



A new approach to measuring drinking cultures in Britain

Dr John Holmes

Melanie Lovatt

Dr Abdallah Ally

Professor Alan Brennan

Professor Petra Meier

Sheffield Alcohol Research Group, School of Health and Related Research,
University of Sheffield

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EXECUTIVE SUMMARY

When governments propose changes to alcohol policies, the announcement is often followed by public debate on the potential for the policy to change the country's drinking culture. However, specifying what the drinking culture is, what is problematic about it, what it should be changed to, what interventions might trigger such a change and whether success has been achieved have all been problematic topics in alcohol policy discourse and the research literature.

We aimed to address this by focusing on one key manifestation of a nation's drinking culture: drinking occasions. We developed typological models of drinking occasions and supplemented these with focus group research in order to gain greater understanding of how occasions relate to drinkers' broader social and cultural lives. Our key findings are as follows:

- A typology of British drinking occasions can be constructed which identifies eight distinct occasion types. This typology has face validity with focus groups of drinkers.
- Drinking at increasing and high risk levels occurs in a diverse range of occasions including drinking in the home and at other people's houses, and extends well beyond caricatures of youth binge drinking in urban centres
- Our study does not support a representation of the British drinking culture as one which is characterised by excessive consumption and drinking to intoxication, although this is one aspect of the culture
- High risk occasions are found across all age, sex and socioeconomic groups but the majority occur within those aged over 35 and of high socioeconomic status
- Drinkers of lower socioeconomic status have fewer occasions but consume more per occasion, which may partly account for the

paradox that drinkers of lower socioeconomic status have higher alcohol-related mortality rates despite being less likely to drink and having lower average weekly consumption if they do so.

- Policy-relevant factors such as price and health considerations influenced participants' drinking occasions, but these intersected with and were filtered through drinkers' own experiences and circumstances.

Implications

We argue that our typology of drinking occasions affords new opportunities for analysis of alcohol policy in the context of drinking cultures. Firstly, the typology provides an opportunity for more systematic consideration by policy makers and stakeholders in policy debate of what it is about the culture they wish to change. Secondly, the typology invites commentators to suggest what drinking culture they believe Britain should aspire to. If the problematic cultural features can be identified using the typology, a commentator should also be able to specify parameters for the model which would represent an acceptable drinking culture. Finally, the typology provides new opportunities for evidence-informed policy making and policy evaluation. While alcohol policy decisions are generally subject to evaluation against metrics of alcohol consumption and related harm among various groups within society, these metrics rarely take account of the complexity of drinking behaviours which policies are seeking to address. By segmenting the drinking occasions of different societal groups and the occasions on which different kinds of drinking take place, our typologies provide clear data to support understanding of the potential impact of different policy options on a key aspect of drinking culture.

Conclusion

We argue that our typology of British drinking occasions substantially advances research on national drinking cultures, particularly in how culture manifests as behaviours with consequences for public health and social

order. We demonstrate that national drinking cultures can be represented by a quantitative model with greater detail than has previously been achieved. However, as our model is of only one key and observable manifestation of drinking cultures – drinking occasions - future research supplementing our typology with data on the nature of intoxicated behaviour and social attitudes towards different occasion types may be beneficial for understanding and prioritising policy responses. Further research could focus on gaining a better understanding of each occasion type.

To further develop the typology for use in alcohol policy analysis, a number of steps would be beneficial. These include development of equivalent publicly available data, improved understanding of the relationship between policy and occasion types and between occasion types and alcohol-related harm and, finally, understanding of how occasion typologies vary across national contexts.

1. Introduction

When governments propose changes to alcohol policies, the announcement is often followed by public debate on the potential for the policy to change the country's drinking culture. The UK Government's 2012 Alcohol Strategy made this explicit by acknowledging changing the drinking culture as a strategic policy aim and discussing that perceived culture in a range of ways (HM Government, 2012):

"Changing the drinking culture from one of excess to one of responsibility....from one where alcohol is linked to bad behaviour to one where it is linked to positive socialising."

"A change in behaviour so that people think it is not acceptable to drink in ways that could cause harm to themselves or others."

"A culture where it has become accepted to be excessively drunk in public."

"The vibrant café culture... [which] failed to materialise"

Pathologising national drinking cultures and aspiring to change them is neither new nor unique to the UK. In 1992, Room described the "impossible dream" held by many stakeholders of changing a nation's drinking culture to achieve "an alternative social order" (Room, 1992). He further noted the tendency of temperance cultures to yearn for a continental drinking style embodied by low levels of intoxication and more socialised forms of drinking. However, specification of what the drinking culture of a given society actually is, what is problematic about it, what it should be changed to, what interventions might trigger such a change and whether success has been achieved have all been problematic topics in alcohol policy discourse and the research literature. Before assessing why this is the case, we briefly summarise two key traditions within the literature which have tried to characterise drinking cultures and their salient features for alcohol policy.

First, an extensive research literature comprises efforts to typologise national drinking cultures (Room and Mäkelä, 2000). The dominant approach has been to describe societies along a series of key dimensions. Having reviewed such efforts, Room and Mäkelä argue a typology based on regularity of drinking and extent of intoxication would provide a serviceable but crude classification of the cultural position of drinking within societies (Room and Mäkelä, 2000). They further propose that a range of additional dimensions may be incorporated depending on the purpose for which the classification is being constructed. These dimensions include but are not limited to the use-value of drinking, behaviour while drinking or intoxicated, the cultural position of the drinker, the drinker group, or the drinking occasions, modes of social control of drinking, the nature of drinking-related problems experienced and the means by which these problems are addressed. In a later review, Gordon et al. suggest a similar multi-dimensional approach to classifying drinking cultures is appropriate but argue for three specific dimensions: the degree of hedonism within drinking behaviour, the function of drinking occasions and the social control imposed on different drinking styles (Gordon et al., 2012).

A second literature exists which seeks to characterise drinking cultures through detailed description, typically via qualitative methods. This literature focuses on the drinking cultures of different segments of society and analyses how these are meaningful to groups' wider social and cultural practices. Within recent UK research, these studies have tended to focus on young people's drinking (Roberts et al., 2012, Russell et al., 2011, Seaman and Ikegwuonu, 2010). Such studies are generally premised on rising youth consumption, binge drinking as the dominant behavioural form and, explicitly or implicitly, Measham's identification of a 'new culture of intoxication', which is partly characterised by 'determined drunkenness' and the desire for 'controlled loss of control' (Measham and Brain, 2005). A smaller section of this literature has examined how drinking cultures intersect with age, gender and life course stages or transitions. This work has concluded that such dimensions

both influence people's drinking behaviours but are also partly constituted by them. For example, a series of studies by Carol Emslie and colleagues demonstrates that drinkers' gender, age and life stage identities were partly constructed from the drinking behaviours they associated with these identities (Emslie et al., 2014, Lyons et al., 2014, Emslie et al., 2013, Emslie et al., 2012). A study of women in mid-life found that certain drinking behaviours allowed them to adopt identities from earlier stages of their lives (e.g. before they had children) while engagement in other drinking behaviours was constrained by traditional notions of femininity (e.g. avoiding drinking pints of beer)(Emslie et al., 2014). Other work has stressed the role of high-level societal factors in characterising drinking cultures. Valentine et al. argue that local drinking cultures are shaped by and embedded within broad socioeconomic, historical and cultural contexts, suggesting that the impact of national alcohol policies will not be consistent across geographies (Valentine et al., 2007). Further, Holloway et al. note that home drinking is often embedded within socially-valued practices such as hosting-reciprocity and meal times and that the 'ideological power of the home' as a place of safety can deflect attention from the dangers of excessive consumption in this setting (Holloway et al., 2008).

These different perspectives on drinking cultures across nations, demographic groups, geographies and locations contribute substantial understanding as to the nature of drinking within and across societies. However, they also highlight why accommodating cultural frameworks into policy discourse in the systematic way described above has been challenging. In one body of literature, culture is characterised through a series of dimensions which portray a single drinking culture for the whole society. This often takes the form of a single emblematic drinking style constructed from average scores for the population on the dimensions from which the classification is constructed. Such approaches underpin the identification of a 'wet' drinking style in the Mediterranean countries and the 'dry' drinking style of

Scandinavia. This risks underplaying heterogeneity in drinking behaviour within societies and similarities in behaviour across societies. For example, a recent study of gendered drinking behaviours across Europe concluded that well-established understanding of countries as wine drinking or beer drinking has largely been based on male behaviour with inadequate attention paid to large similarities in female drinking across Europe (Mäkelä et al., 2006). Moreover, the focus on constructing cultural characterisations from emblematic behaviours or features mean countries lying in the middle rather than at the extreme of dimensions lack classificatory clarity, with the UK a clear example of a society which often appears as a halfway house within typological models.

Within the second body of literature, detailed description of segments of drinking cultures provide important insights but are concentrated on segments of the culture which attract policy or public debate (and thus research funding). The wealth of research on youth drinking in the night time economy stands in stark contrast to the limited understanding of youth drinking in other contexts and the drinking, including heavy drinking, of other sections of society. Consequently, the narrative that alcohol misuse is a problem located in particular groups and particular behaviours which may only account for a fraction of the problem is both developed and reinforced. Moreover, little understanding is gained of what differentiates these behaviours from other under-researched behaviours which are perceived as less problematic. Finally, within both literatures, the focus on emblematic or high profile behaviours means important shifts in wider aspects of the drinking culture may be detected late. For example, despite per capita alcohol consumption falling across a range of developed economies for many years (since 2004 in the UK), and particularly sharp falls occurring among young people, (de Looze et al., 2015) it is only recently that policy debate and research literature have begun to acknowledge this trend and, as yet, little is

known about the detail of what has changed or why that change has occurred (Pennay et al., 2015).

The research presented in this report aims to address these problems by (a) constructing empirical descriptions of the drinking cultures which exist within Britain and ensuring these descriptions give representation to a range of drinking behaviours rather than a single emblematic behaviour and (b) contextualising those segments of the drinking culture which attract considerable public and policy debate within the wider drinking cultures that exist within Britain. Similar to Mustonen et al. who produced a comparable model for Finland, (Mustonen et al., 2014) the empirical description takes the form of a quantitative typological model of drinking occasions specifying the proportion of all occasions accounted for by each occasion type and probabilities of each occasion type having a range of characteristics (e.g. drinking with friends, drinking to chill out, drinking at high levels). We acknowledge that a model of drinking occasions does not reflect all aspects of culture and, in particular, excludes the broader social contexts within which drinking occurs. We seek to mitigate this by using focus group research to understand how the meanings which drinkers attach to their occasions relate to their wider social and cultural practices. We also use the data to inform design of the model and validate the results. Overall, analysis of drinking occasions can provide understanding of a key observable manifestation of a drinking culture and our model can provide a starting point for moving towards the development of detailed empirical characterisation of drinking cultures for use in policy analysis and debate.

2. Methodology

2.1 Overview of methodological approach

The study used an embedded mixed methods approach with the qualitative components used to inform, and particularly to validate, the main quantitative study. Specifically, latent class analysis of a large sample ($N=187,878$) of drinking occasions nested within 60,215 individuals who provided detailed one-week drinking diaries. This allowed for a typology of drinking occasions to be derived for (a) the population as a whole and (b) eight population subgroups defined by age, gender and socioeconomic status. A key feature of this analysis was that the unit of analysis was the drinking occasion, defined as any period with no more than two hours between alcoholic drinks, rather than the individual as is common in alcohol consumption research.

This analysis was informed by two stages of focus group research which, firstly, informed design of the analysis and interpretation of the preliminary results and, secondly, provided validation of the final results and added detail regarding the policy relevance of the findings.

2.2 Developing a typological model of drinking occasions

2.2.1 Data

This study uses data from the Alcovision survey, a commercial product collected by the market research company, Kantar Worldpanel and purchased by the research team under a previous MRC and ESRC programme grant (G1000043). Alcovision is a continuous monthly retrospective online diary survey with an annual representative sample of 30,000 individuals aged 18+ in Great Britain. Participants provide detailed data on their drinking occasions over the previous seven days.

Quota samples based on age, sex, social class and geographic region are drawn from Kantar's managed access panel. Invitations to participate are

sent out on set dates and timed such that completion of the survey occurs throughout each month and each day of the year is included in fieldwork. Over-sampling of 18-34 year-olds and Scotland residents permits robust analyses of these groups. Weights based on age-sex groups, social class and geographic region are constructed using UK census data to ensure representativeness of British adults. A data extract of selected variables for the total 2009-2011 sample was purchased for the present analysis and contained information on 187,878 drinking occasions nested within 60,215 respondents who reported any drinking in the survey week.

2.2.2 Study variables

Alcohol consumption is recorded in the data as 'serves' for each of five beverage types: beer, cider, wine, spirits and Ready to Drinks (RTDs). This information is then linked with alcohol by volume (ABV), indicating the percentage of pure alcohol within a product, of the particular beverage in order to derive the number of units (1 unit = 10ml/~8g of pure alcohol) consumed in an occasion. For analysis three categories of consumption were created based on the number of units drunk on the occasion. These were labelled low, increasing and high risk following the convention used in UK analysis of data on mean daily or weekly consumption (Beynon et al., 2011). In line with National Health Service (NHS) guidelines, low risk drinking was defined as consuming less than six units for females and eight units for males. Increasing risk drinking was defined as consuming six or more but less than twelve units for women and eight or more but less than sixteen units for men. High risk drinking was defined as drinking twelve or more units for women and sixteen or more units for men; equivalent to double the NHS definition of binge drinking. After deriving the typology, the continuous variables describing units consumed per occasion by beverage type and in total were used in posterior analyses.

A further series of categorical variables were used alongside alcohol consumption for deriving the typology of occasions. These variables either contain mutually exclusive categories where only one response was possible (e.g. duration of occasion, day of occasion) or categories where multiple responses were possible (e.g. motivation(s) and reason(s) for the occasion). Multiple responses are possible because the nature of the occasions may change across their duration (e.g. from drinking with friends to drinking with family or from drinking at home to drinking in the city centre) and also because, for example, occasions may simply occur for more than one reason. For the analysis, variables permitting multiple responses were converted into a series of dichotomous variables with one variable per category. The number of possible responses is indicated in the following list of variables used in the analysis: reason for the occasion (25 categories; e.g. quiet night in, sociable get together; multiple responses); location (16 categories; e.g. village or rural local, my own home; multiple responses); motivation (11 categories; e.g. to wind down or chill out, to have a laugh; multiple responses); drinking company (6 categories; e.g. family, friends; multiple responses); composition of drinking company and presence of children (9 categories; e.g. male alone, mixed sex group; multiple responses); type of beverages consumed including five categories (beer, cider, wine, spirits and ready-to-drink (RTD) split by on and off-trade (multiple responses); day of the week (single response); starting time (11 categories; single response) and duration of occasion (9 categories; single response).

Although not included within the typological modelling procedure, three dichotomous demographic variables were used in later analyses and also for segmenting the population for subgroup analysis. These variables describe age (under-35 vs. 35 and over), gender and socioeconomic status based on MOSAIC categories (ABC1C2 vs. DE).

2.3 Analysis

2.3.1 Defining a drinking occasion

The primary unit of analysis for this study is the drinking occasion. However, the Alcovision dataset is structured such that each row of data describes a drink consumed, not an occasion, nor is any definition of an occasion embedded in the data. This meant that a definition of a drinking occasion had to be developed. In line with recent similar research on drinking occasions (Mustonen et al., 2014) we define drinking occasion as starting when an alcoholic drink is consumed and finishing if there is a gap of at least two hours between consecutive drinks (i.e. between consecutive rows of data). In this way, it is possible for an individual to have multiple drinking occasions over the course of the day such as drinks at lunch time, drinks at dinner time and drinks during late night clubbing. In their own analyses of these data, Kantar adopt a similar approach but treat any shift between on-trade and off-trade drinking (or vice versa) as the start of a new drinking occasion. We did not use this definition as we wanted to allow drinking occasions to span both the on-trade and off-trade. This means, for example, that while Kantar would class a big night out which began with drinks at somebody's house as two occasions, we would class it as a single occasion spanning multiple locations.

2.3.2 Typological analysis

Typological models of drinking occasions were derived for (a) the population as a whole and (b) eight population subgroups defined by all possible combinations of the dichotomous gender, age and socioeconomic status variables described above. A probabilistic segmentation approach, latent class analysis (LCA) (McCutcheon, 1987) was used to derive unique typologies representing different drinking occasions. This technique has previously been used to typologise drinking occasions (Mustonen et al., 2014, Sunderland et al., 2014).

The LCA procedure works by probabilistically grouping drinking occasions into classes or groups that are mutually exclusive such that drinking occasions captured in a given class share similar characteristics that distinguish them from those of other classes (Collins and Lanza, 2010, Hagenaars and McCutcheon, Lanza et al., 2007). By using LCA, it is assumed that the unobserved latent variable 'type of drinking occasion' accounts for all of the intercorrelation between the observed characteristics of drinking occasions (Figure 1). In other words, the characteristics of drinking occasions are correlated solely because they jointly describe specific types of occasions which can be classified by an unobserved (latent) variable. Thus, typologies of drinking occasions are assumed to be defined by multiple dimensions in line with the approach discussed by Room and Mäkelä, albeit applied to within-society differences in drinking occasions rather than between society differences in drinking culture (Room and Mäkelä, 2000).

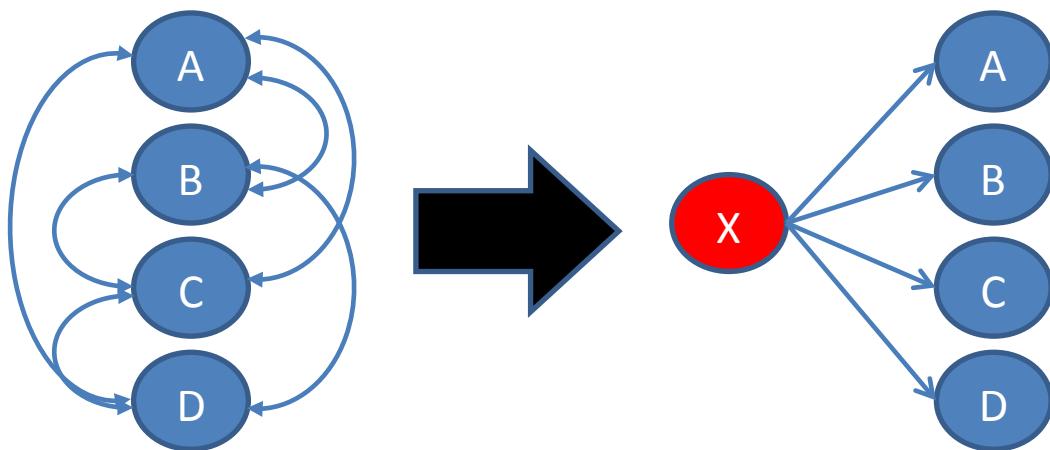


Figure 1: Intercorrelation between observed variables ABCD (in this case characteristics of the drinking occasion) is explained by their relationship to a latent categorical variable X (in this case 'Type of drinking occasion')

The results of latent classes are communicated probabilistically by two sets of parameters: (1) latent class probabilities and (2) item response probabilities. Latent class probabilities describe the proportion of drinking occasions estimated to fall within each latent class. Item response probabilities describe

the probability of a given occasion having a given characteristic (e.g. the probabilities of 'drinking to have a laugh' given the occasion is 'drinking at home with a partner'). Item response probabilities can aid interpretation of latent classes by indicating (a) characteristics which are strongly associated or not associated with a particular occasion type (i.e. a probability close to 1.00 or close to zero) and (b) distinguishing a characteristic which, while uncommon in all occasions, is more likely to occur in one occasion type than others(Collins and Lanza, 2010, Hagenaars and McCutcheon, Lanza et al., 2007). Therefore an item response probability of 1.00 for high risk drinking means that occasions within the given type all involve high risk drinking. An item response probability for 'on-trade spirits' of 0.50 in one occasion and 0.10 or less in other occasions would indicate that although on-trade spirits were not universally consumed in any occasion, one occasion type is partly characterised by an increased likelihood of them being drunk.

The number of latent classes to be identified by the model fitting procedure is specified by the analyst and can be any integer greater than one. Selection of the optimal number of classes is typically guided by statistical goodness of model fit measures: Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), 'consistent' AIC (CAIC) and adjusted (BIC) ABIC (Akaike, 1973, Bozdogan, 1987, Lin and Dayton, 1997, Schwarz, 1978), with lower values indicating better fits. Clearly the best fitting model will be one with a number of latent classes equal to the number of cases in the dataset. However, LCA is a data reduction technique and in most datasets, adding extra latent classes eventually leads to ever smaller improvements in model fit. Goodness of fit statistics are thus also considered alongside assessments of parsimony (i.e. ease of interpretation) and the meaningfulness of identified classes.

Due to the large size of our data, when using the AIC and BIC criteria alone, shown in **Table 1**, the number of classes to retain can be very large, thus making interpretation difficult. In light of this, after examining models with

seven to ten classes we took a pragmatic approach of settling on a model with eight classes as, in addition to being parsimonious, it provides a clearly identifiable and easily interpretable representation of drinking occasions.

The same approach of combining model fit statistics and consideration of parsimony, interpretability and identifiability of classes was employed on deciding on the number of classes to keep for each of the eight subgroups models. Similarly, in each of these eight subgroup models eight classes were retained.

All analyses are performed on SAS version 9.3 with LCA models fitted using the PRO LCA procedure version 1.3.0 freely available from the Methodological Center (Lanza et al., 2013).

Table 1: Goodness of fit statistics

Classes	AIC	BIC
2	5,460,430	5,462,611
3	5,234,694	5,237,971
4	5,086,562	5,090,934
5	4,984,925	4,990,392
6	4,891,125	4,897,688
7	4,824,411	4,832,069
8	4,753,815	4,762,569
9	4,713,813	4,723,662
10	4,673,437	4,684,382

2.3.3 Posterior analysis

LCA is a probabilistic technique which means it provides a probability that a given case belongs to a given latent class based on the characteristics of that case. In other words, LCA does not deterministically assign drinking occasions to a specific occasion type, it only provides a probability that the occasion belongs to each type. Without using more complex statistical techniques, this limits what can be done in terms of analyses of relationships

between occasion types and variables used in deriving the typology (e.g. sociodemographics). A standard approach to this problem is to assign cases to the latent class to which they have the highest probability of membership (modal assignment). We used this approach for a series of descriptive posterior analyses examining the relationship between occasion type, sociodemographics and beverage-specific or total consumption level. We also examined the distribution of occasion types across the three consumption level categories (low risk, increasing risk and high risk) to understand within which occasion types the greatest proportions of drinking occasions of concern to public health were located.

Modal assignment can be problematic if typologies are weakly specified. Substantial proportions of assignments may be based on low probabilities of class membership (e.g. 60% of cases may be assigned to latent class A based on a probability of membership of less than 50%). However, in this case modal probabilities were generally high as discussed in the Results section.

2.3.4 Weighting

All analyses were conducted using weights constructed by Kantar and provided within the purchased dataset. In particular, individual level weights were used in the latent class model to account for the fact that occasions are nested within these. Kantar also adjusted the raw data in certain trade sectors during certain time periods (e.g. on-trade sales in quarter one of 2009). This accounts for discrepancies between Kantar's data and other sources in their estimates of total alcohol sales.

2.4 Qualitative component

2.4.1 Approach

We chose to use focus groups as a way of exploring in drinkers' own words the detailed characteristics of drinking occasions, how those characteristics interacted with each other and with the broader contexts of drinkers' lives

and also how they varied between occasions and between individuals. Focus groups, as opposed to individual interviews, were particularly effective for this purpose as conversation between participants facilitated reflections on how individuals differed in their behaviours and prompted considerations of the reasons for this; for example, ageing and life course transitions.

The focus groups were conducted in two stages. The first stage was intended to inform early development of the quantitative typological models by providing insights into the types of occasions which would be expected to be identified by the latent class analysis and the factors (e.g. alcohol policies, drinkers' social contexts and demographic characteristics) which might influence these. Along with data from the research literature, this provided a basis for interpreting the preliminary statistical results, refining the analysis and developing additional secondary analyses. The second stage was used to validate and develop our interpretations of specific latent classes (occasion types) derived in the statistical analysis. It also sought to elicit discussion of how specific occasions may interact with policy as a means to develop ideas about how the results of this study may be used to inform policy debate. All focus groups were facilitated by Melanie Lovatt and John Holmes and took place on late afternoons or evenings at the University of Sheffield.

2.4.2 Stage One

2.4.2.1 *Sampling and recruitment*

Four focus groups were conducted with 20 participants (focus group size ranged from four to six participants). Inclusion criteria were that participants had to be over 18 and drink alcohol at least once a month. In line with the hypothesis that drinking cultures varied by sociodemographic characteristics, we wanted to include participants of both genders and of a range of ages and occupations. We recruited participants using a range of methods: we displayed flyers in libraries, posted adverts on community websites (Gumtree Sheffield and the Sheffield Forum) and handed out flyers in the street. For pragmatic reasons, all participants were recruited from the Sheffield area

which is both ethnically and socioeconomically diverse. Recruitment was more difficult than we had anticipated, and our sample size was slightly biased towards those in their twenties and early thirties, and students. Nevertheless, we still recruited participants with a varied range of sociodemographic characteristics. Further details can be seen in **Table 2**. Once participants responded to an advert or flyer they were sent an information sheet and consent form, which they signed and sent to the research team before the focus groups.

Table 2: Stage 1 Focus Group Participants

Focus Group	Participants
1	3 x female, 3 x male (1 x 18-24) (3 x 25-34) (2 x 35-44)
2	2 x female, 3 x male (1 x 18-24) (2 x 25-34) (1 x 45-54) (1 x 55-64)
3	2 x female, 3 x male (1 x 18-24) (1 x 25-34) (2 x 35-44) (1 x 55-64)
4	4 x female (2 x 18-24) (1 x 25-34) (1 x 55-64)

2.4.2.2 Data collection

A topic guide (:) was developed to prompt discussion among participants, but it was structured loosely so as to allow discussion of drinking occasion types and their characteristics to emerge from discussions amongst participants, rather than be pre-defined by the participants. In part one of the focus groups we asked participants to describe their typical drinking occasions, the characteristics of these (for instance location, who they drank with, how much they consumed) and how and why the characteristics differed across occasions. Participants were encouraged to compare their own drinking occasions with those of other participants. In the second part, participants were shown a visual aid which prompted them to think about the different factors which influenced the characteristics of their drinking occasions (**Appendix 2**). Discussions were audio-recorded and transcribed verbatim.

2.4.2.3 Data analysis

Transcripts were initially read through to get a sense of their overall content and meaning before being transferred into the NVivo 10 software package where they were coded line by line. Analysis was guided by our interest in knowing more about three particular aspects of drinking occasions which would inform our analysis of the quantitative data. These were: 1) how the characteristics of drinking occasions differed by occasion; 2) the motivations for different drinking occasions and 3) the factors which influenced drinking occasions. Relevant data were coded to categories which we then grouped into these three themes.

2.4.3 Stage Two

2.4.3.1 Sampling and recruitment

Four focus groups were conducted with 22 participants (focus group size ranged from four to six participants). Our main intentions in these focus groups were to validate our analysis of the typological models and gain a better understanding of how different influences (for instance price, advertising and life course transitions) impacted on particular drinking occasions. Our sampling strategy differed from that of Stage One in that we wanted to target particular demographics and people who engaged in particular drinking occasions. Based on the preliminary latent class analysis results, we identified four groups of people who we wanted to talk to in more detail about their drinking occasions: men aged between 35 and 65 of a higher socioeconomic background; women aged between 25-65 of a higher socioeconomic background; men aged between 25 and 65 of a lower socioeconomic background; men and women aged between 25 and 65 of lower and higher socioeconomic backgrounds who regularly drank alcohol in other people's houses (for Groups 2-4 we wanted to talk to drinkers of varying ages, but we did not recruit students or drinkers aged between 18 and 24 as we felt these were sufficiently represented in the Stage 1 focus groups, and we wanted to avoid focusing on younger people's drinking).

Further details of participants can be seen in *Error! Reference source not found.* To try and avoid the difficulties in recruitment which we experienced in Stage One, we contracted an independent recruitment agency to identify and recruit participants. Informed consent was taken by the agency on recruitment.

Table 3: Focus Group Participants

Focus Group	Participants
1	6 males aged 35-65, higher SE background
2	6 females 25-65, higher SE background
3	4 males, 25-65, lower SE background
4	3 females, 3 males, 25-65 who regularly drink in other people's houses

2.4.3.2 Data collection

A topic guide (**Appendix 3**) was developed and the focus group was structured into three sections. In the first section, participants were shown personas as a means to facilitate discussion of particular types of drinking occasion. Personas typically comprise short personalised narratives about fictitious people and are commonly used in marketing and design processes to aid understanding of needs and responses of particular market segments or target populations (Vosbergen et al., 2012). We constructed personas which were derived from our typological analyses and asked participants whether the personas seemed realistic to them, and how they compared to their own drinking occasions. For example:

Carl is a 37 year old bank clerk. He gets together with friends whenever one of them celebrates a birthday. They usually take it in turns to meet at each other's houses to have a drink before heading out to the local pub for some food and more drinks. He has quite a few beers as it seems appropriate when celebrating a birthday. During the week he'll sometimes go to the pub after

work with friends or colleagues. He rarely has more than two pints though as he doesn't want to be hungover at work the next day.

Debbie is a 44 year old legal secretary who is divorced and lives with her two children. She doesn't often drink during the week because she knows alcohol isn't really good for her health, and would rather save the money for the kids anyway. However at the weekends when her ex has the kids, she feels she deserves a bit of a break, so meets up with her friends at a bar in town to have a glass of wine. They usually move on to a restaurant where they'll share a few bottles of wine, and then might end the night in another bar where she'll have a vodka and tonic. She doesn't mind drinking more at the weekend because she only does it once a week and so doesn't think it will do any harm.

In the second section, we showed participants the different types of drinking occasion for their demographic which we identified in the typological models, for instance 'going out with friends', 'light drinking at home with partner', 'drinking alone at home'. We asked them how their own drinking compared to the types we identified and asked them to describe any occasions they had which did not fit into any of the types. In the third section we showed participants the visual aid used in the Stage One focus groups and asked them if and how any of the factors shown influenced their drinking occasions. Discussions were audio-recorded and transcribed verbatim. Data were analysed as in Stage One.

2.5 Ethical issues

Informed consent was taken from all participants prior to the focus groups, and participants were assured that they could withdraw from the research at any time, that they would be anonymised, and that the audio recordings and transcriptions would be stored securely on password-protected computers where they could only be accessed by the research team. All

participants were given £20 to cover their travel expenses. Ethical approval was granted by the University of Sheffield.

Results

3.1. Descriptive statistics

The Alcovision dataset is a multi-level dataset comprising drinking occasions nested within drinkers. The characteristics of the sample population are summarised in **Table 4**. After excluding those with no drinking occasions, the sample contained higher proportions of those of higher socioeconomic status and these were relatively evenly distributed across age and sex groups. The lower representation of lower socioeconomic groups reflects increased abstinence rates and lower consumption among drinkers in this population (Holmes et al., 2014).

On average the sample consumed 22.8 units across 3.2 occasions in their diary week. Of these, the sample had an average of 0.3 high risk occasions and 0.8 increasing risk occasions. Male, younger and lower socioeconomic status drinkers had higher average consumption although older and higher socioeconomic status drinkers had a higher average number of occasions. Across the sample, the mean units by beverage consumed in the diary week are shown in **Table 5** and highlight different beverage preferences by age, sex and socioeconomic group. Males and particularly younger males drank more beer and cider. Females and particularly older females consumed more wine although, in common with all groups, wine was drunk less in the on-trade and all other beverages account for a greater share of consumption. On-trade spirits and on-trade RTDs were primarily consumed by younger drinkers and particularly younger women.

Table 4: Descriptive statistics for study population in survey week

	% of population	Units consumed Mean (SD)	Number of occasions: Mean (SD)			
			Total	Low risk	Increasing risk	High risk
Male <35 ABC	15.5	28.9 (27.3)	3.2 (2.2)	1.9 (1.8)	0.8 (1.0)	0.5 (0.8)
Male <35 DE	5.1	30.5 (30.1)	2.9 (2.1)	1.6 (1.8)	0.7 (1.0)	0.6 (0.9)
Male 35+ ABC	23.1	26.6 (26.3)	3.7 (2.6)	2.6 (2.4)	0.9 (1.3)	0.3 (0.8)
Male 35+ DE	9.0	28.5 (31.6)	3.5 (2.6)	2.2 (2.4)	0.9 (1.3)	0.4 (0.9)
Female <35 ABC	17.0	19.8 (19.8)	2.7 (1.8)	1.6 (1.5)	0.7 (0.9)	0.4 (0.8)
Female 35+ DE	6.3	21.1 (21.8)	2.5 (2.0)	1.4 (1.6)	0.6 (0.9)	0.5 (0.8)
Female 35+ ABC	17.9	16.6 (16.9)	3.1 (2.2)	2.2 (2.1)	0.7 (1.1)	0.2 (0.6)
Female 35+ DE	6.1	16.0 (19.1)	2.7 (2.1)	1.8 (1.9)	0.6 (1.0)	0.3 (0.7)
Total	100.0	22.8 (24.4)	3.2(2.3)	2.1(2.1)	0.8(1.2)	0.3(0.8)

Table 5: Mean consumption across diary week by demographic group

	Off-trade units					On-trade units					Total units
	Beer	Cider	Wine	Spirits	RTD	Beer	Cider	Wine	Spirits	RTD	
Male <35 ABC	7.7	2.7	4.1	2.3	0.4	7.2	1.5	1.3	1.5	0.4	28.9
Male <35 DE	9.3	3.4	3.2	2.8	0.6	6.6	1.6	1.0	1.7	0.5	30.5
Male 35+ ABC	5.8	1.9	8.0	2.3	0.1	6.5	0.7	0.9	0.4	0.1	26.6
Male 35+ DE	7.7	3.4	5.2	2.6	0.1	8.1	0.7	0.4	0.5	0.1	28.5
Female <35 ABC	1.7	1.5	7.0	2.1	0.6	1.4	0.9	2.3	1.8	0.5	19.8
Female 35+ DE	2.7	1.9	5.7	3.0	1.1	1.6	0.8	1.6	2.0	0.8	21.1
Female 35+ ABC	1.1	0.8	9.8	1.6	0.1	1.0	0.3	1.7	0.4	0.1	16.6
Female 35+ DE	1.8	1.2	7.7	2.1	0.2	1.2	0.3	1.1	0.5	0.1	16.0
Total	4.2	1.8	7.4	2.1	0.2	4.2	0.7	1.3	0.8	0.2	22.8

3.2. Population-level typology

3.2.1. Results

A summary of the eight class population-level typology of drinking occasions is shown in **Table 6** and a detailed description of each type with illustrative quotations from the focus groups is provided in **Table 7**. The most common occasion type is *light drinking at home with a partner* which accounts for almost a fifth of occasions. Taking this occasion alongside *light drinking at home with family* and *drinking at home alone* mean this generally low risk, everyday kind of home drinking accounts for almost half (46%) of all occasions. Data from the focus groups indicated that such occasions might

include having a drink with a meal, or be perceived as a way of relaxing. Home drinking is, however, not always low risk. A heavy drinking version of these occasions (*heavy drinking at home with a partner*) accounts for 9.4% of occasions and always involves drinking at increasing or high levels. Some focus group participants expressed the view that drinking at such levels in their home was 'safe' or preferable to drinking in on-trade establishments as their drinking would not harm others. Similarly, the second most common occasion is *get togethers at someone's house* which accounts for 14.4% of occasions. Focus group findings suggest that normative values associated with being invited to a friend's house made bringing alcohol 'a requirement' and that the relative cheapness of drinking in a friend's house compared to going out, could result in greater quantities of alcohol being consumed. This was supported by the results of the typological analysis which showed almost half of these occasions (46%) involved drinking at increasing or high risk levels. The greatest likelihood of high risk drinking ($p=0.34$) was found in a diverse set of occasions described as *mixed location heavy drinking*. These occasions are difficult to characterise but appear to encompass a range of drinking behaviours with evolving locations and participants. These may include nights out with pre-loading, drinking throughout the day in different locations and with different company and having a night out at the pub then having a night-cap before bed. The 'big night out' with associated binge drinking may be split between this type of occasion and the *going out with friends* which does not include any off-trade drinking (i.e. no pre-loading) and accounts for 11.1% of all occasions.

The final occasion type is classified as *going out for a meal(?)* with the question mark used to illustrate that, as no data were available on whether the drinking occasion was in a restaurant or whether food was consumed, we have had to infer the nature of this occasions from probabilities suggesting these occasions were particularly likely to happen at meal times.

Taken as a whole the typology presents a characterisation of British drinking culture which is inconsistent with the ‘culture of excess’ described by the Government (HM Government, 2012). While high risk drinking occasions certainly occur, these account for a minority of occasions with the remainder more reminiscent of the socialised, relaxed, low risk drinking aspired to within policy documents. Moreover, increasing and high risk drinking is distributed across a heterogeneous set of occasions including everyday home drinking with partners, domestic get togethers with friends and occasions where drinking accumulates across a range of venues and sub-occasions. Little of this fits comfortably with caricatures of the youth binge drinker stumbling down the pavements of town centres on Friday and Saturday nights.

Table 6: Summary of the eight types of drinking occasions identified by the latent class analysis of British drinking occasions

Mixed location heavy drinking 10.4% of occasions. Mean units: 14.0 22.6% of the sample have this occasion	Heavy drinking at home with a partner 9.4% of occasions. Mean units: 11.6 17.5% of the sample have this occasion	Going out with friends 11.1% of occasions. Mean units: 9.3 25.2% of the sample had this occasion	Get together at someone's house 14.4% of occasions. Mean units: 9.1 32.3% of the sample have this occasion
Low Increasing High	Increasing High	Low Increasing High	Low Increasing High
<p>These very diverse occasions involve often involve drinking at increasing ($p=0.41$)² and high ($p=0.34$) risk levels at a range of on-trade and off-trade locations including the home of the respondent ($p=0.67$) or someone else ($p=0.28$) and also village locals ($p=0.23$), small town centres ($p=0.24$) and city centres ($p=0.17$). Different occasions or different phases of these occasions provide an opportunity for drinking with friends ($p=0.64$), partners ($p=0.46$) and family ($p=0.28$) or for drinking alone ($p=0.21$) and provide an opportunity to wind down or chill out ($p=0.34$), have a laugh ($p=0.20$) and spend quality time with people ($p=0.20$). This might be part of a sociable get together ($p=0.32$) or catch-up ($p=0.15$), having a drink before going out ($p=0.22$) or rounding off the evening ($p=0.12$). These are often, but not exclusively Friday and Saturday occasions ($p=0.53$) lasting 1-3 hours ($p=0.89$) and starting in the afternoon ($p=0.27$), early evening ($p=0.52$) or mid-evening ($p=0.19$). Any kind of drink may be consumed although beer is the most common in the on-trade ($p=0.52$) followed by wine ($p=0.19$).</p>	<p>Increasing ($p=0.81$) or high ($p=0.19$) risk drinking with a partner ($p=0.84$) at home ($p=0.97$). These occasions provide an opportunity to wind down or chill out ($p=0.49$) for 1-3 hours ($p=0.77$) on a quiet night in ($p=0.31$) as a couple ($p=0.32$), but may also be part of regular everyday drinking ($p=0.21$). This usually happens on Friday and Saturday ($p=0.45$) or Sunday ($p=0.19$) and usually starts at dinner time, between 5pm and 8pm ($p=0.55$) or mid-evening ($p=0.33$). Wine is the predominant ($p=0.70$) but not only drink.</p>	<p>Drinking at low ($p=0.50$), increasing ($p=0.34$) or high ($p=0.16$) risk levels with friends ($p=0.87$) in on-trade locations including small town centres ($p=0.26$), village locals ($p=0.22$) and city centres ($p=0.20$). These occasions allow mixed sex ($p=0.27$) or male ($p=0.24$) groups to have a laugh ($p=0.31$) and bond with others ($p=0.17$) during sociable get togethers ($p=0.39$). Friday and Saturday ($p=0.49$) are the most common days for these occasions and, while most last 1-3 hours ($p=0.70$), many last longer ($p=0.23$). Drinking usually starts in early ($p=0.33$) or mid ($p=0.34$) evening but sometimes starts in the afternoon ($p=0.24$) or after 10pm ($p=0.09$). Beer is the predominant drink ($p=0.63$) with spirits ($p=0.21$), wine ($p=0.19$), cider ($p=0.11$) and RTDs ($p=0.06$) also consumed.</p>	<p>These diverse occasions involve drinking at low ($p=0.54$), increasing ($p=0.28$) or high ($p=0.17$) risk levels. A mixed sex group ($p=0.78$) of friends ($p=0.63$), family ($p=0.41$) and partners ($p=0.27$) meet up at the home of the respondent ($p=0.34$) or someone else ($p=0.34$) to have a laugh ($p=0.26$) during a sociable get together ($p=0.34$). This usually happens on weekends ($p=0.70$) and, while some occasions last less than an hour ($p=0.26$), others last more than four hours ($p=0.16$). Most occasions start between 5pm and 10pm ($p=0.69$) but may begin in the afternoon ($p=0.26$). Any of wine ($p=0.51$), beer ($p=0.31$), spirits ($p=0.21$), cider ($p=0.10$) and RTDs ($p=0.05$) may be consumed.</p>
Going out for a meal 8.6% of occasions. Mean units: 5.2 20.6% of the sample have this occasion	Drinking at home alone 13.6% of occasions. Mean units: 5.1 19.7% of the sample have this occasion	Light drinking at home with family 12.8% of occasions. Mean units: 3.3 23.2% of the sample have this occasion	Light drinking at home with a partner 19.6% of occasions. Mean units: 3.2 26.3% of the sample have this occasion
Low Increase	Low Increase	Low	Low
<p>These occasions generally involve low risk ($p=0.81$) drinking with partners ($p=0.45$) or family ($p=0.26$) or drinking alone ($p=0.19$) in on-trade locations including village locals ($p=0.29$), small town centres ($p=0.23$). They provide an opportunity to spend quality time with people ($p=0.27$) and take a break ($p=0.16$) while going out as a couple ($p=0.23$), having a quiet drink ($p=0.17$) or having a family occasion ($p=0.10$). These occasions may happen on any day and often start at mealtimes (e.g. lunchtime ($p=0.30$) or early evening dinnertime ($p=0.35$)). They are not long occasions and generally last less than three hours ($p=0.96$) and sometimes less than an hour ($p=0.26$). Beer ($p=0.60$) and wine ($p=0.27$) are the most common drinks</p>	<p>Generally, but not exclusively, low risk ($p=0.80$) drinking alone ($p=1.00$) at home ($p=0.99$). These occasions provide an opportunity to wind down or chill out ($p=0.45$) and have time for oneself ($p=0.17$) on a quiet night in ($p=0.35$) with a regular or everyday drink ($p=0.25$) or to round off the evening ($p=0.15$). They can happen on any day and usually start in the early ($p=0.37$) or mid-evening ($p=0.34$) but can start after 10pm occasionally ($p=0.15$). These are usually short occasions lasting less than three hours ($p=0.96$) and often less than one hour ($p=0.50$). Any of wine ($p=0.41$), beer ($p=0.32$) and spirits ($p=0.23$) may be drunk.</p>	<p>Low risk drinking ($p=1.00$) at home ($p=1.00$) with family ($p=0.62$) or a partner ($p=0.42$). These occasions provides an opportunity to wind down or chill out ($p=0.41$) on a quiet night in ($p=0.27$) or a regular everyday drink ($p=0.19$). This might happen on weekdays ($p=0.44$), Friday and Saturday ($p=0.34$) or Sundays ($p=0.22$) with drinking usually starting in early ($p=0.44$) to mid-evening ($p=0.35$) and is generally a short occasion lasting less than three hours ($p=0.99$) and often less than an hour ($p=0.55$). Wine ($p=0.47$) and beer ($p=0.31$) are the main drinks although spirits ($p=0.18$) are also drunk in some cases.</p>	<p>Low risk ($p=1.00$) drinking at home ($p=0.97$) with a partner ($p=1.00$) to wind down or chill out ($p=0.44$) as part of a quiet night in ($p=0.24$) spent as a couple ($p=0.26$) or a regular everyday drink ($p=0.23$). These occasions, which may occur on any day, last less than three hours ($p=0.99$) and usually less than an hour ($p=0.56$) starting from early ($p=0.47$) or mid ($p=0.36$) evening. Wine is the most common drink ($p=0.53$) but beer ($p=0.24$) and spirits ($p=0.21$) are also common.</p>

¹ Shading indicates off-trade only (blue) or occasions including on-trade (red). Bars show proportion of low, increasing or high risk occasions. ² Probability of occasions having this characteristic given it is of this type.

3.2.2. Assignment of occasions to types

To allow further analysis of alcohol consumption within occasion types and also of the demographic characteristics associated with different occasion types, we assigned each occasion within our dataset to one of the eight types in **Table 6**. To do this, each occasion was assigned to the occasion type which it has the highest probability of belonging to (see Methodology). Distributions of the modal probabilities for occasions assigned to each latent class are shown in the Appendices 4a-4i which can be downloaded separately. For each latent class, assignment is generally based on high modal probabilities. Less than 1% of occasions were assigned to classes on the basis of a probability of membership less than 0.5. Over 75% of occasions were assigned to classes based on a modal probability of more than 0.95 and 90% of occasions were assigned to classes based on a modal probability of more than 0.75. The classes with weakest assignment were those with the most diverse occasions (e.g. *going out with friends*). However, modal probabilities were still generally high in these classes.

3.2.3. Consumption level by occasion type

The proportion of occasions within each type which involved low, increasing and high risk alcohol consumption is shown in Table 7 and mean units consumed by beverage type for each occasion is show in *Figure 2*.

Table 7 shows that increasing and high risk drinking are mainly concentrated within four occasions types:

- Heavy drinking at home with a partner;
- Get togethers at someone's house;
- Mixed location heavy drinking;
- Going out with friends.

Table 7: Proportion of occasions by consumption level and occasions type

	Low risk (66.1%)	Increasing risk (23.3%)	High risk (10.6%)	All occasions (100.0%)
Heavy drinking at home with a partner	0.0%	33.0%	16.9%	9.5%
Light drinking at home with family	19.4%	0.0%	0.0%	12.8%
Get togethers at someone's house	11.7%	18.0%	24.4%	14.5%
Drinking at home alone	16.5%	9.2%	5.6%	13.7%
Mixed location heavy drinking	3.7%	17.4%	32.1%	9.9%
Light drinking at home with a partner	29.8%	0.0%	0.0%	19.7%
Going out with friends	8.5%	16.6%	17.6%	11.3%
Going out for a meal(?)	10.4%	5.8%	3.4%	8.6%
All occasions	100.0%	100.0%	100.0%	100.0%

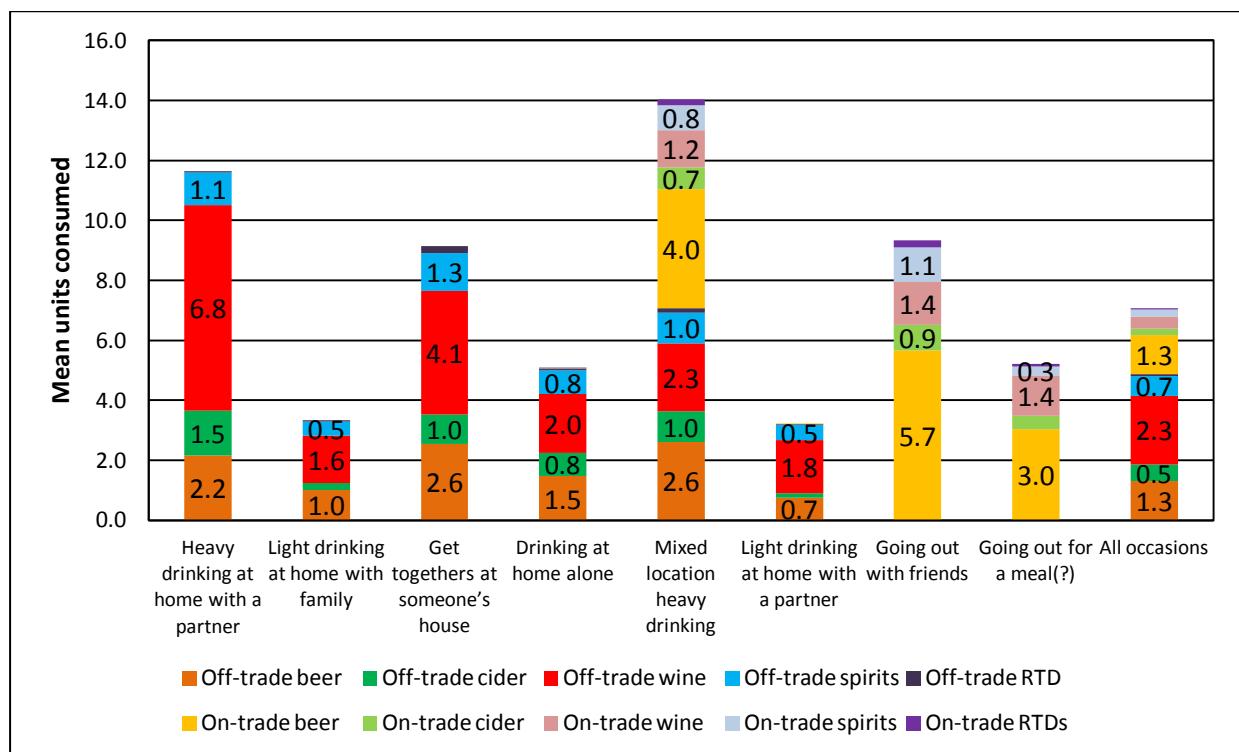


Figure 2: Mean units consumed by beverage type and occasion

Note: For clarity, mean units consumed are not shown where values are less than 0.5

Low risk drinking occasions are more evenly distributed across occasion types although two-thirds (65.9%) are occasions involving drinking at home alone,

with family or with a partner. Contrary to oft-made claims that the on-trade provides an environment which encourages lower risk and moderated drinking, less than a quarter (22.6%) of low risk drinking occasions involved an on-trade element compared to more than half (53.1%) of high risk occasions.

The occasion with the highest mean consumption was *mixed location heavy drinking* (14.0 units) followed by *heavy drinking at home with a partner* (11.6 units). These contrast with the lowest mean consumption levels for *light drinking at home with a partner* (3.2 units) and *light drinking at home with family* (3.3 units).

The distribution of consumption across beverages should be interpreted cautiously as these represent means calculated across highly heterogeneous occasions rather than consumption by a typical individual in each occasion type. However, it can be seen that beer generally dominates on-trade consumption and this is partly due to on-trade drinking remaining a disproportionately male behaviour (see Figure 4 below). To a lesser extent, wine dominated off-trade consumption, although beer, cider and spirits were still commonly consumed. There is little evidence that consumption of on-trade spirits plays a substantial role in average occasions although examination of the distribution of on-trade spirits consumed by occasion type (data not shown) suggests a small number of, primarily younger female, drinkers (<10%) drank higher volumes of spirits within occasions with an on-trade element. Results for subgroup typologies discussed below confirm this.

3.2.4. Occasion types by sociodemographic groups

Figure 3 shows how the occasions within each type are distributed across sociodemographic groups. The results indicate a degree of social patterning; for example, occasions involving on-trade drinking are more concentrated within male drinkers and occasions involving increasing or high risk drinking with friends are more common among younger drinkers. **Figure 3** also

illustrates that, across all types of occasion and across all age-sex groups, drinkers of lower socioeconomic status account for fewer occasions than higher socioeconomic status counterparts. Although not an exception to this finding, older males of lower socioeconomic status account for a markedly greater share of *drinking at home alone* than for other occasion types.

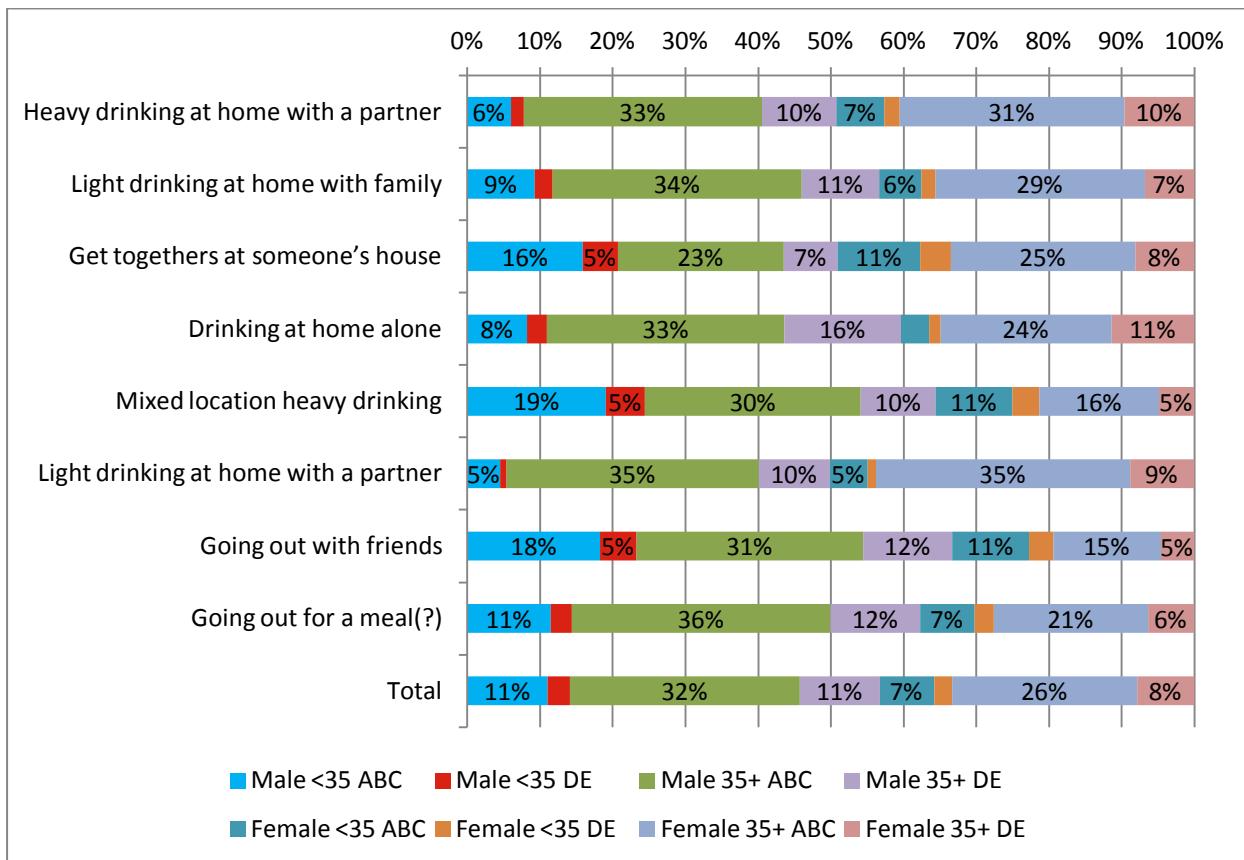


Figure 3: Distribution of occasions across sociodemographic groups

Note: For clarity, percentages are not shown where values are less than 5%.

Figure 4 shows how high risk occasions for each type are distributed across sociodemographic groups and indicates relatively similar social patterning. An important difference is that while older males of lower socioeconomic status account for 16% of all *drinking at home alone* occasions, they account for 29% of high risk drinking occasions of this type. More generally, both male and female older drinkers of higher socioeconomic status account for a smaller share of high risk drinking occasions than of all occasions and this is true across all occasion types.

To illustrate how the high risk drinking occasions of sociodemographic groups differ, *Figure 5* shows the distribution of each groups' high risk drinking occasions across occasion types. Approximately 60% of high risk occasions among older females involve no on-trade drinking compared to approximately 35% among younger males. This is primarily due to a much higher prevalence of high risk drinking with partners among older age groups. While pre-loading before 'big nights out' by younger drinkers has attracted substantial attention, it is noteworthy that substantial proportions of high risk drinking occasions among older age groups also involve a mixture of off- and on-trade drinking.

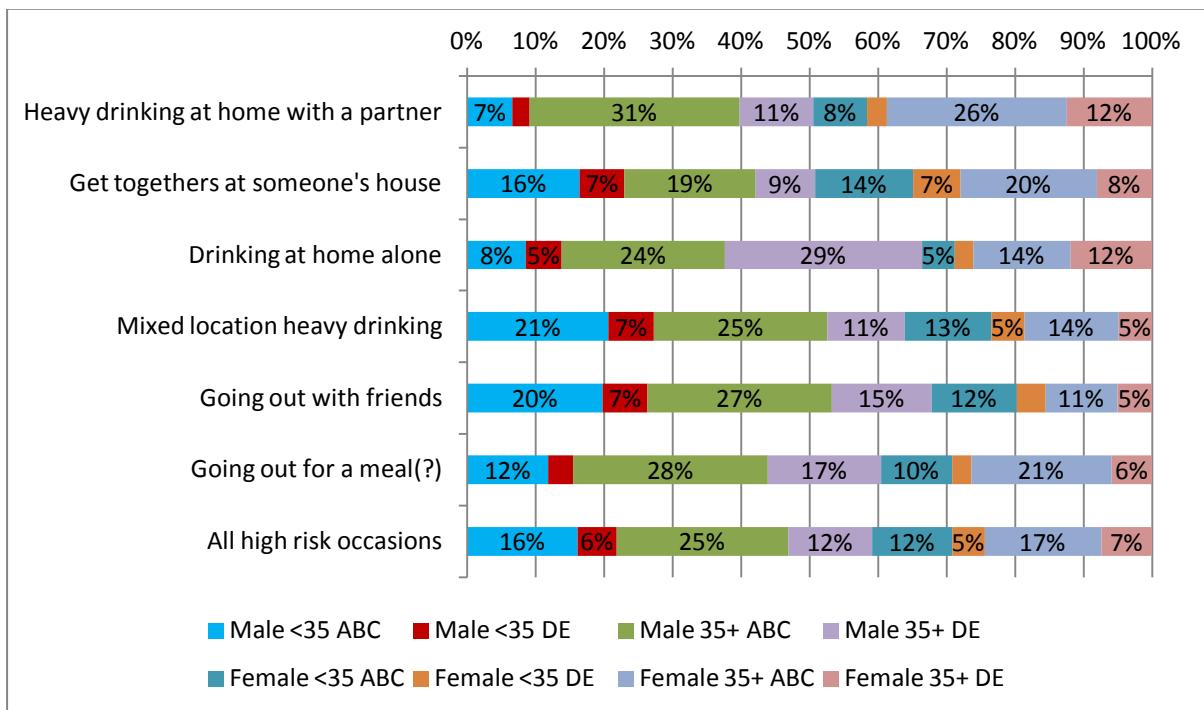


Figure 4: Distribution of high risk drinking occasions across sociodemographic groups

Note: For clarity, percentages are not shown where values are less than 5%.

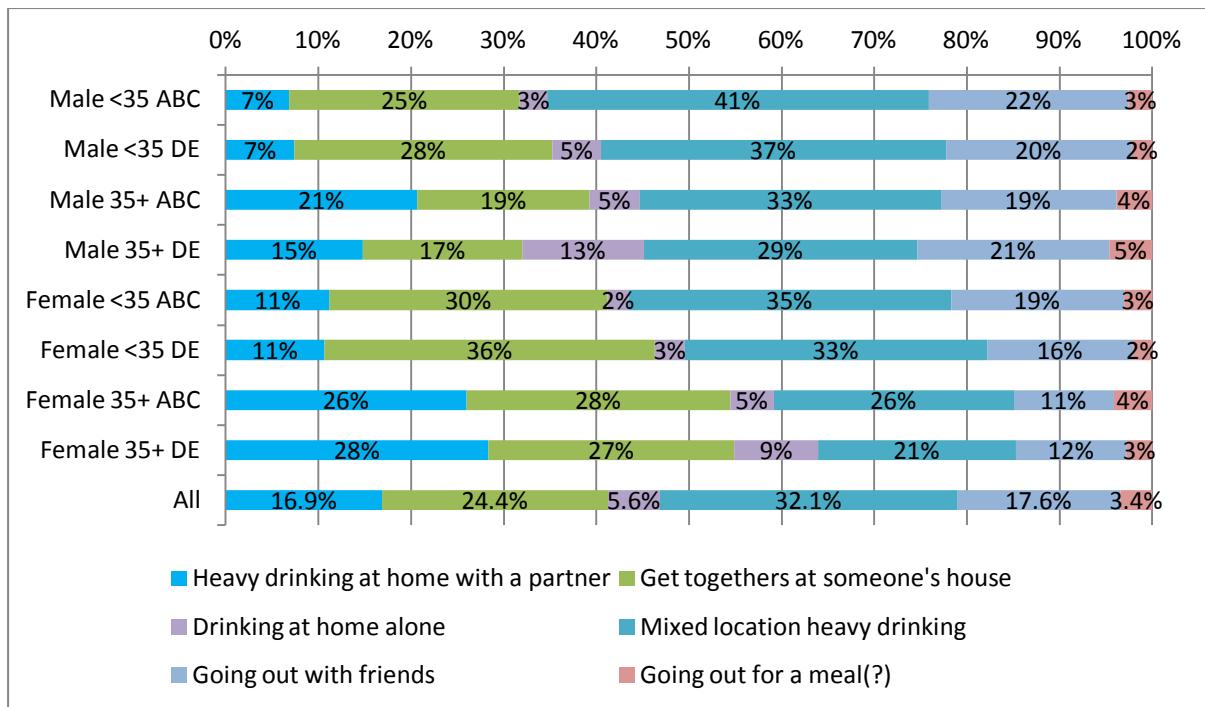


Figure 5: Composition of sociodemographic groups' high risk drinking occasion types

For each occasion type, **Figure 6** and **Figure 7** show the mean units consumed by beverage for the eight sociodemographic groups. Again, evidence of social patterning is present and the key differences between sociodemographic groups are:

- Across most occasion types and independent of other sociodemographic characteristics, lower socioeconomic groups consume more on average per occasion than higher socioeconomic groups, male drinkers consume more per occasion than female drinkers and younger drinkers consumer more per occasion than older drinkers.
- On-trade drinking by males, and particularly males in lower socioeconomic groups, is dominated by beer for all occasion types. For females, there is more diversity with on-trade spirits less likely to be consumed during family occasions and higher mean consumption of on-trade wine among women in higher socioeconomic groups.
- For off-trade drinking, female consumption is dominated by wine and this increases with age and with higher socioeconomic status. In this

case, it is among males where more diversity is found with the dominant beverage seemingly dependent on the sociodemographics of the drinker and the nature of the occasion.

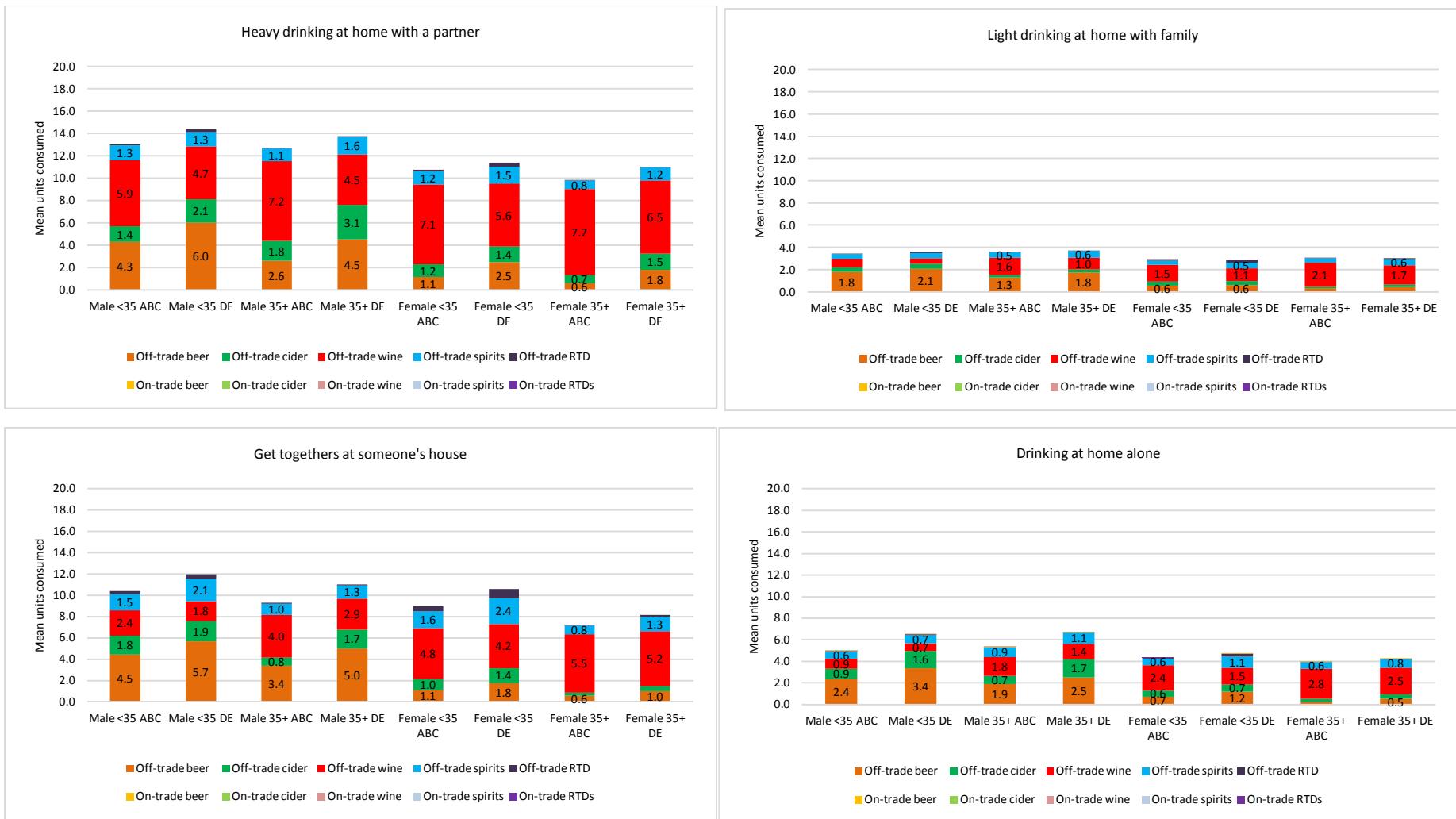


Figure 6a-d: Mean units consumed on different occasion types by sociodemographic group



Figure 7a-d: Mean units consumed on different occasions types by sociodemographic group

3.3. Typologies for population subgroups

3.3.1. Challenges

Given the observed differences between sociodemographic groups in the distribution of their occasions across types, an analysis was conducted to examine whether substantially different occasion typologies would be derived for each sociodemographic group. A number of challenges emerged from using this approach.

First, subgroup latent class analysis typically follows a systematic process where assumptions of model homogeneity between subgroups are relaxed and statistical tests are used to assess whether permitting greater heterogeneity across groups has improved model fit. However, as described in the methodology, model fit statistics were uninformative due to the high volume of data available. This meant a systematic attempt to test how different the typologies may be for different sociodemographic groups was not possible. Instead, we sought to simply create new typologies for each group and assess differences between the models by visual comparison.

Second, the lack of model fit statistics means the pragmatic decision to model eight occasion types for each subgroup was retained. In some cases this hindered interpretation of the results as there was evidence that occasion types from the population-level typology had been separated into two subtypes for some sociodemographic groups but were retained as one type in other groups. This made direct comparison across sociodemographic groups difficult.

Third, it was not always clear whether occasion types which were only observed within certain sociodemographic groups truly represented a unique occasion type for this demographic or whether relatively similar occasions had been teased apart differently within each group's model.

These challenges mean the results presented below should be considered exploratory. In the discussion section of this report, we make suggestions for future research which might examine in more detail how these data the differences occasion types across population subgroups.

3.3.2. Results

Across all sociodemographic groups, three broad types of occasion were identified: *Domestic get togethers with friends and family*; *Nights out*; and *Drinking at home*. The same broad types can be seen in the population-level typology. These broad types can then be separated into occasion types which vary across sociodemographic groups to greater or lesser degrees and these variations are described below. A full summary of the occasion types are provided in Table 9 to Table 12 and the full results are provided in Appendices 4a-4i which can be downloaded separately. Descriptions of each broad occasion type follow the tables.

A residual category was also created for occasions that didn't fit comfortably within the three broad types or which only appeared in the typology of a single demographic group. Although not discussed further here, these occasions should not be ignored as they provide insights into minor but specific features of the British drinking culture (e.g. drinking alone in the on-trade among older males of lower socioeconomic status). However, considering them directly alongside other occasion types highlights some of the problems with this exploratory analysis which are discussed above and, therefore, the discussion below focuses on occasions fitting within the three broad types.

3.3.2.1. *Domestic get togethers with friends and family*

For younger drinkers (i.e. aged under 35), these occasions can be classified as two types primarily distinguished by whether they are likely to be low risk (*light drinking at someone's house*) or increasing and high risk (*heavy drinking at someone's house*). The lighter drinking version accounts for between 14% and

18% of younger drinkers' occasions and mean consumption levels vary between 9.3 and 10.1 units. The heavier drinker version accounts for between 11% and 16% of young drinkers occasions and mean consumption levels are very high, varying between 13.9 units and 19.6 units. In total, this means such exclusively off-trade get togethers account for over a quarter of younger drinkers' occasions, rising to a third of occasions (34%) among younger females from lower socioeconomic groups. The motivations, reasons and temporal features of these two occasion types are fairly similar but differences include the heavier drinking versions tending to be longer and more likely to be described as to have a laugh or a celebration. The lighter drinking versions tend to be shorter and are more likely to be seen as quiet nights in.

For drinkers aged 35 and over, only a single occasion type was identified, a few *drinks at someone's house* and accounted for 11% to 15% of occasions. This covered low, increasing and high risk drinking occasions with mean consumption low at between 3.0 and 4.0 units. Drinking with family was more common in older groups and motivations, which also differed from those of young people, and included a wish to bond or spend quality time with people. However, these motivational differences may also reflect more general differences across age groups in behavioural motivations and how these are described. In this older age group, female consumption became more focused on wine with other beverages less common but still occasionally consumed.

3.3.2.2. *Nights out*

All sociodemographic groups drank outside domestic settings and, in some cases, these occasions also included off-trade drinking. For younger drinkers, nights out fell into two types which account for approximately equal shares of their occasions: *going out with friends* and *nights out with pre-loading*. Whereas exclusively off-trade get togethers with friends and family accounted for between 26% and 34% of younger drinkers' occasions, these nights out

account for between 18% and 31%. Both are more likely to involve increasing or high risk drinking than low risk drinking with mean consumption levels on *going out with friends* occasions varying between 8.8 and 12.5 units and *nights out with pre-loading* occasions involving mean consumption levels between 13.8 and 17.4 units. Between 41% and 50% of these pre-loading occasions involve high risk drinking and this is in line with prior evidence suggesting young people drink greater quantities of alcohol if they pre-load (Craig et al., 2012, Foster and Ferguson, 2013, Østergaard and Bastholm Andrade, 2013, Østergaard and Skov, 2014). These generally high mean consumption levels across both kinds of nights out again raise questions about claims that the on-trade provides an environment for moderated drinking. Aside from the pre-loading element and higher consumption levels, there are few differences between these occasion types. Surprisingly, *going out with friends*, which does involve pre-loading, is likely to be the longer of the two occasion types and this is perhaps reflected in the greater citation of 'going clubbing' as a reason for the occasion, as clubbing typically stretches into the early hours of the morning. It is noteworthy that, although RTDs, spirits in general and on-trade spirits in particular account for a small proportion of the alcohol consumed within this the whole Alcovision dataset, they are a relatively common drink choices for young women in these two occasions.

For older drinkers, nights out looked different and were less common, accounting for between 6% and 22% of each group's occasions. Two very different types of occasion were identified: *a few drinks at the local* and *mixed location heavy drinking*. The former was the more common, accounting for between 10% and 12% of occasions, and was exclusively on-trade. Although more likely to involve low risk drinking, it also commonly involved increasing or high risk drinking and mean consumption levels varied between 5.7 and 9.6 units. Compared to the fairly mixed beverage choices of younger males on nights out, older males largely stuck to beer. *Mixed location heavy drinking* accounted for 6% to 10% of occasions among older drinkers and involved a

mixture of off-trade and on-trade drinking, often leading to increasing or high risk consumption levels with mean consumption levels between 11.2 and 16.1 units. The occasions were diverse in motivation and reason and spread across the day. While there was clear evidence that older drinkers also pre-load before nights out, a behaviour more commonly associated with young people, it was also clear that this occasion type covered a range of other reasons for combining on-trade and off-trade drinking. Examples may include going out for a meal during the day and drinking after coming home and having a night-cap after a night out.

3.3.2.3. Drinking at home

Drinking at home alone, with family or with a partner was commonplace across all sociodemographic groups and there were large similarities in the types of occasion identified across groups. Therefore, the population-level typology may capture the nature of these equations adequately. However, there was some evidence that older drinkers were more likely to regard these occasions as everyday or regular consumption; perhaps reflecting that their consumption is more concentrated in such occasions.

In each group, *light drinking at home with a partner* and *drinking at home alone* were identified; although for older drinkers an additional type of *a few drinks at home with a partner* provided a heavier drinking version occasion type. Older drinkers also had a further occasion described here as *light drinking with the family*. The characteristics of these types of occasions are fairly similar and the primary differences are in who is present and the quantity of alcohol consumed (which has a necessary relationship with the duration of the occasion). As seen in the population-level typology above, where these occasions involve high risk drinking, this is generally occurring among older drinkers.

Table 8: Description of occasions based around domestic get togethers with friends

Broad types	Domestic get togethers with friends and family											
Subgroups	Male <35 ABC	Male <35 DE	Female <35 ABC	Female <35 DE	Male <35 ABC	Male <35 DE	Female <35 ABC	Female <35 DE	Male 35+ ABC	Male 35+ DE	Female 35+ ABC	Female 35+ DE
% of subgroup's occasions	11%	12%	13%	16%	18%	14%	18%	18%	11%	14%	15%	15%
Mean units	17.9	19.6	13.9	16.0	9.3	10.1	7.0	7.8	3.8	4.0	3.0	3.1
Occasion types	Heavy drinking at someone's house				Light drinking at someone's house				A few drinks at someone's house			
	<p>These occasions involve increasing ($p=0.50-0.60$) or high risk ($p=0.40-0.50$) drinking at the home of the respondent ($p=0.49-0.53$) or someone else ($p=0.49-0.51$) with friends ($p=0.64-0.82$), family ($p=0.23-0.38$) or partners ($p=0.23-0.40$). Drinking with family or partners is more slightly common among females than males and high risk drinking is more common among lower socioeconomic groups. These occasions provide opportunities to have a laugh ($p=0.34-0.42$) and wind down or chill out ($p=0.19-0.25$) as part of a sociable get together ($p=0.20-0.25$), catch-up ($p=0.15-0.20$) or celebration ($p=0.09-0.14$). Despite the quantity of alcohol consumed some young women also describe these occasions as quiet nights in ($p=0.15$). Occasions like this most often occur on Friday or Saturday ($p=0.52-0.57$) and commonly start in the early ($p=0.42-0.49$) to mid-evening ($p=0.26-0.33$), although many also start in the afternoon ($p=0.16-0.21$). In line with these various start times, many occasions last 1-3 hours ($p=0.64-0.69$), but others last 4-6 hours ($p=0.22-0.24$) or more ($p=0.08-0.13$). All beverage types are commonly consumed with women preferring wine ($p=0.51-0.67$) and males preferring beer ($p=0.56-0.62$) and spirits popular with both sexes ($p=0.28-0.35$).</p>				<p>Low risk ($p=1.00$) with family ($p=0.22-0.50$), friends ($p=0.44-0.73$) or partners ($p=0.22-0.29$) at the home of the respondent ($p=0.42-0.56$) or someone else ($p=0.36-0.48$). Drinking with friends rather than family is more common among males in lower socioeconomic groups. These occasions allow drinkers to wind down or chill out ($p=0.21-0.27$) and have a laugh ($p=0.16-0.22$) in a sociable get together ($p=0.13-0.16$), a quiet night in ($p=0.14-0.21$) or a catch up ($p=0.13-0.16$). These occasions may happen any day but Friday and Saturday are more common ($p=0.44-0.46$) and they are generally short, lasting less than 3 hours ($p=0.90-0.94$) and often less than an hour ($p=0.36-0.44$). They generally start early ($p=0.31-0.37$) or mid-evening ($p=0.13-0.34$) but can start in the afternoon ($p=0.21-0.25$) or after 10pm ($p=0.08-0.13$). Males generally drink beer on these occasions ($p=0.57-0.58$) although female choices are more mixed including wine ($p=0.34-0.47$), spirits ($p=0.20-0.23$) and beer ($p=0.18-0.21$).</p>				<p>A mixture of low ($p=0.54-0.58$), increasing ($p=0.27-0.31$) and high risk ($p=0.12-0.16$) drinking with friends ($p=0.52-0.60$), family ($p=0.44-0.54$) or partners ($p=0.22-0.31$) at the house of the respondent ($p=0.35-0.53$) or someone else ($p=0.43-0.59$). Drinkers use these occasions to spend quality time with people ($p=0.15-0.23$), to have a laugh ($p=0.19-0.24$) and bond with others ($p=0.11-0.19$) as part of a sociable get together ($p=0.25-0.45$). Males in lower socioeconomic groups also see these occasions as quiet nights in ($p=0.12$) and family and friends dropping round ($p=0.11$). They are most commonly Friday or Saturday ($p=0.43-0.48$) and Sunday ($p=0.24-0.25$) occasions and may start any time from lunchtime ($p=0.13-0.16$) through to afternoon ($p=0.13-0.15$), early evening ($p=0.39-0.44$) and mid-evening ($p=0.26-0.27$). Although a small proportion last more than 3 hours ($p=0.10-0.16$), these occasions are generally shorter and many last less than an hour ($p=0.26-0.32$). Men generally drinking beer ($p=0.49-0.58$) or wine ($p=0.30-0.46$) on these occasions whereas women usually drinking wine ($p=0.66-0.77$). Both sexes occasionally drink spirits ($p=0.17-0.24$).</p>			

Table 9: Description of occasions based around nights out

Broad types	Nights out															
Subgroups	Male <35 ABC	Male <35 DE	Female <35 ABC	Female <35 DE	Male 35+ DE	Male <35 ABC	Male <35 DE	Female <35 ABC	Female <35 DE	Male 35+ ABC	Female 35+ ABC	Female 35+ DE	Male 35+ ABC	Male 35+ DE	Female 35+ ABC	Female 35+ DE
% of group's occasions	14%	15%	11%	11%	13%	15%	16%	12%	7%	12%	10%	11%	10%	8%	6%	6%
Mean units	12.5	12.2	8.8	8.9	11.0	16.8	17.4	13.8	14.7	9.6	5.7	6.5	13.9	16.1	11.2	12.3
Occasions	Going out with friends				Nights out with pre-loading				A few drinks at the local				Mixed location heavy drinking			
	<p>Low ($p=0.34-0.45$), increasing ($p=0.33-0.42$) and often high risk ($p=0.22-0.24$) drinking with friends ($p=0.86-0.93$) in mixed sex ($p=0.67-0.74$) or same sex groups ($p=0.18-0.30$), often in town ($p=0.29-0.33$) or city centres ($p=0.32-0.36$). Males are more likely to be in same sex groups. These occasions are to have a laugh ($p=0.40-0.49$) and bond with others ($p=0.15-0.17$) during a sociable get together ($p=0.28-0.33$), a big night out ($p=0.12$), going clubbing ($p=0.11-0.14$) or a celebration ($p=0.07-0.19$). These occasions are generally on Fridays or Saturday ($p=0.52-0.64$), start during the evening ($p=0.69-0.74$) or after 10pm ($p=0.17-0.23$) and are lengthy occasions, often lasting four or more hours ($p=0.33-0.41$). The men drink beer ($p=0.67-0.68$) or spirits ($p=0.30$) and the women drink any of spirits ($p=0.51-0.52$), wine ($p=0.22-0.29$), beer ($p=0.21-0.23$) or RTDs ($p=0.21-0.23$).</p>				<p>These are occasions for high ($p=0.41-0.50$), increasing ($p=0.33-0.38$) and, less often, low risk ($p=0.17-0.22$) drinking with friends ($p=0.81-0.98$) split between the home of respondents ($p=0.45-0.61$) or someone else ($p=0.39-0.52$) and town ($p=0.26-0.31$) or city centres ($p=0.27-0.36$). Drinking in single gender groups at some stage is common ($p=0.23-0.41$) although mixed sex drinking dominates ($p=0.70-0.79$). These occasions are slightly different for lower socioeconomic women but they are generally to have a laugh ($p=0.43-0.70$), wind down or chill out ($p=0.12-0.27$) and bond with others ($p=0.17-0.24$). Some also see it as a chance to recharge or invigorate ($p=0.06-0.18$) or let go ($p=0.11-0.14$). These are sociable get togethers ($p=0.31-0.35$), catch-ups ($p=0.14-0.22$) and the home drinking is often a drinking before going out ($p=0.29-0.55$). Friday and Saturday is the most common day ($p=0.57-0.71$) and they are usually 1-3 hours ($p=0.87-0.89$) starting from early ($p=0.48-0.55$) to mid-evening ($p=0.23-0.36$). At home, the women drink wine ($p=0.36-0.44$) and spirits ($p=0.31-0.48$) but in the on-trade phase focus more on spirits ($p=0.39-0.54$) with wine ($p=0.15-0.28$) and RTDs ($p=0.13-0.21$) also being drunk. Men drinking primarily beer in both off- ($p=0.58-0.61$) and on-trade ($p=0.59-0.64$) with spirits ($p=0.20-0.22$) the second choice in both cases.</p>				<p>Generally low ($p=0.50-0.68$), but occasionally increasing ($p=0.23-0.37$) or high risk ($p=0.09-0.14$) drinking with friends, ($p=0.58-0.87$), family ($p=0.09-0.38$) or partners ($p=0.14-0.26$) in village locals ($p=0.26-0.30$) or town centres ($p=0.22-0.23$). Higher socioeconomic males are more likely to be with friends in all male groups ($p=0.41$). These occasions are to have a laugh ($p=0.17-0.25$), spend quality time with someone ($p=0.03-0.17$) or bond with others ($p=0.10-0.18$) as part of a sociable get together ($p=0.33-0.42$). They can happen any day but particularly Friday or Saturday ($p=0.44$) for 1-3 hours ($p=0.74-0.76$) starting in the afternoon ($p=0.29-0.35$) or evening ($p=0.62-0.65$). The men almost exclusively drink beer ($p=0.85$) while the women drink wine ($p=0.41-0.52$) or beer ($p=0.32-0.33$) and less often spirits ($p=0.17-0.24$).</p>				<p>Often high ($p=0.29-0.38$) or increasing risk ($p=0.42-0.48$) drinking with groups of friends ($p=0.059-0.67$), partners ($p=0.42-0.56$) or family ($p=0.29-0.37$) as well as alone ($p=0.14-0.32$) at various locations including the home of the respondent ($p=0.70-0.75$) or someone else ($p=0.21-0.31$) and village locals ($p=0.20-0.30$) or town centres ($p=0.20-0.25$). These occasions are a chance to wind down or chill out ($p=0.38-0.39$), have a laugh ($p=0.23-0.30$) and spend quality time with people ($p=0.20-0.26$) as part of a sociable get together ($p=0.33-0.39$), drinking before going out ($p=0.16-0.20$) or after being out ($p=0.012-0.17$) and a quiet night in ($p=0.11-0.14$). These are often Friday or Saturday occasions ($p=0.47-0.53$) although sometimes Sunday ($p=0.14-0.17$) and, while they typically last 1-3 hours ($p=0.84-0.91$), they can start any time from lunchtime ($p=0.11-0.20$) through to mid evening ($p=0.16-0.17$), although mid evening is most common ($p=0.45-0.57$). At home, men drink beer, ($p=0.52-0.60$), wine ($p=0.22-0.32$) or spirits ($p=0.17-0.19$) but stick to beer in the on-trade ($p=0.74-0.78$). At home, women drink wine ($p=0.52-0.61$), spirits ($p=0.23-0.27$) or beer ($p=0.20-0.21$), with a similar mix in the on-trade and wine ($p=0.27-0.40$) most common.</p>			

Table 10: Description of occasions based around drinking at home

Broad types	Drinking at home																					
Subgroups	Male <35 ABC	Male <35 DE	Female <35 ABC	Female <35 DE	Male 35+ ABC	Male 35+ DE	Female 35+ ABC	Female 35+ DE	Male 35+ ABC	Male 35+ DE	Female 35+ ABC	Female 35+ DE	Male <35 ABC	Male <35 DE	Female <35 ABC	Female <35 DE						
	Male 35+ ABC	Male 35+ DE	Female 35+ ABC	Female 35+ DE									Male 35+ ABC	Male 35+ DE	Female 35+ ABC	Female 35+ DE						
% of group's occasions	17%	11%	23%	18%	10%	21%	21%	11%	10%	7%	15%	11%	11%	13%	14%	19%						
	25%	15%	16%	22%									8%	11%	13%	20%						
Mean units	5.9	7.3	5.1	5.9	12.7	8.1	6.0	11.1	3.6	6.8	4.1	3.0	5.1	6.6	5.3	6.8						
	3.5	2.8	2.5	2.8									4.4	4.7	4.0	4.2						
Occasions	Light drinking at home with a partner				A few drinks at home with a partner				Light drinking with the family				Drinking at home alone									
	<p>For older drinkers these are low risk ($p=1.00$) drinking occasions although younger drinkers drink at increasing ($p=0.20-0.25$) or high risk ($p=0.05-0.10$) levels. These occasions are for drinking with partners ($p=0.82-1.00$) at home ($p=0.93-0.98$) to wind down or chill out ($p=0.29-0.56$) and spend quality time with someone ($p=0.14-0.24$). They are quiet nights in ($p=0.18-0.33$), spent as a couple ($p=0.21-0.36$), particularly for younger drinkers, while older drinkers also view them as everyday drinking ($p=0.23-0.27$). They are generally spread evenly throughout the week, although younger women are more likely to have these occasions on Friday or Saturday ($p=0.45$) and they start in early ($p=0.41-0.50$) or mid-evening ($p=0.23-0.50$), lasting for less than three hours ($p=0.89-1.00$) and often less than an hour ($p=0.29-1.00$); for methodological reason, this is particularly the case for older males in lower socioeconomic groups and older females in higher socioeconomic group (see also next column). Drinks consumed vary by age and gender but, except for younger males who commonly drink beer ($p=0.51-0.57$), wine is most common ($p=0.42-0.59$). Older females also drink spirits ($p=0.19-0.26$), while other groups second most common drink is beer ($p=0.19-0.35$).</p>				<p>These are characterised differently for older lower socioeconomic males and older higher socioeconomic females compared to the other two groups (see also previous column), but there remain similarities across groups.</p> <p>These are often increasing ($p=0.31-0.82$) or high risk ($p=0.07-0.25$) drinking occasions at home ($p=0.97-1.00$) with a partner ($p=0.83-1.00$). They provide an opportunity to wind down or chill out ($p=0.47-0.55$) and spend quality time with someone ($p=0.23-0.26$) as part of everyday drinking ($p=0.21-0.26$), a quiet night in ($p=0.29-0.36$) or staying in as a couple ($p=0.29-0.32$). These occasions happen throughout the week for most groups and typically last 1-3 hours ($p=0.75-0.91$) starting from early ($p=0.42-0.55$) or mid-evening ($p=0.32-0.41$). Males in lower socioeconomic groups drunk a mixture of beer ($p=0.45$), wine ($p=0.36$) and spirits ($p=0.45$) while other groups primarily drink wine ($p=0.67-0.74$).</p>				<p>These are generally low risk ($p=0.75-1.00$) occasions for home drinking ($p=1.00$) with family ($p=0.50-1.00$) or a partner ($p=0.11-0.57$). These occasions are for winding down or chilling out ($p=0.37-0.46$) via a quiet night in ($p=0.26-0.33$), everyday drinking ($p=0.18-0.21$). They can happen any day but are common on Sunday ($p=0.21-0.25$), and are generally short lasting less than three hours ($p=0.93-1.00$) and often less than an hour ($p=0.41-0.56$) starting from early ($p=0.35-0.52$) or mid-evening ($p=0.30-0.40$). Women primarily drink wine ($p=0.53-0.70$) and sometimes spirits ($p=0.17-0.25$) while men drink beer ($p=0.38-0.56$), wine ($p=0.26-0.42$) or spirits ($p=0.13-0.19$).</p>				<p>Generally low ($p=0.72-0.84$) but occasionally increasing ($p=0.12-0.20$) or high risk ($p=0.03-0.8$) drinking alone ($p=0.97-1.00$) at home ($p=0.96-1.00$). These are opportunities to wind down or chill out ($p=0.38-0.51$) and have time for oneself ($p=0.14-0.18$) on a quiet night in ($p=0.32-0.44$), as everyday drinking ($p=0.15-0.57$), rounding the evening off ($p=0.09-0.16$) and, for younger drinkers, a drink after work ($p=0.10-0.20$). These occasions happen on all days are generally short with most lasting less than three hours ($p=0.91-0.99$) and many less than one hour ($p=0.40-0.56$). They generally start during early ($p=0.29-0.5$) or mid-evening ($p=0.31-0.43$) but many also start after 10pm ($p=0.10-0.18$). For younger males, these are beer drinking occasions ($p=0.58-0.65$) while older males may drink beer ($p=0.42-0.44$), wine ($p=0.23-0.34$) or spirits ($p=0.23-0.24$). Women generally drink wine ($p=0.23-0.66$) or spirits ($p=0.18-0.29$) with the exception of younger lower socioeconomic status women who more often drink beer ($p=0.24$) or cider ($p=0.15$).</p>									

Table 11: Description of miscellaneous drinking occasions

Broad types	Miscellaneous occasions										
Subgroups	Male <35 ABC	Male <35 DE	Female <35 ABC	Female <35 DE	Male 35+ ABC	Female <35 ABC	Female 35+ ABC	Female 35+ DE	Male 35+ DE	Female <35 DE	
Male 35+ ABC	Male 35+ DE										
% of group's occasions	0.10	0.12	0.10	0.12	0.05	0.06	0.05	0.03	0.05	0.08	
Mean units	3.7	6.1	5.2	5.9	8.2	6.8	3.7	6.1	8.1	13.6	
Occasions	Light drinking in the on-trade			Going out as a couple			A few drinks alone at the pub			Heavy drinking in mixed locations	
	<p>This set of miscellaneous occasions involves generally low ($p=0.74-1.00$) but sometimes increasing ($p=0.00-0.18$) or high risk ($p=0.00-0.10$) drinking with a partner ($p=0.09-0.60$), friends ($p=0.08-0.48$), family ($p=0.18-0.38$) or alone ($p=0.00-0.27$). Males are more likely to drink alone older males are more likely to drink with partners. These occasions occur at village locals ($p=0.19-0.30$) and town ($p=0.19-0.29$) or city centres ($p=0.11-0.23$) for a wide range of motivations and reasons which vary across groups. They may occur any day although slightly more likely on Friday or Saturday ($p=0.34-0.39$) and are generally less than 3 hours ($p=0.88-0.96$) and sometimes less than an hour ($p=0.17-0.37$) starting particularly at mealtimes (e.g. lunchtime ($p=0.21-0.34$) and dinnertime ($p=0.320,40$)). Males predominantly drink beer ($p=0.68-0.79$) while females drink all types of drinks with wine ($p=0.30-0.40$) and beer ($p=0.31$), most common</p>			<p>These occasions may involve low (0.58-0.71), increasing ($p=0.21-0.29$) or high risk ($p=0.06-0.13$) drinking with a partner ($p=0.91-1.00$) in village locals ($p=0.23-0.35$), town centres ($p=0.15-0.22$), city centres ($p=0.10-0.23$) and occasionally also at home ($p=0.12-0.26$). Younger drinkers are particularly like to be drinking at home and in city centres. They are an opportunity to spend quality time with someone ($p=0.38-0.60$) and go out as a couple ($p=0.46-0.59$). They particularly occur on Friday or Saturday ($p=0.42-0.52$) and Sunday ($p=0.13-0.19$) and generally last 1-3 hours ($p=0.70-0.80$) starting at a range of times across the day but rarely after 10pm ($p=0.02-0.04$). Older drinkers are more likely to start these occasions at lunchtime. Drink choices vary widely by sociodemographic although wine ($p=0.20-0.46$) and beer ($p=0.25-0.66$) are most popular and only young women are likely to drink spirits ($p=0.24$).</p>			<p>Drinking at low ($p=0.62$), increasing ($p=0.28$) or high risk ($p=0.10$) levels alone ($p=0.98$) at a range of locations including town centres ($p=0.28$), retail parks ($p=0.18$) and village locals ($p=0.18$). These occasions are to wind down or chill out ($p=0.25$) and have time for oneself ($p=0.25$) with a quiet drink ($p=0.47$) as part of everyday drinking ($p=0.24$). These are particularly likely to be weekday occasions ($p=0.57$) lasting 1-3 hours ($p=0.64$) or less ($p=0.30$) and starting at lunchtime ($p=0.33$) or early evening, perhaps dinnertime ($p=0.29$). Beer ($p=0.80$) is the only common drink.</p>			<p>These diverse occasions often involve increasing ($p=0.40$) or high risk ($p=0.40$) drinking with a partner ($p=0.60$), friends ($p=0.50$) or family ($p=0.42$). They occur at a range of on- and off-trade locations but particularly the respondent's home ($p=0.67$) or other's homes ($p=0.25$) and all urban on-trade areas. Various motivations include spending time with someone special ($p=0.32$), winding down or chilling out ($p=0.31$) and having a laugh ($p=0.29$) for a wide range of reasons including catching up ($p=0.20$), having a sociable get together ($p=0.25$) and drinking before going out ($p=0.18$). They are often, but not only, Friday or Saturday occasions ($p=0.53$) lasting 1-3 hours ($p=0.91$) and starting early evening ($p=0.54$), although earlier starts are also common ($p=0.29$). All drink types, including RTDs are consumed in both the on-trade and off-trade with off-trade wine ($p=0.41$) and beer ($p=0.31$ and on-trade beer ($p=0.33$) the most common.</p>	

3.4 Influences on drinking occasions

To understand how the types of occasions interacted with other factors, including but not exclusively those related to policy, we drew on the focus group research. Participants described how different factors influenced the characteristics of their drinking occasions. These descriptions either emerged without prompting during the course of the focus groups, or as a response to the visual aid that listed possible influences on their drinking occasions. It was apparent that drinking occasions were shaped according to a complex interrelationship of different influences, which we categorised into three broad spheres: individual level (micro level); networks of family, friends and work (meso level); wider social and economic influences (macro level). We mapped how these influences affected particular characteristics of occasions, for instance the amount consumed, or location, in order to understand in more detail how drinking occasions are shaped. Below, we briefly describe and provide examples from the individual and family/friends/work spheres of influence before concentrating on those influences which operated at a broader socio-economic level, which may be of most relevance to policy-makers as these are often factors which can be influenced by public health interventions.

3.4.1 Individual-level influences

These were factors drawn from participants' own experiences or preferences which influenced particular characteristics of their occasions. This was often described in terms of 'knowing' one's own body and the physiological effects which resulted from drinking in certain ways. For example, participants spoke of not drinking certain drinks anymore because experience had taught them that it might have detrimental effects: "I'll generally not drink wine because that's what gives me really bad hangovers the next day, whereas if I stick to spirits I'm generally okay" (S1 FG1, female 25-34). One participant stated that he tried not to drink alcohol in the house as he didn't want to associate it with winding down or chilling out, and attributed this to the experience of having grown up living next door to a neighbour who was an alcoholic (S1 FG1, male 35-44).

3.4.2 Networks of family, friends and work

Participants cited immediate social networks as key influences on the nature of their drinking occasions. In particular, the people participants drank with appeared to be a key influence on other characteristics of the occasion. The most frequently cited example of this was that who you drank with influenced the amount of alcohol which was consumed. Typically, drinking with friends as opposed to one's partner or family resulted in more alcohol being drunk:

[a night out] depends on the company, like, if I'm going out with my friends, my girlfriends, then it could be quite a heavy drinking session, erm, and I'll really let my hair down. But if I'm going out with sort of my husband then I'm more sort of careful and I don't get as drunk, but when I'm with my friends I can really go crazy (Stage 1 FG1, female 25-34).

Mine sort of hinges on who I am with to be honest. If it was me and my partner in the house we probably wouldn't drink, I would rather have a couple with my tea but that is me relaxing with my partner. But say I have got friends around watching the football or things like that then we would have probably a few beers, and if it's a Friday or Saturday we would probably play it by ear. If we end up having a few and get the taste for it then we might end up having a pretty good drink, but again it all depends on whether it's with my mates, or like I say if my brother comes round we would normally have a couple, me and my brother but if it's my friends we might have 10-12 whatever if it's a Friday or Saturday (Stage 2 FG3, male 35-44).

Families generally acted as a constraining factor in participants' drinking occasions, such that occasions had to be planned so as not to prevent responsibilities such as childcare from being carried out effectively. These responsibilities typically impacted on the frequency of occasions and the amount consumed:

Oh definitely yes it's more, it's more just special occasions now and obviously sometimes on Saturday we'll have a bottle of wine, but probably wouldn't even finish a bottle because like I say, I'm always wary that I might need to

use the car or. But yes definitely I've changed since I had a child (S1 FG1, female 25-34).

Work commitments also impacted on occasions, typically affecting the amount consumed and the frequency and timing of occasions:

I don't drink during the week. It's Friday, Saturday mainly. Too much to drink and I wouldn't function at work the following day (S2 FG1, male 55-65)

Commitments to work and family were also interwoven with broader narratives of ageing and life course transitions, such that drinking more frequently and in greater amounts was associated with being younger and having fewer responsibilities:

The hangovers are getting more and more brutal as the years go on and I can't do it any more so I'd rather just either not go out on a week night or really rein in what I drink (S1 FG1, female 35-44).

I think you have to make a decision to drink regularly or go on holiday. For the average working man, a couple with kids or whatever ,do we drink every week or do we have a family holiday? So they are the biggest I suppose it goes on the change with age [doesn't] it, responsibilities? (S2 FG3, male 45-54)

3.4.3 Socio-economic influences

Participants described their drinking occasions as not only being shaped by individual factors and family, work and friendship networks, but also by broader socio-economic influences. Crucial for understanding the impact of these factors at an individual level is understanding their intersection with micro and meso level factors. The intersections of policy-relevant factors with micro and meso level factors were seen most prominently in the examples of price (including special offers), availability (in terms of proximity to pubs or supermarkets etc.) and health, and so we focus on these examples in our findings.

3.4.3.1 Price

Some participants explicitly stated that the relatively cheap cost of shop-bought alcohol as compared to on-trade prices influenced them to pre-load at friends' houses before going out. The quantitative data shows that these occasions involve higher mean consumption levels, however participants did not describe these occasions as opportunities to become intoxicated. Rather they talked about these occasions as opportunities to catch up with friends while being able to drink cheaply.

Me and my friend we always do that, we always have a drink while we're getting ready, erm, just like that lady said just because it makes it cheaper and you don't tend to even go out until maybe half past nine, ten o'clock. Just because it's quieter at home and you can have a chat before you sort of go down town where it's rowdy and noisy and then you're just sort of chatting with other people when you're out (S1 FG1, female 25-34).

Like this Saturday we're going out because of my friend's birthday, so I know we're going round to his house for pre-drinks and then we'll all go out. And I haven't seen him for quite a while, so I know we'll just get drunk every time... we tend to just sort of chill at someone's house and just drink and have a laugh because it's cheaper than going to the pub first, so it's always in someone's kitchen... Also it's better because you can sort of have a chat while you're doing it, and sort of catch up and have a laugh (S1 FG2, female 18-24).

Besides pre-loading occasions which were described by younger participants, participants of all ages spoke of how they often chose to drink at home because it was cheaper than going out.

It's not very often we go to pubs because of the prices. You know when you can go to the supermarket to buy alcohol dirt cheap, and it's always there in the house (S2 FG1, male 45-54).

Participants also perceived the relatively low cost of alcohol from supermarkets and the increase in home drinking as being part of changing trends:

I wonder if it's because the things have changed, the pubs have changed obviously they're not the same now as they used to be. And there aren't the pubs that there used to be any more. People, do they try and get drink in different ways 'cause it's more expensive to go to a pub now, so you're drinking at home, so you're drinking more at home because it's cheaper (S1 FG2, female 45-54).

And yes in the newsagents, alcohol is, and supermarkets it's really cheap (S1 FG2, male 25-34).

It's so cheap isn't it? (S1 FG2, female 45-54)

It's a lot cheaper than pubs, it's that gap between. And I guess I don't think that pubs have got necessarily got a lot more expensive in the last thirty years or so, but perhaps I think it's like the beers in supermarkets has got a hell of a lot cheaper (S1 FG2, male 25-34).

Cans of lager, if you can go out and get a crate of lager, 20 pack of lager for £10 and you're not even going to get 3 pints for that are you? So I think that is just forcing more and more people to drink at home than to go out (S2 FG1, male 35-44)

Participants spoke of how special offers and discounts in supermarkets influenced their purchase of alcohol and the quantities in which they bought it, although participants stated that this did not necessarily lead to them drinking more:

I only really buy alcohol if it's on offer and I don't really make a habit of buying a load of booze all the time. Erm in this instance it was a 4 for £5 offer

on bottled beer from Tesco, so we just got that to go with what we had for tea last night really (S1 FG4, female 18-24).

And does anybody else take advantage of special offers that they see in shops? (ML)

Oh yeah definitely. Erm like on Saturday we basically went to the off-licence, me and my boyfriend and we saw an offer for twelve cans of Stella, I can't remember how much it was but it seemed the cheapest at the point, the time, so we hadn't actually gone with the intention of buying twelve cans but it seemed the cheapest offer so we bought it (S1 FG4, female 18-24).

And it's the big offers and selling like eighteen cans of Stella for £10. People can't say no to that a lot of the time (S1 FG2, male 25-34).

Does that influence how much you buy when the special offers are on? (JH)

I think it does, but then I look at it and I'm like, well if I get this special offer today then I won't have to buy it for the next few times I go out, obviously depending on how much there is. But I won't necessarily get it to drink it all that night. I'll get it and then not have to buy it for a few weeks or whatever (S1 FG2, female 18-24).

The ways in which considerations of price affected participants' drinking occasions differed according to participants' drinking preferences and practices. As the female participant in the quotation below articulates, different people may rationalise their spending on alcohol differently, such that one person may have few occasions and not worry about the cost, while another person who drinks more frequently at home may drink less in on-trade locations because of the greater expense:

I probably drink more if I go to the pub because I don't go out that often and I don't think about cost, because I kind of think 'I don't go out that often I will drink what I want tonight'. Whereas if we are in the house my husband will drink excessively, he will probably drink three bottles of wine on his own, whereas he is like when he goes out he drinks less and more in the house and I am the other way around...Probably because he is tight, he thinks it cheaper to drink in the house, whereas when we go out he is conscious about how much money he is spending. Whereas I don't go out very often, I would rather spend a bit more, have a good night with my friends drink less in the house because if you balance it out you would probably end up spending the same amount a month on drink anyway but we just do it the opposite way round (S2 FG2 female 25-34).

3.4.3.2 Availability

Several participants attributed the increase in home drinking by themselves and others not only to price, but also to the increased availability of alcohol in supermarkets and other shops. Older participants also spoke in more general terms about their perceptions of how alcohol had become more available over their lifetime. One participant spoke of how she thought alcohol had become more available both in terms of it being sold in shops and supermarkets, but also how she thought there was now a greater choice of alcohol:

The other thing I think...is also the trends over the years, because sort of thirty years ago there wasn't a lot of wine around for the average person. It sort of, and the drinks people had was different so you know when I used to party a lot then, there were certain things we drank. But I think booze has become more readily available in terms of shops, supermarkets etc. but the range of booze is much greater. So I think that also has an impact (S1 FG3, female 55-64).

While there was a perception that availability in the off-trade was widespread and had increased, several participants discussed how the closure of local pubs

decreased local availability in the on-trade, which could incentivise people to drink at home:

Well I mean it's not perhaps mentioned up there but the fact that erm pubs are closing, I mean this is happening in my area and it can result in the nearest pub becoming further and further away and more inconvenient to get to. So I mean if you wanted to have a drink, I mean I guess there's all the more, what makes it an even stronger prompt to drink at home rather than go out of your way over an increasingly greater distance to find a pub (S1 FG2, male 55-64).

For others, not living near a pub might not encourage more home drinking, but simply result in fewer on-trade occasions:

I think for me it would probably mean that I'd go less often or I would have to have a different kind of night and like I say not drink. If it's for something important then you still make an effort don't you because it's a social thing but I'd probably go less often if it's just for the sake of going on a Friday night (S1 FG3, male 25-34).

I live quite close to two pub restaurants. So we go out to eat reasonably frequently and therefore might have a drink with food (S1 FG4, female, 55-64).

Okay so if you didn't have those nearby? (ML)

Wouldn't go to them. When we didn't live there we didn't go to pubs at all. And we couldn't afford to in those days (S1 FG4, female, 55-64).

3.4.3.3 Health

The intersection of participants' personal experiences and family and other social networks were also seen for other factors relating to policy. For instance, while some participants had heard of the UK lower risk drinking guidelines, few adhered to them. Many participants demonstrated an awareness of the potential harms caused by alcohol, but this awareness was filtered through their own experiences and circumstances. For instance, one participant reported that she had anxiety, and this was a reason why she tried not to drink too much (S1 FG1 female, 25-34). Another participant drew on his experiences of having a mother who he described as an alcoholic to justify his claims that he 'knew the limits' and 'knew the damage' alcohol could do:

Erm I don't mind saying that my mother was an alcoholic until sort of like ten years ago. So I'm well aware of, you know, what drink can do and the damage it can do and she had problems with her liver and all kinds of things...so erm it's interesting because I don't feel like I've got any strong beliefs or strong sort of rules about drinking and perhaps that's because I've seen what it can do if you are an alcoholic, and so I know the limits, and you know if you're drinking sort of at home excessively then obviously that's one of the warning signs and stuff, so perhaps I don't know maybe that's just educated me. I promise I do drink responsibly [laughs] and I don't drink a lot, so maybe that's part of it, I don't know (S1 FG3, male 25-34).

3.5 Summary

Participants' drinking occasions were shaped by a number of factors which intersected with each other in complex ways. For instance pre-loading occasions were valued for how they combined socialising with friends in a quiet home environment, with drinking relatively cheap alcohol. This complexity has implications for policy interventions designed to influence the characteristics of drinking occasions and suggests that, although robust evidence exists on the likely effects of policies at the population level and, in some cases, on groups of the population, the effects on specific drinking occasions by specific groups are likely to be more

complex to predict. If highly specific changes in drinking cultures are required, qualitative narratives such as those provided above may help inform understanding of which interventions are likely to achieve the desired effects and what barriers and facilitators may exist.

4. Discussion

4.1. Summary of results

The above results demonstrate it is possible to construct a typology of British drinking occasions based on detailed consumption diary data. Eight distinct types of occasion can be identified, although this number was selected based on pragmatic rather than statistical considerations, and most occasion types are straightforward to translate from statistical data to textual description which have face validity with focus groups participants. The eight main occasion types and the proportion of occasions they account for are:

- Heavy drinking at home with a partner (9.4%)
- Light drinking at home with family (12.8%)
- Get togethers at someone's house (14.4%)
- Drinking at home alone (13.6%)
- Mixed location heavy drinking (10.4%)
- Light drinking at home with a partner (19.6%)
- Going out with friends (11.1%)
- Going out for a meal (?) (8.6%)
-

From these headline results, we highlight and explore four key points. Firstly, pathologising the British drinking culture by characterising it as drinking to intoxication and excess is a representation which is not substantiated by the evidence presented in this study. 66.1% of occasions within our dataset involve low risk drinking and almost half (46.2%) of all occasions are characterised as home drinking with little evidence of heavy drinking occurring within these types. Although not a culture of exclusive moderation, this is equally not consistent with a culture of excessive consumption. It may be more appropriate to consider the culture as

comprised of several subcultures, some of which contain elements of excess. While we did not aim to assess the position of Britain within the national drinking cultures literature, our results point towards other subcultures being closer to the socially integrated, frequent but moderate drinking traditionally associated with countries such as France and Italy than is commonly acknowledged in policy debate.

Second, drinking at increasing and high risk levels occurs in a diverse set of occasions. These include *mixed location heavy drinking* (32.1% of high risk occasions), *get togethers at someone's house* (24.4%), *going out with friends* (17.6%) and *heavy drinking at home with a partner* (16.9%). This diversity illustrates that the heavy drinking aspects of British drinking culture extend well beyond caricatures of youth binge drinking in urban centres. Several of these occasion types have attracted little attention within public and policy debate or the research literature. For example, mixed location heavy drinking is widely recognised in youth pre-loading before nights out but less attention has been paid to similar pre-loading behaviour in older drinkers or to a diverse set of other occasions falling within this type where high consumption levels are achieved by accumulating drinks in on- and off-trade locations over an extended period of time. Similarly, heavy drinking during *get togethers at someone's house* are largely unacknowledged by commentators and there has been little study of these occasions which are likely to include house parties, dinner parties and a range of less formal gatherings.

Third, high risk occasions are found across all age, sex and socioeconomic groups but the majority occur within those aged over 35 and of high socioeconomic status. This is partly because this group is less likely to be abstinent and more likely to drink frequently; however, it also appears to reflect a higher propensity for high risk consumption within this group compared to other demographics.

Fourth, drinkers of lower socioeconomic status have fewer occasions but consume more per occasion. Analyses of the relationship between alcohol consumption, alcohol-related mortality and socioeconomic status have consistently shown that mortality rates are highest in the lowest socioeconomic groups despite these groups

being less likely to drink and having lower mean consumption levels if they do so (Mäkelä and Paljärvi, 2008, Marmot, 2010, Centre for Public Health, 2015). Our results point to one potential explanation for this paradox. While we did observe that drinkers of lower socioeconomic status had fewer drinking occasions on average, for every occasion type and for each age and sex group, these drinkers consumed more on average per occasion than drinkers of higher socioeconomic status. This suggests that one cause of higher alcohol-related mortality in lower socioeconomic groups may be the higher levels of intoxication reached by these groups when they do drink. Attempts to provide information on the risks associated with specific consumption patterns or drinking occasions using epidemiological data on alcohol-related health risks have generally been limited, and our analysis suggests that improving understandings of occasion-specific risks may provide valuable insights into the excess risk of harm experienced by some groups.

Typologies were also successfully derived for subgroups of the population defined by age, sex and socioeconomic status. As with the population-level typology, most occasion types identified by these analyses can be translated into textual characterisations which have face validity with drinkers. However, the analytical process for these subgroup typologies had several challenges and the results are regarded as exploratory. In the directions for further research below, we discuss potential routes for overcoming these challenges.

4.2. Limitations

The dataset used in this study is unusual within alcohol research and presented several challenges. The volume of data was large and comprised 187,878 drinking occasions nested within 60,215 individuals. This required a substantial period of computing time to process. For example, derivation of the population-level typologies necessitated running the analysis over a weekend on a standard computer. This limited the extent of experimentation with different model specifications which could be undertaken. Model run-times were reduced by running preliminary analyses on random samples of the data covering approximately 500-5,000 occasions but the much-reduced sample size prevented exploitation of the full power of the dataset and had limited value for designing our

final analysis. The volume of data also prevented effective use of model fit statistics as models of unwieldy complexity (e.g. 20 or more latent classes) continued to deliver meaningful improvements in model fit. This had two implications. First, a pragmatic decision based on parsimony and interpretability was required regarding the number of latent classes (occasion types) to include in our typologies. Second, formal statistical procedures for assessing differences in typologies between subgroups of the population could not be used and differences between groups were only investigated by visual comparison of results.

The data were also collected by a market research company for commercial rather than scientific purposes. The measures included in the dataset were often markedly different to those typically found in the alcohol research literature (e.g. alcohol consumption was measured in 'serves' and questions and responses around motivations for drinking were rooted in commercial needs rather than being based on validated instruments linking to psychological constructs). Many of the variables used also had a far greater number of categories than would be considered viable in epidemiological research and many of the categories would not be chosen if designing a survey for alcohol policy analysis with a public health focus. Although this presented challenges, it should be stressed that no publicly available UK dataset would have allowed an analysis of this type to be conducted. Specifically, the UK lacks a large sample consumption diary dataset which gives representative coverage of all days of the week and provides detailed contextual information on drinking occasions including both epidemiological data (e.g. amount consumed, location, those present) and psychological data (e.g. motivations, attitudes).

One of the greatest obstacles to satisfactory characterisation of drinking occasions and, potentially, to robust derivation of a typology, was the lack of data on whether alcohol was being consumed alongside food and whether on-trade locations were restaurants. Clearly a common type of drinking occasion is 'drinking with a meal' and we were not able to reliably identify this occasion type. As a proxy, we paid particular attention to occasions where there were increased

probabilities of starting consumption at mealtimes and particularly at lunchtime when drinking is uncommon unless food is being consumed.

As with all alcohol consumption data, Alcovision under-estimates alcohol consumption when compared with sales data for reasons including sampling biases (particularly underrepresentation of difficult to reach but high or low consuming populations), intentional and unintentional inaccuracies in reporting of consumption by respondents and inaccurate conversion of reported consumption into units of alcohol by the research team. This will affect the parameters of the latent class model and the consumption levels associated with each occasion. It is likely that the degree of effect will vary across sociodemographic groups due to their varying drinking patterns, beverage preferences and socio-psychological characteristics but the nature of this variation is not well-understood in the research literature currently. In future research we intend to examine how the consumption distribution for the population and population subgroups within Alcovision varies when compared to other major UK surveys.

Finally, the data cover the period 2009 to 2011. Alcohol consumption has fallen by more than 5% since this period with particularly sharp falls in young people's drinking (British Beer and Pub Association, 2013, Health and Social Care Information Centre, 2014). Although this does not invalidate our findings and focus groups conducted with drinkers identified no serious problems with the typology, the validity of the model as a description of current British drinking cultures should not be overstated. The need for publicly available data allowing easy updating of such models is discussed below.

4.3. Implications for research

We have positioned this study within the research literature on societal drinking cultures as reviewed by Room and Mäkelä (Room and Mäkelä, 2000). This presents some challenges as our model is not of British drinking cultures per se but of the drinking occasions which are a key and observable manifestation of those cultures. Several characteristics of British drinking cultures are not observable via drinking occasions but are regarded as important within the research literature for

describing a culture. These include behaviour while intoxicated and the position of the drinker, drinking group or drinking occasion relative to broader social and cultural contexts. These dimensions are of particular interest from a public health and policy perspective as both the acute health risks and the consequences for social order are determined by the behaviour that occurs while intoxicated. For example, heavy drinking at home may be viewed as a lower priority problem for public health and social order if the intoxication is not associated with increased risk of violence and the drinker is relatively sedentary and at low risk of injury. Conversely, reasons why youth binge drinking has attracted more attention than other heavy drinking occasions include the public visibility of drunkenness, the resulting perceived and actual associations with violence, disorder and irresponsibility and the general tendency of societies to pathologise youth behaviours while overlooking or condoning similar behaviour among older adults(Holloway and Valentine, 2003, Smith, 2013). Therefore, future research supplementing our typology with data on the nature of intoxicated behaviour and social attitudes towards different occasion types may be beneficial for both understanding and prioritising policy responses.

Despite these considerations, we argue our typology of British drinking occasions substantially advances research on national drinking cultures, particularly where the interest is in how culture manifests as behaviours with consequences for public health and social order. Along with Mustonen et al.'s typology of Finnish drinking occasions, (Mustonen et al., 2014) we demonstrate that national drinking cultures can be represented by a quantitative model with greater detail than has previously been achieved. Below we briefly discuss how this development may provide directions for future research in two areas: development of the model of drinking occasions and applications to alcohol policy analysis.

To further develop the typology of drinking, better understanding of the nature of each occasion is required. As discussed above, the measures on which occasions are characterised are selected for commercial market research purposes and do not align consistently with measures used within behavioural psychology, public health and other research literature on drinking cultures. Further research could

address this via targeted study of each occasion type. For some types, this has already begun with a body of quantitative and qualitative literature accumulated on young people's nights out (Christmas and Seymour, 2014, Dietze et al., 2014, Sunderland et al., 2014) and there is also a much smaller and emerging qualitative literature on adult home drinking (Emslie et al., 2014, Emslie et al., 2012, Brierley-Jones et al., 2014). However, for most occasion types further qualitative and quantitative study is required. Qualitative models for this are provided by the work of Carol Emslie and colleagues whose studies of middle-aged men and women's drinking practices address a series of occasion types and provide important data for validating our analysis (Emslie et al., 2012, Emslie et al., 2013, Emslie et al., 2014, Lyons et al., 2014). Retrospective surveys of specific types of drinking occasions provide one option for quantitative research; however, a more innovative approach is to adopt the real-time reporting of drinking occasions via smart phones which have been used in several recent studies (Labhart et al., 2013, Kuntsche and Labhart, 2012, Monk and Heim, 2014). This method avoids recall biases associated with retrospective surveys by collecting data *in situ* and also allows for more accurate monitoring of the developing context of the drinking occasion.

Characterisation of different aspects of drinking cultures could also be developed further by applying market segmentation techniques to specific occasion types and constructing, for example:

- Typologies of high risk occasions;
- Typologies of drinking occasions where children are present;
- Typologies of occasions leading to hospital admission (e.g. by collecting data on admission).

Finally, development of statistical methods to address the challenges of conducting market segmentation research on very large datasets would allow for further understanding of how drinking occasions vary across society and the extent to which British drinking cultures are characterised by a largely homogeneous typology of drinking occasions which are shared to greater or lesser degrees by the whole population or, alternatively, a set of heterogeneous typologies with substantial variations across the population.

To further develop the typology for use specifically in alcohol policy analysis, a number of steps would be beneficial. The collection of equivalent publicly available data would be an important first step. Kantar's Alcovision dataset is inaccessible to most researchers and policy analysis generally requires regular updating of data to allow analysis of the current context. Second, understanding the relationship between policy interventions and drinking occasions would be facilitated by, for example, before and after studies assessing how occasion typologies change after an intervention is introduced. Third, greater understanding of this relationship between policy and occasions could be elicited by international comparison of drinking occasions within different regulatory structures and collaboration on data collection across countries would facilitate this. Finally, relatively little is known regarding the relationship between specific drinking occasions and specific alcohol-related health and social outcomes. Development of methods to derive occasion-specific risk estimates would be valuable for policy analysis tools such as the Sheffield Alcohol Policy Model (Brennan et al., 2013, Brennan et al., 2014).

4.4 Implications for policy

As discussed in the introduction to this report, alcohol policy debate is often framed by perceptions of a drinking culture and, typically, pathologization of that culture. While recognising that our typology of drinking occasions requires development to incorporate a full description of Britain's drinking cultures, we argue it points towards new opportunities for alcohol policy analysis.

Firstly, the typology provides an opportunity for more systematic consideration by policy makers and stakeholders in policy debate of what it is about the culture they wish to change. Rather than generalising about the nature of British drinking cultures, our typology allows for specification of which cultural features are problematic. For example, a policy maker may specify that they are not concerned about the number of high risk drinking occasions in general but specifically about those high risk occasions by young people in the on-trade as they regard these as a threat to social order. Alternatively, it may be argued that addressing occasions where couples drink at increasing or high risk levels at home is

a policy priority as these occasions have not been sufficiently addressed by policy to date. By providing a detailed characterisation of the occasions where different kinds of drinking occur, the typology further limits the scope for policy actors to claim to be addressing a particular problem with a narrow range of solutions (e.g. addressing excessive drinking with policies only targeting drinking in public spaces by young people).

The typology also invites commentators to suggest the kind of drinking culture they believe Britain should aspire to. If the problematic cultural features can be identified using the typology, a commentator should also be able to specify parameters for the model which would represent an acceptable drinking culture. This would enable a shift in policy discourse away from the general yearning for a more continental drinking style described by Room (Room, 1992), and towards a clear description of what alcohol policy is seeking to achieve. The Government's Alcohol Strategy aligns with much policy discourse by discussing its aims in only relative terms (e.g. a reduction in the number of people 'binge drinking', a reduction in the number of adults drinking above the NHS guidelines) but offers little in absolute terms regarding how big a reduction would be enough (HM Government, 2012). In essence we argue that by inviting commentators to specify the parameters of an acceptable model of British drinking occasions, we invite them to implicitly answer the question: how much of a reduction in alcohol-related harm would be enough?

Finally, the typology provides new opportunities for evidence-informed policy making and policy evaluation. While alcohol policy decisions are generally subject to evaluation against metrics of alcohol consumption and related harm among various groups within society, these metrics rarely take account of the complexity of drinking behaviours which policies are seeking to address. Claims are often made that interventions are too narrowly focused on segments of the population or particular drinking behaviours but there is insufficient evidence to quantify the extent to which this limits their potential impact. By segmenting the drinking occasions of different sections of society and the occasions on which different kinds of drinking take place, the typologies presented above provide clear data to support understanding of the potential effectiveness of different policy options. For

example, if a policy maker aims to reduce high risk drinking but only introduces interventions affecting young people drinking in pubs and bars, the proportion of high risk drinking which would be affected can be calculated and, with supporting evidence on policy effectiveness, the potential overall effect on alcohol consumption could also be derived. Moreover, the specific types of high risk drinking which would not be affected can also be identified.

Currently, the alcohol policy evaluation literature offers relatively little quantitative data on the impact of policy options on different drinking behaviours. Developing an evidence base is an important research priority. At present, non-evaluation quantitative evidence (e.g. surveys of drinking behaviours and their motivations) can provide some useful data. However, qualitative evidence, including the results of the focus group research in this project, can provide particular insight into the interactions between policy interventions and behaviour and may aid development of logic models allowing for hypothesising of which types of policies would affect which types of occasions. More generally, models of how policies are theorised to impact behaviour are likely to offer insights into which types of drinking occasion will be affected to greater or lesser degrees. Policy makers and stakeholders should be encouraged to provide and engage with these types of evidence when contributing to policy debate to demonstrate how proposed or implemented interventions will tackle specific problems identified and allow for these claims to be robustly scrutinised and evaluated.

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Appendix 1: stage 1 focus group discussion guide

Introduction and warm-up

Ask people to introduce themselves – tell us your name and in no more than a couple of minutes, describe the last time you had an alcoholic drink.

Part 1

Once everyone has done this, explain that I'm going to ask one person to describe the last drinking occasion they had in greater detail, and while they're speaking I want everyone else to think about how their own drinking experiences compare. E.g. in which ways are they similar, in which ways are they different? Please feel free to respond to anything the person says.

Moderator prompts:

[if necessary]

- Think about the last time you drank alcohol – can you describe the occasion?
[What you drank, where, who with, how much and what the motivations for drinking were]
- make sure that participants are discussing on and off trade drinking occasions.
- Where do you buy the alcohol from and why?
- Why is that the time you have a drink?
- Why do you meet there?
- Why do you drink less on certain occasions and more on others?
- Do you drink differently depending on who you are drinking with? If so, why?
- Do your drinking occasions change when you are on holiday?
- Do your drinking occasions change at different times of the year?
- Can you describe a perfect night out / night in?

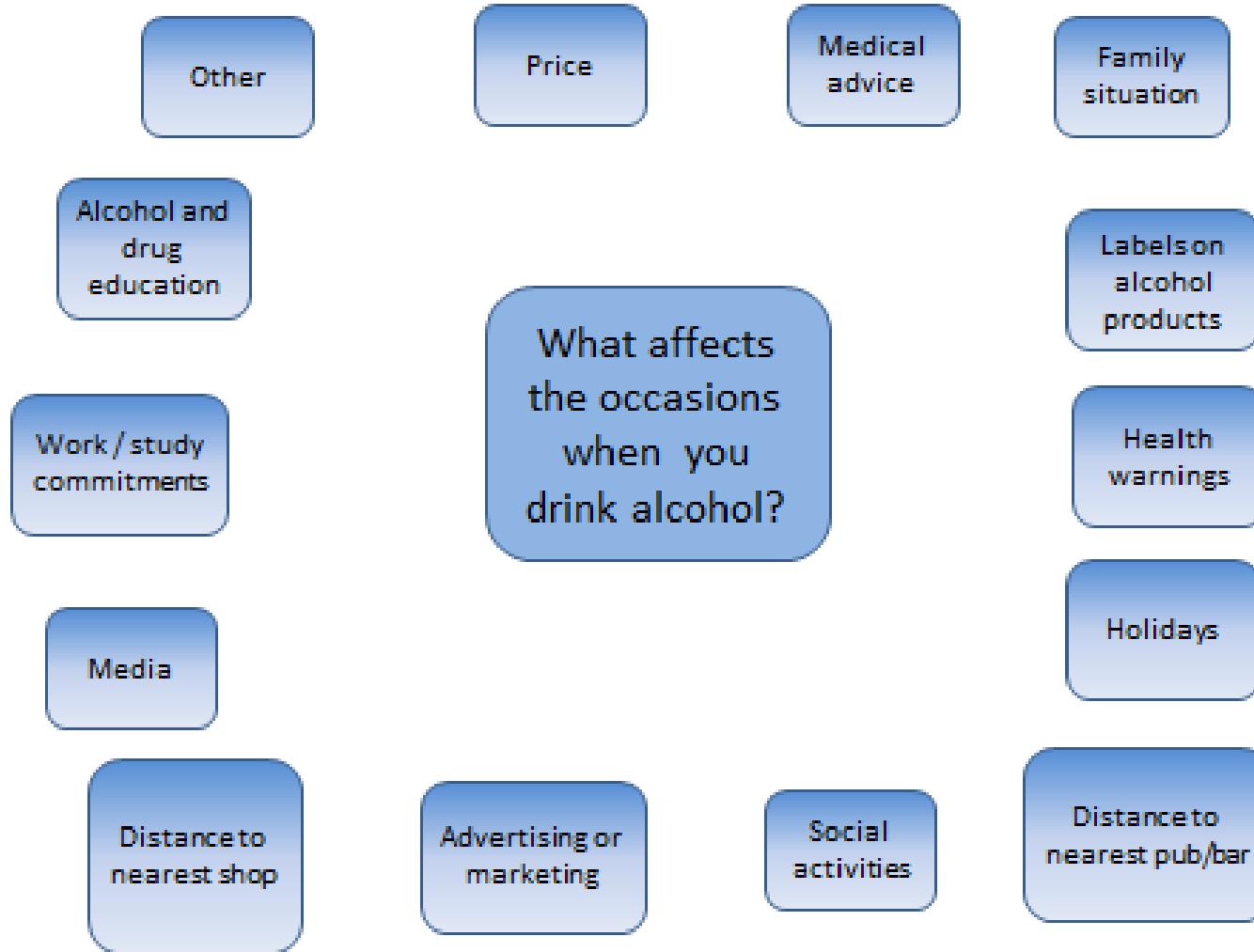
Part 2

Looking at the visual aid, do any of these factors influence the times/occasions on which you drink alcohol? Are there any other things that affect the nature of your drinking occasion?

Moderator prompts: [if necessary]

- For instance, do you stick to a certain amount of money for particular drinking occasions?
- Are there any aspects of your lifestyle which affect the ways in which you drink?

Appendix 2: visual aid of influences on drinking occasions



Appendix 3: stage 2 focus group discussion guide

Introduction and warm-up

Ask people to introduce themselves – tell us your name and in no more than a couple of minutes, talk about the typical ways in which you drink, e.g. where you normally drink, who with, what you drink etc.

Part 1: personas

Show participants personas relevant to their demographic. Ask them to reflect on them: how realistic do they seem? Do they drink like that? Why / why not? How do they drink differently? Are the influences on drinking in the personas similar to the influences on their own drinking? Explore.

Part 2: different types of drinking occasion

Show participants the different types of drinking occasion we have identified from survey data for their demographic. Do they drink in these ways? Do they have any drinking occasions which don't fit into one of the types? Can they describe them?

Part 3: influences on drinking occasions

Looking at the visual aid, do any of these factors influence the times/occasions on which you drink alcohol? Are there any other things that affect the nature of your drinking occasion?

Moderator prompts: [if necessary]

- For instance, do you stick to a certain amount of money for particular drinking occasions?
- Are there any aspects of your lifestyle which affect the ways in which you drink?