completed surveys (Callegaro et al., 2014; Comley & Beaumont, 2011; Lehdonvirta et al., 2021). Topical self-selection bias is inherent in river sampling as it necessitates attracting potential respondents’ attention and piquing their interest (Lehdonvirta et al., 2021). Coverage bias occurs when subpopulations are represented disproportionately or, in some cases, not at all in digital media, with different subpopulations accessing different websites at different frequencies (Lehdonvirta et al., 2021; Räsänen, 2006). While online panel providers can organise the demographic compositions of samples and correct for coverage bias to ensure panels are demographically similar to national populations (Lehdonvirta et al., 2021), some argue that river samples are not formally generalisable beyond the population of users accessing the service within the sampling period (Lehdonvirta et al., 2021). Nonetheless, river sampling is a versatile and cost-effective form of recruitment, which is widely employed to better understand the characteristics of non-demographic subpopulations (Lehdonvirta et al., 2021).

2.7.1.2 Recruiting young adults via Facebook adverts

Alcohol content is frequently displayed on social media via user-generated posts and advertisements (Hendriks et al., 2021; Moreno et al., 2016). Alcohol companies use social media features, like Facebook pages, as part of wider marketing campaigns. Within such pages they use sophisticated time-specific and day-specific posts to maximise engagement and influence consumers (Lim et al., 2016), with these pages and posts often popular with social media users. It has been argued that alcohol marketing on social media encourages

young adults to consume alcohol through new forms of promotion and that alcohol companies strategically use Facebook to embed their alcohol marketing into young adults' social networking activities (Niland et al., 2017). Evidence suggests that alcohol content on social media is related to offline behaviours for young adults, who are particularly vulnerable to the impacts of social media, and that social media could have a role in future alcohol intervention strategies, such as identifying at-risk consumers, providing targeted prevention messages or using comments as a novel method for delivering health promotion information (Hendriks et al., 2021; Moreno et al., 2016; Noel & Babor, 2018).

Facebook can also be a fruitful advertising platform for social science research (Grow et al., 2021). The present study recruited a river sample via Facebook adverts targeting 18–35 year-olds living in the UK who drank alcohol. As Facebook is the most popular social media site globally in terms of monthly active users (Statista, 2022a), adverts on this platform provide a straightforward, efficient and cost-effective means of accessing hard-to-reach populations (Dosek, 2021) and specific demographic profiles across a wide geographic area (Akers & Gordon, 2018; Shaver et al., 2019; Wozney et al., 2019). Facebook adverts have been used in previous research involving young adult drinkers (Pedersen et al., 2017). Young adults account for the majority of Facebook users in the UK (Statista, 2022b), making it an appropriate medium for recruitment while providing familiarity and ease-of-access for participants. As detailed in Chapter Three, young adults are frequently targeted by alcohol companies when (re)designing packaging (Bell, 2020) and a key population for public health messaging given high levels of hazardous drinking (Patton & Boniface, 2016); hence, they are an important cohort to consider in alcohol marketing and social marketing research.

A Facebook business page was created, entitled 'Alcohol Use and Packaging Online Survey', to avail of the advertising features on Facebook. Page visibility was restricted to the target audience of 18–35 year-olds living in the UK, with concise study details and contact information included in the 'About' section to ensure the page appeared authentic to visitors who clicked on the page when viewing the ads. The ads were set to target 18–35 year-old Facebook users located in any of the four UK countries (England, Scotland, Wales, Northern Ireland). These measures ensured that only the desired young adult sample would be exposed to the page and, more importantly, the adverts hosted by the page. Facebook has various goals for its adverts, with the 'Get more website visitors' goal considered most appropriate for this study as it allowed for a higher number of participants being directed to the survey platform. Facebook offers researchers flexibility when recruiting by providing estimates of the size of the desired audience and costs for desired actions (e.g. targeted users clicking on

links) in a dynamic marketplace. The ads were reviewed by Facebook to ensure they conformed to their advertising standards prior to publishing.

Two adverts with an image of a supermarket alcohol aisle and slightly differing message content (see Appendix G) ran separately over a consecutive nine-day period in September–October 2020 to maximise engagement with the adverts and uptake of the survey. The adverts were displayed on different sections of Facebook (e.g. mobile app news feeds, desktop news feeds) and invited participants to complete a University of Stirling online survey about alcohol use and packaging, which was embedded in the advert text and also accessible by clicking on ‘Learn More’ (Facebook default for user routing). The adverts highlighted the chance to win one of ten £50 Love2shop e-gift cards to encourage participation and increase likelihood of completion (Göriz, 2006). The page and adverts were monitored regularly to address any comments or questions from potential participants. According to Facebook breakdowns, close to one quarter of a million people (214,371) in the target audience saw the adverts at least once, resulting in 3,987 survey link clicks and 1,511 survey completions (see Chapter Five). The advertising campaign cost approximately £1,156 at a rate of £0.29 per survey link click, equating to £0.77 per completed survey.

Chapter Three: Exploring alcohol companies' use of packaging as a marketing tool

The findings in this chapter are based on the following manuscript:

Jones, D., Moodie, C., Purves, R. I., Fitzgerald, N., & Crockett, R. (2023). Exploring how and why alcohol companies use packaging as a marketing tool: A content analysis of the trade press in the United Kingdom. [Manuscript in preparation]. Institute for Social Marketing and Health, Faculty of Health Sciences and Sport, University of Stirling.

This chapter presents the findings from a content analysis of the UK trade press exploring the ways in which, and reasons why, alcohol companies use packaging as a marketing tool, which addresses RQs 1–3 (Chapter Two). The chapter begins with an Abstract (section 3.1), brief overview of alcohol packaging from a marketing perspective (3.2.1) and the aims of the present study (3.2.2), before detailing the methods (3.3) and analysis employed (3.3.2). The results are presented under three main themes: 1) elements of alcohol packaging as a promotional tool (3.4.1); 2) consumer profiles most frequently targeted by packaging initiatives (3.4.2); and 3) intended and observed impacts of packaging initiatives (3.4.3). The findings are synthesised in the discussion (3.5), with study limitations (3.5.2) and conclusions (3.5.3) presented.

3.1 Abstract

Introduction: There is limited research on the role of alcohol packaging as a marketing tool, how it is used by alcohol companies to target consumer profiles (e.g. age, gender), as well as the intended, and observed, impact of packaging cues. The trade press is a valuable, yet overlooked resource to address this gap. **Methods:** Six years of trade press magazines ($n=696$ issues) covering a 10-year period (2008–2017) were reviewed to explore the importance of packaging as a promotional tool in the UK, who is being targeted by packaging initiatives, and the benefits for alcohol companies, with alcohol packaging-related data analysed by frequency and themes. **Results:** Three main themes emerged regarding alcohol packaging as a promotional tool. The first related to elements of alcohol packaging ($n=5,463$ mentions), with pack structure (e.g. size), promotions (e.g. limited-edition), designs (e.g. graphics) and ‘green’ packaging (e.g. eco-friendly) frequently employed by companies to achieve marketing goals. The second related to targets of alcohol packaging ($n=662$ mentions). Young adults, females and new customers were key targets of packaging initiatives, with companies also creating packs to align with lifestyle and personality characteristics. Third, alcohol packaging played a significant function in meeting multiple corporate aims ($n=3342$ mentions), primarily increasing profits by encouraging purchase and associating alcohol brands with a range of drinking occasions (e.g. social events) and times of the year (e.g. summer, Christmas). Packs were used to influence product perceptions and increase appeal, playing a vital role in catching consumers’ attention by helping brands to stand out on shelves, connect with consumers via brand stories and elicit responses. **Conclusions:** Alcohol packaging is a versatile marketing tool and plays a significant role in targeting consumer profiles, creating appeal, influencing purchase and increasing profits.

3.2 Introduction

3.2.1 Alcohol packaging as a marketing tool

Although packaging is considered to form part of the product and the brand (Ampuero & Vila, 2006), the strategic marketing role of packaging has only been recognised in the academic literature in recent years (Rundh, 2016). As discussed in Chapter One, packaging plays an important role as a marketing communications vehicle because it is present at the point of purchase, reaching almost all buyers in a category and actively involving customers as they examine packs to obtain product information (Abdalkrim & AL-Hrezat, 2013;

Behaeghel, 1991). Similar to the packaging of other fast-moving consumer goods (e.g. packaged food), seeing alcohol packaging is often a consumer's first experience of the product, playing a key role in attracting consumers and conveying important brand information, while shaping first impressions (e.g. perceived quality and value) in physical and online retail settings (Lyon, 2020; ODM Group, 2022).

Packaging helps to attract and sustain attention, create brand differentiation and identity, as well as influence perceived product quality, customer satisfaction and loyalty (Abdalkrim & AL-Hrezat, 2013; Ampuero & Vila, 2006; Gómez et al., 2015; Mensah et al., 2022; Rundh, 2016; Silayoi & Speece, 2007; Venter et al., 2011; Wyrwa & Barska, 2017). Packaging is particularly influential at the point of sale, with visual stimuli such as pack graphics (e.g. colour, images), structure (e.g. size, shape) and promotions (e.g. free gifts, limited-editions) intended to engage consumers and influence purchase (Mohebbi, 2014; Venter et al., 2011; Wyrwa & Barska, 2017). Given that packaging is the final opportunity to persuade potential customers before brand selection (McDaniel & Baker, 1977), companies undertake extensive market research to determine optimal pack design and structure (Ampuero & Vila, 2006).

As discussed in Chapter One, alcohol packaging is no exception, with companies utilising its potential to promote their products and engage target consumers, while providing convenience, encouraging loyalty and influencing purchase via a range of pack elements (e.g. colours, formats, promotions) (Beverage Industry, 2018; Beverage Trade Network, 2015; Brindiamo Group, 2018). While alcohol companies conduct extensive research on the myriad uses of packaging, there is a paucity of academic studies critically analysing the role of alcohol packaging as a promotional tool, with a significant lack of studies using industry mediums as a source of evidence.

3.2.2 Study aims

The aim was to address gaps in the literature in order to better understand the use of packaging elements to target consumer profiles and achieve corporate goals. To do so, a content analysis of trade press magazines in the UK was conducted. This provided an in-depth, unfiltered view into the importance of alcohol packaging to companies and its impact on targeted consumers.

3.3 Methods

3.3.1 Design and sample

How alcohol companies use packaging to promote their products was explored via an audit of the UK trade press, i.e. periodicals produced for alcohol selling retailers (see Section 2.5) such as supermarkets, convenience stores, petrol/gas stations, off-licenses and wholesalers. As explained in Chapter Two (section 2.5), the trade (or retail) press provides key insight into how alcohol is promoted and incentivised to retailers to stock, and marketed to consumers. It is a resource that provides an accessible channel for investigating communication between alcohol companies and customer-facing alcohol retailers, and one which has been used to inform tobacco packaging legislation (Centre for Tobacco Control Research, 2012; Moodie et al., 2014; Moodie & Hastings, 2010, 2011) and evaluate tobacco control policies (Moodie et al., 2018).

Alcohol company practices with respect to packaging were explored through four popular trade press periodicals (see examples in Figure 3.1): The Grocer (weekly), Convenience Store, (fortnightly), Off Licence News (fortnightly, rebranded as Drinks Retailing News in May 2017), and Forecourt Trader (monthly). A pilot study was conducted using issues between January 2007 and March 2007 ($n=27$) to determine whether the trade press contained sufficient evidence of alcohol packaging as a promotional tool and to inform the timeframe for the full study. The pilot indicated that the trade press was replete with information and a valuable resource, with six years of magazines chosen to enable depth and breadth of coverage (2008–2009, 2012–2013, 2016–2017). There were 696 issues in total (i.e. 116 issues per year) across The Grocer ($n=312$ issues), Convenience Store ($n=156$ issues), Off Licence News ($n=156$ issues), and Forecourt Trader ($n=72$ issues).

The trade press includes a range of articles describing product and packaging launches and revisions; price promotions; upcoming marketing campaigns; category advice (e.g. merchandising) from manufacturers, retail experts and trade associations; editorials and opinion pieces; as well as interviews with, and case studies on, individual stores and owners. All content was screened over a six-year period for any mention of alcohol packaging in both main and supplementary publications (e.g. special on drinking occasions), with all text and images explicitly related to alcohol packaging recorded. Packaging was usually only mentioned briefly but was often the focus of articles, e.g. when an alcohol company redesigned the packaging of an existing product or introduced a new product or brand variant.

Figure 3.1: Trade press magazines



3.3.2 Analysis

As data were extracted from the trade press, descriptive items (e.g. citation, manufacturer, brand name) were entered into an Excel spreadsheet, as were ‘high-level’ categories (e.g. alcohol packaging strategies). NVivo 12 Pro (QSR International, USA) was then used to categorise content and themes. Relevant verbatim text was extracted in full to enable analysis of packaging strategies through a quantitative content and qualitative thematic analysis. Thematic analysis was conducted as per Braun and Clarke’s (2006) guidelines using an inductive approach. Extracts were reviewed for accuracy and familiarity by DJ. Codes were applied by using verbatim text extracted from the trade press and evaluating the meaning of pertinent information. For example, if an article stated that pack colour was being changed to reach more females, this was coded under two separate codes: ‘colour’ and ‘females’. Thematic codes were organised into conceptual categories and iteratively refined and connected to other conceptual categories. Codes were then collated into suitable themes by DJ and reviewed by CM and RP to establish a thematic framework. Three key themes were defined and refined: 1) promotional elements of alcohol packaging; 2) consumer profiles targeted by alcohol packaging; and 3) intended, and observed, impacts of alcohol packaging. These themes were examined to identify meaningful patterns across the data. Representative quotations, examples and figures are provided in the results to illustrate key themes.

3.4 Results

3.4.1 Promotional elements of alcohol packaging

Four key elements of alcohol packaging were frequently mentioned in the trade press (see Table 3.1): pack structure ($n=2462$, 45.1%), promotions ($n=1467$, 26.9%), pack design

($n=1365$, 25.0%), and ‘green’ packaging ($n=169$, 3.1%). Given that packaging elements were used collectively to target consumer profiles (3.4.2) and help alcohol companies meet their goals (3.4.3), including selling their products, aligning products with drinking occasions, influencing product perceptions and engaging consumers, key packaging attributes will be discussed in light of their roles.

Table 3.1: Promotional elements of alcohol packaging

Code	Frequency ^a	
	<i>n</i>	%
Pack structure	2462	45.1
Format	1153	21.1
Multipacks	351	6.4
Bottles	350	6.4
Cans	244	4.5
Other ^b	208	3.8
Area	419	7.7
Label	244	4.5
Neck (e.g. collar)	154	2.8
Other (e.g. bottle cap)	21	0.4
Size ^c	330	6.0
Small (e.g. fractional, mini)	209	3.8
Large (e.g. new addition)	121	2.2
Convenience ^d	156	2.9
Materials	108	2.0
Opening/closing mechanism	103	1.9
Shape (e.g. sleek, slimline)	89	1.6
Innovation (e.g. temperature indicator)	81	1.5
Smart packaging ^e	23	0.4
Promotion	1467	26.9
Limited-editions ^f	537	9.8
Competition/prizes ^g	413	7.6
Price-marked packs	178	3.3
Gift packs ^h	141	2.6
Free gifts ⁱ	119	2.2
Sponsorship ^j	79	1.4
Pack design	1365	25.0
Revamped/updated/refreshed	347	6.4
Origin and heritage	305	5.6
Graphics ^k	303	5.6
Text ^l	234	4.3
Colour	176	3.2
‘Green’ packaging	169	3.1
Environmental (e.g. reduced weight)	130	2.4
Cause (e.g. animal welfare)	39	0.7

Notes: Absolute frequency of references within the theme: 5463. ^a Reflects the absolute and relative frequencies of each code within the theme (rounded to one decimal place). ^b Includes bag-in-box, cartons, PET, pouches, Tetra Pak, wine-in-a-glass, kegs, goblets and chalices. ^c Excludes general/miscellaneous references to size. ^d Reflects ease of carrying, opening, drinking and storing. ^e Includes quick response (QR) codes and augmented reality (AR). ^f Includes limited-edition packs related to celebrities/collaborations, corporate social responsibility, designers/artists, origin and heritage, returning/continuing/seasonal, sponsorship, sport-related and unspecified. ^g Includes alcohol products/merchandise, clothing/jewellery, entertainment, electronics, furniture, glassware, holidays, 'moments/experiences', social/party items, vouchers/subscriptions, sport-related, vehicles. ^h Includes Christmas, Mother's/Father's Day, corporate social responsibility and unspecified. ⁱ Includes beauty, entertainment, clothes, food, gift bags, glassware and vouchers/subscriptions. ^j Includes festivals and sports. ^k Includes images, logos, emblems/motifs/stamps, branding, embossing and engraving. ^l Includes messages, slogans, brand names, typeface/fonts/lettering, flavours/ingredients, signatures and dates.

3.4.1.1 *Pack structure*

Pack structure served multiple functions beyond simply containing alcoholic beverages. Companies produced a range of pack formats and sizes to offer choice to consumers and appeal to different requirements (Fortune, 2013). As Heineken (2013) note, over 60% of shoppers are loyal to specific drinks formats, with companies urging retailers to stock a variety of pack formats to meet consumer needs. Pack formats and sizes were also important for drinking occasions, with multipacks, cans and bottles designed to be suitable for a range of activities and events. For example, SHS Drinks (as cited in Cutler, 2017a) found that larger packs (e.g. 700ml bottles) are preferred for sharing occasions when consumers are getting together and having a drink before they go out for the evening, while four-packs tend to be purchased for sharing at parties and events such as barbecues or festivals. Retailers also highlighted that preferences for pack formats and sizes were influenced by the weather and occasions such as sporting events and festivals (e.g. multipacks), with smaller formats providing consumers with specific sizes to suit their occasions (Huddleston, 2016) and suitable for drinking in moderation.

We made an immediate impact with Strawberry [Brothers] cans delivering the highest cash return on sales in the grocery multiples and the second highest volume. Due to its success we have extended the range of cans this summer. The 8-pack range now includes Toffee Apple in cans and new pack formats have been developed with Strawberry, Tutti Fruity and Toffee Apple 4x440ml multipacks; these packs are ideal for many summer and party drinking occasions. Brothers Cider was born at Glastonbury and its consumers will be looking to buy and take the brand to many festivals over the summer; making cans the perfect addition to the Brothers portfolio (Showering, as cited in Brothers, 2012)

The 3 litre bag in box format [of Straw Hat] is perfect for parties and get togethers, stays fresh for up to six weeks after opening and represents excellent value for money for the consumer, with each box containing the equivalent of 4x75cl bottles. The 18.7cl single-serve options are perfect for those who want to keep an eye on their unit consumption and encourages 'pick & mix' purchases (Ledger, as cited in Cutler, 2016a)

Pack convenience, shape and innovation supplemented the promotional role of packaging. Companies and retailers noted the importance of having packs that are easy to carry, store (for retailers and consumers), open/close and drink from, helping to attract consumers, catch attention, influence trial and trade up, and meet occasion requirements. For example, AB InBev (2016) developed a 'twist-off' Budweiser bottle for hassle-free opening (see Figure 3.2), while conveniently-sized packs (e.g. 250ml cans) encouraged impulse purchases and were considered ideal for socialising with friends in the summer (Southern Comfort, 2009), with packs that are easier to carry and open appropriate for picnics and barbecues. Pack shape was also used to help attract consumers, allow products to stand out on shelf and convey a modern, premium image for the brand. For instance, Diageo designed Gordon's Pink gin to appeal to a new, younger adult audience by using a tall, narrow bottle to provide a contemporary, premium feel and distinctive on-shelf presence (Forecourt Trader, 2017). Innovative packaging, such as Kronenbourg's 'dyanamo système' and Foster's in-can scuba (S&N, 2009b) (see Figure 3.3), helped to produce a smoother taste and achieve best quality serve at home (S&N, 2009a), while smart features like quick response (QR) codes and augmented reality (AR) enticed consumers by offering novelty and excitement.

Be sure to include ready-to-drink ranges within the chiller, such as Jameson's new convenient cans, to attract consumers looking to grab and go and quickly enjoy the summer sun (Middelton, as cited in Cutler, 2017a)

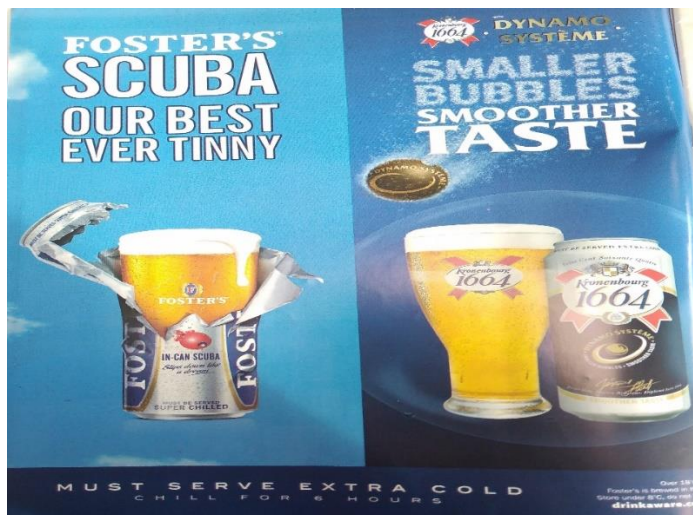
We've [Heineken] launched a new 250ml slim can [Desperados]. It's a trendy shape which is easy to drink on the go. This is a perfect opportunity for convenience stores. This is not a cheap option, but we don't think the consumer minds paying more for a good quality product. It's perfect for a special occasion (Clarkson, as cited in Cutler, 2016a)

With an eye firmly on the gifting market, Diageo is offering more than 40-gifting stock-keeping units in the off-trade this Christmas, including the Smirnoff Number 21 Speaker Pack - a bottle of vodka presented in a red zipped jacket with inbuilt speakers and MP3 connector (Holter, 2009b).

Figure 3.2: Convenient opening mechanism



Figure 3.3: Packaging innovation



3.4.1.2 Promotion

On-pack promotions were generally used to catch attention, create appeal, communicate brand values and influence purchase. Limited-editions were the most popular form of

promotion mentioned in the trade press, with companies producing special packs related to origin and heritage, sponsorships (e.g. sport, festivals), collaborations with celebrities, designers and other companies, and corporate social responsibility. For example, Guinness (2017) marketed limited-edition Gilroy cans with collectible designs featuring lobsters and toucans to celebrate the 120th anniversary of John Gilroy's birth, the artist responsible for successful previous campaigns (see Figure 3.4). Beefeater created a limited edition bottle to pay homage to the creativity of Londoners, which was developed using crowd-sourced images from Londoners who entered a #MyLondon competition, whereby thousands submitted photographs of London via a campaign website (Mannering, 2013). Pernod Ricard (as cited in Cutler, 2017b) produced a series of limited-edition Absolut bottles over the years to support the LGBTQ community, increase shelf standout and drive sales, with the third iteration featuring a rainbow design and 'taking pride in diversity' statement on the back.

It's going to be an exciting few months for Absolut, with this limited-edition bottle marking the start of an ambitious multimillion-pound campaign for us. Absolut's bold creativity and historical championing of the LGBTQ community has always been its point of difference, and with this year being the 50th anniversary of decriminalisation of homosexuality in England and Wales, we're proud to promote diversity once again. Our iconic bottle, clad in a Rainbow design, is sure to grab the attention of shoppers due to its high visibility on shelf versus the rest of the category. We strongly recommend stocking this product ahead of our heavy-weight consumer activity to maximise the sales opportunity (Boita, as cited in Cutler, 2017b).

Figure 3.4: Limited-edition



Alcohol companies significantly invested in other on-pack promotions, including free gifts, competitions/prizes and sponsorships, to entice consumers by aligning with their interests and adding value to purchases. For example, Foster's (2009) ran a £1 million 'game on' activity to boost trade during an economic recession in the UK by tapping into the rising popularity of gaming, offering consumers the chance to win gaming-themed parties and prizes (see Figure 3.5). Sponsorships were usually related to sports, such as football, cricket, tennis and rugby, and often combined with limited-editions and competitions/prizes. For instance, Budweiser built on a successful first year of sponsoring the FA Cup by offering VIP tickets to the final and other limited-edition prizes, with consumers scanning the pack for a chance to win (AB InBev, 2013).

Figure 3.5: Prize/competition

FOSTER'S
GAME ON
AN INSTANT WIN SALES SUCCESS

LASTEST WIN WIN A **GAME ON! ULTIMATE LADS NIGHT IN!**

FOSTER'S is giving your customers the chance to be a winner in the **£1million GAME ON** activity, with its biggest and widest-reaching promotion EVER! This gives your lucky FOSTER'S customers the chance to **instantly win dream prizes** - including the chance to experience the Ultimate Lads' Night In!

Winning promotional can tabs reveal:

GOLD Your customers have won a night of gaming heaven with 5 mates in a luxury penthouse. State of the art consoles, pool table, top DJ, great food, chilled FOSTER'S - it's all there!

BLUE Your customers have won one of the thousands of consoles or games pack prizes on offer, each worth £200!

As one of the UK's leading lagers, FOSTER'S has the power to boost trading during these challenging market conditions. FOSTER'S GAME ON taps into the rising popularity of gaming - one of the few areas of growth resulting from the credit crunch - making The Amber Nectar a must-stock brand.

SUPPORTED WITH NATIONWIDE PRESS RADIO AND ONLINE ADVERTISING TO STIMULATE YOUR SALES

MAXIMISE YOUR FIXTURE WITH GAME ON

BOTTLED WORLD LAGERS

OTHER STANDARD LAGERS

This makes FOSTER'S the perfect partner for your customers to enjoy a fun, stress-free night in with friends. Capitalise on this association by putting FOSTER'S GAME ON promotional cans on your shelves and in your chiller.

To order your FREE poster and barker, to help drive your profits this summer, simply contact us on **Gameon@Superforcreative.co.uk**

*Retailer research estimates value game hardware and software prizes will contribute to game salesworth £200k by 2012

FOSTER'S is brewed in New Zealand

Price-marking was an important promotional tool for alcohol companies, enabling packs to stand out, communicate value to consumers and provide reassurance at the point of sale, with 86% of consumers trusting on-pack prices more than shelf prices (HIM, as cited in Brown Forman, 2016), 70% considering price-marking as a promotion (HIM, as cited in Convenience Store, 2012a), and 44% of shoppers more likely to buy a product on impulse when it is price-marked (HIM, as cited in AB InBev, 2011). Pernod Ricard (2013) released a price-marked 50cl bottle of Absolut in impulse channels (see Figure 3.6). Following consumer research and a successful trial resulting in a sales uplift of 69%, Diageo introduced a range of price-marked packs (PMPs) for best-selling brands (e.g. Smirnoff No. 21, Captain Morgan's Spiced, Bell's) to help convenience retailers boost sales, with the company noting the significant potential of PMPs (Nash, as cited in Convenience Store, 2012a).

Figure 3.6: Price-marking



3.4.1.3 Pack design

Companies regularly updated pack designs, using origin and heritage, graphics (e.g. images), text (e.g. slogans) and colour to appeal to consumers, help products to stand out, convey brand messages and influence perceptions of quality. For instance, Global Brands redesigned VK to mark its first 10 years on the market with a new logo increasing shelf-standout, raising the brand's profile and responding to changing consumer tastes to ensure the pack did not look dated (Perez, as cited in Clark, 2009). Pernod Ricard revamped the packaging of its Jacob's Creek Classics range and added brighter colours to labels: *'The design brings elegance and modernity to a traditional category, which is something we believe will appeal to a new audience, as well as to those already loyal to the brand, by significantly increasing standout on shelf'* (Hoey, as cited in Convenience Store, 2017d).

3.4.1.4 'Green' packaging

While 'green' packaging initiatives were mentioned relatively infrequently ($n=169$, 3.1%), companies acknowledged the economic and environmental benefits of lighter and recyclable packaging materials, with some evidence of consumers being drawn to packs that support causes. For example, Molson Coors created new packs detailing the environmental impacts of its brands to highlight their commitment to recycling and minimising resource use (Stodell,

2012). Accolade Wines launched an environmental conservation campaign on its Banrock Station brand encouraging consumers to vote for their favourite National Trust project, with the winning project receiving the largest share of a £100,000 donation (Convenience Store, 2013a) (see Figure 3.7). Similarly, Diageo partnered with a British Forces charity, ‘Help for Heroes’, to create four million limited-edition Bell’s bottles with specially designed labels to help raise £1 million for the charity by donating 10 pence for every bottle sold (Convenience Store, 2012d).

Figure 3.7: ‘Green’ packaging



3.4.2 Targets of alcohol packaging

Elements of alcohol packaging were designed, and collectively used, to target consumer profiles based on age ($n=234$, 35.3%), customer status ($n=182$, 27.5%), gender ($n=142$, 21.4%) and lifestyle/personality traits ($n=96$, 14.5%), with minimal references to socioeconomic status ($n=8$, 1.2%) (see Table 3.2).

Table 3.2: Targets of alcohol packaging

Code	Frequency ^a	
	<i>n</i>	%
Age cohort ^b	234	35.3
Young adults ^c	184	27.8
Older adults ^d	27	4.1
Mixed age range ^e	23	3.5
Customer status	182	27.5
New/wider	124	18.7
Current/core	58	8.8
Gender	142	21.4
Females	91	13.7
Males	41	6.2
Unisex	10	1.5
Lifestyle/personality	96	14.5
Health-conscious	46	6.9
Moderation/units	30	4.5
Calories	11	1.7
Ingredients	5	0.8
Modern/sophisticated	14	2.1
Aspirational	12	1.8
Eco-conscious	12	1.8
Trend-conscious/cool	5	0.8
Desires authenticity	5	0.8
Desires instant gratification	2	0.3
Socioeconomic status	8	1.2
Higher	6	0.9
Lower	2	0.3

Notes: Absolute frequency of references within the theme: 662. ^a Reflects the absolute and relative frequencies of each code within the theme (rounded to one decimal place). ^b Age ranges were derived from the verbatim text and categorised in line with the broader thesis, i.e. young adults were defined as ages 18 to 35 years. ^c Includes references to people aged 18–35, ‘millennials’ and ‘students’. ^d Includes references to people aged 36 and over, ‘mature’, ‘middle-aged’ and ‘older’. ^e Includes references to age ranges spanning both younger and older adults, e.g. 25–50.

3.4.2.1 Age

Young adults ($n=184$, 27.8%), comprising references to millennials, students and those aged 18–35, were the most frequently targeted cohort by alcohol companies, with an array of pack elements employed to catch their attention, create appeal, suit occasions and influence purchase. Many spokespeople noted the importance of appealing to younger consumers to ensure ongoing success. For example, Legacy Wines (2012) engaged with younger consumers, a demographic often overlooked in the wine category, driving future growth with ‘funky’, yet premium packaging and ensuring standout on shelf. Hogs Back Brewery (as

cited in Huddleston, 2017) introduced 33cl cans to the range because they were considered an attractive pack format by a growing number of younger craft beer drinkers as they are light and portable, which is ideal for festivals, barbecues and other beer-drinking occasions. Rekorderlig designed a range of cocktails in convenient 250ml cans to offer their core consumer group of young adults more opportunities to drink Rekorderlig (e.g. at home, parties, festivals) (Pickering, as cited in Cutler, 2016b).

3.4.2.2 Customer status

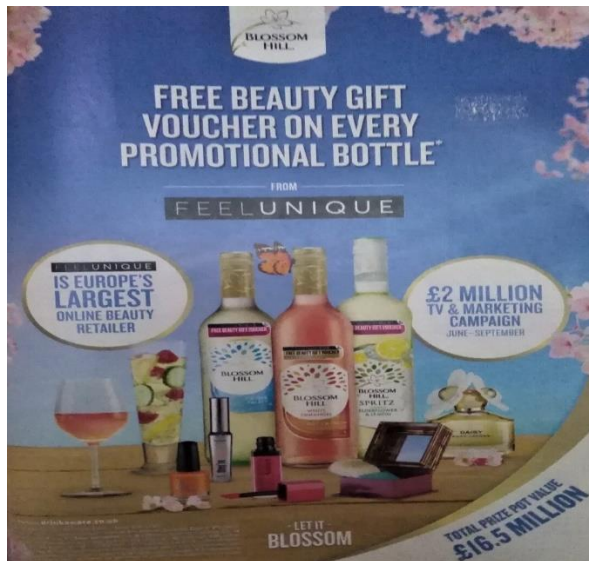
Packaging was an important means of recruiting new consumers to brands and widening the consumer base for companies, helping to draw attention, create interest and stand out from competitors, as well as encouraging trial and impulse purchases. For example, Malibu's cocktail pouches attracted new shoppers to the spirits category, with 77% of purchases of its pre-mix cans unplanned from new shoppers (as cited in Mannering, 2012a). Martell updated its bottle shape as part of a wider strategy to make cognac more relevant for a younger audience and increase growth by enticing new consumers to the category: *'We are hugely excited to be refreshing our VS expression with the introduction of Martell VS Single distillery, which will invite new consumers to explore the category by providing an up-to-date cognac experience'* (Trehwella, as cited in Convenience Store, 2017a). Packaging elements were also used to appeal to current customers, with planned changes often considering the potential reactions of existing consumers while trying to reach new customers. For instance, Friels (as cited in Convenience Store, 2017b) used 5 litre mini kegs to appeal to existing cider drinkers and those new to the category.

3.4.2.3 Gender

Given that marketers are keen to boost brand appeal to women (Holter, 2009a), young adult females were predominantly targeted by packaging designs and promotions, creating shelf-standout, appeal and relevance by aligning with perceived female interests. To illustrate, Bella Vie introduced a smaller (178ml) format to appeal directly to its target market of women in their early 20s, key to driving the rosé boom (Convenience Store, 2012b), while promotional bottles of Blossom Hill (2017) featured a free gift voucher for the online beauty shop 'Feel Unique' (see Figure 3.8), with the total giveaway valued at £16.5 million (see Figure 3.8). Molson Coors (as cited in Convenience Store, 2012a) developed the Animée

range of beers to target women in response to a £396 million gap in the market whereby only 17% of women drank beer. Similar tactics were used to target males, such as smaller bottle sizes, free gifts, PMPs and sponsorships, with alcohol companies acknowledging the potential in appealing to young men (Beckett, 2009).

Figure 3.8: *Female-oriented promotion*



3.4.2.4 *Lifestyle, personality and socioeconomic status*

While mentioned relatively infrequently ($n=96$, 14.5%), packs were also designed to align with consumers' personalities and lifestyles, making products more relevant and appealing to different cohorts including those considered health- (e.g. calories), eco-, and trend-conscious, as well as modern, sophisticated and aspirational drinkers who desired authenticity from brands and instant gratification, with minimal references to socioeconomic status ($n=8$, 1.2%). For example, Constellation Europe created a 37.5cl bottle of Hardys after finding that consumers want to treat themselves at home and avoid having a full bottle, with half-bottles encouraging trial and trade up (Huddleston & Holter, 2008). Several brands added eco-friendly packs to satisfy changing perceptions of wine presentation and demand for more sustainable packaging, with lighter glass only partially addressing environmental concerns (Convenience Store, 2008). For instance, Banrock Station introduced 'ecomate' packaging, a 100% recyclable Tetra Pak with minimal carbon footprint and a tagline to 'help the Earth one glass at a time', while an Arniston Bay pouch had 80% less carbon footprint than wine

bottles. There was some evidence of packs (e.g. ready-to-drink cans) designed to match with consumers who view their drinks as an extension of their own personality and image (Convenience Store, 2017e).

3.4.3 Aims and impacts of alcohol packaging

Building on the role of packaging elements in targeting consumer profiles, alcohol packaging is a powerful sales tool, helping to align products with drinking occasions and experiences, engaging consumers and shaping their perceptions.

Table 3.3: Aim and impact of alcohol packaging

Code	Frequency ^a	
	<i>n</i>	%
Sales-related	1138	34.1
Profit-related	433	13.0
Increase revenue ^b	395	11.8
Revive sales ^c	38	1.1
Market-related	316	9.5
Consumer interest/demand/trend	210	6.3
Opportunity/potential/gap	106	3.2
Purchase-related	131	3.9
Impulse	40	1.2
Providing choice/variety	36	1.1
Trial ^d	31	0.9
Trade up ^e	24	0.7
Price-related	179	5.4
Value for money	108	3.2
Price difference ^f	62	1.9
Expensive/bad value for money	8	0.2
Brand-related	79	2.4
Distinct from brand/competitors	35	1.0
Consistency within brand/portfolio	32	1.0
Keep brand current/fresh	12	0.4
Occasions/associations/suitability	904	27.0
What	388	11.6
Socialising ^g	253	7.6
Sporting events	43	1.3
Festivals	40	1.2
Suitable with meals	31	0.9
Nights in	21	0.6
When	387	11.6
Summer	145	4.3
Christmas	125	3.7
Other times of the year ^h	89	2.7
Days of the week ⁱ	28	0.8
Where	129	3.9
Home	79	2.4
Outdoors	41	1.2
Travelling	9	0.3
Product-based perceptions	680	20.3
Quality	319	9.5
Premium/sophisticated/luxurious	290	8.7
Simple	19	0.6
Poor/cheap	10	0.3
Time period/portrayal	194	5.8
Modern/contemporary/trendy	139	4.2
Traditional/classic	36	1.1
Retro	19	0.6

Appeal/attraction	138	4.1
Positive	99	3.0
Negative	39	1.2
Sense-related ^j	29	0.9
Consumer engagement	620	18.6
Attention	283	8.5
Shelf stand-out	172	5.1
Distinctive/memorable	60	1.8
Eye-catching	48	1.4
‘Disrupt’	3	0.1
Communication	246	7.4
Product information ^k	124	3.7
Brand stories/values	86	2.6
Public engagement ^l	36	1.1
Elicit response	91	2.7
Inspire/excite/entice/encourage	62	1.9
Trust/confidence/loyalty	29	0.9

Notes: Absolute frequency of references within the theme: 3342. ^a Reflects the absolute and relative frequencies of each code within the theme (rounded to one decimal place). ^b Reflects expected and observed increase in sales volume, growth and success ^c Reflects attempt to reinvigorate flagging sales via packaging. ^d Reflects the use of packaging to encourage product trial. ^e Reflects the use of packaging to encourage more expensive purchases, e.g. higher quality spirit brand. ^f Reflects the use of packaging to create different price points and increase affordability, e.g. fractionals (smaller sizes). ^g Includes packs for sharing, parties, dinners, barbecues, picnics, nights out, special occasions and unspecified social occasions. ^h Includes autumn, spring, winter, Mother’s/Father’s Day, Halloween, Easter, New Year’s Eve and all year round. ⁱ Includes tonight, midweek and weekend. ^j Includes taste expectations and references to touch. ^k Includes ingredients, recipes, tasting notes and production processes. ^l Includes voting for label designs and social media activities.

3.4.3.1 Sales-related

The key aim of alcohol packaging as a promotional tool was to drive sales, increase revenue and ameliorate downturns, which was largely achieved via a sophisticated combination of pack elements (e.g. PMPs) targeted at receptive audiences and encouraging retailers to stock popular pack designs and formats (e.g. Jägermeister, 2013) (see Figure 3.9), with several companies reporting significant increases, both expected and observed, in sales volume and profits. For example, Malibu cocktail pouches added more than £1 million category value sales in the first six months (Nielsen, as cited in Mannering, 2012a), while smaller formats (e.g. 35cl) contributed £38.6 million of incremental value growth to the spirits category (Mannering, 2012b) and 330ml cans added £78 million to the beer and cider category (Nielsen, as cited Convenience Store, 2017c). Alcohol companies invested extensively in market research, new product development and marketing channels, encouraging retailers to stock brands by highlighting the benefits of packaging initiatives (e.g. increase revenue). For example, as part of a wider £13 million marketing campaign, Grolsch spent £5.4 million to re-establish its swing-top format as an asset in the struggling premium lager category,

providing value and '*something more special*' to consumers, with adverts and billboards featuring the opening/closing mechanism (as cited in Barnes, 2009).

Jack Daniel's is committed to driving sales and profits, especially within the convenience channel, and we're confident the new price-marked bottles will drive incremental sales for retailers. With more and more consumers choosing to stay at home for nights in or to have a chilled drinking occasion with friends over the festive period, we'd recommend that retailers stock up on Jack Daniel's PMPs while stocks last (Stephens, as cited in Convenience Store, 2013b)

There has been an explosion of new products in spirits, but the best performing lines in impulse are price-marked mainstream brands. The impulse channel has traditionally focussed on PMPs, and this year is no exception. Three quarters (i.e. 15 out of 20) of the best performing stock-keeping units in impulse are PMPs. Smirnoff Red Label 70cl PMP leads the way at £13.42 and has added £12 million to its last year sales. Jack Daniel's 70cl PMP at £19.99 launched in 2015 and has already added £5.2 million to its sales. Of the top 50 biggest stock-keeping units, 13 are PMPs, while 35.7% of the impulse market (in value terms) is from fractional sizes (50cl or lower), compared to just 11.4% in the multiple grocers (Nielsen, 2016)

Figure 3.9: Increasing sales via packaging



Packs were designed to meet consumer interests and trends, capitalising on opportunities and filling gaps in the market. For instance, San Miguel reinforced its Spanish heritage with revamped European-influenced packaging (e.g. new label colour, lengthened bottle neck) and a £7 million marketing push, with all formats featuring a passage of Spanish writing to meet increased consumer interest in the world lager category, maximise shelf standout and enhance its premium appeal (Scott, as cited in Allen, 2009b). Companies frequently used packs to influence purchase, encouraging impulse buys, product trial and trade up to more expensive brands. For example, Thatchers (as cited in Allen, 2009a) added smaller 500ml bottles to encourage impulse purchases and '*help drive trial purchase before customers move up to 750ml*'. Packs were also used to communicate value for money, create different price points and increase affordability, while performing important brand functions such as providing consistency within portfolios and keeping products distinct from competitors.

Due to changes in consumer demand, and the success of our other PMPs, we will be introducing a price-marked 500ml Diamond White can. This is to offer consistently good value, while maintaining the product's premium positioning (McNally, as cited in Banks, 2016)

With consumers' disposable income stretched, fractionals [smaller sizes] provide an entry price suitable for any customer and are perfect for big nights in when litre bottles may not be suitable, or are seen as too expensive (Irwin, as cited in Britton, 2013)

3.4.3.2 Occasions/associations/suitability

Packs were frequently designed to be suitable for, and associated with, a range of drinking occasions (e.g. parties), times of the year (e.g. Christmas), days of the week (e.g. midweek), and places of consumption (e.g. at home, outdoors), with companies capitalising on consumer interest, cultural and sporting events, and general connections between socialising and alcohol consumption. Packs were created to be consumed at, and shared, in multiple social settings, such as parties (e.g. multipacks), dinners, barbecues (e.g. convenient packs), nights in/out and special occasions, as well as sporting events (e.g. football tournaments) and music festivals, with packaging initiatives and investments concentrated on summer and Christmas as key periods to prime consumers and maximise sales opportunities. For instance, Sol (2016)

created a unique 'cool box' sharing pack designed to be folded out and filled with ice, intended for summer drinking occasions (see Figure 3.10), while Malibu (2013) targeted the lucrative Christmas gift market via a festive-themed box (see Figure 3.11), with 50% of spirit gift purchases made in the three weeks before Christmas (Nielsen, as cited in Malibu, 2013).

The festive season is a crucial period for the spirits category, driving huge spikes in sales and giving retailers the chance to make incremental profits. The gifting occasion is also key to key to seasonal sales, with huge numbers of consumers seeking convenient gift solutions and to trade up to more premium brands. Last year's activity saw an average of 33% uplift value sales, so we're confident the new offering [free gift bags] will again appeal to shoppers (Irwin, as cited in Convenience Store, 2013c)

Supported by a £10 million investment, Maxxium UK (2012) introduced Sourz Fusionz in a range of pack formats (e.g. ready-to-drink 330ml cans, 700ml bottles) and vibrant colours to reflect the brand's persona and increase standout, *'bringing the Sourz brand into exciting and different consumption occasions'*. Carlsberg attributed a downturn in sales in 2011 to the lack of a football World Cup or European championship and acknowledged how important its links with football are to the brand: *'Key events give us opportunities to drive volume, and in non-football years it's difficult to recreate those occasions'* (Scott, as cited in Porter, 2012).

Figure 3.10: Packaging for summer

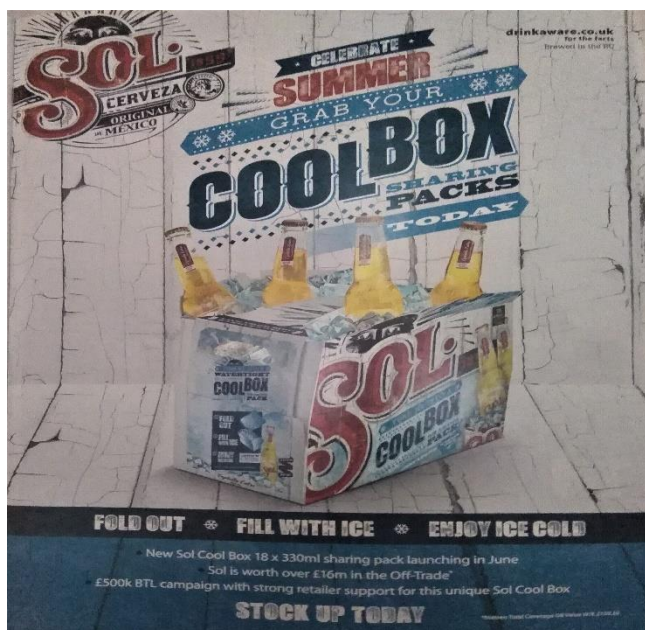


Figure 3.11: Packaging for Christmas



3.4.3.3 Product-based perceptions and consumer engagement

Pack cues (e.g. graphics, structure, promotions) were frequently used to create appeal and attract consumers, marketing alcohol products as high-quality and modern, with fewer references to simple, traditional packaging and sensory transfer (e.g. pack-based taste expectations). For example, William Grant & Sons UK created premium packaging for Wood's Old Navy Rum by using a simpler, sturdier bottle with thicker glass and a traditional cork: *'After evaluating the rich brand history, consumer trends and the dark rum category, we wanted more premium packaging to match the quality of the liquid inside the bottle, which hasn't changed since 1887'* (Cooke, as cited in Cutler, 2016c).

Packaging played a key role in drawing consumers' attention, with eye-catching, distinctive elements enabling packs to stand out and influence purchase. These goals were supplemented by communicating brand stories and values on packs to connect with consumers more meaningfully. For example, Carling packs were redesigned to appear *'simple yet proud, reinforcing Carling's values: genuine, dependable and unpretentious'* (Shearer, as cited in Huddleston, 2017). Similarly, companies used packaging to help inspire and excite potential consumers, instil trust and confidence in the product, and strengthen customer loyalty.

The redesigned label underpins the status of Old Peculier as one of the most popular and instantly recognised premium bottled ales. The bottle will have further enhanced on-shelf standout and even stronger premium cues (Theakston, as cited in Convenience Store, 2016)

At Absolut, we support the notion of an inclusive world that allows people to connect without labels. The Absolut Mix design features the six colours of Pride entwining together as semi-transparent triangles while maintaining their individuality - symbolising the unique connections that can be created when various individuals mix together. Consumers will notice the distinct absence of the overarching Absolut logo in the centre of the bottle - a nod to our support for the removal of social labelling (Boita, as cited in Cutler, 2016c)

3.5 Discussion

3.5.1 Alcohol packaging as a marketing tool

This study demonstrates the multifaceted promotional role of alcohol packaging, its importance in targeting consumer profiles, and ability to achieve corporate goals in the pursuit of increased revenue. Pack elements were found to serve multiple marketing functions, such as creating and reinforcing impressions of brands, increasing shelf standout and drawing attention, communicating with (e.g. brand stories/values) and attracting consumers, while influencing positive product perceptions (e.g. quality) and, ultimately, encouraging purchase. Alcohol companies employ sophisticated targeting of different audiences and occasions to meet their aims via packaging, focusing on ‘who’ (e.g. young women), ‘what’ (e.g. social events), ‘where’ (e.g. at home), and ‘when’ (e.g. Christmas, summer), enticing product trial and trade up through significant investment in research and marketing campaigns, resulting in even greater return on investments. Alcohol companies in the UK are highly financially dependent upon high levels of drinking (Bhattacharya et al., 2018), with alcohol packaging helping to encourage purchase and maintain a positive image of consumption.

While alcohol companies purportedly use marketing techniques to retain consumers and encourage current drinkers to switch between brands and products, research demonstrates (Hastings, 2010, as cited in Scottish Government, 2022) that campaigns can also recruit new

drinkers and increase overall alcohol consumption. The findings in this study further the case that alcohol companies are utilising packaging as a profitable means of targeting market segments (e.g. young adults, females, new consumers), increasing the likelihood of purchase (e.g. trial, impulse, trade-up), as well as promoting the connection of drinking with a range of occasions, events and times of the year, coinciding with the alcohol industry acknowledging the valuable marketing role of packaging in the grey literature (see Chapter One). The industry views packaging (e.g. format) as a ‘central, indispensable part of the product’, developing brands’ cultural heritage and influencing product perceptions (Spirits Europe, 2022). For instance, Maverick Drinks (as cited in Glaister, 2017), a craft spirit branding specialist contend that ‘packaging plays a big part in being able to sell the product [and] is a big part of why people trade up to craft brands’.

Moreover, some have argued that it is very unlikely that alcohol marketing only influences adults to switch between brands and that this does not influence increased consumption of alcohol (Alcohol Focus Scotland, 2022). The present study furthers this argument by demonstrating direct links, as stated by industry actors, between packaging strategies and increases in volume and sales revenue; realistically, this can only be achieved by encouraging current drinkers to consume more or recruiting new consumers. This is in conflict with industry claims around its support for ‘responsible’ alcohol consumption (e.g. C&C Group, 2022) and its awareness that communicating alcohol-related health information via packaging can be an important driver of positive behavioural change (Portman Group, 2022). This could also be said of the industry’s insistence on personal irresponsibility as a driver of ‘immoderate’ consumption (Portman Group, 2019), which neither acknowledges nor takes responsibility for the powerful commercial determinants of health.

3.5.2 Study limitations

This study had several limitations. While the trade press enabled relatively unfiltered access to alcohol industry tactics with regards to packaging, the use of secondary materials meant that consumers’ experiences and perceptions were inaccessible, which is explored in Chapter Four and Chapter Five, with some articles too brief to draw any reasonable inference or understand the rationale for some pack designs. While alcohol companies employ a range of pack elements to promote their products, it is unclear whether these findings can be generalised to other countries where companies may operate differently. Future studies could

meaningfully extend this work by analysing the most recent trade press publications and social media activities with respect to packaging strategies, both in the UK and elsewhere.

While this study provides rich data from six years' worth of industry sources across a 10-year period, a significantly underutilised tool for academic research on alcohol marketing, it did not code for potential packaging changes (e.g. use of promotions and 'green' packaging) by year, company, brand or drink type, which would be interesting areas for future studies with greater resources to consider. Similarly, semi-structured interviews with alcohol marketers exploring industry tactics with regard to packaging would be an interesting contribution to the literature, comparable to tobacco research with packaging and marketing experts to explore novel uses of cigarette packaging to communicate health messages (Moodie, 2016), which could help to inform future alcohol policies.

Although the scope of the study and iterative coding framework was discussed frequently with the supervisory team, future studies with greater resources would likely benefit from having multiple researchers coding different issues of the trade press and, where feasible, double-coding a random sample of issues to highlight potential inconsistencies, minimise coding errors and reinforce data quality. While elements of packaging are not mutually exclusive and are often used in conjunction to promote the product, this study aimed to capture all relevant information to provide a clear understanding of all pack elements employed by companies and their impact. Future research may consider how best to code instances where it is explicit that multiple elements of packaging are being used simultaneously as a promotional tool.

3.5.3 Conclusions

In conclusion, alcohol packaging is a multifaceted, lucrative marketing tool, which is strategically, and consistently, employed by companies to meet and create consumer interest in drinking and drinking occasions, driving interest in brands and encouraging purchase. This study provides a unique means for gaining insights into the rationale of the alcohol industry behind the selection of packaging for its products. Understandably, it is difficult for alcohol researchers to hear 'directly' from industry representatives about the operations of the industry. Unlike tobacco, very few industry 'insiders' have come forward to talk about the business of the alcohol industry. As such, the alcohol industry trade press offers a valid and interesting means of learning more about the industry's thinking regarding markets for its products and the ways in which it uses packaging to reach those intended markets, and

subsequently, increase sales. The industry is effectively communicating with itself in the trade press, which allows for different, potentially more accurate insights to be gained than those available through examination of the industry's submissions to public or government processes.

Chapter Four: Exploring young adult drinkers' responses to, and engagement with, alcohol packaging as a marketing and social marketing tool

The findings in this chapter are based on the following publications:

Jones, D., Moodie, C., Purves, R. I., Fitzgerald, N., & Crockett, R. (2022a). Alcohol packaging as a promotional tool: A focus group study with young adult drinkers in Scotland. *Journal of Studies on Alcohol and Drugs*, 83(4), 565–573. doi: 10.15288/jsad.2022.83.565

Jones, D., Moodie, C., Purves, R. I., Fitzgerald, N., & Crockett, R. (2021). Health information, messaging and warnings on alcohol packaging: A focus group study with young adult drinkers in Scotland. *Addiction Research and Theory*, 29(6), 469–478. doi: 10.1080/16066359.2021.1884229

This chapter presents the findings from a focus group study, funded by Alcohol Focus Scotland, exploring young adult drinkers' responses to alcohol packaging as a promotional and health messaging tool to address RQs 4–6 (Chapter Two). The chapter begins with an Abstract (section 4.1) and overview of alcohol packaging from marketing (4.2.1) and social marketing (4.2.2) perspectives, and the aims of the present study (4.2.3), before detailing the methods (4.3) and analysis employed (4.3.3). The results comprise two sections. The first section (4.4.1–4.4.5) explores young adult drinkers' views on, and experiences with, alcohol packaging from a marketing perspective, including engagement with branded products. The second section (4.4.6–4.4.10) examines young adult drinkers' perceptions of the product and health-related information currently provided on alcohol packaging, and reactions to products with novel health warnings. The findings are synthesised in the discussion (4.5), with study limitations (4.5.3) and conclusions (4.5.4) discussed.

4.1 Abstract

Introduction: There is limited research on consumer perceptions of alcohol packaging as a marketing tool, with existing studies focused on children and adolescents. Similarly, there is limited research exploring awareness of, and engagement with, health information and messaging on alcohol packaging, and response to novel alcohol warnings. **Methods:** Eight focus groups were conducted in Glasgow (Scotland) with current drinkers ($n=50$), segmented by age (18–24, 25–35), gender (female, male) and social grade (ABC1, C2DE). The first section explored perceptions of alcohol packaging as a promotional tool, with participants shown, allowed to handle, and asked about, a range of alcoholic products. The second section explored awareness and use of health information and messaging on existing packaging, and perceptions of novel (i.e. experimental mock-ups) front-of-package warnings differing in size (small, large), form (text-only, pictorial [text-and-image]) and message content (general, specific). **Results:** Five main themes emerged regarding alcohol packaging as a promotional tool. The first was the ubiquity of alcohol packaging, with frequent exposure reported in different settings, such as shops and drinking venues, and via marketing. The second was appeal, with pack graphics (e.g. colour), structure (e.g. shape, size) and promotions (e.g. gifts, limited-editions) allowing alcohol packs to catch attention and helping to create product and brand liking, interest and choice. Third, alcohol packaging was frequently associated with specific occasions and activities. Fourth, alcohol packaging informed perceptions of product-consumer targeting, suitability, and intended drinker profiles. Fifth, alcohol packaging also engaged non-visual senses (e.g. touch, sound, smell), guiding expectations of product taste and palatability. Five main themes also emerged regarding alcohol packaging as a health communications tool. Unaided recall of some health information and messaging was high (e.g. units, pregnancy symbols); however, most participants did not attend to or meaningfully engage with these, viewing them as unnoticeable, obscure and ineffective. Participants were sceptical of alcohol companies' motivations with respect to health messaging on products. They were surprised to see the novel warnings on alcohol products but generally supported their inclusion. Most thought that these warnings could increase awareness of alcohol-related harms, particularly for younger or potential drinkers. Large, pictorial warnings with specific messages on the front of packaging were considered most engaging and potentially effective. **Conclusions:** For young adult drinkers in Scotland, alcohol packaging can capture attention, create appeal, and help shape perceptions of the product, drinker and drinking experience. Furthermore, the health-related information and messaging on alcohol packaging in Scotland

is failing to inform consumers about the potential risks associated with alcohol use. Prominent warnings on alcohol packaging could help to capture attention, increase awareness of alcohol-related harms, and may support a reduction in alcohol consumption and related harms.

4.2 Introduction

4.2.1 Alcohol packaging as a marketing tool

Marketing communications aim to forge a strong connection between consumers and brands (Purves, 2017), with packaging an increasingly important means of doing so (LaMarco, 2019). Product packaging is a valuable means of communication for most consumer goods (Ford et al., 2012), being used to capture attention, identify brands, and differentiate products within and between brands (Gómez et al., 2015; Wells et al., 2007; H. Zhao et al., 2017). A core strength of packaging is its accessibility and visibility at the point of purchase (Underwood et al., 2001), helping to showcase the product (Rundh, 2013). Indeed, the pack is often consumers' first encounter with the product and can set expectations of its contents through colours, images, symbols, words, shapes, sizes, formats and labels (Durgee, 2003; Gelici-Zeko et al., 2013; Kotler & Keller, 2012; Laeng et al., 2016; J. Langley et al., 2011; Rocchi & Stefani, 2006).

Packaging enables multi-sensory communication with the consumer and is often used to produce individual and social meaning via pack cues (de Luca & Penco, 2006). For example, alcohol packaging can be used to convey a luxurious, aspirational lifestyle (Diouf, 2014), or target health-conscious consumers by promoting low alcoholic and calorific content (Lingle, 2017) or environmentally-conscious consumers by using logos designed to increase awareness of corporate social responsibility, e.g. animal conservation (Barber, 2010; Packaging Strategies, 2017; Rokka & Uusitalo, 2008). Consumers may also associate certain colours and patterns used on packaging with brand identity and gender suitability (T. Madden et al., 2000; Sara, 1990).

Packaging is crucial for communicating information about, as well as creating interest for, the product (Ampuero & Vila, 2006; Moodie & Hastings, 2011; Wyrwa & Barska, 2017). Given that the "first taste" is often with the eye (Mueller & Lockshin, 2008), packaging can influence palatability ratings without the consumer tasting the product (Gates et al., 2007). It can also influence shelf-standout, purchasing decisions, customer satisfaction, and

consumers' 'lived' experiences of products (Ford et al., 2012; Kotler & Keller, 2012; Löfgren & Witell, 2005; Merdian et al., 2021; Schifferstein et al., 2013; Silayoi & Speece, 2007; Thong et al., 2018). Alcohol packaging—which is generally but not always present at the point of purchase (e.g. restaurant menu options)—can play a key role in adolescents' drinking behaviour by influencing appeal, product trial and choice (Morey et al., 2017; Purves et al., 2018), and may influence purchase and consumption among adults (Barber & Almanza, 2006; Kersbergen & Field, 2017).

The role of packaging has been widely studied for non-alcoholic beverages, including mineral water, cola drinks, fruit juice and milk (Joubert & Poalses, 2012; Maher, 2012; Méndez et al., 2011; van den Berg-Weitzel & van de Laar, 2001), and products with comparable health risks to alcohol, like tobacco (Moodie & Hastings, 2010). For alcohol, in contrast, studies typically focus on traditional and digital alcohol marketing (Critchlow et al., 2016; Farrell & Gordon, 2012). The few studies to explore alcohol packaging as a promotional tool have been conducted with children and adolescents (e.g. S. C. Jones & Reis, 2011; Morey et al., 2017; Purves et al., 2018), and while they are key populations, so too are adults, the legitimate and main targets for such communications (Critchlow & Moodie, 2021).

4.2.2 Alcohol packaging as a social marketing tool

Globally, alcohol use is associated with substantial health, economic, and social burdens (Cukier et al., 2018; Griswold et al., 2018; Ranaweera et al., 2018), being a major contributor to disability-adjusted-life-years, injuries, and mortality (Peacock et al., 2018; Rehm et al., 2017). The harmful use of alcohol results in approximately 3 million deaths per year globally (WHO, 2022a). Europe has the highest level of alcohol consumption and lowest prevalence of abstainers worldwide (WHO, 2020b). Alcohol misuse is a significant public health issue in the UK (Balakrishnan et al., 2009; Scott & Kaner, 2014), as it is in many other countries, placing considerable strain on financial and medical resources (Williams et al., 2018). Within the UK, Scotland registered the highest rate of alcohol-specific deaths 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 often present at the point of purchase and the point of consumption, making it an appropriate medium for communicating drinking and health-related information to consumers (Calvert, 2018). However, research suggests that the health-related information displayed on alcohol packaging is suboptimal (Coomber et al., 2018; Petticrew et al., 2016). Research in the UK 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 (Critchlow et al., 2019). Improving how this type of information is presented on packaging could help to increase awareness of, and reduce, alcohol-related harms (Royal Society for Public Health, 2018).

In the UK, alcohol packaging is legally required to include volume, strength/ABV and presence of common allergens (UK Parliament, 2021), with other product and health-related information (e.g. nutritional information, health messaging) self-regulated by alcohol companies and no legal restrictions regarding on-pack promotions, single-serve product availability or the display of alcohol in retail outlets (e.g. supermarkets). It has been argued that self-regulation enables alcohol companies to use packaging to communicate health misinformation and for marketing purposes (O'Brien et al., 2021). The Portman Group (see section 1.4.1), an alcohol-producer funded organisation which monitors the packaging and promotion of alcohol products in the UK as part of its Code of Practice (Portman Group, 2019), has been criticised for serving industry interests, undermining public health and ineffectively regulating alcohol marketing (Alcohol Concern, 2018; Hawkins & McCambridge, 2021; McCambridge et al., 2014). Packs in the UK are not commensurate with potential harms and do not adequately inform consumers, let alone change drinking behaviours (Alcohol Health Alliance UK, 2020). Messaging is suboptimal and of limited relevance to consumers (e.g. 'Please drink responsibly'), with small fonts and warning logos (e.g. pregnancy) usually on the back of the product (Petticrew et al., 2016). Despite a significant increase of alcohol-specific deaths in the UK in 2020 (Office for National Statistics, 2021), alcohol packaging remains a versatile marketing tool.

Warnings on the packaging of potentially harmful consumer products are a particularly useful way of communicating these risks to the public (Rosenblatt et al., 2018). They are a low-cost, high-reach intervention that can allow consumers to make more informed choices. For example, health warnings on tobacco products – a key tobacco control tool required by most countries (WHO, 2013; Moodie et al., 2020) – attract and hold attention, expand knowledge of smoking-related harms, and deter uptake among non-smokers (Hammond, 2011; Moodie et al., 2020; Noar et al., 2016). It is important to know whether warnings work,

with effectiveness generally gauged across five domains: attention, reading and comprehension, recall, judgements, and behavioural compliance (Argo & Main, 2004). Effectiveness may be affected by visibility, saliency, message content, and exposure (May et al., 2019). Improving the design of warnings on alcohol products, for instance by displaying a range of general and specific health-related messages, may help attract consumer attention, increase awareness of alcohol-related harms, improve engagement, and support a reduction in alcohol use (Hobin et al., 2020; Miller et al., 2016; Sillero-Rejon et al., 2020; Wigg & Stafford, 2016; Winstock et al., 2020).

4.2.3 Study aims

The aim was to address gaps in the literature in order to better understand the influence of packaging on purchasing choice and consumption. To do so, focus groups were conducted with young adult drinkers in Scotland. The groups initially explored perceptions of alcohol packaging as a promotional tool, how it is used to create appeal and attract consumers, and which, if any, pack features consumers consider important. Following this, awareness of the health information and messaging currently displayed on alcohol packaging, and how it is perceived and if it is used, was explored, before assessing perceptions of novel health warnings.

4.3 Methods

4.3.1 Design and sample

Eight focus groups were conducted in Glasgow (Scotland) in September 2019 with 50 young adult past-month drinkers. The groups were segmented by age (18–24, 25–35), gender (female, male), and social grade (ABC1, C2DE) (see Table 4.1) as participants with similar characteristics are usually more comfortable engaging in group discussions (Greenwood et al., 2014). Previous research has recommended that the impact of alcohol health warnings be investigated within different subgroups, such as age, gender or socio-economic position (Pechey et al., 2020). Social grade was categorised according to the occupation of the person in the participant's household with the largest income (National Readership Survey, n.d.), an established classification system in the UK with grades A, B and C1 indicating higher and

middle class groups and C2, D and E working class groups. Focus groups, which have previously been used to explore attitudes towards novel warnings on alcohol products (Roderique-Davies et al., 2020; Thomson et al., 2012; Vallance et al., 2018), allow participants to interact with, and discuss, branded products and realistic examples of alcohol packaging. The focus was on young adults as the trade press (see Chapter 3) and grey literature in the UK shows that alcohol producers regularly target this age group when (re)designing packaging (Bell, 2020; Boggis, 2008; Clark, 2008). They are also a key group for public health messaging given the high levels of hazardous drinking (Patton & Boniface, 2016), yet somewhat overlooked in alcohol marketing research (Critchlow & Moodie, 2021). There was a mix of drinking behaviours within and between groups according to units consumed in the past week (National Health Service, 2018), which was captured during recruitment (see Appendix A). While almost all participants ($n=48$) had drunk alcohol in the past week (see Table 4.1), the number of units consumed by past-week drinkers ranged from 2 to 80 with a median of 13.5 units ($SD=13.64$), which is within the UK Chief Medical Officers' (CMO, 2016) low-risk weekly drinking guidelines (i.e. below 14 units).

Table 4.1: Age, gender, social grade, number of participants, median units in past 7 days

Group	Age	Gender	Social grade	Participants ^a	Units
1	18–24	Female	ABC1	7	12
2	18–24	Female	C2DE	7	14 ^b
3	25–35	Female	ABC1	6	16
4	25–35	Female	C2DE	5	8
5	18–24	Male	ABC1	7	16
6	18–24	Male	C2DE	6	13
7	25–35	Male	ABC1	6	15.5
8	25–35	Male	C2DE	6	9.5

Notes: ^a Of the 56 young adults recruited, 50 (89%) participated in the focus groups. ^b Two participants had not consumed alcohol in the past 7 days.

4.3.2 Procedure

Participants were recruited, face-to-face, in Greater Glasgow in August 2019 by an experienced market researcher using a brief recruitment questionnaire which captured demographic and drinking information (see Appendix A). Potential participants were asked ‘When was the last time you drank alcohol?’. Those who had consumed any alcohol in the past 30 days were considered current drinkers, with those answering ‘Never’ or ‘More than

30 days ago' ineligible. At recruitment participants were fully informed about the study and potential ethical concerns (e.g. confidentiality, anonymity, right to withdraw) via an information sheet (see Appendix B), and prior to each group, all moderated by DJ, asked to provide consent (see Appendix C) and provided with a data privacy notice (see Appendix D). It was explained at the start of each group that all contributions were valued and encouraged, and that participants could refrain from answering any questions. Groups lasted 93 minutes on average (shortest 90 minutes, longest 99 minutes) and were audio-recorded. A semi-structured discussion guide (see Appendix E) was used to address the research aims and ensure commonality across groups. Each group explored alcohol packaging as a means of promotion and, subsequently, health messaging on alcohol packaging.

4.3.2.1 Alcohol packaging as a marketing tool

In section one of the focus groups, participants were asked where they had seen alcohol and alcohol packaging, whether they had ever been drawn to an alcohol product by its packaging, could recall products that stood out in off-licences or supermarkets, and whether they ever kept an empty alcohol container. Participants were then shown, and allowed to handle, nine branded alcohol products in sets of three: beers/cider; wines; spirits (see Figure 4.1). Products were used to reflect key packaging design elements used by alcohol companies as per analysis of the UK trade press (see Chapter Three) (i.e. pack graphics, pack structure, on-pack promotions and 'green' packaging), and prompt discussion. The application of trade press findings (Chapter Three) to inform discussion topics and stimuli in the present study highlights the utility of MMR designs. The selected products did not display prominent health messaging, which is reflective of alcohol products marketed in the UK (Alcohol Health Alliance UK, 2020; Petticrew et al., 2016), and ranked highly in the UK's 100 top-selling alcohol brands (Woolfson, 2019), ensuring brand familiarity: Stella Artois (no.1); Smirnoff (no.2); Gordon's (no.4); Strongbow (no.7); Famous Grouse (no.10); Barefoot (no.12); Kopparberg (no.13); Blossom Hill (no.20); Wolf Blass (no.39). A variety of pack formats (e.g. multipack box of Budweiser bottles) and sizes (e.g. small bottle of The Famous Grouse) were chosen to reflect the wide range of products available in off-licences and supermarkets. Within each of the three sets, participants were asked to focus on the packaging and discuss which, if any, grabbed their attention, what their favourite pack was, and whether they associated packs with specific occasions.

Figure 4.1: Alcohol product packaging: beers/cider; wines; spirits



Notes: Beers: Budweiser, Stella Artois. Cider: Strongbow. Wines: Barefoot, Blossom Hill, Wolf Blass. Spirits: Smirnoff, Gordon's, The Famous Grouse.

4.3.2.2 Alcohol packaging as a social marketing tool

In section two, participants discussed their unaided awareness of existing health information and messaging on alcohol packaging. Participants then discussed their knowledge of alcohol-related harms and sources of information, as well as perceptions and use of health information and messaging on current alcohol packaging. Participants were then shown nine alcohol products displaying mocked-up labels (see Figure 4.2), featuring three warnings on the front differing in size (small, large), form (text-only, text and related image), and message content (general, specific). The mocked-up labels were designed using Microsoft Word, then professionally produced and affixed to the bottles by Personalised Bottle Labels (n.d.), a business in the UK that specialises in personalised alcohol gifts and bottle labels. This helped to ensure the products were realistic and that the warnings were of a high quality. The images and related licences were purchased from iStock (Getty Images, n.d.), an online stock photography retailer.

A range of warnings were used to exemplify general and specific alcohol-related health harms and explore responses. Message content (i.e. text, image) was decided in consultation with the supervisory team and primarily derived from the emerging alcohol warnings literature. The general warning was 'Alcohol damages your health' (with the accompanying image showing a hospitalised patient in bed) (see Figure 4.3). Alcohol is a major cause of liver disease and cancer globally (Williams et al., 2018; WHO, 2020a), hence the two specific warnings were 'Alcohol increases risk of liver disease' (with the accompanying image showing a person clutching their liver) (see Figure 4.4) and 'Alcohol causes cancer' (with the accompanying image showing a CT scanner) (see Figure 4.5).

Drawing on findings from the tobacco literature (e.g. Cunningham, 2022; Hall et al., 2020; Hammond, 2010), it was decided to employ a range of salient warning messages and formats (i.e. text-only, image and text combined) to explore participants' responses and provide some insight into optimal warning designs for alcohol products. Previous alcohol studies have used a similar range of warning designs, e.g. differing sizes (Al-Hamdani & Smith, 2017), text-only and text-and-image (Clarke, Pechey, Mantzari, et al., 2020), general and specific content (Blackwell et al., 2018; Miller et al., 2016), liver and cancer messages (Sillero-Rejon et al., 2018; Weerasinghe et al., 2020). Although tobacco research suggests that warnings about long-term health problems have less resonance with younger people (Slovic, 2000), it was decided to use these warnings due to their applicability to the whole population and to maintain international relevance.

Participants were asked to imagine that the warnings could be used across a range of alcohol products and shown three bottles (vodka) displaying the general warning and asked to discuss these. They were then shown, and discussed, three bottles (gin) with the liver warning, and finally three bottles (wine) displaying the cancer warning. Following discussion of each warning set, the bottles remained on display to allow participants to make comparisons across sets. Participants were given time to inspect the products before discussing their perceptions of the various design elements and considering potential ways to improve them.

Participants were debriefed at the end of the study, given contact details for alcohol support (NHS and Drinkline), and £30 shopping vouchers for their time. Ethical approval was granted by the General University Ethics Panel at University of Stirling (GUEP 668R) (see Appendix F).

Figure 4.2: Alcohol packaging displaying warnings differing by size, form, and content



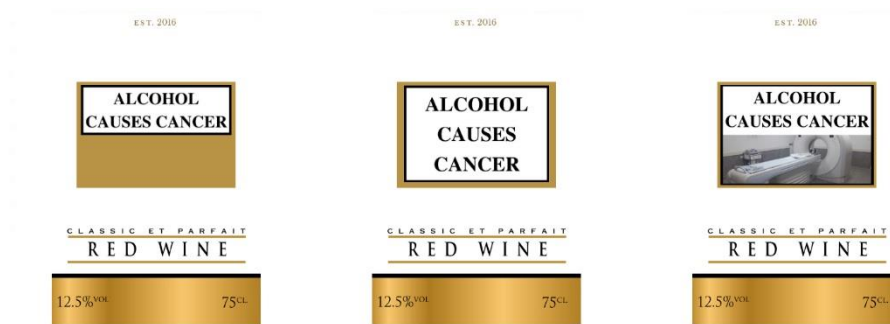
Figure 4.3: Mocked-up warning labels: alcohol damages your health



Figure 4.4: Mocked-up warning labels: alcohol increases risk of liver disease



Figure 4.5: Mocked-up warning labels: alcohol causes cancer



4.3.3 Analysis

Audio recordings were transcribed by professional transcribers. Thematic analysis was conducted as per Braun and Clarke's (2006) guidelines using an inductive approach. Transcripts were reviewed for accuracy and familiarity by DJ, then examined by DJ and CM to identify initial thematic codes. Codes were developed inductively, based on initial observations that were summarised into conceptual categories and gradually refined and linked to other conceptual categories using NVivo 12 Pro. Codes were then collated into potential themes by DJ and reviewed by CM and RP to create a thematic framework. Five key themes were defined and refined in each section. The key themes in section one of the focus groups (alcohol packaging as a promotional tool) were as follows: the ubiquity of alcohol packaging; appeal of alcohol packaging; associations between packaging, occasions and activities; perceptions of product-consumer targeting, suitability, and intended drinker profiles; packaging and non-visual senses (i.e. taste, touch, sound, smell). The key themes in section two of the focus groups (alcohol packaging as a health messaging tool) were as follows: knowledge of alcohol harms, and recall of health information and messaging on packaging; awareness, perceptions and use of health information and messaging on packaging; perceptions of alcohol companies' approach to health messaging on packaging; perceptions of novel warnings and impact on appeal; effective warning design. These themes were examined to identify meaningful patterns across the groups. Representative quotations are provided in the results to illustrate key themes. Differences by age, gender or social grade are identified in the text.

4.4 Results

4.4.1 The ubiquity of alcohol packaging

The consensus view was that alcohol packaging was ubiquitous. Participants discussed seeing it in different settings, most typically shops and drinking venues, and via marketing, particularly advertising. They frequently recalled seeing alcohol packaging in a range of media platforms, with most reporting exposure in TV and movies, social media and the internet, as well as at social occasions (e.g. parties, festivals) and in public (e.g. litter).

You see it [alcohol packaging] everywhere (25–35M, C2DE)

4.4.2 Appeal of alcohol packaging

While some participants paid little attention to alcohol packaging, instead placing greater importance on other factors (e.g. taste, price), most recalled packs that stood out in shops and were considered appealing for being different, interesting or aesthetically pleasing, e.g. *‘I’ve never felt inclined to go to the ones that don’t look nice’* (18–24M, ABC1). Some participants mentioned purchasing alcohol products based solely on pack appeal, e.g. *‘I don’t actually like beer, but I bought it [Brewdog] specifically because I liked the packaging’* (18–24M, ABC1).

I’m not saying it [packaging] totally enticed me, but it was just unusual. You did kind of think, ‘oh, I wonder if that will be a bit different’ (25–35M, ABC1)

You are drawn to go and look at it because you’ve not heard of the brand, but the packaging is nice (18–24F, C2DE)

It [packaging] just kind of lures you in (25–35M, ABC1)

4.4.2.1 Pack design

Pack design was central to appeal, with participants discussing how pack graphics (e.g. colour, graphical design) and structure (e.g. shape, size, format, opening mechanism) help

build appeal, with on-pack promotions (e.g. gifts, prizes, limited-editions) also shaping these perceptions. For pack graphics, several participants commented on pack designs they liked, but it was colour that was most likely to capture attention, e.g. '*Colour is what attracts people, it's all about colours*' (25–35M, C2DE), and create appeal, being mentioned frequently in all groups.

It's mostly the artwork that I like (25–35F, ABC1)

It's quite effective overall because you are more inclined to go to something with a bright colour or a unique design (18–24M, ABC1)

I quite like the Strongbow actually. It's just a cool, minimal design. The colours are quite cool and all. It's like a matt black, it's not just plain black, it's different (18–24M, C2DE)

Better packaging is synonymous with better quality of product. If something is packaged really, really well, or is branded really, really well then you are kind of more inclined to believe it's a better value product. So, I would imagine that's why drinks companies would place a lot of emphasis on packaging (18–24M, ABC1)

4.4.2.2 Pack structure

Pack structure also influenced appeal, with most drawn to '*sleek*' or '*distinctive*' shapes and able to recall and differentiate alcohol products by pack shape alone. Size was also important for many participants, with larger packs (e.g. Budweiser, Wolf Blass) considered more cost-effective and preferable if intending to consume a large quantity of alcohol, e.g. '*I would pick the Budweiser because there's more*' (18–24M, ABC1). Smaller, '*quick, easy, grab and go*' (18–24F, ABC1) packs like the Barefoot can were thought to enable, and encourage, consumption in different public settings (e.g. on trains, at concerts) and help to avoid unwanted attention from police, security personnel and others, e.g. '*I think it would be easier to hide that you were drinking*' (18–24F, C2DE).

That [The Kraken Rum] always stands out for me. I love the shape of the bottle (18–24M, ABC1)

The wee bottles don't appeal but I think because that's [Stella Artois] a bit bigger it's nicer (18–24F, C2DE)

4.4.2.3 Pack format, 'green' packaging, and opening/closing mechanisms

Pack format supplemented appeal, with some participants expressing positive views of different types of primary (e.g. cocktail pouches, boxed wine, mini kegs) and secondary packaging (e.g. presentation boxes, cases and sleeves). While there were fewer comments about pack materials, several participants were aware of, and liked, 'green' packaging initiatives, such as the Stella Artois bottle made of 75% recycled glass or Carlsberg's 'Snap Packs', where cans are glued together instead of being attached by plastic rings in an effort to reduce waste and harm to animals. Several participants discussed the appeal of opening mechanisms, with some older (25–35) ABC1 males attracted to unusual openings, such as the Grolsch swing-tops and Budweiser twist-offs (highlighted in Chapter Three), as they circumvent the need for bottle openers. In contrast, having wines or spirits in a ring-pulled can (e.g. Barefoot) was considered unfavourably as it was thought to make it a less distinct experience and require consumption at that point, e.g. *'You can't close it up again, so you have to drink it'* (18–24F, C2DE).

When Budweiser did the twist-tops, that was a revelation because folk didn't have to walk about parks or outside at a party going, 'have you got a bottle opener?'. They could just go 'click'. That [twist-tops] just totally changed it (25–35M, ABC1)

It's odd to see wine in a can, you're used to like screwing off the top or like corking it, whereas this [Barefoot] kind of brings it down a wee bit. I like it [wine] a bit more special (18–24F, ABC1)

4.4.2.4 On-pack promotions: gifts, prizes, and sponsorship

On-pack promotions contributed to appeal, shelf-standout and product choice. While most participants ignored or failed to notice gifts and prizes on alcohol packaging, several were attracted by them, recalling different gifts (e.g. glasses, clothes, chocolates), prizes (e.g. streaming subscriptions, festival tickets, holidays) and entry methods (e.g. websites, QR codes), all thought *'to try and convince you to buy it'* (25–35F, ABC1). On-pack sponsorships (e.g. sports, festivals, TV shows) appealed to some participants depending on the sponsorship content.

If I was to look for a bottle of wine, and this [Blossom Hill] said 'free beauty gift voucher' and there was one that didn't have it, I would go for that just because I was like, 'oh, what's that?' And it's a wee scratch off panel as well, so it's a wee novelty (25–35F, C2DE)

The football thing [Budweiser] just puts me off because I don't like football. But if you were into football, the whole thing would draw you in (18–24F, C2DE)

4.4.2.5 Price-marking

With respect to price promotions, some suggested that price-marks on packs made products more desirable, e.g. *'It [the price-mark] makes it appealing because it's cheap'* (18–24F, C2DE). However, most felt that price-marks, which they recalled being displayed on a number of brands (e.g. Dragon Soop, Glen's, Lambrini, Tennent's), were indicative of inferior products, e.g. *'It was as if they [alcohol companies] were advertising something cheap, that was their catch'* (18–24M, ABC1).

4.4.2.6 Limited-editions

Limited-edition packs were considered eye-catching and an incentive by several participants, thought to encourage trial, collection and upcycling, e.g. *'I think you would be more inclined to try something if it was different'* (25–35F, ABC1). Participants recalled many limited-edition packs (e.g. Absolut, Cîroc, Disaronno, Glenfiddich, Grey Goose, Johnny Walker).

These included Tennent's 'Lager Lovelies', featuring a '*woman of the month on the tins*' (25–35M, ABC1), and 'Alphabet Packs', which displayed '*a different selection of letters and Scottish slang terms*' (25–35F, C2DE); it was suggested that people who spelled words with the bottles and posted the images online helped gain the company attention: '*It was an easy way to get them [Tennent's] shared on social media*' (18–24M, C2DE).

It [limited-edition packaging] may make you want to try it faster because you might think it won't be around for long, so you might want to pick it up and give it a try (25–35F, ABC1)

4.4.2.7 Retaining empty packs

Most participants had retained empty packs for display, upcycling (e.g. candles, flowers) or collection. Participants tended to keep nice, expensive or '*cool*' empty bottles (e.g. Belvedere Vodka, Grey Goose Vodka, Hendrick's Gin, Isle of Harris Gin), whether for graphical (e.g. colour), structural (e.g. shape, size, format) or promotional (e.g. gifts, limited-edition) cues. Some empty bottles were mentioned frequently (e.g. Crystal Head Vodka), with participants recalling those received as gifts (e.g. special birthdays), kept by friends and family members, or reused in hospitality venues as water containers, candle holders or centrepieces.

I once bought a Brooklyn Gin bottle specifically to use it as a vase after I finished the gin (25–35F, ABC1)

My husband had the crystal skull vodka and the two wee shot glasses of the same shape. So, when he tanned (drank) that we kept the bottle, just because it was unusual. Pinkster gin as well, we've got a bottle of that because it's a funny shape (25–35F, ABC1)

I live in a student flat and there's bottles of vodka everywhere. We keep the nice ones, get rid of the Glen's and that. We would display them I guess, and put candles and lights in them. I don't think we have ever thrown out more-than-30-quid bottles. So, there is about 10 or 11 Grey Goose bottles, Cîroc bottles (18–24M, ABC1)

4.4.3 Associations between packaging, occasions and activities

All groups frequently associated packaging with specific occasions and activities, such as Smirnoff and Gordon's for socialising (e.g. nights out); Budweiser for watching football at home and parties; Strongbow and Blossom Hill for festivals, outdoor drinking in the summer, drinking before going out or *'just getting drunk'* (18–24F, C2DE); Wolf Blass and Baileys for special occasions and gifting (e.g. Christmas, dinner parties); and Barefoot for travelling and public settings, e.g. *'Drinking it on the train to Edinburgh or something like that'* (18–24F, ABC1).

I'd share a bottle of that [Blossom Hill] with my friends. When you've got no time, waiting on your taxi, drink and go (18–24F, ABC1)

4.4.4 Perceptions of product-consumer targeting, suitability, and intended drinker profiles

Unprompted, participants used packaging cues to assess product-consumer targeting and suitability, with some inferring drinker characteristics via packs. Most were clear about who is being targeted by packaging and which products were appropriate for different ages and genders, with it suggested *'it's not rocket science who they're [alcohol companies] trying to target'* (25–35M, C2DE). For instance, the consensus was that the Wolf Blass cricket promotion and football sponsorship and prize promotion on Budweiser were *'targeted at men'* (25–35F, ABC1), with the latter suitable for *'boys that watch football'* (18–24F, ABC1), whereas the Gordon's Pink Gin bottle and beauty gift on Blossom Hill were *'targeted at women'* (18–24F, C2DE) and *'young girls at college and university who are concerned about their looks and make up'* (18–24M, ABC1). Bright (e.g. Dragon Soop, MD, Venom) and price-marked packs (e.g. Strongbow) were thought to grab attention, appeal and purchase among younger people particularly.

Blossom Hill just screams 'aimed at women'. It's the free beauty gift, the pink, the 'Blossom Hill' labelling. Everything about it just screams 'this is for women' (18–24M, ABC1)

I think they [alcohol companies] are just cashing in on the ladies that are into the gin just now, so they will make it all girly and pretty (25–35F, C2DE)

Participants evaluated intended drinker characteristics via packaging cues, with the cricket-sponsorship shown on the label of Wolf Blass suggesting it was for ‘*bourgeois*’ or ‘*rich*’ people, whereas the ‘*hip flask*’ (18–24F, ABC1) shape and smaller pack size for Famous Grouse was associated with elderly males, e.g. ‘*Because it’s a half bottle, it’s like an old man has it in his jacket, drinking it like an alky (alcoholic)*’ (25–35F, ABC1). Several younger (18–24) ABC1 participants preferred to drink and be seen with products perceived to be more acceptable by, and for, their sociodemographic.

Certain things you’ll be like, ‘I’m not going to drink that because I don’t want to be perceived as that kind of person’ (18–24F, ABC1)

I know it sounds a bit daft, but I’d rather be carrying a crate of Budweiser than walking with a bottle of Stella or [Strongbow] Dark Fruits. I know it sounds weird but, again, the social status (18–24M, ABC1)

4.4.5 Packaging and non-visual senses: taste, touch, sound and smell

Packs participants were shown, able to recall or had previously purchased, elicited perceptions of the product. Several used pack appearance as an indicator for taste and palatability, for instance, expecting certain drinks to be fruity, light or refreshing or to ‘*taste nice from the packaging*’ (18–24F, ABC1). Others avoided products that they thought would not taste nice because of the packaging, e.g. ‘*It doesn’t look nice, so you probably feel you don’t want to drink it*’ (18–24M, ABC1). Some participants also spoke positively about the feeling of touching some packs, e.g. ‘*It’s [Barefoot] nice to hold*’ (25–35F, C2DE) or the enjoyment of hearing the ‘*pop*’ of opening a bottle of Jura, while one participant was put off by the anticipated smell: ‘*I can smell that Blossom Hill from over here; I hate cheap wine*’ (25–35F, ABC1).

4.4.6 Knowledge of alcohol harms, and recall of health information and messaging on packaging

In the second section of the focus groups, participants were generally knowledgeable of some of the potential harms of alcohol use, typically through social/familial connections, TV campaigns, newspapers, and medical centres. No participant mentioned alcohol packaging as a source of information about possible harms. When asked about the types of health information and messages on alcohol packaging, there was high unaided recall of unit information, pregnancy symbols, ABV, and drinking guidelines, with several groups also mentioning a responsible drinking message. There was low unprompted recall of nutritional information (e.g. calories), drink-driving and age-restriction messages, and ‘Drinkaware’ on packaging.

4.4.7 Awareness, perceptions and use of health information and messaging on packaging

Most did not use existing health information and messaging on alcohol packaging, some previously ‘*struggled to find*’ (18–24 F, ABC1) health information on packaging or were noticing it for the first time when interacting with alcohol products they were shown, e.g. ‘*I’ve actually never noticed them*’ (18–24 F, ABC1). For instance, one female participant mentioned being unaware of pregnancy symbols: ‘*I didn’t even know about the pregnant lady. I never even noticed the pregnant lady*’ (25–35 F, C2DE). There was also very low awareness of low-risk drinking guidelines (CMO, 2016), and very few participants adhered to these.

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

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

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)

Some of the information on packaging was used to make healthier drinking choices. Several participants reflected upon the number of units in products before consuming alcohol or used ABV to determine the strength of alcoholic drinks to help them drink in moderation. However, most of those who used units did so the day after drinking to assess their suitability to drive, while most participants who used ABV used it to accelerate intoxication, choosing not to purchase alcohol *‘that’s under a certain percentage’* (25–35 F, C2DE).

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

You are going to go and get the highest percentage so you can get there [intoxication] quicker (18–24 M, ABC1)

Participants explained that some information displayed on alcohol packaging created confusion, e.g. what constitutes a unit of alcohol and how units should be used to regulate drinking: *‘It’s not understood. It’s never been explained’* (18–24 F, C2DE). It was suggested that this information would be more useful and accessible if all packaging included unit information per serving.

4.4.8 Perceptions of alcohol companies’ approach to health messaging on packaging

All groups believed that alcohol companies seek to minimise the amount, saliency (e.g. font size, positioning), and effectiveness (e.g. content) of health information, messaging and warnings on alcohol packaging, e.g. *‘I think they don’t want to brand themselves as something that’s bad for you’* (25–35 F, ABC1). Some participants thought that the health information, messaging and warnings currently included on alcohol packaging are there because alcohol companies *‘just do, legally, what they’re supposed to’* (25–35 M, C2DE) rather than wanting to inform consumers.

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)

They need to tick a wee box, and they're not putting them [warnings] to stand out (25–35 F, ABC1)

It's [health messaging] just there because they have to put it on isn't it? They don't care; they just want to sell it (18–24 F, C2DE)

I don't think they take it [health messaging] seriously (18–24 M, C2DE)

Although recalled by several groups, the “please drink responsibly” message was considered particularly confusing and met with disdain across all groups given the lack of clarity about what this actually means. Participants were cynical of this message, viewing it as unhelpful, ambiguous and unlikely to have any meaningful impact, with comparisons drawn to similar messages used in gambling advertisements.

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)

For me, “please drink responsibly”, people have different perceptions. For me, drinking 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)

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 but 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)

One participant contended that the variant “please enjoy responsibly” was positively framed to evoke positive feelings about drinking, further highlighting the mutability of “responsible drinking” definitions.

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)

4.4.9 Perceptions of novel warnings and impact on appeal

The most common response to the alcohol products with mock-up warnings (Figure 4.2) was unprompted mention of similarity to tobacco warnings; warnings are prominently displayed on tobacco packaging in many countries. Notwithstanding tobacco products setting a precedent, and most participants considering some form of warnings on alcohol products appropriate and potentially informative and useful, particularly for '*teaching kids*' (25–35 M, C2DE) and younger people, the consensus was that they would nevertheless be surprised to see such warnings on alcohol products.

I think I would understand completely why, and I would welcome it (salient warnings). So, there's going to be an impact, 100%; however, it's not going to be life-changing, but I think it's definitely a positive, 100% (25–35 M, ABC1)

Kids can look at that and understand wee bits and it would deter them (25–35 M, ABC1)

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

Several participants made numerous unprompted comments about the myriad ways that the presence of these types of warnings on alcohol packaging could reduce appeal. The consensus was that warnings would make alcohol products unsuitable gifts, participants would be more reluctant to bring them to social gatherings, and they would look unattractive in the home. These impacts were not mentioned by participants in either of the 25–35-year-old male groups.

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)

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)

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)

It was suggested that social media "influencers" would not include such products in their social media posts as prominent warnings would '*interrupt the fun*' (18–24 F, ABC1) of socialising.

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

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)

Participants within the male groups mentioned taking steps to avoid seeing warnings during consumption, such as peeling off or hiding the label (e.g. by putting bottles in sleeves). The reduced appeal caused by having warnings positioned on the front of packaging was also thought to extend to younger people, who may be put off when they see these products as litter.

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)

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)

4.4.10 Effective warning design

When considering the novel warnings, the general view was that size, positioning and type matters. Participants felt that larger text-only warnings were more eye-catching than small text-only warnings and required less effort on the part of the consumer as ‘*it is just bold and it’s in your face*’ (25–35 M, C2DE). Having warnings on the ‘*front and centre*’ (25–35 M, ABC1) of packaging was consistently viewed as the best position to make the warnings stand out. This was seen as the optimal location as it would be at eye-level on shelves in retailers, although a few participants also suggested placing warnings on the neck of bottles.

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)

There was a preference for pictorial (text and image) warnings to help ‘*visualise what could happen*’ (18–24 F, C2DE). These were deemed more eye-catching and required less cognitive processing than text-only warnings as the message was reinforced by the image. It was also suggested that including an image could help ‘*visual learners*’ (18–24 F, C2DE) and people with reading difficulties.

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 (18–24 M, ABC1)

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)

In addition to warning size, positioning and type, content was considered important with regards to potential effectiveness. While some considered 'Alcohol damages your health' too '*basic*' (18–24 F, C2DE) and widely known to be effective, others felt it was the appropriate level of severity. Although several participants found the image of the hospitalised patient ambiguous, questioning '*what's actually happened*' (18–24 F, ABC1) to the patient, others thought it consolidated the message.

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 kind of worth it (18–24 M, ABC1)

It's not just a label that's saying "it can damage your health". It's actually showing the impact of someone being taken to hospital through alcohol (18–24 F, C2DE)

The more specific health warnings (liver, cancer) received a lot of attention and were considered most impactful, with some taken aback by seeing them on alcohol products. The image of the person clutching their liver, which some considered ambiguous, was generally viewed as more informative than the hospitalised patient because it '*shows, to an extent, the damage it can do to you*' (18–24 M, ABC1). The CT scanner was perceived as the most attention-grabbing and thought-provoking image as it depicts what could be '*waiting for you*' (18–24 M, ABC1). Most participants felt that warnings should incorporate '*realistic information*' (18–24 F, C2DE), and noted the relatability of these warnings, particularly the cancer warning.

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

Everybody knows somebody that's suffered from cancer (25–35 M, ABC1)

Some participants preferred the liver message ('Alcohol increases risk of liver disease') as it felt more nuanced than the cancer message ('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 that 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 [another participant] 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)

Participants recommended other possible changes to the content of warnings that may help enhance stand out and impact, suggesting that they also display various short-term effects of alcohol consumption (e.g. impairments, nausea, hangovers) or highlight that alcohol is potentially addictive, and include information on available support (e.g. a helpline). Rotation was also viewed as necessary to reach a greater number of consumers and prolong impact.

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)

4.5 Discussion

4.5.1 Alcohol packaging as a marketing tool

This study demonstrates that the packaging of alcohol products is an important marketing communications vehicle, as it is for other fast-moving consumer goods, e.g. packaged food (Silayoi & Speece, 2004; Suzianti et al., 2015). It extends the nascent literature by exploring how young adult drinkers, key targets for alcohol marketing (Critchlow & Moodie, 2021), respond to alcohol packaging, finding that a combination of pack elements help products

attract consumers, stand out against competitors, and build enduring impressions of brands and those that consume them. It was clear that alcohol packaging can influence product expectations (Copeland et al., 2007; de Luca & Penco, 2006; Gislason et al., 2020; Spence & Velasco, 2018; Sugrue & Dando, 2018), with a positive relationship between pack appeal and palatability ratings (Gates et al., 2007; S. C. Jones & Reis, 2011). That some participants reported purchasing products they would not normally buy solely because of the packaging, and most retained empty alcohol packs to reuse, collect and display at home for aesthetic reasons, is testament to the appeal of some alcohol packs.

Participants reported regular exposure to alcohol packaging, echoing previous work with children (Chambers et al., 2018) and highlighting the reach of packaging. The retail environment is a particularly important channel for alcohol companies to showcase their products, with most participants easily able to recall packs that captured their attention in shops. By increasing shelf-standout, distinctive alcohol packaging can create a competitive advantage and increase sales (de Bruijn et al., 2012; Rundh, 2009). Pack graphics and structure were central to consumer attraction (Barber & Almanza, 2006; Kersbergen & Field, 2017). Pack colour is the key graphical cue in promoting products (Mohebbi, 2014; Spence & Velasco, 2018) and in all groups colour significantly influenced attention, appeal and brand recognition. Pack structure (including shape, size, opening method and materials) was frequently discussed, with certain packs, such as those with novel shapes, thought to increase attractiveness and trial. While being discussed less often, several participants were drawn to environmentally-friendly alcohol packaging, recalling and supporting sustainability initiatives. ‘Green’ packaging, which particularly appeals to environmentally-conscious consumers (Barber, 2010; Ferrara et al., 2020), affords alcohol companies the opportunity to capitalise on the growing desire for more sustainable packs (e.g. less glass, reduced plastic) while simultaneously promoting corporate social responsibility (International Wine & Spirit Research, 2019).

On-pack promotions appealed to some participants, who were attracted by gifts and prizes, recalling numerous on-pack giveaways, entry methods and seasonal gift packs. While most were not interested in on-pack (or price) promotions, past research has found that desirable free gifts can persuade young people to purchase a greater quantity of alcohol, and products that they would not usually consume (S. C. Jones & Smith, 2011) and price-marking can increase sales (Stead et al., 2020). As a scarcity product tactic, limited-edition packs are another form of promotion, although one that is overlooked in the alcohol literature. Limited-edition packs were recalled by most participants and thought to encourage purchase and

collection due to special pack designs and limited availability. Limited-edition packs are used by marketers to create shelf impact, attract attention, increase appeal, sell novelty to consumers, mark special occasions, and maintain brand engagement (Barraclough & Gleeson, 2017; Couch et al., 2019; Dörnyei, 2020; Roper & Parker, 2006), with limited-edition cigarette packs considered more attractive and attention-grabbing than regular packs (Gallopel-Morvan et al., 2012).

Participants associated alcohol packaging with specific occasions and activities (e.g. socialising, watching football, outdoor drinking). Alcohol is considered a social lubricant (Fairbairn & Sayette, 2014), with it suggested that alcohol producers attract customers by creating packaging associated with special events and drinks suitable for different occasions and activities (de Bruijn et al., 2012). There was some support for this assertion, with a small can of wine (Barefoot) thought to allow for discreet public drinking (e.g. at a concert) and help avoid unwanted attention (e.g. by police). Convenience of alcohol packaging, such as ease of carrying and concealment, has been found to influence young people's product preferences (Galloway et al., 2007; S. C. Jones & Reis, 2011). Participants also associated alcohol packs with different personality and lifestyle attributes, with packs able to convey individual and social messages regarding appearance and acceptability (Purves et al., 2018).

Participants associated alcohol packaging with certain drinker profiles and characteristics, inferring product-consumer targeting and suitability (Morey et al., 2017; Purves et al., 2018). Alcohol packaging has become increasingly gendered (Atkinson et al., 2019), with all groups considering the Budweiser box targeted at males and several products (Barefoot, Blossom Hill and Gordon's) targeted at females. Budweiser has strong male associations and is targeted at male football fans (Purves et al., 2018), whereas female-oriented slim packaging can increase consumption of beer, and appeal of cigarettes, among females (de Bruijn et al., 2012; Ford et al., 2016). Dragon Soop (alcoholic energy drink) was frequently recalled as a product that stood out because of its colourful packaging and was thought to appeal to, and be targeted towards, young (including underage) people. There are parallels with other alcohol products (e.g. alcopops) that often come in small and colourful bottles and are considered to appeal to youth (Gates et al., 2007; S. C. Jones & Reis, 2011; S. C. Jones & Smith, 2011; Morey et al., 2017; Mosher & Johnsson, 2005).

4.5.2 Alcohol packaging as a social marketing tool

For this sample of current, mostly past-week, drinkers, most were not aware of, or did not attend to or meaningfully engage with, the health information, messaging and warnings currently on alcohol packaging. They were considered neither salient nor effective. The inclusion of prominent warnings was generally supported and thought to help ensure that consumers are more appropriately informed about alcohol-related risks at the point of purchase and consumption.

Participants were largely unaware of the current UK drinking guidelines (CMO, 2016), in line with previous research (Royal Society for Public Health, 2018), and did not consider them useful. This is unsurprising given that guidelines are often presented in very small font sizes, more than 70% of alcohol labels do not include the current UK guidelines (CMO, 2016), and almost a quarter contain misleading, out-of-date health information (Alcohol Health Alliance UK, 2020). Similarly, the “please drink responsibly” message was typically seen as ambiguous and ineffective, supporting previous findings (Priory Group, 2020). Research suggests that such industry-affiliated terms are strategically ambiguous (Maani Hessari & Petticrew, 2017; Smith et al., 2015), and do not reduce consumption (S. C. Jones et al., 2017). Although frequently recalled, some participants were unsure of how to use existing unit information on packaging to moderate their drinking. 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. Focus groups in Australia found that some young drinkers use standard drinks and ABV information to increase their alcohol consumption (S. C. Jones & Gregory, 2009; Thomson et al., 2012). The present study suggests that the health information and messaging currently provided on alcohol packaging is failing to appropriately inform consumers of the risks associated with alcohol consumption.

The WHO recommends that, as a fundamental consumer right to information, warnings should reflect the harms associated with alcohol consumption (Jané-Llopis et al., 2020). A series of real-world quasi-experimental studies in Canada suggested that improving health messaging on alcohol products by varying highly visible labels (i.e. large and brightly coloured) with a variety of impactful messages (e.g. ‘Alcohol can cause cancer’) 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., 2020), and reducing alcohol consumption (J. Zhao et al., 2020). Like

these studies, the warnings in this study used serious health messages in different formats, which did attract and hold consumer attention.

Most participants were surprised at the idea of warnings on alcohol products, despite being accustomed to them on tobacco products, but felt they could help inform children and potential drinkers about alcohol-related harms. The novelty of being shown alcohol products displaying prominent warnings is likely to have influenced participants' responses, but the general view was that they would reduce the appeal of alcohol products (whether in the home, at social gatherings, on social media), make them less appropriate as gifts, and negatively affect socialising and perceptions of drinking as glamorous and fun. While some male participants indicated that they would engage in avoidant behaviour as a result of this reduced appeal, for warnings on tobacco products longitudinal research shows that avoidant behaviour may be a marker of engagement with warnings (Thrasher et al., 2016) and is linked to quitting (Yong et al., 2014). Despite the surprise at seeing the warnings, there was some support for including them on alcohol packaging. Some past research has similarly found there to be support for warnings on alcohol packaging, for instance pregnancy warnings (Dekker et al., 2020; Thomson et al., 2012) and text-only warnings (Clarke, Pechey, Mantzari, et al., 2020; Vallance et al., 2020), while other work has found low acceptability for warnings with graphic images (Pechey et al., 2020). Differences in support are most likely due to differences in the types of warnings being evaluated. In this study, those who supported introducing warnings maintained they should be noticeable, fact-based and relevant to real life. Most participants thought that including a range of rotating warnings on packaging (e.g. short- and long-term risks) could help to reach more consumer profiles and prolong impact.

Although cancer is a leading cause of death in the UK (Hydes et al., 2020), as it is elsewhere, and alcohol use is one of the largest modifiable cancer risk factors (Public Health Scotland, 2020), some participants were unaware that alcohol causes cancer. Low awareness of the alcohol-cancer link has been found in other countries (Bates et al., 2018; Scheideler & Klein, 2018; Thomsen et al., 2020; Weerasinghe et al., 2020), highlighting the potential role that well-designed warnings on alcohol packaging could have in improving awareness of alcohol-related harms and informing consumers (WHO, 2020a). Cancer warnings are positively associated with consumers reading, thinking and talking about them, and self-reported intentions to reduce drinking (Hobin et al., 2020). Alcohol companies' opposition to proposed cancer warnings on packaging has been well documented, for instance in Canada (Stockwell et al., 2020) and Ireland (Vallance et al., 2020), as they refute the evidence that

alcohol is a carcinogen (Petticrew et al., 2018). The current study contributes to this earlier work and alcohol warning design theory in the following ways. Participants considered the cancer warning particularly relatable and supported the inclusion of '*realistic information*' (18–24 F, C2DE) on alcohol packaging, highlighting the importance of clear and relevant message content. Most groups thought that the cancer warning would be more believable, informative and effective if the types of cancers caused by alcohol consumption were specified, which could help to improve awareness and knowledge of the alcohol-cancers link.

The groups displayed a level of suspicion and mistrust of alcohol companies. Some participants contended that alcohol companies would not want salient health-related information or warnings on alcohol packaging, viewing it as detrimental to sales and positive perceptions of drinking. This was evident in participants' attitudes to responsible drinking messages, considered ambiguous and positively-framed, and the fact that other health-related messaging and information is seen as barely noticeable. Petticrew et al. (2016) found that font and pregnancy logos on alcohol labelling were smaller than would be accepted on other potentially harmful products. One female participant noticed pregnancy symbols on alcohol packaging for the first time when examining products in the group. Similar to the gambling industry (Newall, 2019), research suggests that alcohol companies use 'dark nudges' and 'sludge' tactics to encourage behaviour that is not in consumers' best interests and make behaviour change more difficult, which can undermine scientific evidence by normalising or encouraging alcohol consumption (Petticrew et al., 2020). As Petticrew et al. (2020) explain, 'nudges' help navigate people toward certain options by exploiting common cognitive biases but also allows for agency. 'Dark nudges' is an extension of this concept, occurring when cognitive biases are used to encourage the consumption of harmful products (e.g. gambling, drinking), whereas 'sludge' describes strategies that use cognitive biases to make behaviour change more difficult (Petticrew et al., 2020). In the present study, a sample of current alcohol consumers were acutely aware of such tactics and thought that alcohol companies would strongly oppose the inclusion of salient and effective warnings on alcohol packaging, to the detriment of consumers.

Participants in this study attended to the warnings and generally found them more engaging than the information currently provided on alcohol packaging, with some suggesting they may help to reduce consumption, in line with previous research (Hobin et al., 2020). They viewed large warnings, displaying images and text, and placed on the front of packaging as most likely to increase perceptions of the associated health risks and intentions to reduce selection and consumption or quit. This is consistent with research on alcohol

warnings (Pechey et al., 2020; Vallance et al., 2018; Wigg & Stafford, 2016) and tobacco warnings (Hammond, 2011; Noar et al., 2016). Indeed, some participants questioned why alcohol, a product with high rates of morbidity and mortality, like tobacco, differed so much in terms of health messaging and warnings. In terms of content, specific warnings may change alcohol-risk beliefs and encourage a reduction in drinking intentions for high-risk drinkers (Jongenelis et al., 2018). Supporting previous alcohol research (Blackwell et al., 2018; Miller et al., 2016), participants found specific warnings more believable and potentially effective than general warnings.

The findings may help to inform future research and policies. Including prominent warnings on packs could reduce appeal, increase awareness of alcohol-related risks and support a decrease in consumption (Vallance et al., 2020; J. Zhao et al., 2020); a missed opportunity to ameliorate higher rates of at-home drinking and relapse among drinkers in recovery during the COVID-19 pandemic (Critchlow et al., 2021; Thomas, 2021). However, the significant promotional role of packaging requires further consideration as attractive features (e.g. design, structure) may limit the effectiveness of warnings. Plain packaging for tobacco can reduce pack appeal and misperceptions of harm while increasing warning saliency (Hammond, 2010; Moodie, Angus, et al., 2021; Moodie, Best, Hitchman, et al., 2021). There is a dearth of research for alcohol, with limited evidence suggesting that plain packaging could reduce product-based and consumer-based ratings and increase the salience of health messaging (Al-Hamdani & Smith, 2017; Dimova & Mitchell, 2021).

4.5.3 Study limitations

In terms of limitations, although focus groups facilitate meaningful exploration of a range of topics, they are not generalisable beyond the sample. Given that this study was funded by Alcohol Focus Scotland, all participants were living in Scotland; while it is unlikely that the Scottish context is significantly different to the wider UK, it may not be fully representative of it. Future research could conduct focus groups in each of the four UK nations (i.e. England, Scotland, Wales and Northern Ireland) and explore whether regional differences are apparent. While participants were encouraged to engage with topics honestly, and appeared to do so, some responses may have been affected by social desirability bias. Although participants discussed their thoughts on, and experiences of, alcohol packaging, the effects of marketing are often subtle and may be driven by subconscious processes (Stautz et al., 2016),

meaning that some may have underestimated the influence of packaging as a marketing tool. Forced exposure to alcohol packs is not as natural as it would be in, for instance, bars or retail outlets. Similar to research on tobacco products (Guillory et al., 2020), one future research option would be to explore exposure to alcohol packaging using virtual shopping experiences. On a related note, while the study allowed current drinkers to engage with realistic warnings on physical alcohol products, forced exposure in focus groups is not as realistic as in a retail setting or drinking venue (e.g. Hobin et al., 2020). The study is also unable to provide any insight into the potential impact of the warnings over time. Participants generally reported low-risk levels of past-week drinking; as Hassan and Shiu (2018) note, further research is needed to determine whether drinking status should also be considered when assessing the efficacy of warnings on alcohol packaging.

While some company branding was maintained for the mocked up bottles (Figure 4.2) to maintain realism and foster genuine reactions to the warnings, this may have influenced some responses. Future research could meaningfully extend this study by co-designing alcohol warnings with consumers and displaying them on a range of pack formats (e.g. multipack, can) and sizes (e.g. fractional bottles) to develop the scientific body of evidence regarding what constitutes optional warning design and whether the type of packaging affects consumer reactions. Although the scope of the study and iterative coding framework was discussed frequently with the supervisory team, future studies with greater resources would likely benefit from having multiple researchers coding different focus group transcripts and, where feasible, double-coding a random sample of transcripts to highlight potential inconsistencies, minimise coding errors and enhance data quality. Finally, other study designs could be applied to further investigate the influential marketing and social marketing role of alcohol packaging, including interviews.

4.5.4 Conclusions

In conclusion, alcohol packaging is a key marketing communications vehicle, which can elicit expectations, influence purchasing decisions and encourage purchase. As expressed by young adult drinkers in Scotland, alcohol packaging conveys messages of consumer-product suitability and acceptability, creating enduring brand impressions and reinforcing the perception that alcohol is a desirable product via pack structure, graphics and promotions. The health information, messaging and warnings currently on alcohol packaging in the UK is

not adequately designed to meaningfully inform consumers about alcohol-related harms, let alone change their drinking behaviour. The findings are consistent with research from other countries with weak health messaging on alcohol packaging (e.g. Coomber et al., 2018; Jané-Llopis et al., 2020), and highlight the need for a more co-ordinated global response to warning design, as there is in the tobacco field.

Chapter Five: Quantifying young adult drinkers' responses to, and engagement with, alcohol packaging as a marketing and social marketing tool

The findings in this chapter are based on the following publication and manuscript:

Jones, D., Moodie, C., Purves, R. I., Fitzgerald, N., & Crockett, R. (2022b). The role of alcohol packaging as a health communications tool: An online cross-sectional survey and experiment with young adult drinkers in the United Kingdom. *Drug and Alcohol Review*, 41(5), 1206–1215. doi: 10.1111/dar.13469

Jones, D., Moodie, C., Purves, R. I., Fitzgerald, N., & Crockett, R. (2023). Engagement with, and influence of, alcohol packaging as a promotional tool: An online cross-sectional survey with young adult drinkers in the United Kingdom. [Manuscript in preparation]. Institute for Social Marketing and Health, Faculty of Health Sciences and Sport, University of Stirling.

This chapter presents the findings from an online cross-sectional survey and experiment, funded by the University of Stirling, exploring young adult drinkers' responses to alcohol packaging as a promotional and health messaging tool to address RQs 7–10 (Chapter Two). The chapter begins with an Abstract (section 5.1) and overview of alcohol packaging from marketing (5.2.1) and social marketing (5.2.2) perspectives, and the aims of the present study (5.2.3), before detailing the methods (5.3) and analysis employed (5.3.6). The results comprise three sections. The first section (5.4.1–5.4.2) presents sample characteristics and drinking behaviours. The second section (5.4.3–5.4.4) explores young adult drinkers' engagement with, and the influence of, alcohol packaging from a marketing perspective. The third section (5.4.5–5.4.7) examines young adult drinkers' exposure to, and engagement with, the product and health-related information currently provided on alcohol packaging, support for including product and health-related information on packs, and reactions to products with novel health warnings. The findings are synthesised in the discussion (5.5), with study limitations (5.5.3) and conclusions (5.5.4) discussed.

5.1 Abstract

Introduction: Alcohol packaging functions as an important marketing tool and could be a valuable means of communicating product and health-related information. However, there is a paucity of research on the role of alcohol packaging as a marketing communications vehicle, with growing academic and political interest in its capacity to deliver health messaging. **Methods:** An online cross-sectional survey and experiment was conducted with a non-probability sample of 18–35 year-old drinkers in the UK ($n=1,360$). The survey assessed engagement with, and influence of, alcohol packaging as a promotional tool; exposure to, and engagement with, current messaging on packs; and support for displaying product and health-related information on packs. For the randomised experiment, participants were shown, and asked questions about, a vodka bottle with either no warnings (control), small text warnings, large text warnings, or pictorial (image-and-text) warnings; the main binary outcome measures were negative product appeal and social acceptability, and positive cognitive and behavioural impact. **Results:** Most participants engaged with alcohol packaging as a promotional tool and were highly influenced by it (69.3%, $n=942$), particularly those who were female, in social grade C2DE, and held higher education qualifications or professional/vocational equivalents. Two-fifths of the sample (40.1%, $n=546$) rarely or never saw on-pack health-related information, with almost three-quarters (69.9%, $n=951$) rarely or never reading or looking closely at this. There was strong support for displaying a range of product and health-related information (e.g. units, ingredients) on packs. Relative to the control, products with warnings were more likely to be perceived as unappealing and socially unacceptable, and to positively impact alcohol-related cognitions and behaviours. For example, pictorial warnings were over 10 times as likely to positively influence cognitions and behaviours (adjusted odds ratio [AOR]=10.54, 95% CI: 7.11, 15.62). **Conclusions:** Alcohol packaging appears to have an influential marketing role, attracting attention and guiding purchasing decisions. Alcohol packaging could also have an important role in delivering health messaging. Large pictorial or text warnings may help counteract the appeal and social acceptability of alcohol products and increase awareness of risks, potentially supporting a reduction in consumption and related harms.

5.2 Introduction

5.2.1 Alcohol packaging as a marketing tool

Packaging is a key marketing tool for fast-moving consumer goods (e.g. packaged food) and often consumers only exposure to the product before purchase (Marsh & Bugusu, 2007). Given its accessibility and visibility at the point-of-purchase, packaging helps showcase the product and capture attention (Rundh, 2013; Underwood et al., 2001). The pack can convey information about, and create interest for, the product, and influence perceived product attributes and purchasing decisions (Alhamdi, 2020; Ampuero & Vila, 2006; Ford et al., 2012; Moodie & Hastings, 2011; Wyrwa & Barska, 2017). This is true for alcohol products, with research, while limited to a small number of studies, suggesting that the packaging can guide expectations of product quality and taste, and influence product appeal, trial, choice and consumption (Barber & Almanza, 2006; Barnett & Spence, 2016; Gislason et al., 2020; Morey et al., 2017; Purves et al., 2018; Sugrue & Dando, 2018).

A content analysis of the UK trade press (Chapter Three) demonstrated the importance of alcohol packaging to alcohol producers and its significant role in helping to target consumer profiles, catch attention, create appeal, encourage purchase and increase profits. As detailed in Chapter Four, a study with young adult drinkers in Scotland suggests that alcohol packaging is a powerful, multifunctional marketing tool. Participants considered alcohol packaging to be ubiquitous, with frequent exposure reported in various settings, such as shops and drinking venues, and via marketing. Packaging features, including graphics (e.g. colour), structure (e.g. shape, size) and promotions (e.g. gifts, limited-editions), enable alcohol packs to catch consumer attention and products to stand out on shelves, while also helping to create product and brand liking, interest and choice. Participants frequently associated packaging with specific occasions (e.g. nights out) and activities (e.g. travelling). Furthermore, alcohol packaging guided perceptions of product-consumer targeting, suitability, and intended drinker profiles, as well as shaping expectations of product taste and palatability.

5.2.2 Alcohol packaging as a social marketing tool

Alcohol packaging can also be used to communicate the harms associated with consumption. There is clearly a need to do so given that alcohol misuse is a key risk factor for illness,

disability and death, implicated in more than 200 diseases and responsible for over 3 million deaths annually (WHO, 2021). Although academic interest in warnings on alcohol packaging is in its infancy when compared to tobacco, evidence suggests that well-designed warnings on alcohol products can capture attention, inform consumers of possible risks, increase awareness and knowledge of harms, decrease speed of drinking and support a reduction in consumption, with moderate consumer support for warnings (Clarke et al., 2021; Dimova & Mitchell, 2021; Jane-Llopis et al., 2020; Neufeld et al., 2020; Stafford & Salmon, 2017; Vallance et al., 2020). Research in the UK with young adult drinkers (see Chapter Four), for instance, found that large, pictorial (image-and-text), front-of-pack warnings with specific health conditions could help reduce individual and social appeal of alcohol products.

In the UK, alcohol harm is an important public health issue, with 8,974 alcohol-specific deaths in 2020 (Office for National Statistics, 2021; Thompson & Pirmohamed, 2021). The appearance of alcohol packs in the UK does not reflect this risk, with the inclusion of warnings voluntary; where used, these are typically restricted to small symbols warning not to drink if pregnant or driving (Petticrew et al., 2016). A review of 424 alcohol packs randomly selected in UK shops found that only one (0.24%) included a factual health statement ('Alcohol consumption is injurious to health') on the back label, while 423 (99.76%) packs either had no statement or only a responsibility statement (e.g. 'drink responsibly') (Alcohol Health Alliance UK, 2020). The only product and health-related information legally required on alcohol packaging in the UK is volume, strength/ABV and presence of common allergens (UK Parliament, 2021), which is not considered to meaningfully inform consumers let alone influence drinking behaviours (Alcohol Health Alliance UK, 2020). Research suggests that consumers in the UK are not engaging with the information currently provided on alcohol packaging and generally support the inclusion of product and health-related information (e.g. number of alcohol units, calories) (Critchlow et al., 2020; D. Jones et al., 2021; Peddireddy et al., 2021).

5.2.3 Study aims

Academic and political interest in alcohol packaging in the UK is growing (UK Parliament, 2021), as it is elsewhere (Blenkinsop, 2022; Critchlow et al., 2021; Vallance et al., 2020), yet the promotional role of packaging is rarely explored and is not considered in alcohol warnings research. This study aimed to assess a sample of young adult drinkers' 1)

engagement with, and influence of, alcohol packaging as a form of marketing; 2) exposure to, and engagement with, current messaging on packs; 3) support for displaying product and health-related information; and 4) reactions to randomly-allocated front-of-pack warnings in terms of product appeal, social acceptability, and cognitive and behavioural impact. Based on previous alcohol and tobacco research (Noar et al., 2016; Sillero-Rejon et al., 2020), it was hypothesised (see Section 2.3.3.1) that more salient warnings (i.e. large text, pictorial) would be more effective than small text warnings and the absence of warnings in reducing product appeal and social acceptability, and positively impacting alcohol-related cognitions and behaviours.

5.3 Methods

5.3.1 Design and sample

An online cross-sectional survey was conducted in September–October 2020 with a non-probability sample ($n=1,360$) of 18–35 year-old current drinkers residing in the UK. To explore the impact of the presence and type of warning on product appeal, social acceptability, and cognitive and behavioural impact (aim 4), a between-groups experiment was incorporated into the survey. Surveys and experiments are regularly used in alcohol packaging studies (Clarke et al., 2021; Clarke, Pechey, Mantzari, et al., 2020; Critchlow et al., 2020; Sillero-Rejon et al., 2020; Winstock et al., 2020), with young adults frequently targeted by alcohol producers when (re)designing packaging (Bell, 2020) and a key population for public health messaging given high levels of hazardous drinking (Patton & Boniface, 2016).

5.3.2 Recruitment

River sampling is common in non-probability online surveys (Lehdonvirta et al., 2021). Participants were recruited via targeted Facebook adverts (see Appendix G), a means of accessing specific demographic profiles across a wide geographic area (Akers & Gordon, 2018), as with previous research involving young adult drinkers (Pedersen et al., 2017). The adverts stated that a University of Stirling study about alcohol use and packaging was recruiting 18–35 year-olds living in the UK who drink alcohol (i.e. eligibility criteria), in line

with the focus groups study (see Chapter Two), with the chance to win one of ten £50 Love2shop e-gift cards. Potential participants were invited to complete the survey, which was tested in advance for functionality and clarity by colleagues, hosted by Jisc, and accessible on any device with an internet connection, via a link in the adverts. Jisc (n.d.) is an online survey platform used by 88% of higher education institutions in the UK.

5.3.3 Procedure

Those clicking on the link were informed about the study aims (see Appendix H), content, duration (10 minutes), data privacy (see Appendix I), and that participation was voluntary and that they could exit the survey at any time, before being asked to provide consent (see Appendix H). Participants indicated their country of residence and age at the start of the questionnaire (see Appendix J), with those living outside the UK or not aged 18–35 screened out. To be considered a current drinker and therefore eligible to participate, participants had to answer anything other than ‘Never’ to the screening question ‘*How often do you have a drink containing alcohol?*’, the first item of the Alcohol Use Disorders Identification Test for Consumption (AUDIT-C) (Critchlow et al., 2020). Participants were asked about sociodemographics and drinking behaviours; engagement with, and influence of, alcohol packaging as a form of promotion; exposure to, and engagement with, current messaging on packs; support for displaying product and health-related information; and response to novel warnings. Most items were compulsory but included ‘Neither agree nor disagree’ or ‘Don’t know/Prefer not to say’ options where applicable.

For the between-groups experiment assessing the impact of warning design, participants selected one of four words (‘Cord’, ‘Lock’, ‘Plug’, ‘Shed’) and, similar to a previous online experiment (Clarke, Pechey, Mantzari, et al., 2020), were randomly allocated to one of four conditions (Figure 5.1): control (no warnings, $n=383$), small text warnings ($n=307$), large text warnings ($n=350$), or pictorial warnings ($n=320$). This approach builds on previous alcohol warnings research limited by the lack of a control group, ensuring any significant effects were caused by the warnings and not by the testing procedure itself (Jongenelis et al., 2018). Participants were unaware of the purpose of the word selection and were informed that it did not matter which random word they chose as there was no right or wrong answer, thus eliminating bias in treatment assignments (Suresh, 2011).

All participants were able to enter a prize draw at the end of the survey for their time and could create a unique participant ID should they have wished to withdraw their data (no participants requested to do so), with contact details provided for alcohol support. Ethical approval was granted by the General University Ethics Panel (GUEP 945) at University of Stirling (see Appendix K). The survey protocol was not pre-registered.

5.3.4 Materials

The warning labels were designed using Microsoft Word, then professionally produced by the Graphics and Print Services (n.d.) team at University of Stirling, ensuring that the warnings were high quality. The images and related licences were purchased from iStock (Getty Images, n.d.), an online stock photography provider. For consistency, in each condition participants were shown an image of a bottle of Smirnoff Red Label No.21 vodka. Smirnoff was chosen because it was the most popular alcohol brand in the UK and the highest-selling vodka, with positivity ratings similar among males and females and highest among millennials, who comprised most of the sample (Woolfson, 2019; YouGov, 2020). Each respective warning label was affixed to the front of the Smirnoff bottle at a set position and photographed to maintain consistency.

Each warning set included one general ('Alcohol damages your health') and two specific ('Alcohol causes liver disease', 'Alcohol causes mouth cancer') warnings. Following discussions with supervisory teams regarding message content (i.e. text, image) and building on the tobacco literature (e.g. Cunningham, 2022; Hall et al., 2020; Hammond, 2010), a range of salient warning messages and formats (i.e. text-only, image and text combined) were used to explore participants' responses and provide some insight into optimal warning designs for alcohol products. Previous alcohol research has used a similar range of warning designs, e.g. differing sizes (Al-Hamdani & Smith, 2017), text-only and text-and-image (Clarke, Pechey, Mantzari, et al., 2020), general and specific content (Blackwell et al., 2018; Miller et al., 2016), liver and cancer messages (Sillero-Rejon et al., 2018; Weerasinghe et al., 2020). Moreover, warning content was largely informed by participants' feedback in the focus groups (Chapter Four) regarding salience, clarity, acceptability and overall effectiveness, which demonstrates the advantage of MMR designs. Warnings related to liver disease and cancer resonated with participants in the focus groups, hence they were adapted for the present study. The specific warnings were also selected as more than three-quarters of

alcohol-specific deaths in the UK in 2020 were caused by alcoholic liver disease (Office for National Statistics, 2021) and past research (D. Jones et al., 2021, see Chapter Four) suggests it is more effective to specify the type of cancer, with alcohol-related mouth cancer prevalent in the UK (Oral Health Foundation, 2020).

For those in the pictorial warning condition, an appropriate image was chosen to reflect each warning: ‘Alcohol damages your health’ (image of blood pressure test); ‘Alcohol causes liver disease’ (image of person clutching their liver); ‘Alcohol causes mouth cancer’ (image of CT scanner in a hospital). Focus group participants considered the image of a person in a hospital bed used for the general warning (Chapter Four) to be ambiguous and unhelpful; therefore, a clearer image was chosen for the present study. The liver warning image was re-used in the present study as focus group participants generally found it effective, while an improved image of a CT scanner was used on the cancer pictorial warning.

Figure 5.1: Alcohol packaging displaying no warning (control) and warnings differing by text-size (small; large), form (text-only; pictorial), and image content



Notes: Please see exact images of each of the bottles used within the survey conditions in Appendix J.

5.3.5 Measures

5.3.5.1 Sample characteristics

Information on country of residence, age, gender, ethnicity, religion, occupation, education, and social grade was captured; social grade was categorised according to the occupation of the person in the participant’s household with the largest income (National Readership

Survey, n.d.), with grades A, B and C1 indicating higher and middle class groups and C2, D and E working class groups.

5.3.5.2 *Alcohol consumption*

The three-item AUDIT-C scale, which is an abbreviated version of the gold standard screening instrument for hazardous drinking in the adult population (Verhoog et al., 2020), was used to measure consumption (Critchlow et al., 2020; Critchlow & Moodie, 2021): (1) frequency of consumption (0=‘Never’ to 4=‘Four or more times a week’); (2) number of units drunk in a typical drinking occasion (0=‘One or two’ to 4=‘Ten or more’); and (3) how often they drank six or more units if female, or eight or more if male, on a single occasion in the last year (0=‘Never’ to 4=‘Daily or almost daily’).

5.3.5.3 *Engagement with, and influence of, alcohol packaging as a marketing tool*

To assess engagement with alcohol packaging, participants were asked whether they had ever retained empty packs, purchased limited-editions packs or packs that included a free gift or a chance to win a prize, and whether they had purchased an alcohol product based on its size, shape or country/region of origin. Response options for each question were ‘Yes’, ‘No’ and ‘Don’t know’. Participants were also asked about their level of agreement with a range of statements about the promotional influence of alcohol packaging and whether they preferred to buy alcohol products that have environmentally friendly packaging, with response options ‘Strongly Disagree’ (1) to ‘Strongly Agree’ (5), see Table 5.1. All questions were informed by the trade press (see Chapter Three) and focus group (see Chapter Four) studies, demonstrating the benefit of MMR designs. Items related to the importance of packaging in catching attention (e.g. eye-catching), creating appeal, guiding taste expectations, and influencing purchase. All of these impacts featured prominently in the trade press (Chapter Three) and focus group (Chapter Four) analyses, ensuring that survey participants were responding to relevant questions on the multiple roles of alcohol packaging as a marketing tool.

5.3.5.4 *Exposure to, and engagement with, current messaging, and support for displaying product and health-related information*

To address aim 2, participants were asked how often they see, and read or look closely at, the health-related information, messages or warnings on alcohol packaging (Critchlow et al., 2020; D. Jones et al., 2021), with responses coded as ‘Sometimes’, ‘Often’ or ‘Always’ vs. ‘Rarely’ or ‘Never’. To address aim 3, participants were asked whether they supported displaying the following information on alcohol packaging: strength/ABV; number of units; ingredients; number of servings equal to recommended weekly guidelines; weekly unit guidelines for men and women; calories; health conditions which can result from drinking alcohol; health warnings on the front of packs (Royal Society for Public Health, 2018). Responses were ‘Strongly Disagree’ (1) to ‘Strongly Agree’ (5).

5.3.5.5 *Awareness and perceptions of Smirnoff vodka*

Participants were asked about awareness of the Smirnoff vodka brand and how they rated it on a scale from 1=‘Very Unappealing’ to 5=‘Very Appealing’. Participants were asked these questions as a Smirnoff bottle was used to display the novel warnings.

5.3.5.6 *Response to packaging with/without warnings*

For aim 4, participants were shown images of a Smirnoff bottle with warnings (experimental conditions) or without warnings (control condition) and asked a series of questions (Table 5.1) informed by previous research (Clarke, Pechey, Mantzari, et al., 2020; Pechey et al., 2020) and the focus group study (Chapter Four), where participants discussed the significant impact of warnings on product appeal, social acceptability, and alcohol-related thoughts and behaviours, e.g. ‘*These alcohol products would make me aware of the health risks of drinking*’. For each question, responses were ‘Strongly Disagree’ (1) to ‘Strongly Agree’ (5). The responses to the item ‘*I find these alcohol products off-putting*’ were reverse-coded.

5.3.6 Analysis

Data were analysed using SPSS (Version 28). Analyses were unweighted and were not pre-registered. A total of 3,987 people clicked on the survey link, with 1,511 completing it and the remainder screened out or choosing to exit. To ensure meaningful engagement with the survey content, participants in the bottom five percentile (range: 4m 1s to 5m 53s, $n=76$) and top five percentile (range: 24m 5s to 10h 2m 14s, $n=75$) of completion time were considered outliers and excluded, with a median completion time of 9m 7s for the final sample ($n=1,360$). Although the methods by which researchers handle and report careless responding is highly variable (A. Jones et al., 2022), identifying implausible response times is a common means of removing careless respondents and improving data quality in alcohol research (A. Jones et al., 2022). Frequencies examined engagement with alcohol packaging as a promotional tool (aim 1), see Table 5.5; exposure to, and engagement with, current messaging (aim 2), see Table 5.7; and support for displaying product and health-related information (aim 3), see Table 5.8.

Principal components analysis (PCA) was used to determine the factorability of packaging as promotion items ($n=8$). Bartlett's test of sphericity ($\chi^2 (28)=5,110, p<0.001$) and the Kaiser-Meyer-Olkin (KMO=0.91) measure of sampling adequacy indicated that factor analysis was suitable. One component with an eigenvalue >1 and component loadings >0.66 was extracted and used as a composite measure for the '*promotional influence of alcohol packaging*'. Scores ranged from 8 to 40 ($M=27.47, SD=6.22, 95\% CI [27.14, 27.80]$), with the component explaining 56.5% of the total variance and having good internal consistency ($\alpha=0.89$). Composite scores were recoded into a binary variable based on the mid-point of possible scores to mutually exclude, and enable comparison of, participants who were highly influenced by alcohol packaging and those with moderate/low scores. Promotional influence of packaging scores (mid-point=24) were coded as high ($\geq 25, n=942, 69.3\%$) or moderate/low ($\leq 24, n=418, 30.7\%$).

A separate PCA using varimax rotation was conducted to determine the factorability of warning response items ($n=12$) (Table 5.1) because they differed conceptually to the promotional items and measured different aspects of alcohol packaging, i.e. marketing and social marketing. Bartlett's test of sphericity ($\chi^2 (66)=9,308, p<0.001$) and the KMO (0.84) measure of sampling adequacy indicated that factor analysis was suitable. Two components with eigenvalues >1 and component loadings >0.53 were extracted, explaining 61.2% of the total variance. '*Appeal and social acceptability*' scores ranged from 7 to 35 ($M=21.06,$

$SD=5.92$, 95% CI [20.75, 21.38]), explaining 32.0% of the variance with good internal consistency ($\alpha=0.85$). ‘*Cognitive and behavioural impact*’ scores ranged from 5 to 25 ($M=15.18$, $SD=5.04$, 95% CI [14.92, 15.45]), explaining 29.2% of the variance with good internal consistency ($\alpha=0.87$). Binary outcomes are commonly measured in global health research (Gallis & Turner, 2019), and have been used in alcohol and tobacco packaging studies (Ford et al., 2013; Winstock et al., 2020). Comparable to previous tobacco research (D. Mitchell et al., 2021), composite scores were recoded into binary variables based on the mid-point of possible scores to mutually exclude, and enable comparison of, positive and negative reactions to the stimuli. The main outcome measures were product appeal and social acceptability scores (mid-point=21), coded as negative (≤ 20 , $n=611$, 44.9%) or neutral/positive (≥ 21 , $n=749$, 55.1%) (Table 5.2), and cognitive and behavioural impact scores (mid-point=15), coded as positive (≥ 16 , $n=612$, 45.0%) or neutral/negative (≤ 15 , $n=748$, 55.0%) (Table 5.3).

Table 5.1: Overview of composite measures and response items

Response item	Composite	<i>M</i>	<i>SD</i>
1. The packaging of an alcohol product helps it to stand out in shops and bars.	PI	4.20	0.82
2. The packaging of an alcohol brand helps it to stand out from other alcohol brands.	PI	4.12	0.81
3. Whether the packaging of an alcohol product is eye-catching will influence whether I will choose it.	PI	3.49	1.08
4. If the packaging of an alcohol product looks good, I expect the drink will taste nice.	PI	3.48	1.13
5. To what extent, if at all, do you agree or disagree that packaging is important to you when choosing an alcohol product?	PI	3.31	0.99
6. Whether the packaging of an alcohol product looks fun will influence whether I will choose it.	PI	3.15	1.14
7. Whether the packaging of an alcohol product is attractive is important to me.	PI	3.07	1.12
8. I would purchase an alcohol product based solely on the appeal of the packaging.	PI	2.66	1.20
1. I would feel comfortable having these alcohol products in my home.	ASA	3.64	1.09
2. I would feel comfortable being seen drinking these alcohol products.	ASA	3.33	1.28
3. I would bring these alcohol products to a social occasion (e.g. a party).	ASA	2.95	1.17
4. These alcohol products would be appealing to young people.	ASA	2.91	1.22

5. I find these alcohol products off-putting.	ASA	2.52	1.28
6. I would give these alcohol products as a gift to someone.	ASA	2.01	1.00
7. These alcohol products make drinking seem fun.	ASA	2.01	1.00
1. These alcohol products would catch my attention when buying alcohol.	CBI	3.49	1.18
2. These alcohol products would make me aware of the health risks of drinking.	CBI	3.36	1.29
3. These alcohol products would make me think about my drinking.	CBI	2.96	1.29
4. These alcohol products would make me want to buy less alcohol.	CBI	2.69	1.22
5. These alcohol products would make me want to drink less alcohol.	CBI	2.69	1.22

Notes: Composites: Promotional influence of alcohol packaging (PI, 8 items); Appeal and social acceptability of products shown (ASA, 7 items); Cognitive and behavioural impact of products shown (CBI, 5 items).

Table 5.2: Appeal and social acceptability by warning condition

Warning condition	Negative		Neutral/Positive		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Control	93	15.2	290	38.7	383	28.2
Small	136	22.3	171	22.8	307	22.6
Large	202	33.1	148	19.8	350	25.7
Pictorial	180	29.5	140	18.7	320	23.5
Total	611	100.0	749	100.0	1360	100.0

Table 5.3: Cognitive and behavioural impact by warning condition

Warning condition	Positive		Neutral/Negative		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Control	49	8.0	334	44.7	383	28.2
Small	165	27.0	142	19.0	307	22.6
Large	216	35.3	134	17.9	350	25.7
Pictorial	182	29.7	138	18.4	320	23.5
Total	612	100.0	748	100.0	1360	100.0

For aim 1, a binary logistic regression model with simple contrasts examined the predictors of high promotional influence of alcohol packaging. The following covariates were entered in the model: age, ethnicity, gender, social grade, higher education qualifications or professional/vocational equivalents, occupational status and AUDIT-C category. The covariates were informed by the trade press study (Chapter Three), which found that alcohol producers use a range of packaging elements to target different consumer profiles based on

sociodemographics and drinking behaviours. The moderate/low level of packaging influence was chosen as the reference category to determine the association between the covariates and high influence of packaging.

For aim 4, hierarchical binary logistic regression models with simple contrasts examined the main effect of warning condition on negative product appeal and social acceptability, and positive cognitive and behavioural impact, respectively. In both models, block one controlled for sociodemographic and drinking-related factors identified in past research as influencing responses to warnings (Annunziata et al., 2016b, 2017; Gold et al., 2021; Miller et al., 2016; Tam & Greenfield, 2010; Winstock et al., 2020): age, ethnicity, gender, social grade, higher education qualifications or professional/vocational equivalents, occupational status, AUDIT-C category, as well as Smirnoff appeal and promotional influence of packaging, which were particularly relevant in the study. Warning condition was then entered in block two. The control condition was chosen as the reference category to determine the effect of including warnings on packaging, with subsequent analyses using the large text condition as the reference category to assess the relative effect of warning design.

5.4 Results

5.4.1 Sample characteristics

Most participants were White British (87.9%), female (59.6%), resided in England (69.7%) and in social grades A, B and C1 (61.8%) (see Table 5.4). Most were in employment or education (88.0%), non-religious (71.7), with approximately half having higher education qualifications or professional/vocational equivalents (48.8%). The mean age was 26.04 years ($SD=5.25$).

Table 5.4: Sample characteristics

Variable	Frequency	
	<i>n</i>	%
Country of residence		
England	948	69.7
Scotland	292	21.5
Wales	81	6.0
Northern Ireland	39	2.9
Ethnicity		
White British	1196	87.9
Other	164	12.1
Gender		
Male	519	38.2
Female	811	59.6
Non-binary	22	1.6
Prefer not to say	8	0.6
Social grade		
C2DE	352	25.9
ABC1	841	61.8
Prefer not to say/Don't know	167	12.3
Higher education/equivalents ^a		
No	686	50.4
Yes	664	48.8
Prefer not say/Don't know	10	0.7
Occupation		
In employment or education	1197	88.0
Not in employment or education	138	10.1
Prefer not to say	25	1.8
Religious affiliation		
No	975	71.7
Yes	332	24.4
Prefer not to say	53	3.9
Alcohol consumption ^b		
Higher-risk drinker	1098	80.7
Lower-risk drinker	230	16.9
Not computable	32	2.4

Notes: Sample ($n=1,360$) characteristics are unweighted. ^a Reflects whether participants had higher education qualifications or professional/vocational equivalents. ^b As the third AUDIT-C item measures binge drinking by gender ('How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?'), cumulative AUDIT-C scores were not computable for those who did not indicate their gender as either male or female ($n=30$), with two participants preferring not to answer the third item.

5.4.2 Alcohol consumption

As never-drinkers were ineligible, cumulative AUDIT-C scores ranged from 1 to 12 ($M=7.06$, $SD=2.58$, $n=1,328$), with acceptable internal consistency ($\alpha=0.71$). Cumulative

scores ≥ 5 indicate higher-risk consumption (Critchlow et al., 2020; Critchlow & Moodie, 2021; Fernandes et al., 2020), with four-fifths (80.7%) of participants reporting higher-risk consumption (Table 5.4).

5.4.3 Engagement with alcohol packaging

Most participants retained empty alcohol packaging (64.6%) and purchased limited-edition packs (54.7%) and products based on size (71.0%) or country/region of origin (51.4%). Some based purchases on pack shape (37.0%) or buy packs with a free gift (46.5%) or the chance to win a prize (27.9%) (see Table 5.5). While many participants ($n=536$, 39.4%) neither agreed nor disagreed that they preferred to buy alcohol products that have environmentally friendly packaging, others agreed ($n=353$, 26.0%) or strongly agreed ($n=240$, 17.6%) that they do, with some disagreeing ($n=147$, 10.8%) and few strongly disagreeing ($n=84$, 6.2%).

Table 5.5: Engagement with alcohol packaging

Variable	Yes		No		Don't know	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Size	966	71.0	346	25.4	48	3.5
Retained empty	879	64.6	476	35.0	5	0.4
Limited-edition	744	54.7	433	31.8	183	13.5
Origin	699	51.4	636	46.8	25	1.8
Gift	633	46.5	634	46.6	93	6.8
Shape	503	37.0	809	59.5	48	3.5
Prize	380	27.9	670	49.3	310	22.8

Notes: Participants ($n=1,360$) were asked whether they had ever retained empty packs, purchased limited-edition packs or packs that included a free gift or a chance to win a prize, and whether they had ever purchased an alcohol product based on its size, shape or country/region of origin

5.4.4 Predictors of high promotional influence of alcohol packaging

Most participants were highly influenced by alcohol packaging as a promotional tool ($n=942$, 69.3%), with less than a third categorised as low/moderate ($n=418$, 30.7%). The logistic regression model was statistically significant compared to the null model, with acceptable goodness-of-fit as per Hosmer–Lemeshow tests (see Table 5.6) and multicollinearity not present (variance inflation factors ≈ 1). Of the sociodemographic variables, being female ($p<0.001$), in social grade C2DE compared to ABC1 ($p=0.027$), and having higher education

qualifications or professional/vocational equivalents ($p=0.007$) were associated with high promotional influence of alcohol packaging. Therefore, this study found evidence in support of support H₁ (see Section 2.3.3.1): females were more likely than males to be highly influenced by alcohol packaging as a marketing tool.

Table 5.6: Logistic regression exploring predictors of high promotional influence of alcohol packaging

Variables and reference (REF) categories	<i>n</i>	AOR	95% CI	P-value
Age	1319	0.98	0.96, 1.01	0.188
Ethnicity				
White British	1158	REF		
Other	161	0.99	0.68, 1.43	0.949
Gender				
Male	513	REF		
Female	806	2.32	1.82, 2.96	<0.001**
Social grade				
C2DE	343	REF		
ABC1	822	0.71	0.53, 0.96	0.027*
Prefer not to say/Don't know	154	0.55	0.36, 0.84	0.005**
Higher education/equivalents ^a				
No	670	REF		
Yes	649	1.42	1.10, 1.83	0.007**
Occupation				
In employment or education	1168	REF		
Not in employment or education	130	1.01	0.66, 1.53	0.974
Prefer not to say	21	0.61	0.24, 1.52	0.284
Alcohol consumption				
Higher-risk drinker	1090	REF		
Lower-risk drinker	229	0.95	0.68, 1.31	0.737

Notes: Dependent variable, promotional influence of packaging: 1=High ($n=914$); 0=Moderate/Low ($n=405$). Independent variable categories were compared to reference (REF) categories using simple contrasts. Cases analysed ($n=1,319$). Cases excluded due to missing data or insufficient number of observations ($n=41$). Model summaries for final block: Test of model coefficients: $\chi^2(9)=63.31$, $p<0.001$. Hosmer–Lemeshow: $\chi^2(8)=9.09$, $p=0.335$. Nagelkerke R^2 : 0.07. Cases correctly classified: 68.8%.^a Reflects whether participants had higher education qualifications or professional/vocational equivalents. *Adjusted odds ratio (AOR) is statistically significant at the 0.05 level. **AOR is statistically significant at the 0.01 level.

5.4.5 Exposure to, and engagement with, current messaging, and support for displaying product and health-related information

While most participants (59.9%) reported seeing health-related information, messages or warnings on alcohol packaging sometimes, often or always, two-fifths (40.1%) rarely or

never do, with most (69.9%) rarely or never reading or looking closely at it (see Table 5.7). Participants largely supported displaying a range of product and health-related information on packaging (see Table 5.8). For example, 94.7% agreed or strongly agreed that units should be displayed on packaging, with 88.8% agreeing or strongly agreeing that ingredients should be included.

Table 5.7: Exposure to, and engagement with, health-related information, messages or warnings on alcohol packaging

Frequency	Exposure ^a		Engagement ^b	
	<i>n</i>	%	<i>n</i>	%
Always	214	15.7	30	2.2
Often	272	20.0	84	6.2
Sometimes	328	24.1	295	21.7
Rarely	404	29.7	536	39.4
Never	142	10.4	415	30.5
Total	1360	100	1360	100

Notes: ^a To measure frequency of exposure, participants were asked ‘How often do you see health-related information, messages or warnings on alcohol packaging?’ ^b To measure frequency of engagement, participants were asked ‘How often do you read or look closely at the health-related information, messages or warnings on alcohol packaging?’

Table 5.8: Support for displaying product and health-related information on alcohol packaging

Variable	Strongly agree		Agree		Neither agree nor disagree		Disagree		Strongly disagree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Strength (ABV)	1061	78.0	272	20.0	23	1.7	2	0.1	2	0.1
Units	957	70.4	331	24.3	53	3.9	16	1.2	3	0.2
Ingredients	719	52.9	488	35.9	111	8.2	34	2.5	8	0.6
Guidelines (servings) ^a	557	41.0	468	34.4	209	15.4	91	6.7	35	2.6
Guidelines (gender) ^b	468	34.4	508	37.4	275	20.2	82	6.0	27	2.0
Calories	499	36.7	461	33.9	275	20.2	90	6.6	35	2.6
Health conditions ^c	347	25.5	428	31.5	336	24.7	186	13.7	63	4.6
Health warnings ^d	294	21.6	330	24.3	303	22.3	259	19.0	174	12.8

Notes: Total *n*=1,360. ^a How many servings of the product are equal to the recommended weekly guidelines.

^b Guidelines on how many units men and women should drink each week. ^c Information on health conditions which can result from drinking alcohol. ^d Health warnings on the front of alcohol packaging

5.4.6 Awareness and perceptions of Smirnoff vodka

Participants were aware of Smirnoff ($n=1,358$, 99.9%) and rated it somewhat positively ($M=3.25$, $SD=1.05$).

5.4.7 Predictors of negative appeal and social acceptability, and positive cognitive and behavioural impacts

Both hierarchical logistic regression models were statistically significant compared to respective null models, with acceptable goodness-of-fit as per Hosmer–Lemeshow tests (Table 5.9, Table 5.10) and multicollinearity not present (variance inflation factors ≈ 1). After controlling for covariates, participants who viewed products with warnings were significantly more likely to perceive the products as unappealing and socially unacceptable than the control condition (Table 5.9): small text warnings, adjusted odds ratio (AOR)=2.99, $p<0.001$, 95% CI [2.10, 4.26]; large text warnings, AOR=5.20, $p<0.001$, 95% CI [3.68, 7.35]; pictorial warnings, AOR=4.89, $p<0.001$, 95% CI [3.43, 6.95]. Therefore, this study found evidence in support of H₂ (see Section 2.3.3.1): participants shown products with warnings were more likely to rate them as unappealing and socially unacceptable compared to the control group. Of the covariates, being of ‘Other’ ethnicity ($p=0.022$), female ($p<0.001$), a lower-risk drinker ($p=0.004$), in social grade ABC1 ($p=0.008$), having higher education qualifications or professional/vocational equivalents ($p<0.001$), a lower Smirnoff rating ($p<0.001$) and being highly influenced by packaging ($p<0.001$) were associated with negative appeal and social acceptability in the final model.

Relative to the large text condition, participants who viewed small text warnings were significantly less likely to perceive the products as unappealing and socially unacceptable, AOR=0.58, $p=0.001$, 95% CI [0.41, 0.80], with no difference in the pictorial condition, AOR=0.94, $p=0.716$, 95% CI [0.67, 1.31]. Hence, this study found evidence in support of H₃ (see Section 2.3.3.1): participants shown products with large warnings (with or without images) were more likely to rate them as unappealing and socially unacceptable compared to those shown small-text only warnings.

After controlling for covariates, participants who viewed products with warnings were also significantly more likely to report positive cognitive and behavioural impacts than the control condition (Table 5.10): small text warnings, AOR=9.48, $p<0.001$, 95% CI [6.39, 14.07]; large text warnings, AOR=12.78, $p<0.001$, 95% CI [8.65, 18.86]; pictorial warnings,

$AOR=10.54$, $p<0.001$, 95% CI [7.11, 15.62]. Hence, this study found evidence in support of H_4 (see Section 2.3.3.1): participants shown products with warnings were more likely to have positive cognitive and behavioural impact ratings compared to the control group. Of the covariates, being female ($p=0.026$), a lower-risk drinker ($p<0.001$) and highly influenced by packaging ($p<0.001$) were associated with positive cognitive and behavioural impact in the final model.

Relative to the large text condition, the likelihood of positive cognitive and behavioural impacts was not significantly different in the small text condition, $AOR=0.74$, $p=0.072$, 95% CI [0.54, 1.03], or pictorial condition, $AOR=0.83$ $p=0.247$, 95% CI [0.60, 1.14]. While effects were greater in the large warning (with or without images) conditions, this study did not find clear evidence in support of H_5 (see Section 2.3.3.1): participants shown products with large warnings (with or without images) were not more likely to have positive cognitive and behavioural impact ratings compared to those shown small-text only warnings.

Table 5.9: Logistic regression exploring association between warning condition and negative appeal and social acceptability

Variables and reference (REF) categories	<i>n</i>	AOR	95% CI	<i>P</i> -value
Block 1				
Age	1318	0.99	0.97, 1.01	0.390
Ethnicity				
White British	1157	REF		
Other	161	1.54	1.07, 2.22	0.022*
Gender				
Male	513	REF		
Female	805	1.69	1.30, 2.19	<0.001**
Social grade				
C2DE	343	REF		
ABC1	821	1.49	1.11, 2.01	0.008**
Prefer not to say/Don't know	154	1.28	0.82, 1.98	0.274
Higher education/equivalents ^a				
No	670	REF		
Yes	648	1.71	1.33, 2.20	<0.001**
Occupation				
In employment or education	1167	REF		
Not in employment or education	130	0.69	0.46, 1.06	0.088
Prefer not to say	21	1.01	0.37, 2.76	0.978
Alcohol consumption				
Higher-risk drinker	1089	REF		
Lower-risk drinker	229	1.60	1.16, 2.21	0.004**
Smirnoff vodka brand appeal	1318	0.63	0.56, 0.71	<0.001**
Promotional influence of packaging				
Moderate/Low	405	REF		
High	913	1.64	1.25, 2.14	<0.001**
Block2				
Warning condition				
Control	371	REF		
Small text (vs. Control)	300	2.99	2.10, 4.26	<0.001**
Large text (vs. Control)	341	5.20	3.68, 7.35	<0.001**
Pictorial (vs. Control)	306	4.89	3.43, 6.95	<0.001**

Notes: Dependent variable, appeal and social acceptability: 1=Negative (*n*=586); 0=Neutral/Positive (*n*=732). Independent variable categories were compared to reference (REF) categories using simple contrasts. Cases analysed (*n*=1,318). Cases excluded due to missing data or insufficient number of observations (*n*=42). Model summaries for final block: Test of model coefficients: $\chi^2(14)=253.51$, $p<0.001$. Hosmer–Lemeshow: $\chi^2(8)=11.42$, $p=0.179$. Nagelkerke R^2 : 0.23. Cases correctly classified: 68.0%. ^a Reflects whether participants had higher education qualifications or professional/vocational equivalents. *Adjusted odds ratio (AOR) is statistically significant at the 0.05 level. **AOR is statistically significant at the 0.01 level.

Table 5.10: Logistic regression exploring association between warning condition and positive cognitive and behavioural impact

Variables and reference (REF) categories	<i>n</i>	AOR	95% CI	<i>P</i> -value
Block 1				
Age	1318	0.98	0.96, 1.01	0.136
Ethnicity				
White British	1157	REF		
Other	161	1.03	0.71, 1.50	0.875
Gender				
Male	513	REF		
Female	805	1.35	1.04, 1.75	0.026*
Social grade				
C2DE	343	REF		
ABC1	821	0.80	0.59, 1.07	0.129
Prefer not to say/Don't know	154	0.88	0.56, 1.37	0.560
Higher education/equivalents ^a				
No	670	REF		
Yes	648	0.95	0.73, 1.23	0.695
Occupation				
In employment or education	1167	REF		
Not in employment or education	130	1.02	0.67, 1.54	0.942
Prefer not to say	21	1.41	0.48, 4.10	0.531
Alcohol consumption				
Higher-risk drinker	1089	REF		
Lower-risk drinker	229	2.22	1.58, 3.11	<0.001**
Smirnoff vodka brand appeal	1318	1.05	0.93, 1.19	0.444
Promotional influence of packaging				
Moderate/Low	405	REF		
High	913	1.91	1.45, 2.51	<0.001**
Block2				
Warning condition				
Control	371	REF		
Small text (vs. Control)	300	9.48	6.39, 14.07	<0.001**
Large text (vs. Control)	341	12.78	8.65, 18.86	<0.001**
Pictorial (vs. Control)	306	10.54	7.11, 15.62	<0.001**

Notes: Dependent variable, cognitive and behavioural impact: 1=Positive (*n*=593); 0=Neutral/Negative (*n*=725). Independent variable categories were compared to reference (REF) categories using simple contrasts.. Cases analysed (*n*=1,318). Cases excluded due to missing data or insufficient number of observations (*n*=42). Model summaries for final block: Test of model coefficients: $\chi^2(14)=306.58$, $p<0.001$. Hosmer–Lemeshow: $\chi^2(8)=8.08$, $p=0.426$. Nagelkerke R^2 : 0.28. Cases correctly classified: 69.3%. ^a Reflects whether participants had higher education qualifications or professional/vocational equivalents. *Adjusted odds ratio (AOR) is statistically significant at the 0.05 level. **Adjusted odds ratio (AOR) is statistically significant at the 0.01 level.

5.5 Discussion

5.5.1 Alcohol packaging as a marketing tool

This sample of young adult drinkers were influenced by alcohol packaging, with most retaining empty packaging, perceiving it as a means of enhancing product and brand stand out, and using packs to guide expectations of taste and purchasing decisions. These findings echo the results discussed in Chapter Three (trade press) and Chapter Four (focus groups). For instance, most participants in the focus groups retained empty packs for aesthetic and upcycling purposes, which was corroborated in the present survey study. Alcohol packaging is a versatile marketing tool used by alcohol companies to catch consumers' attention, create individual and social appeal, and encourage purchase. This is achieved through a combination of pack features (e.g. design, structure, on-pack promotions), which help to engage consumers and influence purchase behaviours.

As hypothesised (see Section 2.3.3.1), females were particularly influenced by packaging as a promotional tool. This may be partially explained by industry efforts to frequently target female consumers when designing alcohol packaging, which is evident in the UK trade press (Chapter Three). Alcohol packaging has become increasingly gendered (Atkinson et al., 2019; Murray, 2012), with all focus groups (Chapter Four) believing that several products (e.g. Barefoot, Blossom Hill, Gordon's Pink Gin) and on-pack promotions (e.g. beauty vouchers) are designed for, and targeted at, females. Previous research suggests that female-oriented slim packaging increases consumption of beer, and appeal of cigarettes, among females (de Bruijn et al., 2012; Ford et al., 2016). It would be interesting for subsequent work to concentrate on the gendered nature of marketing, particularly packaging, and the content chosen to appeal to this market segment, including the prevalence of 'equality arguments' (see section 1.3.2).

5.5.2 Alcohol packaging as a social marketing tool

The sample was also influenced by the inclusion of health warnings on alcohol packaging. Including a front-of-pack warning (small-text, large-text or pictorial) on a market-leading brand of vodka reduced product appeal and social acceptability, and was perceived as positively influencing alcohol-related cognitions and behaviours. As expected, participants who viewed the product with no warnings had the highest social appeal and acceptability

ratings, and the lowest reported impact on cognition and behaviour. That those in the control condition were not informed about alcohol-related harms via the packaging is reflective of products on the market, but needs to be considered when interpreting the findings.

An odds ratio of 2 is the minimum effect size representing practical significance in social science, with 3 considered a moderate effect and 4 a strong effect (Ferguson, 2009). Larger warnings (with or without an image) were particularly effective in reducing product appeal and social acceptability, with previous research indicating that prominent warnings on alcohol packaging may help capture attention, counteract positive product perceptions, and reduce consumption intentions (Al-Hamdani & Smith, 2017; Jongenelis et al., 2018; Sillero-Rejon et al., 2020). Surprisingly, this study did not find clear differences between warning designs in terms of positively impacting cognitions and behaviours. This is in contrast to the considerable evidence in the tobacco packaging field, where larger warnings with images are more capable of positively influencing smoking-related thoughts and behaviours than smaller, text-only warnings (Hammond, 2011; Noar et al., 2016). Further research is needed to determine optimal alcohol warning designs. For instance, one study (Chapter Four) suggests that pictorial warnings may communicate messages more effectively than having just text as it requires less cognitive effort from consumers (D. Jones et al., 2021), while others report inconclusive differences in effectiveness (e.g. reducing speed of consumption, increasing risk perception) between pictorial and text-only conditions (Stafford & Salmon, 2017; Staub et al., 2022; Wigg & Stafford, 2016).

Two-fifths of participants reported rarely or never seeing health-related information, messages or warnings on alcohol packaging, with almost three-quarters rarely or never reading or looking closely at it. As most of the sample were classified as higher-risk drinkers, it is reasonable to assume they are exposed to alcohol packaging when drinking at home or in licensed premises, yet most did not interact with the information currently provided. This is unsurprising considering alcohol packaging in the UK is not designed to meaningfully engage or inform consumers, with ambiguous messaging in small fonts usually positioned on the back of packs and over 70% of labels not including up-to-date low-risk drinking guidelines (Alcohol Health Alliance UK, 2020; D. Jones et al., 2021; Petticrew et al., 2016). Salient warnings with specific health-related messages, as used in this study, can positively influence consumer attention, comprehension, recall, judgement and behavioural compliance (Dimova & Mitchell, 2021). The lack of exposure to warnings on alcohol packaging may help to explain why the study failed to find significant differences between pictorial and text warnings in terms of perceived cognitive and behavioural response, in direct contrast to the

vast majority of studies in the tobacco field (Hammond, 2011). Warnings have been displayed on cigarette packs for several decades in many countries, so even prior to the inclusion of pictorial images on packs from this century (they were first required in Canada in 2000) people would have been exposed to, and familiar with, warnings on packs. For alcohol, the lack of exposure to any meaningful warning messages on packs may have meant that the novelty of seeing these, irrespective of warning size and type, was sufficient to influence their perceptions. Qualitative research exploring possible reasons for these findings would be of value.

There was strong support for displaying strength/ABV, number of units, ingredients, weekly guidelines (by serving and gender) and calories on alcohol packaging, with moderate support for displaying warnings, consistent with international findings (Annunziata et al., 2016a; Royal Society for Public Health, 2014; Vallance et al., 2020). Limited consumer engagement with current provisions and support for more information on packaging may be partially explained by legal requirements. While alcohol packaging requirements vary globally (International Alliance for Responsible Drinking, 2019), minimal information is legally required in the UK (volume, strength/ABV, presence of common allergens) (UK Parliament, 2021), with other product and health-related information (e.g. ingredients, calories, warnings) self-regulated by alcohol companies. Tinawi et al. (2018) argue that voluntary warnings on alcohol packaging in New Zealand, like the UK, are inadequately designed to inform consumers and that evidence-based, standardised requirements outlining alcohol-related risks are necessary. As over 740,000 of all new cancer cases in 2020 globally were attributable to alcohol consumption (Rumgay et al., 2021), with alcoholic liver deaths in the UK increasing (Public Health England, 2021), these findings could help inform packaging regulations to meaningfully inform consumers about alcoholic products and potential harms.

Finally, this study found greater support for calorific information than health warnings. This could be due to some consumers finding such information less off-putting and therefore more acceptable to appear on packaging. Evidence from the trade press (Chapter Three) indicates that packs are designed to align with consumers' personalities and lifestyles, making products more relevant and appealing to different cohorts including health-conscious (e.g. calories) drinkers. There is further evidence in the grey literature that alcohol packaging can be used to target health-conscious consumers by promoting low alcoholic and calorific content (Lingle, 2017). There have been calls by public health professionals to include calorie content on alcohol labels (Gulland, 2018), with nutritional labelling a very underexplored research area and of growing interest to regulators (e.g. in Ireland) as they consider which

elements alcohol labels should contain (Alcohol Action Ireland, 2023). Future research could look to establish how people use calorific labelling and how it impacts buying and drinking behaviours.

5.5.3 Study limitations

This study has several limitations to consider. While the warnings used aligned with WHO (2017) recommendations (e.g. evidence-based content, different messages in bold and using capital letters, placed in a standard location with clear separation of text from other information, and inclusion of images), this study is unable to provide insight into optimal message content (e.g. specific vs. general text, message framing, image criteria) and real-world reactions to, or longer-term impacts of, warnings on alcohol packaging. The images used were not pre-tested, it should be noted, as would be the case if pictorial warnings were required on packs, and as such the images may not have resonated with or been clear to participants. The images were also somewhat benign, with some arguing that the goal of deterring images is simply to inform consumers and questioning the need to evoke fear or an elevated perception of risk to prevent people from drinking (Staub et al., 2022); nonetheless, more severe images (e.g. diseased organs) could elicit stronger responses from drinkers, with alcohol and tobacco research suggesting that severe images are more likely to elicit negative emotional reactions and avoidance behaviour, reduce product appeal, and increase thinking about harms and motivation to drink less (Chudech & Janmaimool, 2021; Coomber et al., 2017; Cunningham, 2022; Hall et al., 2020; Sillero-Rejon et al., 2018).

Non-probability online surveys are cost-effective and efficient yet lack representativeness and generalisability, partially due to topical self-selection bias and potential differences between those who choose to participate and those who do not (Andrade, 2021; Lehdonvirta et al., 2021; Ramke et al., 2018). It has been argued that river samples, like the present study, are not formally generalisable beyond the population of users accessing the service (e.g. Facebook) within the sampling period (Lehdonvirta et al., 2021). While careless responding is no more prevalent in alcohol research than other fields (A. Jones et al., 2022), participants with implausible completion times were excluded to improve data quality; including an attention check (e.g. careful-read item) could have helped to identify additional careless respondents, potentially further increasing data quality and motivating

participants to exert more cognitive effort when answering survey items (Shamon & Berning, 2020).

As the promotional role of alcohol packaging was measured before counteractive health messaging, order effects may have influenced responses (Sanjeev & Balyan, 2014). Although controlling for Smirnoff vodka brand appeal helped overcome the limitation of showing one product, which ensured brand awareness, consistency, and removed potential bias or confounding effects from exposure to multiple products (D. Mitchell et al., 2021), a broader range of alcoholic drinks, brands and pack formats would better represent the choices and preferences consumers have, which may elicit different reactions. This study had a small budget and while this enabled a modest sample size and achieved relatively good spread across the warning conditions, the sample was not sufficiently large to allow for either more warnings or warnings on a variety of alcohol products. As the data collection occurred during the COVID-19 pandemic, the potential implications of this were discussed with the supervisory team and ultimately considered beyond the scope of this study. However, future studies may wish to incorporate measures accounting for the potential impact of significant social events (e.g. pandemic, recession) on the role of alcohol packaging as a tool for marketing and social marketing.

There was an overrepresentation of participants from Scotland, relative to the population, which may be partially explained by the Facebook adverts highlighting that it was a University of Stirling study; therefore, future studies could seek to recruit more evenly across geographical regions with varying populations like the UK to improve representativeness. While ABC1 participants were less likely to be highly influenced by alcohol packaging as a promotional tool, those with higher education were more likely to be. Considering these two variables are usually positively correlated (i.e. social grade and education), it is somewhat surprising to see divergent results; nonetheless, this may be explained by the items used to measure these variables (see Appendix J) and the overrepresentation of ABC1 (see Table 5.4) participants. Future studies could look to amalgamate these variables to provide more insight into consumer profiles and their response to packaging, while also investigating whether such unexpected results may be better explained by drinking behaviours. Finally, given that over 80% of the sample were classified as higher-risk drinkers, future research with other populations that may benefit from exposure to warnings, such as non-drinkers, susceptible drinkers, adolescents and older adult drinkers, is needed.

5.5.4 Conclusions

Alcohol packaging plays a significant role in attracting consumer attention and influencing purchasing decisions. This sample of young adult drinkers reported limited engagement with the health information, messages and warnings on current alcohol packaging and largely supported the inclusion of product and health-related information. Prominent warnings may help to counteract the appeal and social acceptability of alcohol products, which is partially created by packaging, encourage consumers to think about their drinking and, potentially, support a reduction in alcohol consumption and related harms.

Chapter Six: Conclusion

6.1 Introduction

As each of the study chapters (Three, Four and Five) provided comprehensive discussions of findings, implications and limitations, this chapter provides a summary of key findings (section 6.2), potential directions for future research and policy (6.3), and reflections on the research process (6.4), before offering concluding remarks (6.5).

6.2 Summary of key findings

This PhD study aimed to more fully understand how alcohol packaging is being used in the UK as a marketing tool, and how it could be used to better inform consumers of some of the risks associated with alcohol use. The findings from the three studies offer significant new knowledge and insight to the public health fields of alcohol packaging, social marketing and alcohol health information labelling. The trade press study (Chapter Three) demonstrated how important alcohol packaging is to companies using a rich and comprehensive source of industry data, with packs designed to target consumer profiles, encourage purchase and increase revenue. Alcohol companies invest significant sums in packaging strategies and are adept at reaching target consumers, promoting positive perceptions of drinking and drinking occasions, and influencing purchase.

These impacts were evident in the focus groups (Chapter Four) as many participants had indeed been attracted to alcohol products via packaging elements, despite being aware of industry tactics to create appeal, influence purchase and increase revenue. Most participants retained empty packaging, which is testament to the power of packaging as a marketing tool as it extends beyond the point of purchase and potentially in perpetuity, especially when compared to most other forms of alcohol marketing which are fleeting. Colour was the dominant aspect of whether packaging was considered appealing, with participants acutely aware of the consumer profiles that brands were marketed at and suitable for. Most participants believed that salient warnings on alcohol packaging could reduce its powerful marketing function, making drinking seem less glamorous and fun while supporting awareness of alcohol-related harms, particularly for younger and potential drinkers. Large,

front-of-pack image and text combined warnings with specific health-related messages (e.g. cancer) were considered most effective, with the potential to improve awareness of alcohol-related harms and encourage self-reflection on drinking behaviours.

These findings were reiterated in the survey study (Chapter Five), with most young adult drinkers highly influenced by alcohol packaging as a promotional tool, retaining empty packs, and reacting to the warnings as intended, i.e. higher odds of viewing products as unappealing and socially unacceptable, while deriving positive cognitive and behavioural intentions. Given that packaging is a key source of information for a variety of consumer goods regarding usage, contents (e.g. ingredients) and potential harms, providing evidence-based alcohol-related health information on packaging could make it more accessible to consumers and help convey the potential risks of consumption.

To summarise, this PhD found strong evidence that alcohol packaging provides alcohol companies a range of positive impacts, which could be harnessed for delivering health information, messaging and warnings more effectively were it designed to do so. Alcohol packaging has the capacity to engage and inform consumers on a meaningful level, both from marketing and social marketing perspectives. The use of MMR provided an in-depth understanding of alcohol packaging as a communications tool and allowed for the corroboration for results, helping the researcher to improve the studies by informing questions and stimuli.

6.3 Directions for future research and policy

Alcohol marketing, by its nature, aims to convey alcohol in a desirable way to reinforce the idea of alcohol as a positive product (Scottish Government, 2022). As demonstrated throughout this thesis, alcohol packaging is a multifaceted, influential marketing tool, yielding significant return on investments for companies and helping to instil positive images of drinking and drinking occasions. While salient warnings will likely aid in reducing the appeal of alcohol packaging, there are several other promotional features of packaging which could reduce the effectiveness of warnings that need to be considered. All of the promotional elements identified in the trade press review require academic and policy attention, including bright colours, attractive images, interesting shapes and sizes, and enticing on-pack promotions, such as giveaways and sponsorships. Policymakers could look to Thailand's restrictions on packaging (see section 1.4) to protect its citizens by continually strengthening

its efforts to control alcohol marketing, rather than mediating between the alcohol industry and public health advocates (Kaewpramkusol et al., 2019).

Similar to the packaging of other fast-moving consumer goods (e.g. packaged food), viewing alcohol packaging is often a consumer's first experience of the product, playing a crucial role in attracting consumers, communicating important brand information, and influencing first impressions (e.g. perceived quality and value) in physical and online retail settings (Lyon, 2020; ODM Group, 2022). Packaging may be particularly important for online alcohol sales, which is becoming increasingly more popular in the UK and elsewhere, where retailers are heavily reliant on product images to influence consumer decisions (Lyon, 2020). There is an opportunity for future studies to concentrate on the role of alcohol packaging as a promotional tool within the context of online sales, exploring its potential impact on appeal, brand preference and purchase intention, as well as perceptions of harm.

Although plain packaging for tobacco has been found to reduce pack appeal and misperceptions of harm while enhancing warning saliency (Hammond, 2010; Moodie, Angus, et al., 2021; Moodie, Best, Hitchman, et al., 2021), there is insufficient research for alcohol to make any substantive claim; nonetheless, Public Health England previously highlighted that, informed by the experience of tobacco, plain packaging for alcohol merits consideration (Burton & Marsden, 2016), with the limited evidence available indicating that plain packaging could lower product-based and consumer-based ratings, while making health messaging more salient (Al-Hamdani & Smith, 2017; Dimova & Mitchell, 2021).

Notably, evidence from the grey literature suggests that the alcohol industry regards plain packaging as a serious commercial threat with the potential to devalue beverage brands (e.g. alcohol, soft drinks) globally by \$300 billion, which would be particularly damaging for large producers (e.g. Pernod Ricard) (Kiely, 2018). For example, the Scotch Whisky Association (as cited in Kiely, 2018) attribute much of the category's worldwide success to its brand-building capacity, with packaging playing a vital role in communicating the quality, craft and heritage of Scotland's distilleries. The trade body further state (as cited in Kiely, 2018) that plain packaging would be detrimental for not only the whisky category, but also the wider UK economy, arguing that 'there is no evidence to suggest plain packaging would have any impact on reducing harmful drinking' and that plain packaging would undermine brands. Indeed, Maverick Drinks (as cited in Glaister, 2017), a craft spirit branding specialist, argues that removing elements of branding and packaging will make people 'trade down in terms of quality, and that would have the opposite of the intended effect' and that 'government bodies would prefer people to drink better and less rather than cheaper and

more'. Additionally, industry actors maintain that 'any disproportionate restrictions around packaging could inhibit EU producers' ability to compete based on design aspects which would reduce competitiveness for EU products in export markets' (Spirits Europe, 2022).

The findings in this thesis provide pause for thought about the contrast between unrestricted designs on alcohol packaging and the plain packaging legal requirements for cigarettes. Further research should consider potential benefits of stronger regulation of alcohol packaging and warnings, as well as public support for such changes. Studies on household chemical products suggest that packaging design (e.g. colour) influences consumers' risk perceptions, with consumers better at judging the risks associated with a product and taking greater safety precautions when elements that lower risk perception (e.g. images of flowers or food) are absent from the packaging (Buchmüller et al., 2022). It would be interesting for future studies to thoroughly explore consumers' responses to alcohol products in plain packaging (e.g. via focus groups) and examine the potential impacts it may have on alcohol packaging as a marketing (e.g. appeal) and social marketing tool (e.g. awareness of harms). This would help build the evidence base as to whether a key tobacco control initiative – which has been fully implemented in 16 countries, including the UK, and helped to diminish the power of packaging as a sales tool (Moodie et al., 2022) – could translate to alcohol products, how it may be received by consumers, and the extent to which it could support other alcohol public health policies.

It has been argued that, given the global burden of alcohol-related harms, various recommendations and best practices should be considered to guide policy makers to regulate alcohol marketing more effectively (Jernigan & Ross, 2020). One potential means of reducing the burden from alcohol-related harms is to raise awareness of the health and social problems caused by the harmful use of alcohol at the individual and societal level (WHO, 2022a). Alcohol packaging, particularly labels, presents a highly visible platform to reach consumers, both current and potential (e.g. children), at the point of purchase and consumption to provide evidence-based, public health-oriented messages, thus enabling consumers to make more informed choices. On-pack alcohol warnings have the potential to be seen by consumers, especially those who drink more frequently as they are exposed to the warnings more often (Giesbrecht et al., 2022; Gold et al., 2021). As such, this thesis progressed the literature on alcohol health warning labels, including the cognitive (e.g. encouraging self-reflection on drinking behaviours) and behavioural (e.g. less likely to gift products with warnings) impacts as well as design considerations (e.g. message content). However, what constitutes optimal warning design is still to be determined; therefore, future

research could look to build on this thesis and the growing interest in alcohol warnings research to further engage with consumers and consider what is most effective, e.g. in terms of message framing, types of images, warning rotation. Given that there is a causal link between the harmful use of alcohol and over 200 disease and injury conditions, including major noncommunicable diseases (e.g. cardiovascular diseases and seven types of cancer) and resulting in 3 million deaths worldwide every year (i.e. 5.3% of all deaths) (WHO, 2022a), there is an abundance of message content options to explore.

In order to track, monitor and assess the impact of packaging policies (Giesbrecht et al., 2022; WHO 2022b), future research could look to employ a range of consumer profiles to explore their relationship with alcohol packaging and how measures to detract from packs (e.g. prominent warnings, plain packaging) may influence them. This may include members of the general population, children and adolescents, women of child-bearing age, high-risk drinkers, and those dependent on alcohol (Giesbrecht et al., 2022; WHO 2022b). While tobacco kills more than 7 million smokers globally each year and up to half of its users (Dai et al., 2022), alcohol consumption is also a significant public health burden (see section 1.2), with current evidence indicating that there is no safe level of consumption for health (WHO, 2023); therefore, comparable to tobacco packaging health warnings, alcohol packaging should be capable of reaching all consumer groups to help people make informed decisions, increase awareness of health risks and counteract misinformation around ‘healthy’ levels of usage.

Notably, there are limited randomised controlled trials and quasi-experimental studies (Giesbrecht et al., 2022), which future studies could look to implement. While further real-world research is required to determine whether on-pack warnings can change drinking behaviour, they may help to increase awareness that alcohol is no ordinary commodity; therefore, it is an area deserving of special attention and concern (Vallance et al., 2020). Additionally, longitudinal research is warranted to better understand the potential impact of salient warnings, especially for serious warnings like liver disease and cancer, and to get a clearer sense of how public health-oriented packaging initiatives may be received. As discussed throughout this thesis, alcohol packaging is a valuable and influential space, both from marketing and social marketing perspectives; were warnings to be required on packaging and designed in line with current best evidence (e.g. front-of-pack, large, combination of image and text with specific alcohol-related health messages), it is likely that the appeal of products would be reduced in favour of delivering health information.

The Public Health (Alcohol) Act 2018 in Ireland presents an interesting and timely opportunity for the UK and other countries to evaluate and learn from the implementation of labelling policies in a real-world setting, which is encouraged by the WHO (2022b). When enacted, these regulations will mean that alcohol products cannot be sold in Ireland without displaying a pregnancy warning symbol and informing the public that ‘Drinking alcohol causes liver disease’, and that ‘There is a direct between alcohol and fatal cancers’ (Alcohol Action Ireland, 2023). Ireland records approximately 1,000 alcohol-related cancer diagnoses every year, with low levels of public awareness of the risks (Alcohol Action Ireland, 2023) and rising alcoholic liver disease hospital admissions and deaths in Irish hospitals (Armstrong et al., 2022), these messages appear to be highly relevant and ripe for future investigation. Products will also be required to display alcohol and calorie content, as well as the public health alcohol information website ‘askaboutalcohol.ie’ (Alcohol Action Ireland, 2023). While yet to be written into law, the measures come after extensive debate in the Irish political system amidst intense lobbying by the alcohol industry and reactionary suggestions emanating from wine producers across several EU countries to boycott the Irish market (Alcohol Action Ireland, 2023; Collins, 2023; Juslin & Österman, 2023).

However, the labelling initiative was democratically mandated and garnered strong public support, with other countries such as Norway proposing similar requirements to include cancer warnings on alcohol packaging (Alcohol Action Ireland, 2023). South Korea is currently the only country that requires cancer warnings on alcohol packaging, albeit implementation was weakened by industry complaints and sympathetic governments (Stockwell et al., 2020). Notably, where government regulation has been proposed or enacted, evidence shows that alcohol industry actors frequently deploy legal arguments and avail of legal forums to challenge regulation (O’Brien et al., 2022). Savell et al. (2016) explain that the alcohol industry combats marketing regulation by championing industry responsibility and the purported effectiveness of self-regulation, calling into question the need for, and effectiveness of, statutory regulation and focusing the narrative on individual responsibility. Indeed, arguments relating to industry responsibility are often promoted through corporate social responsibility initiatives (Savell et al., 2016), with packaging a key tool for such activities, as demonstrated in the trade press (Chapter Three). Although the Portman Group (2022) acknowledges that communicating alcohol-related health information via packaging can be an important driver of positive behavioural change, the industry has been criticised for primarily communicating its position by manipulating the evidence base and defending ineffective voluntary codes and unregulated mechanisms (Savell et al., 2016).

Greater public health benefits may be achieved were legislative restrictions applied to alcohol marketing (Noel, Lazzarini, et al., 2017), including packaging. As such, there is a clear need for bodies of scientific evidence, consumer support and political will to drive policies, counteract industry motivations and prioritise public health.

Finally, innovative focus group research conducted in Scotland explored smokers' ($n=120$) perceptions of cigarette packaging with audio warning messages (D. Mitchell et al., 2020). Perceptions of cigarette packs which played four audio warning messages were discussed: (1) a cessation message with a quitline number; (2) a mortality message; (3) a fertility message; and (4) a message related to ageing skin. Participants believed the audio warnings increased message impact, particularly younger smokers, because they would be hard to ignore or avoid, with it suggested that repetition may help commit the messages to memory. The warnings were perceived as irritating or embarrassing, and participants felt they may throw away the packs and use alternative storage for the cigarettes. Some participants found the audio warnings off-putting and may influence their smoking behaviour, with the mortality message deemed particularly impactful. Older smokers were least likely to say that audio warnings would change their smoking behaviour; nonetheless, some suggested that such warnings could encourage cessation attempts among smokers who want to quit, and may help deter new or potential smokers (e.g. young people). The authors conclude that audio messaging for cigarette packs could play a novel role in communicating health and cessation information, now or in the future (D. Mitchell et al., 2020). While audio warnings are premature for alcohol products, especially when considering the current state of on-pack text messaging, this is an intriguing avenue worthy of academic investigation, with potentially fruitful work to be carried out to establish the mechanisms, content and impacts of audio warnings for alcohol packaging.

6.4 Reflections on the research process

This section offers a brief account of the challenges and opportunities I encountered throughout the PhD journey and my assessment of the overall process.

6.4.1 Challenges

Although the trade press was replete with valuable insights and I was regularly impressed by the remarkable creativity and intelligence displayed by alcohol marketers (e.g. developing the Smirnoff Christmas pack with built-in MP3, noted in Chapter Three) and how well they know their audience; the data collection and analysis was by far the most difficult, stressful and time-consuming process of the PhD. There were approximately 700 magazines (six years) that had to be carefully read, considered, extracted verbatim, categorised, coded, analysed and written up in tables and themes, with many issues containing 15 to 20 alcohol packaging references. It was overwhelming and, unfortunately, impeded my ability to concentrate on other aspects of the PhD at times. If I were to employ secondary materials in the future, I would give much greater consideration to the quantity of materials. While not an expert, I am comfortable with statistical analysis and design and have been teaching statistics topics for a number of years (both privately and for third-level institutions); however, it required significant upskilling to acquire a level of competence with qualitative analysis.

Other difficulties included trying to conduct research with minimal funding. For example, the survey study budget was less than £1000, meaning I used about £300 of my own money to obtain a respectable sample size via Facebook advertising. I found the process of journal rejections, peer reviewing and revisions quite difficult, especially for the survey paper, which took about three months to improve; however, this became less daunting over time, my work and abilities improved because of it, and I was happy to have three first-author papers published during my PhD with others in preparation at the time of writing. Additionally, I found time management and switching between tasks quite challenging, which is something I need to continue working on going forward.

6.4.2 Opportunities

There were many things to be grateful for over the 5 years or so and I regularly reminded myself that doing a PhD is a privilege and should be treated as such, especially with a studentship; the University of Stirling enabled me to pursue my ambitions, experience life in another country and to be part of a highly-productive, encouraging research environment at ISMH. I received help when I needed it from various members of ISMH, collaborated with colleagues on two publications on topics outwith but related to my PhD; seeing their drive for research and work ethic was encouraging.

Liaising with Alcohol Focus Scotland and presenting my work to members of the UK and Scottish Governments were highlights of my PhD. I designed, conducted, analysed and wrote up my studies, so it was rewarding to see high-level interest and the possibility of my work making an impact in the real-world. It was exciting to see the reach of my papers through press releases (e.g. University of Stirling, 2022), picked up by various news outlets (e.g. McLaughlin, 2022), interviews (e.g. Beekmann, 2021) and invited blog pieces (D. Jones, 2022). It was encouraging to see my work having an impact, being used to inform other academic research on alcohol packaging (e.g. Giesbrecht et al., 2022), disseminated by advocacy groups (e.g. Movendi International, 2022) and discussed by industry sources (e.g. Packaging Insights, 2022). After presenting to the All-Party Parliamentary Group on Alcohol Harm, the Chief Executive of the Portman Group, Matt Lambert, asked some rather difficult questions and I got to see first-hand the industry's resistance to scientific evidence. I thoroughly enjoyed conducting the focus groups and was glad the participants responded to my facilitation and, more importantly, the topics discussed. It gave me some insight into how some members of the public might respond if/when serious health warnings become part of alcohol packs. I also appreciated the numerous opportunities to present at several interesting academic conferences, albeit some were held online due to the COVID-19 pandemic.

6.5 Concluding remarks

Alcohol packaging is a valuable marketing tool utilised by companies to the fullest extent, drawing in consumers, influencing purchasing behaviours and encouraging consumption. Regardless of how they present themselves, alcohol companies do not have expertise in epidemiology or public health; their expertise lies in selling alcohol, and in creating strategies to defend and develop their markets (Petticrew, 2023). From the industry's perspective, it is understandable that they would want to control a powerful commercial tool and take steps to maintain control (e.g. by lobbying governments); however, the significant potential of alcohol packaging as a medium for public health messaging in the UK and elsewhere is severely restricted by continuing to allow those with vested interests to regulate it as they see fit. If public health initiatives (e.g. prominent health warnings), advocates and researchers are to reduce the significant appeal created by alcohol packaging and design packs to be more commensurate with harms, the decades of experience and immeasurably greater resources of industry stakeholders will likely be a significant barrier, comparable to a David and Goliath

scenario (Madden & McCambridge, 2021). Nonetheless, with growing, high quality evidence, and a developing appetite for the evidence, both academic and political, change is possible and could help to provide consumers with important health-related information, messages and warnings at the point of purchase and consumption, which could in turn support a reduction in alcohol consumption and related harms.

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Appendices

Appendix A. Focus Groups: 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
------	--------

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

Yes	No
-----	----

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>
Pint (568 ml) of beer, lager or cider	
Alcopop (275ml)	
Small glass (125 ml) of wine	
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. Focus Groups: Participant Information Sheet

Research project title

The role of alcohol packaging as a communications tool: How it is used to promote the product and how it could be used more effectively for health messaging.

Background, aims of project

I am a PhD in Health Sciences 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.

Why have I been invited to take part?

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

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.

What will happen if I take part?

You will be asked to participate in one focus group in Glasgow, which should take approximately 90 minutes. You will be asked to sign a consent form and 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.

Are there any potential risks in taking part?

There are no foreseeable risks in taking part.

Are there any benefits in taking part?

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

Legal basis for processing personal data

As part of the project we will be recording personal data relating to you (name, age, UK 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.

What happens to the data I provide?

All personal/confidential information, audio recordings and transcriptions will be stored without your name and securely 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.

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.

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.

Who has reviewed this research project?

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

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 may not be possible to remove your data from the study.

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 (<https://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. You will be given a copy of this information sheet to keep.

Support for alcohol issues

NHS: <https://www.nhs.uk/live-well/alcohol-support>. This webpage has useful contacts for alcohol problems. 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. Focus Groups: Participant Consent Form

Please initial box	
I confirm that I have read and understood the information sheet (Version 2 date: 07/06/2019) 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 may 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 all researchers accessing my data will uphold all ethical standards at all times.	
I understand that transcripts will be deposited in a data archive for a minimum period of 10 years. 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:

Appendix D. Focus Groups: Data Privacy Notice

Focus groups exploring alcohol packaging

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 (your name and age) 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: how it used for promotion and how it could be used to reduce promotional effects. 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 group answers will be audio-recorded, transcribed, analysed, and stored (processed) by the researcher at the University of Stirling. The audio recordings will never be heard by anyone but the researcher or a professional transcriber and the whole typed up transcripts seen by the researcher/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/supervisory team 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 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 see the Information Commissioner's Office guidance at: <https://ico.org.uk/for-organisations/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 (<https://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. Tel: 01786 466940.

Appendix E. Focus Groups: Discussion Guide

REFRESHMENTS, GREET PARTICIPANTS, SETTLE IN, FIRST NAME LABELS: START RECORDING (recorder and phone)

Introduction: Key details, ice-breaker (5 mins max!)

Welcome: Thank you all for coming this evening, you are all welcome. My name is Daniel Jones, I'm a researcher in the University of Stirling. As you can probably tell from my accent, I'm Irish. Before we begin, can you please ensure your phones are on silent and put away for the duration of the group?

Ethics documents: Have you all read and signed a copy of the Consent Form? Have you all received a copy of the Information Sheet and Data Privacy Notice? (*Sort if necessary*).

Introduction: Have any of you been in a focus group before? I'm interested in your thoughts on alcohol packaging as a form of promotion and how it could be used more effectively for health information and messaging. Our discussion will last no more than 90 minutes. You'll each receive £30 Love2shop vouchers at the end of the session. During the discussion I'll show you a range of alcohol products to get your views. Please keep in mind that there are no right or wrong answers, everyone's opinions are valued and encouraged. The aim is for you to do most of the talking, not me. As this session will be audio-recorded by a voice recorder and mobile phone, it is really important that you speak clearly and one at a time throughout the session. This is vital for transcribing your viewpoints. Please remember you don't have to answer any questions you don't want to, and your name will not be attached to anything you say. Any questions before we begin?

1.1. Introductions (Circle)

Let's introduce ourselves by telling the group your name and your favourite alcoholic drink. I'll start. I'm Daniel and my favourite alcoholic drink is Carlsberg.

Alcohol packaging as a form of PROMOTION (40 mins approx.):

Moving on, let's talk about alcohol packaging as a form of promotion.

Where do you see alcohol?

Where do you see alcohol packaging? (*How often?*)

Have you ever been attracted by/drawn to an alcohol product by its packaging? (*Which? What features?*)

Think about times you've been in an off-licence or walking down the alcohol aisle of a supermarket. Can you remember any alcohol products that stood out to you on the shelves? (*Which ones? Why?*)

Have you ever kept a bottle or can after it was empty? (*Which? Why?*)

Anything else you'd like to say about alcohol packaging as a form of promotion?

We'll talk more about health information and messaging later on. For now, what kind of health information and messaging have you noticed on alcohol packaging? (Let them remember, prompt

after) (Unit information? Drinking guidelines? ABV? Drinkaware? Please drink responsibly?) **BEER PACKS**

2.1 SHOW PRODUCTS: Beer/cider (Stella, Budweiser, Strongbow)

Let's have a look at the packaging of these products. Feel free to pick them up, explore the packaging and pass them around, but please don't open them.

Which ones grab your attention, if any? (Why?)

What's your favourite packaging, if any? (Why?)

Which occasions would you associate these packs with, if any? (Why?)

Let's focus on each product's packaging. What are your thoughts on the recycling information on the Stella Artois bottle? (Have you seen other environmentally friendly/conservation information like this? Thoughts?)

What are your thoughts on the Budweiser promotion? (Have you seen other prizes like this? Sponsorships? Thoughts?)

What are your thoughts on the price sticker on the Strongbow cans? (Have you seen other price marking like this? Thoughts?)

Anything else you'd like to say about the beer/cider packaging? **SWITCH – WINE**

2.2 SHOW PRODUCTS: Wine (Barefoot, Blossom Hill, Wolf Blass)

Let's have a look at the packaging of these products. Feel free to pick them up, explore the packaging and pass them around, but please don't open them.

Which ones grab your attention, if any? (Why?)

What's your favourite packaging, if any? (Why?)

Which occasions would you associate these packs with, if any? (Why?)

Let's focus on each product's packaging. What are your thoughts on the Barefoot? (Have you seen other formats like this? Sizes? Openings? Thoughts?)

What are your thoughts on the gift on the Blossom Hill? (Have you seen other gifts like this? Thoughts?)

What are your thoughts on the limited-edition Wolf Blass? (Have you seen other limited editions like this? Thoughts?)

Anything else you'd like to say about the wine packaging? **SWITCH – SPIRITS**

2.3 SHOW PRODUCTS: Spirits (Smirnoff, Gordon's, Famous Grouse)

Let's have a look at the packaging of these products. Feel free to pick them up, explore the packaging and pass them around, but please don't open them.

Which ones grab your attention, if any? *(Why?)*

What's your favourite packaging, if any? *(Why?)*

Which occasions would you associate these packs with, if any? *(Why?)*

Let's focus on each product's packaging. What are your thoughts on the Smirnoff graphics? *(Have you seen other graphics like this? Thoughts?)*

What are your thoughts on the shape of the Gordon's bottle? *(Have you seen other shapes like this? Thoughts?)*

What are your thoughts on the origin information on the Famous Grouse? *(Have you seen other origin/heritage information like this? Thoughts?)*

Anything else you'd like to say about the spirits packaging? **RETURN SPIRITS**

SHOULD BE NO MORE THAN 45 MINS GONE AT THIS POINT

How alcohol packaging and labelling could be used more effectively to communicate HEALTH INFORMATION and MESSAGING (45 mins max):

Let's turn our attention to how alcohol packaging and labelling could be used more effectively to communicate health information and messaging. Just a reminder to please speak clearly and one at time for recording purposes. All views are valued and encouraged.

What impact do you think alcohol could have on people? *(Positive? Negative?)*

Where do you see information about the impact alcohol can have on people? *(What kind of information? Do you ever go online for information? Drinkaware?)*

What are your thoughts on health information and messaging on current packaging/labels? *(What do you use it for?)*

What are your thoughts on unit information on current labels? *(What do you use it for?)* Drinking guidelines? ABV? Please drink responsibly?

Can you think of any other health information that might be useful to include on packaging? *(Why? What would you use it for? Nutritional? Ingredients?)*

Anything else you'd like to say about health information and messaging on alcohol packaging?

VODKA BOTTLES

3.1 SHOW PRODUCTS: Vodka (General warning)

Let's focus on the LABELS of these mocked up products. Imagine the labels could be used across all alcohol products. Feel free to pick them up, explore the labelling and pass them around, but please don't open them.

Would it be surprising to you to see these kinds of labels? (*Why?*)

What's your favourite warning label, if any? (*Why?*)

What do you think about the warning sizes?

What do you think about the warning location?

What do you think about the warning forms (just text or image and text)?

What do you think about the warning text? Images?

Can you think of any ways to improve them in terms of engagement and impact? (*Size? Location (front/back)? Form? Content?*) **ADD GIN – LEAVE VODKA OUT**

3.2 SHOW PRODUCTS: Gin (Specific warning – correlational)

Let's focus on the LABELS of these mocked up products. Imagine the labels could be used across all alcohol products. Feel free to pick them up, explore the labelling and pass them around, but please don't open them.

Would it be surprising to you to see these kinds of labels? (*Why?*)

What's your favourite warning label, if any? (*Why?*)

What do you think about the warning sizes?

What do you think about the warning location?

What do you think about the warning forms (just text or image and text)?

What do you think about the warning text? Images?

Can you think of any ways to improve them in terms of engagement and impact? (*Size? Location (front/back)? Form? Content?*) **ADD WINE – LEAVE VODKA AND GIN OUT**

3.3 SHOW PRODUCTS: Wine (Specific warning – causal)

Let's focus on the LABELS of these mocked up products. Imagine the labels could be used across all alcohol products. Feel free to pick them up, explore the labelling and pass them around, but please don't open them.

Would it be surprising to you to see these kinds of labels? (*Why?*)

What's your favourite warning label, if any? (*Why?*)

What do you think about the warning sizes?

What do you think about the warning location?

What do you think about the warning forms (just text or image and text)?

What do you think about the warning text? Images?

Can you think of any ways to improve them in terms of engagement and impact? (*Size? Location (front/back)? Form? Content?*) **LEAVE ALL PACKS IN CENTRE**

3.4 Engagement and impact

Imagine you are designing alcohol packaging/labelling. What types of health information or messaging do you think would be most engaging and impactful? (*Other health-related messages? Social messages? Financial messages?*)

Can you think of any other ways alcohol packaging could be used to balance both promotional and health information?

Any final thoughts about anything we talked about?

SHOULD BE NO MORE THAN 90 MINS GONE AT THIS POINT

Conclusion: Oral debrief, incentives (1 min max):

Thank you all for your time this evening. To reiterate, the purpose of this focus group was to talk about your views on alcohol packaging as a form of promotion and how it could be used more effectively for health information and messaging. The Information Sheet gives an overview of what we did this evening/tonight, contact details should you have any queries about the research, and information about support for alcohol issues.

END RECORDINGS: DISTRIBUTE INCENTIVES/SIGN OFF

Appendix F. Focus Groups: Ethical Approval Letter



Daniel Jones
Faculty of Health Sciences and Sport
University of Stirling
Stirling
FK9 4LA

General University Ethics Panel (GUEP)
University of Stirling
Stirling
FK9 4LA
Scotland UK

E: GUEP@stir.ac.uk

25 June 2019

Dear Daniel,

Re: Ethics Application: The role of alcohol packaging as a communication tool: How it is used to promote the product and how it could be used more effectively for health messaging. – GUEP 668R

Thank you for addressing the issues highlighted by the committee in your initial application. We are now satisfied that these have been adequately dealt with and are pleased to approve your application. Please note that should any of your proposal change, a further submission (amendment) to GUEP will be necessary.

Please ensure that your research complies with the University of Stirling policy on storage of research data which is available at:

<https://www.stir.ac.uk/about/faculties-and-services/information-services-and-library/current-students-and-staff/researchers/research-data/plan-and-design/our-policy/>

If you have not already done so, I would also strongly encourage you to complete the Research Integrity training which is available at: <https://canvas.stir.ac.uk/enroll/CJ43KW>

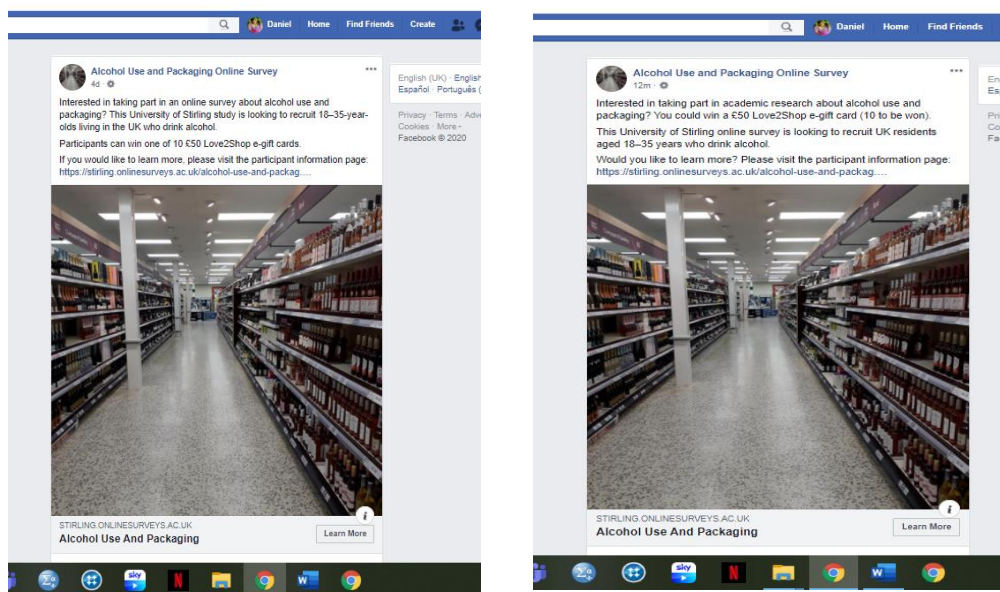
If you have any further queries, please do not hesitate to contact the Panel by email to guep@stir.ac.uk.

Good luck with your research.

Yours sincerely,
Pp.

On behalf of GUEP
Professor Catherine Hennessy
Deputy Chair of GUEP

Appendix G. Survey: Facebook Adverts



Ad #1 text:

“Interested in taking part in an online survey about alcohol use and packaging? This University of Stirling study is looking to recruit 18–35-year-olds living in the UK who drink alcohol.

Participants can win one of 10 £50 Love2shop e-gift cards.

If you would like to learn more, please visit the participant information page:
[https://stirling.onlinesurveys.ac.uk/alcohol-use-and-packaging-uk.](https://stirling.onlinesurveys.ac.uk/alcohol-use-and-packaging-uk)”

Ad#2 text: (same image as Ad #1)

“Interested in taking part in academic research about alcohol use and packaging? You could win a £50 Love2shop e-gift card (10 to be won).

This University of Stirling online survey is looking to recruit UK residents aged 18–35 years who drink alcohol.

Would you like to learn more? Please visit the participant information page:
[https://stirling.onlinesurveys.ac.uk/alcohol-use-and-packaging-uk.](https://stirling.onlinesurveys.ac.uk/alcohol-use-and-packaging-uk)”

Appendix H. Survey: Participant Information and Consent

You are being invited to participate in an online survey about alcohol use and packaging, which is organised and funded by the University of Stirling. You are being invited to participate because you are a current UK resident aged 18–35 years who drinks alcohol. This survey is part of a research project being conducted by Daniel Jones, a PhD student at the University of Stirling.

Please read the following instructions before agreeing to participate below.

What is the aim of the study?

We want to explore your views on alcohol use and the packaging of alcoholic drinks.

What will you be asked to do?

You will be asked to provide some general information (e.g. age, country of residence, gender), your alcohol use, and your views on alcohol packaging, which will include responding to images of alcohol products. The survey should take 10 minutes to complete.

Do you have to take part?

Participation is voluntary. You can only complete the survey once.

Are there any risks in taking part?

There are no foreseeable risks involved in participating in this survey.

Are there any benefits in taking part?

Participants can choose to be entered into a prize draw for a chance to win a £50 Love2shop e-gift card. There are 10 £50 Love2shop e-gift cards to be won. To enter, please provide your email address at the end of the completed survey. One entry per participant. Email addresses will be numbered, and winners will be chosen by a random number generator and contacted by email in October 2020.

What data or information will be collected?

The research team will have access to your responses to the survey if you choose to complete the survey, and your email address if you choose to be entered into the prize draw.

What will happen to the data or information collected? In accordance with the General Data Protection Regulations (GDPR), your answers will be anonymous, and we will use all reasonable efforts to keep them confidential. Your IP address will not be stored. The data will be stored in a password-protected file so that only members of the research team can access it. Your data will not be shared with anyone external to the University of Stirling.

The anonymous data will be used in academic research presentations and publications but will not contain information that could potentially identify participants. You are welcome to request a copy of any publications using the contact details provided below. Data obtained as a result of the research will be retained for 10 years in secure storage before being securely destroyed. You can find out more about how your answers will be handled by the researchers by reading the separate Privacy Notice.

Email addresses will be stored securely on a password-protected file and will not be connected to survey responses. Email addresses will only be used for the purpose of contacting prize winners

in October 2020. Email addresses will be securely deleted following the data collection period and successful delivery of the e-gift cards (October 2020).

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 945).

Your rights

You have the right to refuse to take part or exit the survey at any time, without any penalty, by closing the webpage or browser. You will be able to create a unique participant ID at the end of the survey. Quoting this ID, you have the right to withdraw your data, for any reason and without question, by the 1st of October 2020 by emailing the primary researcher, Daniel Jones: daniel.jones@stir.ac.uk.

Whom do you contact if you have concerns about this study or you 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.

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. In case of a 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 (ICO): <https://ico.org.uk/concerns>.

Electronic Consent

Clicking on the "Agree" button below indicates that:

You currently live in the United Kingdom

You are 18–35 years of age

You drink alcohol

You have read and understood all of the above information

You voluntarily agree to participate

Please indicate whether you agree or disagree.

Agree

Disagree

Appendix I. Survey: Data Privacy Notice

Alcohol Use and Packaging

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. Under GDPR, we need to provide you with the 'small print' (Privacy Notice) on how your survey answers will be handled.

This research study is being funded and 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 using the contact details below.

Who will be in charge of any personal data about you?

The University of Stirling will be in charge of the information you provide as part of the Alcohol Use and Packaging study, including personal information (data).

Why do the research team need any personal data?

We are collecting some basic personal data, such as age, country of residence and gender, and some personal data related to alcohol consumption.

We are conducting the survey to help us understand the attitudes and views of current UK residents aged 18–35 years who drink alcohol. The study is about alcohol use and packaging. We are only collecting the information (data) we need to help us understand 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.

What do we do with the answers that you give?

Your answers will be collected, used and stored (processed) by the research team at the University of Stirling. The data will be stored on a secure drive at the University of Stirling, that only the research team has access to via a password. The research team will have access to responses you give to the survey questions, including personal information (data). In accordance with the GDPR, email addresses will be stored securely on a password-protected file and will not be connected to survey responses. Email addresses will only be used for the purpose of contacting the prize winners in October 2020.

We will not have directly identifiable personal data, such as the names or addresses of participants,

but we will have indirectly identifiable data, such age, country of residence and gender. Strong measures are in place in the University of Stirling to protect the confidentiality of the information that you give to us. Your data will not be shared with anyone external to the University of Stirling. How long do we keep your information?

The research team will keep the information you give for 10 years after the study finishes. After this time, all electronic data will be securely deleted. Email addresses will be securely deleted following the data collection period and successful delivery of the e-gift cards (October 2020).

Are the research results published?

The anonymous data will be used in academic research presentations and publications but will not contain information that could potentially identify participants.

What are your rights?

Please remember that you do not have to participate in the survey and, if you choose to, you can stop at any time during the survey by closing the webpage or the browser.

You will be able to create a unique participant ID at the end of the survey. Quoting this ID, you have the right to withdraw your data, for any reason and without question, by the 1st of October 2020 by emailing the primary researcher, Daniel Jones: daniel.jones@stir.ac.uk.

You have the right to request to see a copy of the information we hold about you and to request restrictions, 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 see the Information Commissioner's Office (ICO) guidance at <https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/individual-rights>

Contact details

If you wish to use any of these rights or to complain about how you think we have handled your personal data, you can contact: Joanna Morrow, Data Protection Officer and Deputy Secretary, University of Stirling, FK9 4LA. Email: data.protection@stir.ac.uk. Telephone: 01786 466940.

If you would like to speak to someone else not involved with this research or to pursue any complaint, you can contact: Prof. Jayne Donaldson, Dean of Health Sciences and Sport, University of Stirling, FK9 4LA. Email: jayne.donaldson@stir.ac.uk. Telephone: 01786 466345.

If you are not happy with our response or believe we are not processing your personal data in accordance with the law, you can complain to the Information Commissioner's Office (ICO) <https://ico.org.uk/concerns>. Telephone: 0303 123 1113.

Appendix J. Survey: Questionnaire

Where do you currently live?

- England
- Scotland
- Wales
- Northern Ireland
- Outside the UK

Please indicate your age in years.

- Under 18
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36 and over

How often do you have a drink containing alcohol?

- Never
- Monthly or less
- 2 to 4 times per month
- 2 to 3 times per week
- 4 or more times per week

Please indicate your gender identity.

- Female
- Male
- I identify using a different term
- Prefer not to say

Which one of the following options best describes your ethnic group or background?

- White: English/Welsh/Scottish/Northern Irish/British
- White: Irish
- White: Gypsy or Irish Traveller
- Any other White background
- Mixed/Multiple ethnic groups: White and Black Caribbean
- Mixed/Multiple ethnic groups: White and Black African
- Mixed/Multiple ethnic groups: White and Asian
- Any other Mixed/Multiple ethnic background
- Asian/Asian British: Indian
- Asian/Asian British: Pakistani
- Asian/Asian British: Bangladeshi
- Asian/Asian British: Chinese
- Any other Asian background
- Black/African/Caribbean/Black British: African
- Black/African/Caribbean/Black British: Caribbean
- Any other Black/African/Caribbean background
- Other ethnic group: Arab
- Prefer not to say
- Other
 - Please specify.

Which, if any, religion do you consider yourself belonging to?

- Christianity
- Islam
- Hinduism
- Sikhism
- Judaism
- Buddhism
- No religion
- Other
 - Please specify.
- Prefer not to say

Which of the following best describes you?

- In full-time employment
- In part-time employment
- In full-time education
- In part-time education
- Not currently in any employment or any education
- Prefer not to say

What is the highest level of educational qualification you have?

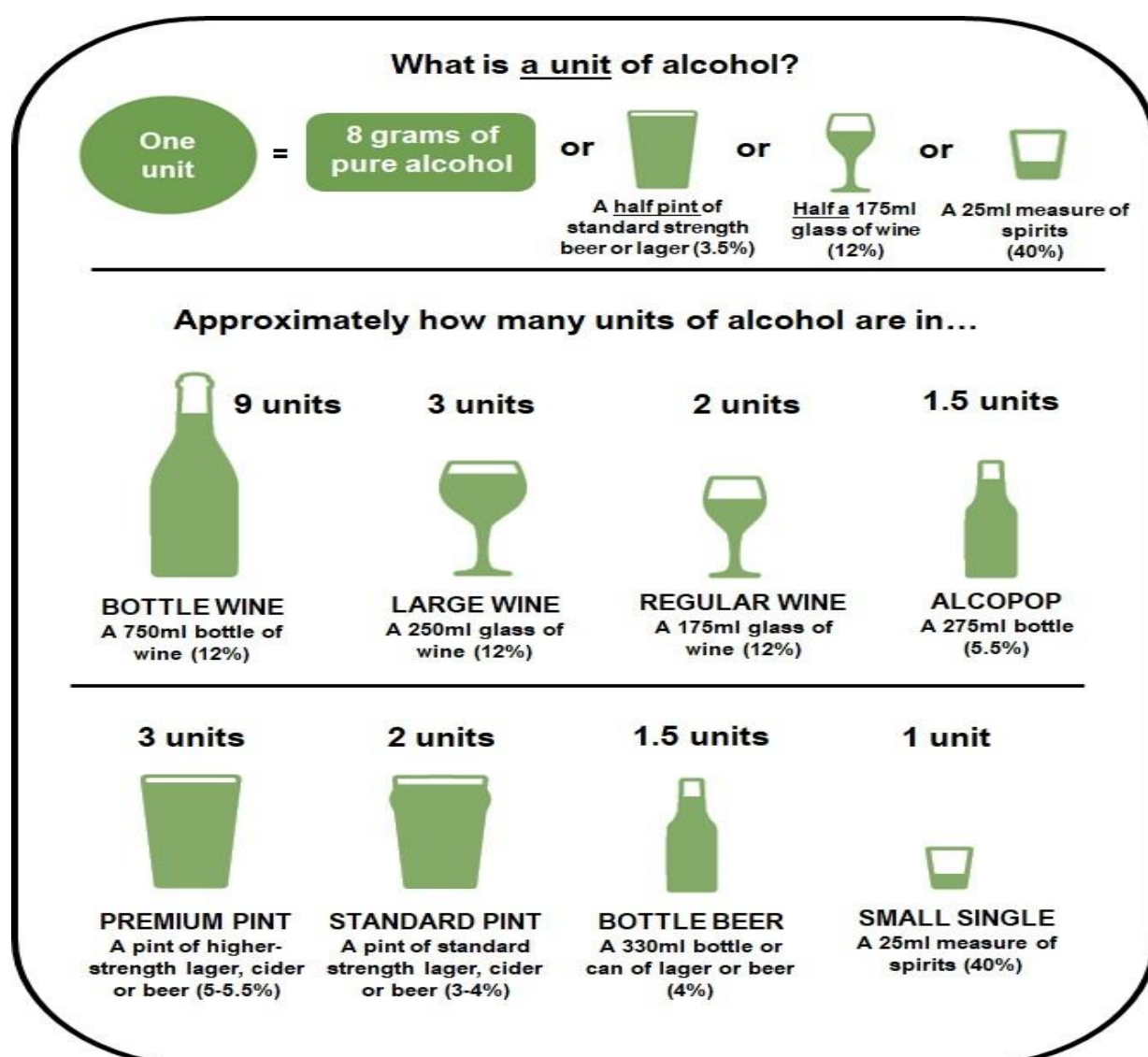
- Higher Education & professional/vocational equivalents
- Highers, A levels, vocational level 3 and equivalents

- Standard grades, GCSE/O Level grade and equivalents
- Other qualifications, level unknown (including foreign qualifications)
 - Please specify.
- No qualifications
- Prefer not to say/Don't know

Which of the following occupations best describes the person in your household with the largest income?

- Higher managerial, administrative and professional
- Intermediate managerial, administrative and professional
- Supervisory, clerical and junior managerial, administrative and professional
- Skilled manual worker
- Semi-skilled and unskilled manual worker
- State pensioner, casual and lowest grade worker, unemployed with state benefits only
- Prefer not to say/Don't know

Please look carefully at the image below, before answering the following questions.



How many units of alcohol do you drink on a typical day when you are drinking?

- 1 to 2
- 3 to 4
- 5 to 6
- 7 to 9
- 10 or more

How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily
- Prefer not to say

Have you ever heard of there being a maximum recommended number of alcohol units people should drink in a week? This is sometimes known as drinking guidelines.

- Yes
- No

Please type the number of units you think the guidelines recommend as a maximum in a week. If you Don't Know, please type DK.

On a typical day when you drink, which of the following would you normally drink? Please select all that apply.

- Normal strength beer, lager or shandy (less than 6% alcohol), such as Heineken, Stella Artois, Foster's, Carling, Budweiser
- Strong beer or lager (6% alcohol or more), such as Tennent's Super, Special Brew
- Normal strength cider (less than 5.6% alcohol), such as Kopparberg, Bulmers, Strongbow Original
- Strong cider (5.6% alcohol or more), such as Diamond White, Frosty Jacks, White Ace, White Star
- Spirits, such as gin, whisky, rum, brandy, vodka, tequila
- Wine (including prosecco, perry and champagne)
- Liqueurs, such as Baileys, Tia Maria or cocktails
- Pre-mixed alcoholic or alcopop drinks, such as Bacardi Breezer, WKD, Jack Daniels & Cola, MD 20/20
- Alcoholic energy drinks, such as Dragon Soop
- Other
 - Please specify.

Do you have a usual alcohol brand?

- Yes
 - Please type your usual alcohol brand.
- No

Have you heard of the Smirnoff vodka brand?

- Yes
- No

To what extent, if at all, do you find the Smirnoff vodka brand appealing or unappealing?

- Very appealing
- Somewhat appealing
- Neither appealing nor unappealing
- Somewhat unappealing
- Very unappealing

THE NEXT SET OF QUESTIONS ARE MOSTLY ABOUT ALCOHOL PACKAGING. ALCOHOL PACKAGING REFERS TO THE CONTAINER (E.G. BOTTLE, CAN, CARTON), ANY EXTERNAL WRAPPING, AND ALL THE INFORMATION THAT IS DISPLAYED ON THE PACK.

To what extent, if at all, do you agree or disagree with the following statements?

The packaging of an alcohol product helps it to stand out in shops and bars.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Whether the packaging of an alcohol product is eye-catching will influence whether I will choose it.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Whether the packaging of an alcohol product looks fun will influence whether I will choose it.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Whether the packaging of an alcohol product is attractive is important to me.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

If the packaging of an alcohol product looks good, I expect the drink will taste nice.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

To what extent, if at all, do you agree or disagree that the following are important to you when choosing an alcohol product? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Price					
Brand					
Packaging					
Strength (ABV)					
Taste					
Availability					
What family/friends drink					

The packaging of an alcohol brand helps it to stand out from other alcohol brands.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

I would purchase an alcohol product based solely on the appeal of the packaging.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

I prefer to buy alcohol products that have environmentally friendly packaging.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Please indicate how the following questions apply to you, if at all.

Have you ever given an alcohol product as a gift to someone?

- Yes
- No
- Don't know

Have you ever brought an alcohol product to a social occasion (e.g. a party)?

- Yes
- No
- Don't know

Have you ever purchased limited edition alcohol packaging?

- Yes
- No
- Don't know

Have you ever purchased alcohol packaging that included a chance to win a prize?

- Yes
- No
- Don't know

Have you ever purchased alcohol packaging that included a free gift?

- Yes
- No
- Don't know

Have you ever purchased an alcohol product based on the size of the container?

- Yes
- No
- Don't know

Have you ever purchased an alcohol product based on the shape of the container?

- Yes
- No
- Don't know

Have you ever purchased an alcohol product based on its country/region of origin?

- Yes
- No
- Don't know

Have you ever kept alcohol packaging after it was empty?

- Yes
- No
- Don't know

THE NEXT SET OF QUESTIONS ARE MOSTLY ABOUT ALCOHOL PACKAGING. ALCOHOL PACKAGING REFERS TO THE CONTAINER (E.G. BOTTLE, CAN, CARTON), ANY EXTERNAL WRAPPING, AND ALL THE INFORMATION THAT IS DISPLAYED ON THE PACK.

**Which, if any, of the following health conditions do you think can result from drinking alcohol?
Please select any/all that apply.**

- Damage to the nervous system
- Heart disease
- Cancers
- Pancreatitis
- Flu
- Liver disease
- Stroke
- None of the above

How often do you see health-related information, messages or warnings on alcohol packaging?

- Always
- Often
- Sometimes
- Rarely
- Never

How often do you read or look closely at the health-related information, messages or warnings on alcohol packaging?

- Always
- Often
- Sometimes
- Rarely
- Never

Have you ever heard of 'Drinkaware'?

- Yes
- No
- Don't know

Have you ever seen 'Drinkaware.co.uk' printed on alcohol packaging?

- Yes
- No
- Don't know

To what extent, if at all, do you agree or disagree that alcohol packaging should display the following information? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Number of alcohol units in the product					
Number of calories in the product					
Ingredients in the product					
Strength of the product (ABV)					
Guidelines on how many units men and women should drink each week					

Information on health conditions which can result from drinking alcohol					
How many servings of the product are equal to the recommended weekly guidelines					

Please select one of the four words below at random. It does not matter which word you select, and there is no right or wrong answer.

- Plug
- Shed
- Lock
- Cord

Please look carefully at the images below, before answering the following questions.





To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
These alcohol products would catch my attention when buying alcohol.					
I would give these alcohol products as a gift to someone.					
I would bring these alcohol products to a social occasion (e.g. a party).					
These alcohol products make drinking seem fun.					





To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I would feel comfortable having these alcohol products in my home.					
I would feel comfortable being seen drinking these alcohol products.					
These alcohol products would be appealing to young people.					
I find these alcohol products off-putting.					





To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
These alcohol products would make me aware of the health risks of drinking.					
These alcohol products would make me think about my drinking.					
These alcohol products would make me want to buy less alcohol.					
These alcohol products would make me want to drink less alcohol.					
Health warnings should be displayed on the front of alcohol packaging.					

Please look carefully at the images below, before answering the following questions.





To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
These alcohol products would catch my attention when buying alcohol.					
I would give these alcohol products as a gift to someone.					
I would bring these alcohol products to a social occasion (e.g. a party).					
These alcohol products make drinking seem fun.					





To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I would feel comfortable having these alcohol products in my home.					
I would feel comfortable being seen drinking these alcohol products.					
These alcohol products would be appealing to young people.					
I find these alcohol products off-putting.					





To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
These alcohol products would make me aware of the health risks of drinking.					
These alcohol products would make me think about my drinking.					
These alcohol products would make me want to buy less alcohol.					
These alcohol products would make me want to drink less alcohol.					
Health warnings should be displayed on the front of alcohol packaging.					

Please look carefully at the images below, before answering the following questions.





To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
These alcohol products would catch my attention when buying alcohol.					
I would give these alcohol products as a gift to someone.					
I would bring these alcohol products to a social occasion (e.g. a party).					
These alcohol products make drinking seem fun.					





To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I would feel comfortable having these alcohol products in my home.					
I would feel comfortable being seen drinking these alcohol products.					
These alcohol products would be appealing to young people.					
I find these alcohol products off-putting.					





To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
These alcohol products would make me aware of the health risks of drinking.					
These alcohol products would make me think about my drinking.					
These alcohol products would make me want to buy less alcohol.					
These alcohol products would make me want to drink less alcohol.					
Health warnings should be displayed on the front of alcohol packaging.					

Please look carefully at the images below, before answering the following questions.



To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
This alcohol product would catch my attention when buying alcohol.					
I would give this alcohol product as a gift to someone.					
I would bring this alcohol product to a social occasion (e.g. a party).					
This alcohol product makes drinking seem fun.					



To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I would feel comfortable having this alcohol product in my home.					
I would feel comfortable being seen drinking this alcohol product.					
This alcohol product would be appealing to young people.					
I find this alcohol product off-putting.					



To what extent, if at all, do you agree or disagree with the following statements? Please provide a response for each option.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
This alcohol product would make me aware of the health risks of drinking.					
This alcohol product would make me think about my drinking.					
This alcohol product would make me want to buy less alcohol.					
This alcohol product would make me want to drink less alcohol.					
Health warnings should be displayed on the front of alcohol packaging.					

Please read the final information below, before pressing 'Finish'.

- **Prize draw:** If you would like to be entered into the prize draw to win one of 10 £50 Love2shop e-gift cards, please enter your email address below. Email addresses will be numbered, and winners will be chosen by a random number generator and contacted by email in October 2020.
 - Please enter a valid email address.
- **Participant ID:** You can choose to create a unique participant ID below. Quoting this ID, you have the right to withdraw your data, for any reason and without question, by the 1st of October 2020 by emailing the primary researcher, Daniel Jones: daniel.jones@stir.ac.uk.
- **Please create and note your unique participant ID.** This needs to include only three letters and two numbers, e.g. the first three letters of a pet or street name and a memorable date or month.
- **Support for alcohol issues:** This NHS webpage has useful contacts for alcohol issues: 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 for anyone who is concerned about their drinking, or someone else's. Call 0300 123 1110 on weekdays from 9am to 8pm, weekends from 11am to 4pm.
- **If you have any comments** about the survey, please feel free to type them below.

Thank you for your time. Please close this page to finish the survey.

Appendix K. Survey: Ethical Approval Letter



Daniel Jones
Faculty of Health Sciences and Sport
University of Stirling
FK9 4LA

General University Ethics Panel (GUEP)
University of Stirling
Stirling
FK9 4LA
Scotland UK

E: GUEP@stir.ac.uk

22 July 2020

Dear Daniel,

Re: Ethics Application: The role of alcohol packaging as a communication tool. How it is used to promote alcohol products and how it could be used more effectively for health messaging – GUEP (19 20) 945

Thank you for your submission of the above to the General University Ethics Panel.

The ethical approaches of this project have been approved by GUEP subject to you considering the following comments from the Panel, and you can now proceed with your research.

- A7 indicates there is no other applicant, yet the remaining text refers to a 'research team', e.g. only the research team will have access to participants' responses to the survey
- C8 – the University is now recommending that research data be stored on Sharepoint rather than the research drive.
- Anonymised data should be made publicly available via STORRE
- The Panel also wished to point out that in their experience advertising entry into a prize draw on social media can create 'bot attacks'. There is a possibility of spammers hijacking the survey, so it is recommended that data is checked for suspicious patterns to ensure 'real' data is analysed.

Please ensure that your research complies with University of Stirling policy on storage of research data which is available at:

<https://www.stir.ac.uk/about/professional-services/information-services-and-library/current-students-and-staff/researchers/research-data/plan-and-design/our-policy/>

If you have not already done so, I would also strongly encourage you to complete the Research Integrity training which is available at: <https://canvas.stir.ac.uk/enroll/CJ43KW>

Please note that should any of your proposal change, a further submission (amendment) to GUEP will be necessary.

If you have any further queries, please do not hesitate to contact the Committee by email to guep@stir.ac.uk.

Yours sincerely,

On behalf of GUEP
Ms Rachel Beaton
Research Integrity and Governance Manager