**Deconstructing alcohol use on a night out in England: promotions, preloading and consumption**

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**Running Head**

Alcohol use on a night out in England

Abstract

*Introduction and Aims*.To examine alcohol consumed during a drinking event (a single drinking occasion) by those attending public house/on-trade establishments on nights with standard pricing and nights with promotional prices.

*Design and Methods*. Data (n = 425) were collected in an ecological momentary assessment over eight nights in two locations (Midlands and London) on both promotional and standard (Saturday) nights. Multiple regression was used to predict event alcohol consumption by sex, age, type of night, alcohol preloading behaviour,marital and employment status, education, Alcohol Use Disorders Identification Test alcohol consumption questions separately or total AUDIT-C and social group size.

*Results*. Mean (UK) units consumed were 11.8 (London) and 14.4 (Midlands). In London, consumption was similar on promotional and standard nights, but in the Midlands, standard night consumption was three units higher. Preloading was reported by 30%; more common on standard nights. Regression analyses revealed being male, preloading and past-year total AUDIT-C were associated with higher event consumption. However, when AUDIT-C questions were added separately, being a standard night was associated with increased event consumption and different AUDIT-C questions were significantly associated with event consumption in each location.

*Discussion and Conclusions*. Event consumption reflected heavy episodic drinking and was influenced by price. Promotional night consumption either matched standard Saturday night consumption or was slightly lower. In London, there was a significant preference for drinking at least one promotional beverage on promotional nights. On standard nights, consumption was over a wider range of venues, and preloading with off-trade alcohol was more likely.

*Keywords*: Alcohol Drinking, Alcoholic Intoxication, Policy, Event Drinking, Binge Drinking

**Introduction**

Research findings consistently support alcohol pricing strategies as an effective way to address harmful patterns of drinking such as risky single occasion drinking, heavy drinking or drinking to intoxication [1]. In general, the more cheaply alcohol is sold, the more alcohol is consumed and levels of intoxication are often increased [2–4]. Changes to the prices of specific alcoholic beverages can impact their consumption; for example, in one study when ‘alcopops’ increased in price their use was lowered [5], in another, decreased cost of spirits/liquor led to higher consumption of this beverage type [6]. Harmful drinkers tend to favour traditionally cheaper alcohol sold off-trade [7]. Yet alcohol can be also sold cheaply on-trade during promotional nights in drinking establishments. Drinks promotions in these venues may attract those who intend to get drunk or encourage drinkers to remain in the licensed premises for longer than their initial intention [8].Young people appear particularly receptive to promotional pricing. Focus groups with Australian young people aged 16–25 years found point of sale promotions particularly encouraged the purchase of increased alcohol volume [9]. On US college campuses, lower alcohol price or promotions were associated with higher ‘binge’ drinking [10] and higher intoxication measured by blood alcohol concentration (BAC) [11] and breath alcohol concentration (BrAC) [12].

Survey data show levels of alcohol consumption collected during the drinking event (a single drinking occasion) occurring near or in licensed premises often exceed heavy drinking definitions such as that defined by the General Household Survey of eight or more units for men and six or more units for women (see [13]). For example, Hammersley and Ditton [14] reported a mean consumption of 14.3 units (SD = 7.4) for males and 9.7 units (SD = 5.9) for females from 291 individuals in a licensed venue in an English city. Hughes et al. [15] reported a median of 104 g (13 units) and 177 g (22 units) of alcohol consumed by females and males respectively from 222 respondents in an English city. Moore et al. [16] surveyed 891 individuals near licensed premises in Cardiff, Wales, between 11pm and 3am.Women reported alcohol consumption of seven units (SD = 3.4) and men 11 units (SD = 6.7). Consumption recorded between 8pm and 10.30pm from 351 individuals outside licensed premises in North West England was 5.7 units for women and 9.6 for men [17]. These were lower than [14,15], but excluded consumption beyond the interview. They may also reflect regional differences in alcohol consumption; the heaviest consumption was found in Yorkshire and Humberside, and North-East regions, and the lowest in London, East of England and Midlands regions [18]. Alcohol abstinence was low, in one study [14] 5% did not intend to consume alcohol, in another [16], around 7% had a zero BAC. There is little evidence of how pricing affected the consumption reported during the event.

Higher prices on licensed/on-trade premises (and lower prices in off-trade premises) are linked to increased ‘preloading’ [19]; also known as ‘prepartying’, ‘pregaming’, ‘predrinking’ or ‘frontloading’ [20].This is alcohol consumed at private residences or in nonlicensed public places before visiting on-trade premises [21,22]. Preloading can involve rapid consumption of large quantities of alcohol [15] and is likely to result in heavier overall event consumption and an elevated risk of adverse drinking outcomes [20]. One study of consumption in the event found around 60% preloaded alcohol, with higher consumption in males (Mean = 2.8 units; SD = 3.3) than females (Mean = 1.9 units; SD = 2.1) [14]. Younger people appear more likely to preload as part of a typical night out [23].

Our study intended to assess the consumption of alcohol across the event (a single drinking occasion) through a survey conducted on licensed premises during the event. The aim was to explore this alcohol use in the context of background information, past-year alcohol consumption and whether the night had promotional offers or was a standard (Saturday) night. Following prior research [3,11], it was anticipated that nights with promotional offers would result in higher total event consumption (with more consumed in the premises with promotions and less consumed from off trade suppliers), higher past-year consumption, and that these nights would appeal more to younger people [6,9,10].

**Method**

*Procedure:* Data were collected on two licensed premises between 8.30pm and midnight (by GS and KMcC) in face-to-face interviews lasting 5 to 10 minutes One was in a large university town in the Midlands, the other was in West London. The Midlands premises had a capacity of 450, was open between 10am and 1am on weekends and had a broadly but not exclusively student clientele. The London premises had a capacity of 500, operating between 10am and 2am at the weekends. The clientele group consisted of full-time workers, with some students. The research took place during spring 2010, and data were collected on eight separate nights (two Tuesday and two Saturday nights in the Midlands and two Sunday and two Saturday nights in London). Tuesday and Sunday nights were promotional nights in Midlands and London respectively, with broadly the same brand drinks promotions on offer in both premises. Saturday nights had standard pricing for these establishments. The mean number of patrons on standard nights in the Midlands was 292.5 and on promotional nights there were 371 patrons. The mean number of patrons on standard nights in London was 272.5, and on promotional nights it was 303.5. Both premises served food until 9pm and had Security Industry Authority licensed door staff in attendance on all nights. Table 1 illustrates the details of the promotions and standard nights. There were fewer promotions in London than in the Midlands, and there was a significant preference for promotional beverages on promotional nights in London only. The cost per unit of promotional beverages on nights with promotions was 82p cheaper in London and 67p cheaper in the Midlands. Alcohol was more expensive per unit in London. Ethical approval was granted by Nottingham Trent University School of Social Sciences Ethics Committee.

*Participants:* Any adult patron in the venue was eligible, but those visibly highly intoxicated were not approached. In total 470 individuals were approached; of these seven were not eligible (London only) as they did not speak sufficient English to give informed consent and 38 refused to participate (10 Midlands location; 28 London location). The response rate for eligible persons was 91.8%. Of the 425 individuals who participated, 177 were female and 248 were male (mean age = 23.1 years; SD = 5.6; range = 18–50). In the London venue 203 were recruited; 222 took part in the Midlands venue. They were recruited by opportunity sampling and by self-selection; often participants’ accompanying friends requested to participate. There were no incentives for participation.

*Questionnaire:* Demographic information included sex (male = 0; female = 1), age (in years); education levels (non-graduate = 0, graduate = 1); marital status (married/ cohabiting = 1, all others = 0), employment status (part-time and full-time recoded to ‘economically active’ = 1; and being unemployed or a student recoded to ‘economically inactive’ = 0) and how often patrons visited licensed premises (less than once a month = 1, 1–3 times per month = 2, once per week = 3, 2–4 times per week = 4, five days or more a week = 5). The number of friends in the participant’s drinking group was recorded (group size) and an estimation of projected cash spend obtained in GBP. Past-year alcohol consumption was assessed using Alcohol Use Disorders Identification Test alcohol consumption questions (AUDIT-C) [24] which has been validated for use in a UK sample [25]. Scores on AUDIT-C range from 0 to 12 with higher scores indicative of higher consumption. Those approached in the two licensed premises were asked to discuss their alcohol use in the event in question (defined as the night of the survey). Participants were asked to detail their event alcohol consumption under five categories: (i) alcohol consumed at home/a friend’s house; (ii) at previous licensed premises; (iii) in the venue to the time of interview; (iv) future planned consumption in the venue; and (v) any planned future consumption elsewhere (including at home, a party or other licensed premises). Details of quantities, measures and brand names were requested in line with similar studies (e.g. [26]) under each category. This information was used to calculate UK alcohol units (1 unit = 10 mg/8 g of alcohol) using the Drinkaware unit calculator [27] for each of the five categories separately, and to facilitate the calculation of a total unit consumption for the event. From the information obtained on participants’ consumption at home, a variable indicating the presence of preloading was generated (no preloading = 0; preloading = 1).

*Analysis*: Data were analysed using SPSS Version 21 (IBM Corporation, NewYork, USA). Bivariate analyses using t-tests (continuous data) or χ2-test/Fisher’s exact test (categorical data) explored whether patron characteristics in London or Midlands locations differed or if characteristics of individuals differed within a location on promotional or standard nights. Due to differences between the promotional nights in both locations (e.g. by number of promotions and day of the week) these data could not be combined. Regression analyses were used to predict overall units of alcohol consumption in the event separated by location using the predictors of age, sex, education, employment status, marital status, whether the individual preloaded, group size, whether it was a promotional night and AUDIT-C. Predictors were applied using the ‘enter’ method. Two models were run for each location separately, one with the predictor AUDIT-C as a total score and one with the AUDIT-C questions entered as separate predictors. This was to assess how event consumption might relate to yearly consumption, and to the component questions of the AUDIT-C. Given the differences between the two locations on promotional nights, we preferred the use of regression models, separated by location, and controlling for type of night to an analysis of variance approach.

**Results**

*Sample characteristics*

Promotional night participants were significantly younger than standard night participants (London 21.5 vs. 25.7 years; P < 0.001; Midlands 21.2 vs. 24.0 years; P < 0.001), and those surveyed in London were significantly older than those in the Midlands (23.6 vs. 22.6 years; P = 0.048). There were fewer graduates on promotional nights in both locations and fewer graduates in the Midlands. Promotional night participants included more students, and standard night participants included more full-time employed. There were no marital status differences across locations or types of night (Table 2).

Participants on promotional nights reported more visits to licensed premises in the past month in both locations. In London, the modal answer was two to four times per week (35.6%) on a promotional night and one to three times per month (31.4%) on a standard night. The modal answer for the Midlands sample was two to four times per week for both nights, but with a higher percentage (50.4%) on promotional nights than standard nights (40.0%). There were no differences in typical frequency or typical amount consumed in the past year between promotional and standard night participants; however, there were differences in the frequency of heavy episodic drinking in the past with those surveyed on a promotional night reporting a higher frequency than those on standard nights. Higher scores on all three questions of the AUDIT-C and the total AUDIT-C were evident in the Midlands compared with London. There was no difference in total AUDIT-C between promotional and standard nights in London, but it was higher for promotional night patrons in the Midlands. Planned alcohol spend was higher on standard nights compared with promotional nights across both locations, the difference being around £14 in London, and around £9 in Midlands. Group sizes were higher on promotional nights compared with standard nights, and also higher in the Midlands compared with London.

*Alcohol consumed*

Table 2 also illustrates the units consumed across locations and types of night. Overall there was no significant difference in the units consumed over the night between standard and promotional nights in the London location, but those in the Midlands location consumed more on a standard night (by three units) compared with the promotional night. Midlands patrons consumed more than London patrons. Preloading was more common on standard nights compared with promotional nights in the Midlands (43.8% vs. 23.1%; P = 0.001). There were subtle differences between alcohol units consumed on the premises; on premise consumption was higher on promotional nights but on standard nights, individuals were more likely to spread their consumption over a range of venues. Around 10% did not drink alcohol on the nights the survey was conducted. Of those surveyed, 30.8% of patrons planned to postload alcohol external to where the survey was conducted (at a party, home or other licensed premises).

*Predicting event alcohol consumption*

A regression model to predict event alcohol consumption in London was significant (F(9,185) = 10.9; P < 0.001), with the predictors explaining 34.6% of the variance in units consumed (Table 3). The strongest predictor of overall consumption was past-year consumption of alcohol (measured by AUDIT-C; beta = 0.4; P < 0.001). Other significant predictors included being male (beta = −0.2; P = 0.011) and preloading (beta = 0.3; P < 0.001).The significant predictors in the regression model for the Midlands venue were similar. Again higher consumption was found in males (beta = −0.3; P < 0.001), in those who preloaded (beta = 0.4; P < 0.001), and those with a higher AUDIT-C total (beta = 0.3; P < 0.001).The amount of variance explained by the model was slightly higher at 37.7% (F(9,211) = 14.2; P < 0.001).

A second set of regression models using the three component questions of the AUDIT-C were also significant overall (London F(11,183) = 12.3; P < 0.001; 42.6% variance explained; Midlands F(11,204) = 12.8; P < 0.001; 40.9% variance explained). For the London premises past-year frequency of alcohol use (beta = 0.1; P = 0.028), and typical level of consumption (beta = 0.3; P < 0.001) were significantly positively associated with overall consumption. In contrast, for the Midlands premises, the frequency of drinking six or more drinks on an occasion was positively associated with overall consumption (beta = 0.2; P = 0.018). Being male and preloading continued to be associated with higher consumption over the two locations. Being a standard night was also associated with higher consumption when controlling for other variables in both locations. This was only the case in analyses where AUDIT-C questions were added separately.

**Discussion**

This study aimed to assess the links between on-trade promotions, patron characteristics and past-year alcohol consumption using alcohol consumption in the event on licensed premises. No significant differences in the overall amount of alcohol consumed were found between promotional and standard nights in London; in the Midlands, around three more units of alcohol were consumed (24 g) on a standard night. We cannot conclude from these findings that promotional nights do lead to increased drinking. However, as the prevalence of heavy drinking generally peaks on a Friday or Saturday night [28,29], such as the standard night in this study, the lack of a difference in London may reflect an increase in consumption on promotional nights. Promotional nights tend to encourage different people and different patterns of drinking. Our findings suggest promotional night drinkers may be younger and have higher overall yearly alcohol consumption. Furthermore, on promotional nights drinkers tend to consume more of their alcohol on premise. This is unsurprising since ‘harmful’ drinkers tend to seek out the cheapest alcohol [30]. The findings of regression analyses showed that past-year harmful patterns of alcohol consumption (measured by the AUDIT-C) predict heavier levels of consumption (and thus increased risk of harm) in both locations. Yet responses to the separate AUDIT-C questions had a differential relationship with event alcohol consumption in the two locations; more frequent drinking and larger typical amount related to London participants’ alcohol consumption whereas increased frequency of drinking six or more drinks on occasion related to Midlands participants’ consumption (who also consumed more in the event overall). Curiously, being a standard night predicted higher alcohol consumption when controlling for responses to AUDIT-C questions separately, but not the total AUDIT-C. This suggests variations in event alcohol use might reflect different patterns of use, difficult to identify in general consumption measures. London participants appeared to prefer promotional beverages on the promotional night, even when the offers were fewer. Heavy drinking appeared socially normative, not among poor or troubled individuals, but occurring across all social classes in both males and females [31].

Preloading was reported by 30% of patrons and occurred more frequently on standard nights when on-trade alcohol was more expensive. Preloading is typically associated with younger age groups [23]; however, the clientele on standard nights were slightly older, suggesting the influence of price may be more universal. Additionally, the perceived advantages to drinking at home (such as lower cost of drinks, an easier and quieter environment in which to communicate, the alleviation of anxieties/stress, an increase of confidence or the achievement of higher levels of drunkenness [32]) may also be salient for older cohorts. The links between age, consumption and price on-trade may be more complicated than previously thought, and future research exploring the intentions and reasons behind consumption would be valuable.

On a standard night, people consumed alcohol at a range of venues, and individuals seemed willing to change venue. Consumption was particularly high (5.9 units) following the Midlands venue on a promotional night, whether this was at another licensed venue, or ‘postloading’ (drinking at home, friends’ house or a party). It is regrettable this location distinction was not made in the data collection. The prevalence of postloading relating to an event is under-researched; the prevalence is not widely reported in studies of event consumption. One study, using retrospective measures, reported 23% of drinkers drank at home after going out [23], this is comparable to the 30.8% figure reported here. Postloading has been explained by different drinking intentions, and overall heavier consumption (an increased prevalence of heavy drinking episodes in the past two weeks [33]). However, the ability to explain and predict postloading is considerably reduced by the lack of research in this area. The amount of alcohol consumed in the postloading phase, particularly in the Midlands sample, suggests this warrants further investigation.

The validity of self-reported consumption can be affected by inability to recall, problems in estimating standard drinks or intentionally misleading answers [11]. Previous researchers have suggested recall may be difficult in event research (due to intoxication levels [16]).We found little evidence of this, with the exception of determining between a range of drinks (e.g. four or five drinks). Individuals were not asked to calculate alcohol units directly. Specific prompting or the presence of the drink on the table helped considerably, for example a respondent might say ‘a couple of beers’, for which prompts would include; ‘which brand and container (can, pint, glass, bottle)?’, and ‘how many of those?’ The prompting also conveyed a preference for specific detail. Patrons were often comfortably seated, which may encourage favourable responses to prompts in comparison with surveys undertaken outside (when the participant is cold and/or standing). It is possible that asking about future consumption was a kind of intervention, which forced individuals to consider their use, where they may not have necessarily planned to do so. Future research might wish to explore how this affects the consumption forecast and their actual drinking behaviour. Consumption was not validated with external measures such as BAC or BrAC [11,12]. However, like the relationship between event consumption and AUDIT-C, the relationship between BAC and event consumption is difficult to interpret [16], and BAC or BrAC would not validate the additional consumption beyond time of interview. There is often some discrepancy between BAC and self-report; one study found a correlation of .37 [34]. From a policy perspective, limits on units of consumption (per week, or on occasion) are central to harm reduction strategy and public health. An individuals’ interpretation and measurement of their event consumption is of importance to this strategy, and together with their drinking motives, this information can guide future consumption.

Whether the sample is representative and the findings applicable to all on premise drinkers is questionable; this is common in field research [11,35]. It was difficult to compare units consumed over the event with other studies due to differing methods, but there were some similarities with overall event consumption reported in the study of Hammersley and Ditton [14]. The mean event alcohol use was higher than even the most liberal of guidelines for units consumed on an occasion and was supported by high AUDIT-C scores indicating at-risk drinking [36]. Overly intoxicated patrons were not approached for ethical and safety reasons. Overall consumption may thus be an underestimate, but poor recall or communication when highly intoxicated may have led to poor quality data [16].

Broadly, 10% of patrons did not consume alcohol on the nights surveyed; neither on the premises, nor planned to do so through the course of the evening. Group size did not predict consumption on the nights surveyed, but a more nuanced approach exploring social interactions between the group, their shared motivations or competition may better explain consumption patterns rather than number of individuals [33]. Future research may wish to explore this.

In summary, the link between promotional pricing and event consumption highlighted differences in where the alcohol was consumed, rather than the overall total units consumed. Pre- and postloading was common, and preloading was more frequent on standard nights.The influence of price on event consumption was more visible when patterns of past-year consumption are controlled for rather than an aggregate measure of consumption. Our finding of higher consumption on standard nights may reflect those with a history of harmful or risky drinking tending to drink more alcohol over the event, and attend bars on promotional nights to take advantage of discounted alcohol. **Acknowledgements**

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Table 1: Characteristics of promotional and standard nights at both venues and patron uptake of promotional drinks

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | London venue | | Midlands venue | |
|  | Promotional | Standard | Promotional | Standard |
| Number of promotions/Number of alcoholic beverages on price list1 | 12/103 | 0/103 | 31/92 | 0/92 |
| Cost per unit (8g) of alcohol in GBP | £1.99 | £2.07 | £1.48 | £1.73 |
| Cost per unit (8g) of those alcoholic beverages which have a promotion on the surveyed day in GBP | £1.86 | £1.04 | £1.82 | £1.15 |
| Number drinking at least one beverage included in the promotion on the relevant day2 | 75 | 29 | 90 | 76 |
| Number drinking beverages which were not included in promotions on either surveyed day | 23 | 61 | 25 | 26 |
| Χ2(df) p for the use of promotions by night type for each location and analysed ‘n’ | Χ2(1)=37.3; p<.001  n=188 | | Χ2(1)=.4; p=.312  n=217 | |

1: A crude measure which does not include cocktails or other blended drinks due to the difficulty in estimating cost per unit consumption. These were listwise deleted from the totals where relevant (e.g. not included in the number of alcoholic beverages available, or the cost per unit calculations). Price lists must be displayed in bars as part of licensing agreements.

2: This includes 5 people who stated they would take advantage of the promotion in the future only (3 London standard night, 1 London promotional night, and 1 Midlands standard night). It excludes 15 people in London and 5 people in the Midlands who stated they drank ‘glasses’ of wine- promotions were on bottles of wine only, and there was not enough detail to conclusively gather whether these were part of a promotion therefore they were coded as missing data. The chi-square calculation was performed with missing data listwise deleted.

Table 2: Demographic and alcohol use characteristics of the two samples collected in London and Midlands.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Valid  n | All patrons | London | | | | Midlands | | | | T/X2(df) p between London and Midlands  patrons |
| Overall | Promotional | Standard | T/X2(df) p between promotional and standard | Overall | Promotional | Standard | T/X2(df) p between promotional and standard |  | |
| Mean(SD) or n (%) | Mean(SD) or n (%) | Mean(SD) or n (%) | Mean(SD) or n (%) | Mean(SD) or n (%) | Mean(SD) or n (%) | Mean(SD) or n (%) |
| Age (in years) | 425 | 23.1 (5.6) | 23.6 (5.6) | 21.5 (4.8) | 25.7 (5.6) | t(201)=-5.8; p<.001 | 22.6 (5.5) | 21.2 (4.3) | 24.0 (6.2) | t(182.6)=-3.9; p<.001 | t(423)=2.0; p=.048 | |
| Female | 425 | 177 (41.6%) | 92 (45.3%) | 49 (51.5%) | 43 (42.2%) | Χ2(1)=.8; p=.363 | 85 (38.3%) | 42 (35.9% | 43 (41.0%) | Χ2(1)= .6; p=.439 | Χ2(1)=2.2; p=.142 | |
| Education  Graduate  Non-graduate | 425 | 143 (33.6%)  282 (66.4%) | 93 (45.8%)  110 (54.2%) | 29 (28.7%)  72 (71.3%) | 64 (62.7%)  38 (37.3%) | Χ2 (1)=23.7; p<.001 | 50 (22.5%)  172 (77.5%) | 20 (17.1%)  97 (82.9%) | 30 (28.6%)  75 (71.4%) | Χ2 (1)=4.2; p=.041 | Χ2(1)=25.8; p<.001 | |
| Marital status  Married/cohabiting  Other | 425 | 98 (23.1%)  327 (76.9%) | 50 (24.6%)  153 (75.4%) | 26 (25.7%)  75 (74.3%) | 24 (23.5%)  78 (76.5%) | Χ2(1)=.1; p=.714 | 48 (21.6%)  174 (78.4%) | 21 (17.9%)  96 (82.1%) | 27 (25.7%)  78 (74.3%) | Χ2(1)= 2.0; p=.161 | Χ2(1)=.5; p=.462 | |
| Employment  Part-time  Full-time  Unemployed  Student | 425 | 43 (10.1%)  198 (46.6%)  18 (4.2%)  166 (39.1%) | 21 (10.3%)  101 (49.8%)  14 (6.9%)  67 (33.0%) | 13 (12.9%)  31 (30.7%)  9 (8.9%)  48 (47.5%) | 8 (7.8%)  70 (68.6%)  5 (4.9%)  19 (18.6%) | Χ2(3)=29.9; p<.001 | 22 (9.9%)  97 (43.7%)  4 (1.8%)  99 (44.6%) | 11 (9.4%)  44 (37.6%)  2 (1.7%)  60 (51.3%) | 11 (10.5%)  53 (50.5%)  2 (1.9%)  39 (37.1%) | Fishers exact test (3)=4.8; p=.186 | Χ2(3)=11.0; p=.012 | |
| General alcohol consumption  Visit frequency to licensed premises  Less than monthly  1-3 times per month  1 per week  2-4 per week  5+ per week | 425 | 37 (8.7%)  105 (24.7%)  110 (25.9%)  159 (37.4%)  14 (3.3%) | 27 (13.3%)  58 (28.6%)  54 (26.6%)  58 (28.6%)  6 (3.0%) | 6 (5.9%)  26 (25.7%)  29 (28.7%)  36 (35.6%)  4 (4.0%) | 21 (20.6%)  32 (31.4%)  25 (24.5%)  22 (21.6%)  2 (2.0%) | Fisher’s exact test (4)=13.4; p=.008 | 10 (4.5%)  47 (21.2%)  56 (25.2%)  101(45.5%)  8 (3.6%) | 0  23 (19.7%)  30 (25.6%)  59 (50.4%)  5 (4.3%) | 10 (9.5%)  24 (22.9%)  26 (24.8%)  42 (40.0%)  3 (2.9 %) | Fisher’s exact test (4)=14.2; p=.006 | Χ2(4)=20.1; p<.001 | |
| Had pre-loaded | 423 | 125 (29.5%) | 52 (25.7%) | 20 (19.8%) | 32 (31.7%) | Χ2(1)=3.7; p=.053 | 73 (32.9%) | 27 (23.1%) | 46 (43.8%) | Χ2(1)=10.8; p=.001 | Χ2(1)=2.6; p=.107 | |
| AUDIT Q1- how often | 425 | 2.8 (1.3) | 2.4 (1.0) | 2.5 (1.0) | 2.3 (1.0) | t(201)=1.2; p=.230 | 2.8 (.8) | 2.9 (.8) | 2.7 (.9) | t(207.1)=1.6; p=.107 | t(398.1)=-4.2; p<.001 | |
| AUDIT Q2- typical amount | 425 | 2.6 (.9) | 2.6 (1.3) | 2.6 (1.3) | 2.6 (1.3) | t(201)=.3; p=761 | 3.1 (1.2) | 3.2 (1.2) | 2.9 (1.2) | t(220)=2.0; p=.051 | t(423)=-4.0; p<.001 | |
| AUDIT Q3- frequency of heavy episodic drinking | 425 | 2.1 (1.0) | 1.8 (1.0) | 2.0 (1.0) | 1.7 (1.0) | t(201)=2.2; p=.031 | 2.3 (.8) | 2.5 (.7) | 2.2 (.9) | t(201.1)=2.6; p=.011 | t(395.5)=-5.6; p<.001 | |
| Mean total AUDIT-C | 425 | 7.5 (2.5) | 6.8 (2.6) | 7.1 (2.8) | 6.6 (2.5) | t(201)=1.4; p=.157 | 8.2 (2.2) | 8.6 (1.9) | 7.8 (2.4) | t(197.4)=2.7; p=.008 | t(423)=-5.8; p<.001 | |
| Event alcohol consumption |  |  |  |  |  |  |  |  |  |  |  | |
| Units at home (or off licensed premises) | 423 | 1.3 (2.8) | 1.2 (3.0) | 1.2 (3.2) | 1.3 (2.7) | t(199)=-.3; p=.781 | 1.4 (2.6) | 1.1 (2.4) | 1.8 (2.7) | t(220)=-2.0; p=.042 | t(421)=-.8; p=.444 | |
| Units at a previous licensed venue | 423 | 1.4 (3.4) | 1.4 (3.5) | 1.1 (2.9) | 1.7 (4.0) | t(180.9)=-1.2; p=.216 | 1.4 (3.3) | 1.1 (2.9) | 1.8 (3.7) | t(220)=-1.5; p=.124 | t(421)=-.2; p=.844 | |
| Units on premises to current time | 418 | 6.3 (5.1) | 6.1 (4.8) | 6.9 (5.5) | 5.4 (3.9) | t(178.7)=2.2; p=.029 | 6.4 (5.4) | 7.3 (5.5) | 5.3 (5.2) | t(218.7)=2.8; p=.006 | t(416)=-.5; p=.643 | |
| Future units consumed on premises | 424 | 1.7 (3.4) | 1.4 (2.7) | 1.3 (2.2) | 1.6 (3.2) | t(176.9)=-.9; p=.395 | 1.9 (3.9) | 2.6 (4.4) | 1.2 (3.0) | t(204.1)=2.9; p=.004 | t(396.8)=-1.5; p=.123 | |
| Units in a further venue (licensed/not) | 417 | 2.7 (4.4) | 1.7 (3.5) | .9 (2.6) | 2.5 (4.0) | t(167.9)=-3.2; p=.001 | 3.6 (4.9) | 1.3 (3.1) | 5.9 (5.3) | t(167.0)=-7.8; p<.001 | t (388.4)=-4.5; p<.001 | |
| Total units over the night | 411 | 13.2 (9.6) | 11.8 (8.8) | 11.3 (8.8) | 12.4 (8.9) | t(193)=.8; p=.409 | 14.4 (10.1) | 12.9 (10.2) | 16.0 (9.8) | t(214)=-2.3; p=.024 | t(409)=-2.8; p=.006 | |
| Planned spend on alcohol (GBP) | 425 | £21.51 (16.48) | £22.83 (18.23) | £15.74 (12.37) | £29.84 (20.33) | t(167.0)=-6.0; p<.001 | £20.30 (14.63) | £16.27 (14.14) | £24.80 (13.91) | t(220)=-4.5; p<.001 | t(387.2)=1.6; p=.118 | |
| Group size` | 425 | 5.2 (4.0) | 4.7 (4.3) | 5.5 (4.7) | 4.0 (3.8) | t(191.9)=2.5; p=.012 | 5.7 (3.7) | 6.4 (4.2) | 5.0 (2.9) | t(206.9)=2.9; p=.005 | t(423)=-2.5; p=.012 | |
| Number who did not consume or plan to consume alcohol | 411 | 40 (9.7%) | 19 (9.7%) | 11 (11.0%) | 8 (8.4%) | Χ2(1)=.4; p=.544 | 21 (9.7%) | 15 (13.5%) | 6 (5.7%) | Χ2(1)=3.7; p=.053 | Χ2(1)=.0; p=.994) | |

Table 3: Results of the regression analysis predicting total alcohol consumption in units

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Unstandardised  B | SE | Standardised  beta | t | p |
| London premises  (AUDIT-C)  R2=0.346 | Constant | 3.5 | 2.8 |  | 1.3 | .211 |
| Age (in years) | -0.1 | 0.1 | -0.1 | -0.8 | .407 |
| Sex (male=0; female=1) | -2.3 | 0.9 | -0.2 | -2.6 | .011 |
| Preloading not at licensed premises (no=0; yes=1) | 5.1 | 1.0 | 0.3 | 5.2 | .000 |
| Education (non-graduate=0; graduate=1) | -0.5 | 0.9 | 0.0 | -0.5 | .604 |
| Marital status (Single=0; Married/living as married=1) | 0.8 | 1.0 | 0.1 | 0.9 | .389 |
| Economic activity (economically inactive=0; economically active=1) | -0.4 | 0.9 | 0.0 | -0.5 | .630 |
| Total AUDIT-C (score from 0-12) | 0.9 | 0.2 | 0.4 | 5.7 | .000 |
| Group size (per one person increase in size) | 0.1 | 0.1 | 0.1 | 1.1 | .256 |
| Type of night (non-promotional=0; promotional=1) | 0.1 | 1.0 | 0.0 | 0.1 | .949 |
| Midlands premises  (AUDIT-C)  R2=0.377 | Constant | -3.3 | 2.6 |  | -1.3 | .210 |
| Age (in years) | 0.1 | 0.1 | 0.1 | 0.9 | .374 |
| Sex (male=0; female=1) | -4.2 | 0.8 | -0.3 | -5.2 | .000 |
| Preloading not at licensed premises (no=0; yes=1) | 5.2 | 0.8 | 0.4 | 6.1 | .000 |
| Education (non-graduate=0; graduate=1) | 0.5 | 1.0 | 0.0 | 0.5 | .592 |
| Marital status (Single=0; Married/living as married=1) | 1.5 | 1.0 | 0.1 | 1.5 | .129 |
| Economic activity (economically inactive=0; economically active=1) | 0.7 | 0.8 | 0.1 | 0.8 | .398 |
| Total AUDIT-C (score from 0-12) | 1.0 | 0.2 | 0.3 | 5.5 | .000 |
| Group size (per one person increase in size) | 0.2 | 0.1 | 0.1 | 1.6 | .104 |
| Type of night (non-promotional=0; promotional=1) | 0.9 | 0.8 | 0.1 | 1.1 | .269 |
| London  premises  (AUDIT-C separate questions)  R2=0.426 | Constant | 6.7 | 3.2 |  | 2.1 | .036 |
| Age (in years) | -0.1 | 0.1 | 0.0 | -0.7 | .508 |
| Sex (male=0; female=1) | -2.4 | 1.1 | -0.1 | -2.2 | .028 |
| Preloading not at licensed premises (no=0; yes=1) | 5.9 | 1.2 | 0.3 | 5.0 | .000 |
| Education (non-graduate=0; graduate=1) | -0.4 | 1.1 | -0.0 | -0.3 | .730 |
| Marital status (Single=0; Married/living as married=1) | 0.1 | 1.2 | 0.0 | 0.1 | .946 |
| Economic activity (economically inactive=0; economically active=1) | -0.5 | 1.1 | -0.0 | -0.5 | .639 |
| How often do you have a drink containing alcohol? | 1.5 | 0.7 | 0.1 | 2.2 | .028 |
| How many drinks on a typical occasion? | 2.3 | 0.5 | 0.3 | 4.8 | .000 |
| How often do you drink 6 or more drinks? | 1.3 | 0.8 | 0.1 | 1.7 | .092 |
| Group size (per one person increase in size) | 0.2 | 0.1 | 0.1 | 1.6 | .108 |
| Type of night (non-promotional=0; promotional=1) | -2.3 | 1.2 | -0.1 | -2.0 | .046 |
| Midlands premises  (AUDIT-C separate questions)  R2=0.409 | Constant | 5.8 | 3.4 |  | 1.7 | .092 |
| Age (in years) | 0.0 | 0.1 | 0.0 | 0.1 | .906 |
| Sex (male=0; female=1) | -7.6 | 1.2 | -0.4 | -6.5 | .000 |
| Preloading not at licensed premises (no=0; yes=1) | 5.0 | 1.2 | 0.2 | 4.0 | .000 |
| Education (non-graduate=0; graduate=1) | 1.2 | 1.5 | 0.0 | 0.8 | .422 |
| Marital status (Single=0; Married/living as married=1) | 2.2 | 1.4 | 0.1 | 1.6 | .116 |
| Economic activity (economically inactive=0; economically active=1) | 1.8 | 1.2 | 0.1 | 1.5 | .136 |
| How often do you have a drink containing alcohol? | 1.5 | 0.9 | 0.1 | 1.6 | .101 |
| How many drinks on a typical occasion? | 1.0 | 0.5 | 0.1 | 1.8 | .067 |
| How often do you drink 6 or more drinks? | 2.4 | 1.0 | 0.2 | 2.4 | .018 |
| Group size (per one person increase in size) | 0.3 | 0.2 | 0.1 | 1.8 | .068 |
| Type of night (non-promotional=0; promotional=1) | -3.3 | 1.2 | -0.2 | -2.7 | .007 |