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# Do drinking occasion characteristics differ across individuals using different moderation approaches? A social practice perspective

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#### Do drinking occasion characteristics differ across individuals using different moderation approaches? A social practice perspective

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#### **ABSTRACT**

Background: Limiting alcohol consumption is challenging as alcohol often serves as a 'social lubricant' in drinking practices. While individuals adopt different behavioral approaches to reduce drinking, it remains unclear how they align their drinking behaviors with moderation goals.

Aim: This study utilizes a unique dataset that captures detailed information about the characteristics of drinking occasions, encompassing key theoretically-informed elements of (social) drinking practices. The aim is to investigate whether drinking occasion characteristics differ: (i) between individuals trying to moderate their drinking and those who are not; (ii) among four subtypes of drinkers using different approaches to moderation: reducing drinking occasions, consuming smaller-sized drinks, limiting the number of drinks, or employing a mixed approach, including alcohol-free drinks.

Method: Data from a large British cross-sectional survey of 101,461 regular drinkers, detailing 307,175 drinking occasions, were analyzed. Participants reported on the context of these occasions and on whether, and how, they attempted to moderate their drinking. Random intercept models examined how the probability of reporting specific occasion characteristics varied across moderation approaches, and between moderators and non-moderators.

Findings: While few differences were found between moderators and non-moderators, substantial heterogeneity emerged when comparing individuals using different moderation approaches. Notably, approaches involving smaller-sized or nonalcoholic drinks were more frequently reported in social settings, suggesting that self-control approaches are particularly useful in managing social pressure.

**Conclusions:** Different moderation approaches are associated with distinct drinking occasion characteristics. These findings highlight the importance of tailoring moderation guidance to the specific contexts in which individuals typically consume alcohol.

#### **ARTICLE HISTORY**

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#### **KEYWORDS**

Moderation strategies; alcohol consumption; social practices; drinking behavior; random intercept models

#### 1. Introduction

Alcohol consumption, especially when frequent and in high doses, is a major risk factor for global disease and mortality, making it a critical public health concern (World Health Organization 2018). Despite growing awareness and motivation to reduce alcohol consumption, reductions among high-risk drinkers remain limited (Case et al. 2021), highlighting the need for deeper insights into how individuals attempt to moderate their drinking habits.

Moderating alcohol consumption is challenging for several reasons, including alcohol's role as a 'social lubricant' and its centrality in social practices, such as 'wine o'clock' or 'birthday celebrations' (Meier et al. 2018). These practices foster a sense of belonging and social ties, with refusing to drink often perceived as rejecting the group's social norms (Bartram et al. 2017).

To provide a comprehensive understanding of alcohol use, researchers have increasingly adopted a practicebased framework that conceptualizes alcohol consumption as a diverse and socially embedded phenomenon, rather than focusing solely on individual determinants of drinking behavior (Shove et al. 2012; Meier et al. 2018). Within this framework, drinking occasions are

considered repeated social interactions, or drinking practices, that carry symbolic meanings (e.g. celebrating events) and occur within specific social and physical contexts. Specifically, within the theoretical framework outlined by Shove et al. (2012), drinking practices are shaped by the interplay between: symbolic meanings (e.g. sharing experiences, celebrating events); material elements (i.e. equipment and resources); and individual competencies (e.g. managing intoxication levels, brand awareness, or round-buying). Additionally, individual states (e.g. gender composition, mood) and the temporal positioning relative to other activities (e.g. eating or working) (Meier et al. 2018; Stanesby et al. 2019) are also important factors. While the theory emphasizes social contexts, drinking alone can also be understood within this framework, with the practice being shaped by individual factors such as personal meaning (e.g. relaxation), material choices (e.g. type of drink), and competencies (e.g. self-regulation), while still reflecting broader social norms or cultural expectations around drinking.

A practice-based framework may be particularly useful for studying alcohol moderation behaviors, as alcohol moderation is both a complex and socially embedded behavior. Sasso et al. (2022) showed there are different approaches or strategies that individuals may use when attempting to moderate drinking. For example, to avoid negative social conflicts or similar consequences, individuals may either avoid occasions where they would be tempted to drink excessively, or use self-control mechanisms within drinking occasions (e.g. substituting alcohol with nonalcoholic drinks) to moderate their drinking. Using Latent Class Analysis (LCA) on a large British survey dataset, Sasso et al. (2022) identified four distinct approaches to moderation among individuals seeking to reduce their alcohol consumption: (a) a pre-commitment approach of reducing the number of drinking occasions per week (29%); two 'self-control' approaches within drinking occasions based on (b) having smaller drinks (28%) or (c) having fewer drinks (5%); and (d) a mixed approach, combining these moderation techniques with substantial use of no- or low-alcohol drinks (38%). Their analysis revealed that the pre-commitment group had lower overall weekly alcohol consumption but higher consumption per occasion compared to the 'self-control' groups. The mixed-approach group reported the lowest weekly consumption. Sasso et al. (2022) hypothesized that different consumption patterns might be explained by these groups' exposure to social pressure and temptation to drink. However, they did not examine the relationship between individuals' moderation approaches and drinking practices, which can be measured at the event level using drinking occasion characteristics.

Bartram et al. (2017) argued that interpersonal practices are flexible and can be modified to accommodate people trying to reduce their alcohol consumption. In a qualitative study, they interviewed 16 individuals who reduced their alcohol consumption to investigate how these individuals integrated moderation into their social practices. In line with Sasso et al. (2022), some individuals adopted minor moderation approaches such as consuming nonalcoholic or smaller drinks during their usual drinking practices. These adjustments allowed them to maintain their existing social relationships without altering the expected social practices. In contrast, such minor moderation approaches were difficult to implement in contexts where the alcoholic content of the drink was central to the meaning of the social practice (e.g. drinking games) or during prolonged drinking sessions where others became intoxicated. Perceived differences in intoxication levels led to feelings of disconnection or difficulty engaging in social interactions.

#### 1.1. Contribution and aim of this study

Drinking occasions are specific instances of drinking within broader practices, have observable characteristics—such as group size, location, and drink type—that can be measured using event-level data. These characteristics reflect the immediate context of the drinking event, helping to capture both the social and physical elements of drinking practices. Whilst recent studies have used event-level data to explore the characteristics of heavy drinking occasions (Stanesby et al. 2019), none of these has explored how individuals align their drinking practices with their moderation goals.

The study uses a large survey containing unique event-level information on a range of drinking occasion characteristics of British adults. The data capture key elements of social practice theory, including the physical contexts (location, trade sector), the social contexts (group composition), the temporal aspects (starting time, day of the week, duration and accompanying activities), the symbolic meaning of the occasion (e.g. 'big night out' or 'special celebration') and material factors (type of drink consumed) involved in drinking occasions. This event-level survey data may offer deeper insights into how moderation approaches are integrated into individuals' drinking practices.

Specifically, this study will address two key questions: (i) Do drinking occasion characteristics differ between individuals attempting to moderate their drinking and those who are not? and (ii) Do drinking occasion characteristics vary across the different moderation approaches identified by Sasso et al. (2022)?



Understanding these relationships is essential for promoting less harmful drinking patterns and strengthening preventive efforts. It is important to note that, while there are other moderation approaches, such as protective behavioral strategies (PBSA) which aim to reduce alcohol-related consequences (e.g. having a designated driver or drinking water before bed), this study focuses specifically on moderation approaches aimed at reducing the quantity of alcohol consumed. This distinction is crucial, as it directly relates to the health impacts of alcohol, particularly regarding consumption levels, rather than secondary effects such as harm reduction.

#### 2. Materials

Cross-sectional data was collected between 2013 and 2019 through the Alcovision survey, conducted by market research company Kantar. This large-scale study surveyed approximately 30,000 adults (18+) living in Great Britain each year, using quota sampling based on sex, age, region, and socio-economic class information from online access panels. The survey covers every day of the year to ensure consistent coverage throughout the year. Further details of the survey design can be found in Stevely et al. (2021).

Respondents completed an online drinking diary, providing detailed information about all of their drinking occasions in the week prior to the interview. For each drinking occasion, they reported the location, the strength, type and size of drinks consumed, other people present, the meaning that the drinking occasion had for them (recognizable drinking occasions such as big night out, or special celebration), the activities undertaken while drinking (e.g. reading, watching TV or going to a live music event), the time, duration and date of the occasion. Individuals were also asked 'Are you trying to moderate the amount of alcohol you drink these days? (no/yes)' and about what moderation techniques they used (see measures Section 3.2). The dataset has previously been used to study drinking behaviors in the context of social practice theory, as it contains unique event-level information on a broad range of drinking occasion characteristics (e.g. Holmes et al. 2023). Our sample consisted of 307,175 drinking occasions reported by 101,461 regular drinkers, defined as individuals who reported drinking more often than once a month on an annual basis (for more information on the sample, please refer to Appendix A)<sup>1</sup>.

#### 3. Measures

This section presents all variables used in the statistical analysis, organized as follows: drinking occasion characteristics (the outcome or dependent variables), the moderation approach (the predictor of interest), and other personal characteristics (control variables). The exact coding of these variables is detailed in Appendix B.

#### 3.1. Drinking occasion characteristics

In this section, we describe the occasion characteristics that encompass the main elements of drinking practices as outlined by social practice theory (Shove et al. 2012; Maller 2015; Meier et al. 2018; Hennell et al. 2020, 2023). The appropriateness of these measures has been validated in previous studies (e.g. Holmes et al. 2023).

Social and physical context of the drinking occasion: Two sets of binary variables describe the number of people present (e.g. drinking alone, in pairs, or in groups) and the type of relationship with those present (e.g. friends, relatives, partners, colleagues, or others). Additionally, the sets of variables capturing location (e.g. own home, pub, club) and the trade sector (off-trade, on-trade, or a mixture of the two) define the physical context of the drinking occasion. The trade sector is used to describe whether alcohol is consumed in licensed premises such as pubs and restaurants (on-trade sector), or in unlicensed premises such as homes (off-trade sector).

Material factors: These include a categorical variable capturing the main type of beverage consumed (e.g. beer, cider, wine, or spirits) and a continuous variable measuring the units of consumption (1 UK unit = 8 grams of alcohol).

Meaning is captured by a set of dummy variables describing recognizable drinking occasions (e.g. big night, special celebration, quiet drink).

Temporalities: Three nominal variables describe the duration of the drinking occasion (in hours), the starting time (e.g. afternoon or earlier, evening, night), and the day of the week (weekday; Friday-Saturday; or Sunday).

Accompanying routine activities while drinking: are described through binary variables (e.g. having a meal, watching TV, pub quiz, playing a game).

#### 3.2. Attempts to moderate drinking

#### 3.2.1. Moderation indicator

A binary variable, moderating, identifies individuals attempting to reduce their alcohol consumption (coded as 1) versus those with no current goals to reduce or abstain from drinking.

 $<sup>^{1}</sup>$ The average weekly consumption in the sample was 25.2 UK units (SD =25.7) (1 UK unit = 8g alcohol).

#### 3.2.2. Moderation approaches

Individuals attempting to moderate their alcohol consumption may report using one or more of the following moderation techniques over the week: 'drinking on fewer occasions', 'having fewer drinks on occasions when they do drink', 'using smaller serving sizes', 'opting for lower alcohol drinks', 'consuming soft drinks', and 'consuming other nonalcoholic drinks'. Using these techniques as separate predictor variables does not provide a full understanding of how individuals combine these techniques simultaneously and over time. Therefore, in line with Sasso et al. (2022), we used LCA to identify four approaches to moderation: 'fewer drinking occasions' (32.7%), a pre-commitment approach focused on reducing the number of drinking occasions per week without reducing consumption within occasions; two self-control approaches within drinking occasions: 'smaller drinks' (5.5%) and 'fewer drinks' (32.5%); 'mixed (soft drinks)' (29.4%), a mixed approach involving both pre-commitment and selfcontrol techniques, making substantial use of low-alcohol/soft drinks. We use a categorical variable to capture the individual classification into one of four possible moderation approaches. The technical details for the LCA models are provided in Appendix C.

### 3.3. Socio-demographics and other individual characteristics

To account for individual differences we use variables capturing: age (categories: 18-25; 26-30; 31-40; 41-50; 51-60; and over 60), sex, household composition (whether the respondent has a cohabiting partner, and the number of children in the household), social grade (measured with the National Readership Survey classification: DE, the lowest grade; C1; C2; and AB, the highest grade), region, and usual drinking frequency (1-2 times per week, 3-5 times per week, or 6-7 times per week). We also include variables indicating the month and year when the respondent was surveyed to account for seasonal and temporal variation. Existing literature has shown that these variables are important predictors of drinking behaviors (see, e.g. Sasso et al. 2022) and are therefore potential confounders of the relationship between moderation approaches and drinking practices. The exact coding of these variables is also reported in Appendix B.

#### 4. Statistical methods

We use random intercept models to examine the associations between moderating behaviors and drinking

occasion characteristics. Specifically, we estimate two sets of models:

- The first set of models tests the difference in the probability of reporting each occasion characteristic between individuals who attempt to moderate and those who do not (first research question)
- ii. A second set of models assesses differences in the probability of reporting each characteristic among individuals using different approaches to moderation (second research question)

For both (i) and (ii), we estimate as many statistical models as there are occasion characteristics. The outcome variables in these models are the occasion characteristics, and the conditioning variables include the approach to moderation grouping variable and other personal characteristics. For the first set of models, the moderation variable of interest is a binary indicator (1 = moderating; 0 otherwise). In the second set of models, this is replaced by a categorical variable capturing the different approaches to moderation based on the LCA as reported in Sasso et al. (2022).

Each model is estimated separately for each occasion characteristic (the dependent variables of interest). Random intercept models exploit the nested structure of the data (i.e. individuals reporting multiple occasions within the 7-day period) to account for individual-specific unobserved factors that are constant over time. These models are described in detail in Appendix C.2. Regarding the models' specification, we adopt logit models for occasion characteristics measured with binary variables, multinomial logit models for nominal variables and linear regression models for continuous variables.

The analytic sample includes both individuals attempting to moderate their drinking and those not attempting to reduce their drinking, with the latter serving as the comparison group, as our focus is on moderation approaches. We use sampling weights to address potential representativeness issues arising from quota sampling. A detailed explanation of the sampling weights procedure for this dataset is provided in Stevely et al. (2021). Finally, we perform a range of sensitivity analyses to ensure the robustness of the results with respect to the risk of misclassification, as discussed in Appendix E. One such analysis replaces the latent moderation approaches with separate (observable) moderation technique indicators, which checks that the results remain consistent with the primary approach based on identifying latent classes of moderation approaches that comprise multiple moderation techniques (see Table E1 in Appendix).

Table 1. Descriptive statistics of individual-level characteristics.

Binary variables  Female  Age (18–25)  Age (26–30)  Age (31–40)  Age (41–50)  Age (51–60)  Age (61+)  Social grade AB (highest)  Social grade C1  Social grade C2  Social grade DE (lowest)  Cohabiting Partner  Drinking Frequency (1–2 times/week)	% 40.9 12.6 7.4 16.7 18.2 15.9 29.2 26.0 30.2 23.6 20.3 63.4 53.1 31.1	% 44.8 11.7 8.2 18.7 20.4 16.2 24.8 26.7 31.7 21.9 19.7 64.3 46.9	Statistically different  *  *  *  *  *  *  *  *  *  *  *  *  *
Age (18–25) Age (26–30) Age (31–40) Age (41–50) Age (51–60) Age (61+) Social grade AB (highest) Social grade C1 Social grade C2 Social grade DE (lowest) Cohabiting Partner Drinking Frequency (1–2 times/week)	12.6 7.4 16.7 18.2 15.9 29.2 26.0 30.2 23.6 20.3 63.4 53.1	11.7 8.2 18.7 20.4 16.2 24.8 26.7 31.7 21.9 19.7 64.3	* * * * * * * * * *
Age (26–30) Age (31–40) Age (41–50) Age (51–60) Age (61+) Social grade AB (highest) Social grade C1 Social grade C2 Social grade DE (lowest) Cohabiting Partner Drinking Frequency (1–2 times/week)	7.4 16.7 18.2 15.9 29.2 26.0 30.2 23.6 20.3 63.4 53.1	8.2 18.7 20.4 16.2 24.8 26.7 31.7 21.9 19.7 64.3	* * * * * * * * * *
Age (31–40) Age (41–50) Age (51–60) Age (61+) Social grade AB (highest) Social grade C1 Social grade C2 Social grade DE (lowest) Cohabiting Partner Drinking Frequency (1–2 times/week)	16.7 18.2 15.9 29.2 26.0 30.2 23.6 20.3 63.4 53.1	18.7 20.4 16.2 24.8 26.7 31.7 21.9 19.7 64.3	* * * * * * * *
Age (41–50) Age (51–60) Age (61+) Social grade AB (highest) Social grade C1 Social grade C2 Social grade DE (lowest) Cohabiting Partner Drinking Frequency (1–2 times/week)	18.2 15.9 29.2 26.0 30.2 23.6 20.3 63.4 53.1	20.4 16.2 24.8 26.7 31.7 21.9 19.7 64.3	* * * * * * *
Age (51–60) Age (61+) Social grade AB (highest) Social grade C1 Social grade C2 Social grade DE (lowest) Cohabiting Partner Drinking Frequency (1–2 times/week)	15.9 29.2 26.0 30.2 23.6 20.3 63.4 53.1	16.2 24.8 26.7 31.7 21.9 19.7 64.3	* * * * * *
Age (61+) Social grade AB (highest) Social grade C1 Social grade C2 Social grade DE (lowest) Cohabiting Partner Drinking Frequency (1–2 times/week)	29.2 26.0 30.2 23.6 20.3 63.4 53.1	24.8 26.7 31.7 21.9 19.7 64.3	* * * *
Social grade AB (highest) Social grade C1 Social grade C2 Social grade DE (lowest) Cohabiting Partner Drinking Frequency (1–2 times/week)	26.0 30.2 23.6 20.3 63.4 53.1	26.7 31.7 21.9 19.7 64.3	* * * *
Social grade AB (highest) Social grade C1 Social grade C2 Social grade DE (lowest) Cohabiting Partner Drinking Frequency (1–2 times/week)	30.2 23.6 20.3 63.4 53.1	31.7 21.9 19.7 64.3	* * *
Social grade C2 Social grade DE (lowest) Cohabiting Partner Drinking Frequency (1–2 times/week)	23.6 20.3 63.4 53.1	21.9 19.7 64.3	* *
Social grade C2 Social grade DE (lowest) Cohabiting Partner Drinking Frequency (1–2 times/week)	20.3 63.4 53.1	19.7 64.3	*
Cohabiting Partner Drinking Frequency (1–2 times/week)	63.4 53.1	64.3	*
Drinking Frequency (1–2 times/week)	53.1		
		46.9	
	31.1		*
Drinking Frequency (3–5 times/week)		38.3	*
Drinking Frequency (6–7 times/week)	15.8	14.8	*
North-East	5.4	5.2	
Yorkshire	10.0	9.5	*
East midlands	8.2	8.0	
East England	6.9	6.0	*
South East	18.4	18.1	
South West	9.0	9.0	
West Midlands	8.6	8.4	
North West	10.6	10.9	
Wales	4.9	4.8	
Scotland	8.2	8.0	
London	9.9	12.1	
Moderation techniques			
Fewer occasions		60.6	
Fewer drinks	43.8		
Smaller sizes		18.1	
Drinks with lower alcohol content		9.8	
Soft drinks		20.6	
Nonalcoholic beer and wine		5.3	
Continuous variables	Mean	Mean	
Number of other adults in the household	1.45	1.43	*
Number of children in the household	0.41	0.45	*
N	56,043	45,418	

<sup>&</sup>lt;sup>1</sup>The star indicates whether the difference is statistically significant at 5% confidence level.

#### 5. Results

#### 5.1. Sample characteristics

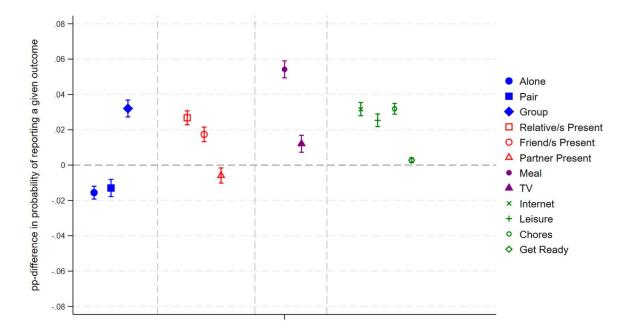
Table 1 summarizes the main characteristics of individuals attempting to moderate their drinking (moderators; group of interest) and those who are not (non-moderators; the comparison group). The main differences between the two groups (non-moderators/moderators) relate to sex, age, and usual drinking frequency. Among the moderators, there is a lower proportion of women (-4 percentage points [pp] difference), fewer individuals consuming alcohol more than three times per week (-6 pp), and a higher proportion of individuals over 60 years old (+4.5 pp). These differences highlight the need to control for individual characteristics in further analysis. Summary statistics on the drinking occasion characteristics by moderation status are reported in Table D1 of the Appendix.

#### 5.2. Results of random intercept models

Due to the large number of coefficients from the random intercept models, we present selected results in Figures 1-5. Specifically, Figure 1 presents the differences in the probability of reporting specific occasion characteristics between moderators and moderators (research question (i)). Figures 2-5 report differences across the groups using different moderation approaches (research question (ii)). The full set of results is available in Tables D2 and D3 of the Appendix.

#### 5.2.1. Differences in occasion characteristics between moderators and non-moderators

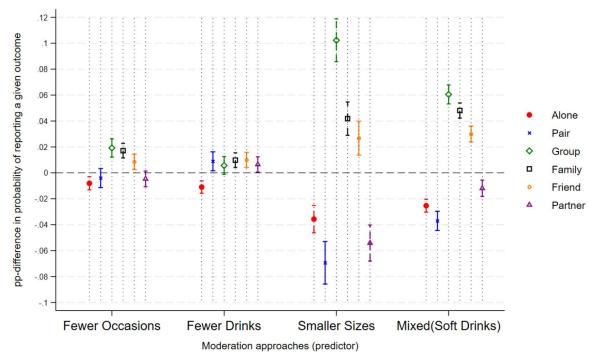
While there are differences between those moderating their drinking and those who are not, these differences are relatively small. For instance, individuals attempting moderation are more likely to report more grouprelated drinking occasions (+3.1 pp), especially with relatives (+2.6 pp) and friends (+1.7 pp). Moderators are also less likely to drink alone (-1.6 pp) and tend to consume alcohol more frequently with meals (+5.4 pp), compared to non-moderators. They are also more likely than non-moderators to engage in



Attempting to moderate (predictor)

**Figure 1.** Differences in drinking occasion characteristics for moderators relative to non-moderators, controlling for socio-demographic factors.

*Notes:* the graph presents marginal effects (with 95% Confidence Intervals) obtained from separate random intercept models, each with a different occasion characteristic as the outcome. These indicate a change in the probability of reporting a specific occasion characteristic for moderators compared to non-moderators. Positive (negative) values reflect a higher (lower) likelihood compared to non-moderators; a value of 0 indicates no difference. Predictors include the moderation binary indicator (reference: non-moderators) and socio-demographic controls (see Table D2).



**Figure 2.** Differences in occasion characteristics (social contexts) by moderation approaches, controlling for socio-demographic factors. *Notes:* the graph present marginal effects (with 95% Confidence Intervals) obtained from separate random intercept models, each with a different occasion characteristic as the outcome. These indicate a change in the probability of reporting specific occasion characteristics for a given a moderation approach (compared to non-moderators). Positive (negative) values reflect a higher (lower) likelihood; a value of 0 indicates no difference. Predictors include moderation approach (reference: non-moderators) and socio-demographic controls (see Table D3)

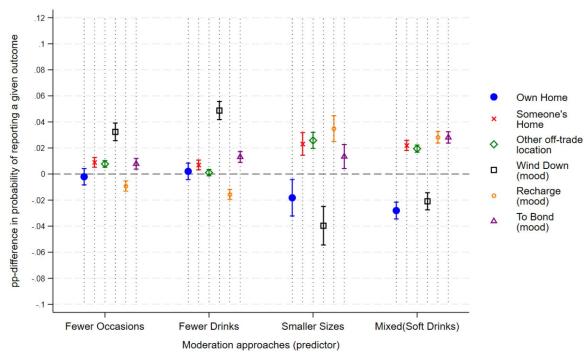


Figure 3. Differences in occasion characteristics (off-trade locations and moods) by moderation approaches, controlling for sociodemographic factors. Notes: see Figure 2.

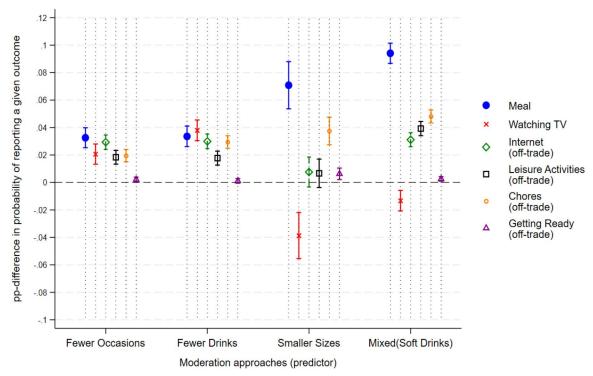
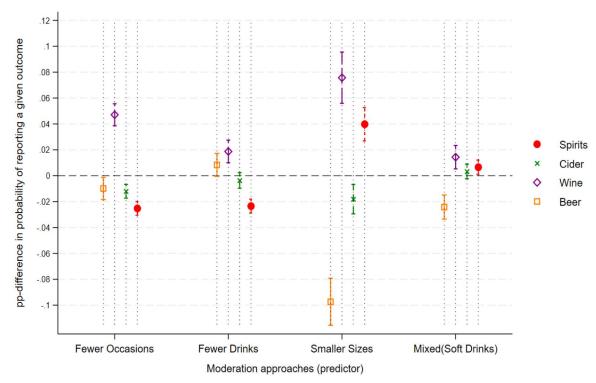


Figure 4. Differences in occasion characteristics (accompanying activities) by moderation approaches, controlling for sociodemographic factors. Notes: see Figure 2.

leisure activities while drinking, such as watching TV (+1.3 pp), or routine tasks like chores (+3.3 pp) and browsing the internet (+2.9 pp). Notably, drinking locations, occasion types, starting times, and weekday preferences are similar between moderators and nonmoderators.



**Figure 5.** Differences in occasion characteristics (beverage types) by different approaches, controlling for socio-demographic factors. *Notes*: see Figure 2.

## 5.2.2. Differences in occasion characteristics among latent groups that differ in their approach to moderation

Figures 2-5 present the differences in the probability reporting occasion characteristics (e.g. drinking at home) between each moderation approach group and individuals who do not moderate their drinking. These parameters allow for a comparison across moderation approaches. For example, individuals using any of the moderation approaches are more likely to drink with friends than non-moderators. However, the increase in the probability of 'drinking in a group' is more pronounced for those using 'smaller drink sizes' and 'mixed (soft drink)' as moderation approaches (+10.2 pp and +6.1 pp, respectively) compared to those using 'fewer occasions' (+1.9 pp) or 'fewer drinks' (+0.6 pp) (see Figure 2). All moderation approaches are associated with a lower probability of drinking alone, compared to non-moderators, with 'smaller sizes' (-3.6 pp) and 'mixed (soft drink)' (-2.5 pp) approaches showing the largest differences.

The likelihood of drinking to 'chill out' is higher for individuals using the 'fewer occasions' (+3.2 pp) and 'fewer drinks' (+4.9 pp) approaches than for non-moderators, but it is lower for those using the 'small sizes' and 'mixed (soft drinks)' approaches (Figure 3).

One of the main differences across moderation approaches is the probability of having a meal while

drinking (Figure 4). People who report using 'smaller serving sizes' or 'soft drinks' have a higher probability of drinking with a meal (+7.1 pp and 9.4 pp) compared to 'fewer drinks' or 'fewer occasions' approaches (+3.5 pp). Additionally, people adopting the 'smaller sizes' and the 'mixed (soft-drink)' approaches are less likely to be watching TV (-3.9 and -3.1 pp, respectively), whereas those using the 'fewer drinks' and 'fewer occasions' approaches are more likely to watch TV while drinking (+2.1 and +3.8 pp) compared to non-moderators.

The main type of drink consumed also varies with the chosen moderation approach (Figure 5): using 'smaller sizes' is associated with a higher probability of consuming wine and spirits (+7.6 pp and +4 pp, respectively) but a lower probability of drinking beer (-9.7 pp). Wine consumption is also 4.7 pp more common among individuals attempting to reduce the number of occasions per week. Smaller differences (p < 3 pp) exist in other occasion characteristics such as occasion type, venue, start time, duration and week-day across moderation approaches (see Table D3).

#### 6. Discussion and conclusions

Differences in alcohol consumption across various drinking moderation approaches have been previously investigated (Sasso et al. 2022), but there is still

limited understanding of the drinking practices of individuals who attempt to moderate their alcohol intake. This study examines how drinking occasion characteristics differ between moderators and nonmoderators, and among individuals who adopt distinct moderation approaches.

While most occasion characteristics do not differ between moderators and non-moderators, notable differences emerge when comparing individuals using various moderation approaches. Individuals who replace standard beverages with either smaller-sized drinks (smaller size approach) or low/soft drinks (mixed approach) are more likely to drink in sociable contexts (i.e. drinking in a group of three or more people, both with relatives and friends), compared to those using 'fewer drinks' or pre-committing to 'fewer occasions' per week. These moderation approaches may enable individuals to control alcohol intake while maintaining social connectedness and existing routines.

Interestingly, those adopting a mixed approach who also report the lowest consumption during the interview week—incorporate alcohol more frequently into meals. This aligns with Bartram et al. (2017)'s findings, suggesting that such activities may help individuals adjust the meaning of their drinking practices while limiting alcohol consumption. However, it is also possible that individuals with a preference for drinking with a meal find this approach suits them better.

Although people using the 'smaller sizes' approach do not show a higher weekly alcohol consumption than those using 'fewer drinks' (Sasso et al. 2022), they drink more often in sociable settings. Smallersized drinks may be more socially acceptable in group contexts, possibly where the focus of the drinking rituals centers on having a drink of any kind rather than on the alcoholic content (Bartram et al. 2017).

Conversely, pre-committing to fewer occasions per week or reducing the number of drinks per occasion is more often associated with drinking at home during routine activities. This could either reflect an attempt of these individuals to avoid social occasions with higher drinking risks or a preference for moderation strategies that align with their usual drinking rituals.

Overall, our findings highlight differences in certain occasion characteristics across various moderation approaches, particularly concerning the social context (i.e. companions), material elements like beverage type, and accompanying activities like watching TV or having a meal. However, factors related to timing (e.g. time, day of the week) and the recognizable occasion types show limited variation. We anticipated that the recognizable types of occasions in which the alcoholic content of the drink may not be as important as the drink itself (e.g. drinking sociably, having a quiet drink) would be more common among people who chose to replace alcohol with low strength or nonalcoholic drinks. However, the absence of such differences might be due to the survey's limitations in measuring certain elements of drinking practices, such as the symbolic meanings, as it was not specifically designed for this purpose. Furthermore, it is possible that the meanings of recognizable occasion types are perceived differently by different groups of people. Despite these limitations, this study contributes to existing literature by linking elements of social practice theory with drinking moderation behaviors, underscoring the role of social context and routinized practices in shaping drinking moderation strategies.

#### 6.1. Implications for prevention and policy

The findings of this study underscore the need for designing more comprehensive surveys that capture the nuanced meaning of drinking practices among individuals attempting to moderate their alcohol consumption, using different self-regulation strategies—such as replacing standard beverages with smaller-sized drinks or precommitting to fewer drinking occasions per week. Tailoring interventions around these diverse meanings could improve the effectiveness of prevention efforts. Surveys should ask why alcohol (or its substitutes) is consumed in specific drinking practices, both at the individual and group levels. This requires validated measures covering positive (social enhancement) and negative (conformity and coping) drinking motives (Kuntsche and Kuntsche 2009).

Additionally, providing guidance on moderation approaches that align with individual drinking habits and social preferences may be beneficial. The study tentatively suggests that substituting alcohol with lowstrength or nonalcoholic alternatives may be more compatible with social settings, where the focus is on the drink itself rather than its alcoholic content. Accompanying drinking with activities such as meals may shift attention away from drinking, potentially contributing to reducing heavy alcohol consumption.

It is noteworthy that, despite the potential benefits of no or low-strength alcoholic drinks in reducing alcohol consumption, their use was still relatively uncommon during the study period (2013-2019). Alcohol prevention policies could promote the availability and use of such beverages, particularly in on-trade premises. One potential policy could involve taxing alcohol based on its alcoholic content, making lower-strength products

relatively more affordable (Rehm et al. 2023). Furthermore, changing social norms around nonalcoholic products may incentivize their use as part of moderation strategies. For example, increasing the availability of narratives that normalize moderation approaches could help shift perceptions, particularly given the dominance of abstinence-oriented beliefs about resolving drinking problems (Morris et al. 2023).

#### 6.2. Limitations and future research

The study has some limitations. First, although the data provide valuable insights, it does not allow for a perfect mapping between the variables and social practice theory. Future research could explore this further, possibly using ecological momentary assessments to capture the qualitative aspects of practice meanings. Second, the estimation of separate statistical models for each occasion characteristic does not allow us to assess the interactions between different moderation approaches and combinations of occasion characteristics. Future studies could explore this issue by using models that account for these interdependencies, which were not feasible in the present study due to model complexity. Third, the lack of longitudinal data precludes an assessment of whether changes in moderation approaches correlate with long-term changes in drinking practices. Future research may want to investigate the causal links between usual drinking habits, moderation approaches, and alcohol consumption—both in the short and long run—as individuals with preexisting different lifestyles may self-select into specific approaches that are more compatible with their usual drinking behavior. Understanding these mechanisms may be crucial for designing effective alcohol reduction policies. Fourth, the data do not provide insight into individuals' daily activities outside of drinking occasions, which could offer a clearer picture of whether people successfully replace drinking with other social activities. Finally, it is important for future research to investigate the psychological implications of adopting various moderation strategies. This could include exploring the emotional and social consequences of moderation, such as perceived social rejection or the potential impact on well-being.

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