

Developing Safer Drinking Environments in Europe

Key findings from the Amphora drinking environments study

Project Deliverable D3.5



Karen Hughes¹, Zara Quigg¹, Amador Calafat², Ninette van Hasselt³, Matej Košir⁴, Lotte Voorham³, Montse Juan², Mariangels Duch², Mark A Bellis¹

¹ Centre for Public Health, Liverpool John Moores University, Liverpool, UK

² European Institute for Studies on Prevention (IREFREA), Palma, Spain

³ Trimbos Instituut, Utrecht, Netherlands

⁴ Institute Utrip, Ljubljana, Slovenia

January 2013



Contents

1. Introduction	3
2. Development of the study	4
2.1 Systematic literature review	4
2.2 Study locations	4
The four cities	5
3. Methods.....	6
3.1 The alcohol survey	6
3.2 Observational study	7
3.3 Training package	9
3.4 Ethics	9
4. Results	10
4.1 Alcohol survey	10
4.2 Observational study	15
5. Discussion.....	24
5.1 Recommendations	26
References	28
Appendix 1: Summary of findings from the literature.....	30
Appendix 2: The four study cities	36

1. Introduction

Preventing alcohol-related harm in drinking environments is a growing priority across Europe. Millions of Europeans socialise or work in pubs, bars and nightclubs, and such settings provide an opportunity for the sale and consumption of alcohol to be managed. However, drinking environments can also be the scenes of excessive alcohol use, intoxication, and alcohol-related harms. Although studies on nightlife drinking behaviour in Europe are relatively rare, those in countries including the UK and Germany are beginning to identify the high levels of alcohol consumed by young people on a night out, with many already under the influence of alcohol when arriving at public drinking premises.¹⁻³ The convergence of large numbers of drinkers in bars and public spaces means harms such as anti-social behaviour, aggressive confrontation, injury, and drink driving can be common. Thus, studies consistently show that areas with greater densities of alcohol outlets see higher levels of violence, along with problems such as unintentional injury and road traffic crashes.⁴⁻⁶ Within specific nightlife areas, however, problems such as alcohol-related violence are often concentrated in a small number of problematic premises.⁷ This suggests that certain factors within bars and nightclubs can influence levels of alcohol-related harm.

The *European action plan to reduce the harmful use of alcohol 2012-2020*⁸ recognises the importance of drinking environments in preventing alcohol-related harm. Accordingly, it sets out a range of options for action including the development of guidelines and standards for the design of drinking premises, server training, and the monitoring and enforcement of licensing laws. A growing body of research is identifying the impacts of different strategies to prevent alcohol-related harm in European drinking environments.⁹⁻¹¹ To date, however, understanding what types of measures are needed in which settings has been hampered by a lack of knowledge of both drinking behaviours in European nightlife environments and the characteristics of bars that contribute to increased harm. International research has identified factors such as lack of seating, crowding and tolerance of anti-social behaviour to be associated with drunkenness and alcohol-related violence in bars. Interventions can be introduced to modifying these factors in order to reduce alcohol-related problems. However most research on drinking environments has been undertaken in Australian¹² and North American¹³ drinking settings, with few studies focusing on Europe. Drinking cultures and environments across Europe vary widely and thus little is currently known on how applicable international research findings are to the differing situations within Europe, or which risk and protective factors are most pertinent to European situations.

To address this gap in knowledge, the Amphora project conducted a study of drinking behaviours and bar environments in four European cities: Liverpool (UK); Ljubljana (Slovenia); Palma (Spain); and Utrecht (Netherlands). The key objectives of the study were to understand young people's drinking cultures and environments across Europe, and to identify characteristics of bars in Europe that are associated with alcohol-related harm. This report presents the methods and findings from the study and discusses implications for policy and prevention.

2. Development of the study

2.1 Systematic literature review

To inform the development of the Amphora study, a systematic literature review was undertaken to identify previous studies examining associations between environmental factors in bars and drinking behaviours or alcohol-related harm. The review focused on factors that were identifiable through naturalistic observational research and could be modified locally through environmental interventions. Thus it included factors associated with the physical bar environment, the social environment, and the practice of staff; and excluded factors such as staff training levels (not identifiable) and bar opening hours (largely not modifiable without regulation).

Using a comprehensive search strategy (see Appendix 1), ten health, social sciences and education databases, and ten key alcohol research websites were searched for studies published since 1990. A total of 5,114 articles were initially identified, and 52 articles were selected for inclusion in the review. These articles reported on 34 different studies conducted in nine countries: 12 in the USA, eight in Australia, five in the UK, three in Canada, two in France and one each in Bulgaria, the Netherlands, Spain and Sweden. Two thirds (n=22) of studies had used observational techniques, often in combination with other research methods such as qualitative interviews, survey data, secondary data analyses, patron breathalyser tests and alcohol purchase attempts by pseudo-drunk actors. Most observational techniques were naturalistic, although some included experimental techniques (e.g. adjusting music volume).

Findings from the review have been reported in detail elsewhere,^{14 15} and tables summarising these findings are provided in Appendix 1. Importantly, however, several studies identified in the review had utilised similar research methods,¹⁶⁻²¹ incorporating tools initially developed by Kathryn Graham in Canada as part of the Safer Bars project^{a 13}. Thus, these tools and methods were selected as the basis for the Amphora observational study (see section 3) and permission was obtained to use them in the four study locations.

2.2 Study locations

The study was implemented in drinking environments in four European cities: Liverpool (UK); Ljubljana (Slovenia); Palma de Mallorca (Spain); and Utrecht (the Netherlands). The four cities are all popular nightlife locations in their respective countries and were selected to be indicative of a range of different drinking cultures. A brief overview of each city is provided here, with further information contained in Appendix 2.

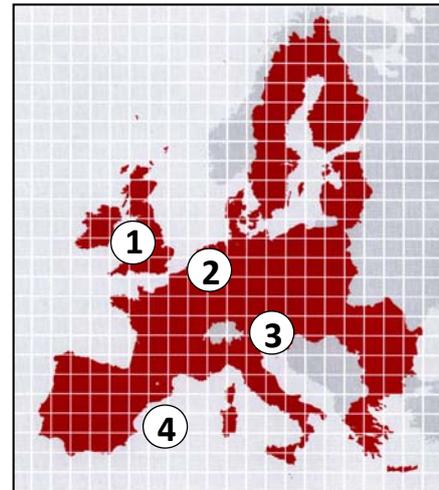
In each city, local project partners gathered information on nightlife behaviours and nightlife management issues from published documents and semi-structured interviews with key stakeholders working in drinking environments (e.g. police, local authorities, health services). This information was used to inform the implementation of the study and the revision of research tools where necessary.

^a http://publish.uwo.ca/~kgraham/safer_bars.html

The four cities

1. Liverpool, UK

Liverpool, in the North West of England, has a population of around 435,500. It has three universities serving around 50,000 students and is an important tourism destination. At the time of the Amphora study, Liverpool City Centre had 304 pubs, bars and nightclubs, 190 of which were licensed to stay open past 2am. Previous studies of Liverpool's nightlife have found high levels of alcohol consumption, intoxication, and preloading among nightlife users; reflective of UK drinking culture in general. Key nightlife concerns for local authorities included violence, drunkenness, anti-social behaviour and irresponsible alcohol sales.



2. Utrecht, Netherlands

The city of Utrecht is located in the centre of the Netherlands and has a population of around 330,000. Around a fifth of the population are students. At the time of the study there were 150 pubs and 10 nightclubs in the city centre. Although there were no restrictions on closing hours for such venues, most pubs closed between 2am and 4am and most nightclubs closed between 4am and 5am. Utrecht also had 15 coffee-shops that sold cannabis. There have been no previous studies of drinking behaviours among nightlife users in Utrecht. However, key concerns in the city's nightlife for local agencies included drunkenness, anti-social behaviour and violence.

3. Ljubljana, Slovenia

Ljubljana is the capital and largest city in Slovenia, with a population of around 277,000. It has one university that serves around 41,000 students. In 2006 there were 41 pubs, bars and nightclubs in the city centre. Bars and pubs tend to close at around midnight and nightclubs at around 4am or 5am. Prior to the Amphora study, there was little information available on nightlife drinking behaviours in Ljubljana. Key nightlife problems of concern for local authorities included: irresponsible alcohol retailing; drunkenness; drink driving, and problems with security staff.

4. Palma, Spain

Palma, on the island of Majorca, is the capital city of the Balearic Islands and has a population of 400,000. As well as being a student city, Majorca is a major tourist destination with a large foreign resident population. The exact number of pubs, bars and nightclubs in the city at the time of the study was unknown, although there were 1,027 nightclubs and around 4,000 bars across the whole island. Bars tended to close around 4am and nightclubs around 6am. Key nightlife problems included the practice of botellón – groups of youths gathering to consume alcohol in public places – along with irresponsible alcohol service, drink driving, noise, anti-social behaviour and violence in gangs and tourists.

3. Methods

In each city, teams of trained researchers undertook surveys and breathalyser tests with young drinkers (aged 16-35 years) in nightlife environments and conducted a series of structured observations in bars. The two research methods ran concurrently and all research took place on Thursday, Friday and Saturday nights (September to December 2010) between 10pm and 5am. Lead researchers in each city identified peak periods for nightlife activity and undertook data collection at these times, thus study timings varied between cities dependent upon local nightlife activity.

3.1 The alcohol survey

The questionnaire

A short questionnaire was developed that examined: the time at which individuals had started drinking on the survey night; the quantity of standard or large alcoholic drinks (categorised into lager/beer, cider, wine, alcopops and spirits) they had consumed up to the point of interview; whether they had preloaded (defined as drinking alcohol at their own or a friend's home before going out; participation in botellón was also recorded in Spain); expected additional alcohol consumption over the remainder of the night; whether they had, or intended to use illicit drugs that night; and their expected home time. The questionnaire also asked for participants' basic demographics (age and gender) and included space for recording the breathalyser test result. The questionnaire was based on an existing tool used in UK drinking environments,¹ adapted at a research meeting to be applicable in each location and ensure all questions were translated appropriately.

Implementation

Lead researchers in each city identified peak periods for nightlife activity and undertook data collection at these times. In each city, participants were recruited in the streets in busy nightlife areas, using a structured approach with teams of two researchers working in different locations for one-hour periods. A target sample of 200 participants was set for each city based on a previous study in the UK.¹ The eligibility criteria was being a 16–35 year old drinker, using drinking venues in the study city on the survey night, and being a national of the survey country. To meet ethics requirements, researchers visually assessed potential participants and excluded those who were already too intoxicated to participate; the number of excluded individuals ranged from three in Slovenia to 21 in Spain.

Researchers approached potential participants and asked if they had time to complete a short anonymous survey about alcohol. Of 1,495 individuals approached, 483 immediately refused to participate (i.e. before the survey was explained to them) and a further 131 declined after receiving information on the study. Overall compliance was 58.9% (Liverpool 69.3%, Ljubljana 48.6%, Palma 55.4%, Utrecht 66.8%). Researchers used an interview process to complete the questionnaire with the 881 individuals who consented to participate and then undertook a breathalyser test using the Lion 500 alcometer, with breath alcohol concentration readings being recorded on participants' questionnaires.

Data analysis

All completed questionnaires were returned to the UK and entered into a database using SPSS v17. At this point, 43 questionnaires were excluded due to participants being outside of the target age or nationality range, questionnaires being incomplete or illegible, or data being inconsistent. Thus, the final sample for analysis was 838 (Liverpool n = 222; Ljubljana n = 221; Palma n = 191; Utrecht n = 204). Analysis used chi squared, Kruskal Wallace and logistic regression.

To estimate the amount of alcohol consumption participants had consumed, reported drinks were converted to grams of alcohol using an online conversion tool.^b To account for differences in alcohol strengths and serving sizes across cities, conversions were based on typical standard/large drink sizes and alcohol strengths in each country (with information obtained via research leads or published literature¹⁶). Thus, the gram value assigned to each drink type varied between locations. For example, a standard glass of wine was coded as 16.8 grams of alcohol for Liverpool and Slovenia, 11.2 grams for Palma and 9.6 grams for Utrecht. As blood alcohol concentration is more commonly used and understood than breath alcohol concentration, breathalyser results were converted to blood alcohol concentration (%BAC; milligrams of alcohol per 100 ml of blood) for analysis according to established UK ratios.¹⁷

3.2 Observational study

The observation schedule used to assess bars and the method of implementing observations was based on the resources and techniques developed by Graham *et al*¹³ as part of the Safer Bars program (see http://publish.uwo.ca/~kgraham/safer_bars.html).

Observational schedule

The observational schedule incorporated a range of scale variables and other questions designed to measure aspects of the physical and social bar environment and the behaviour of staff and customers. The original schedule¹³ was adjusted slightly to tailor it to modern European bar environments and the needs of the Amphora study. Thus, a number of questions were removed (e.g. pool table atmosphere) and some additional questions were included (e.g. the price of a range of drinks). Key questions forming the observational schedule are detailed in Table 8, Section 4.

The final page of the observation schedule asked researchers to identify if they observed any of a list of incidents occurring during the observation, ranging from someone falling over drunk or vomiting to incidents of aggression and violence (see Table 11, Section 4). For each such incident observed, researchers were requested to complete a separate incident form providing details on the circumstances of the incident and the individuals involved.

^b <http://www.drinkaware.co.uk/tips-and-tools/drink-diary/>

Implementation

In each city, 15 bars popular with young people in each city were identified for observations, providing a sample of 60 venues. Two strategies were used to identify relevant bars. In Liverpool, Ljubljana and Utrecht, researchers liaised with police or other relevant authorities to identify all youth-focused bars and group these into low, medium or high risk premises for alcohol-related harm based on local data/knowledge. Five bars were randomly selected from each of these groups and included in the study. In Palma, low, medium and high risk venues were selected based on discussions with local nightlife users.

In each selected bar, covert one-hour observational visits were undertaken on four separate occasions with days and times of observations varied. In Utrecht, researchers were unable to undertake a fourth visit to two premises meaning 238 observational visits were undertaken across the sixty bars. Each observational visit was undertaken by a mixed gender pair of researchers, who were instructed to behave as customers (including being allowed to consume one alcoholic drink) while remaining as inconspicuous as possible and avoiding unnecessary interaction with other customers and staff. During observations covert note taking was permitted on mobile phones, yet observational schedules were not completed until researchers had left the venue. Schedules were completed by each researcher independently with paired schedules later checked at a research meeting with research leads, allowing for differences between the two schedules to be discussed and consensus met. Each observation consequently resulted in a single completed schedule.

Data analysis

All completed observational schedules were returned to the UK and entered into a database using SPSS v17. Analysis used SPSS version 17. For environmental characteristics, measures that used scale responses were retained as continuous variables with most other data items dichotomised into categorical variables (see Table 8, Section 4). Two measures recorded as percentages (customers dancing, area of the venue containing seating) were converted into scale variables. Data completeness was at least 98% across all variables apart from those measuring individual drink prices; here, 98% of visits provided at least one drink price and 67% provided all four drink prices. For all other variables, missing values were imputed as the city mean for scale variables or the venue norm for dichotomous variables.

Bars often change how they operate at different times and on different days and therefore for the purpose of analysis, each visit was counted as a separate observation rather than an average being calculated for a venue. City level comparisons of environmental characteristics recorded at each visit used chi squared and ANOVA. Multivariate analyses focused on two specific issues:

Customer intoxication: an overall researcher rating of the level of customer intoxication in a premise during an observation, recorded through a variable measuring the 'intoxication level of people in the venue' on a scale of 0 (no sign of intoxication) to 9 (everyone is drunk). This scale had not been completed for one observation in Utrecht and this visit was excluded from analysis (n = 237 visits).

Alcohol-related harm: a categorical variable identifying whether or not an incident of alcohol-related harm (see Table 11, Section 4) had occurred at the venue during the observation.

For multivariate analyses, highly correlated ($r > 0.50$) scale variables were combined in composite scales (see Table 8, Section 4). Analysis of associations between bar characteristics and ratings of customer intoxication used hierarchical modelling (linear mixed modelling) with venue as the unit of observation. The primary dependent variable was 'intoxication level of people in the venue', measured on a scale of 0 (no sign of intoxication) to 9 (everyone is drunk). As this variable had not been completed for one observational visit in Utrecht, this visit was excluded from analysis ($n = 237$ visits). All variables were initially input individually to identify associations with intoxication. Variables were then entered into six separate multivariate models relating to: (1) venue entrance; (2) physical environment; (3) bar activities; (4) alcohol and food service; (5) venue staff; and (6) customer factors. Five additional contextual variables were analysed: city; observation time (an equal split between earlier/later observations in each city); number of customers in the premise (>100 or not at the busiest time); whether police were outside the venue during the observation (which may have affected staff/customer behaviour); and whether the venue had an outdoor drinking area. Variables with independent relationships with intoxication ratings within each model were entered into the final models.

Analysis of alcohol-related harm (a categorical variable) used backward conditional logistic regression with venue entered as an independent variable. All significant variables from the bivariate analyses were added to the final model, along with venue code to control for repeated visits/observations.

3.3 Training package

A training package was delivered to research leads from each country to ensure consistent implementation of the study and instruct on appropriate observational procedures. For the latter, focus was placed on observational indicators that researchers could use to recognise different stages of intoxication, including changes in drinkers' behaviour, appearance and coordination. Further, detailed guidance on how to recognise and record alcohol-related harms was provided. The training also included a test bar observation, with research leads completing the schedule independently after the visit and comparing and discussing ratings at a meeting the following day. Each research lead then recruited field researchers in their country and repeated the training programme with them. A field researcher handbook was produced covering all aspects of the training session, practical guidance on conducting the study, and other general working procedures, which was provided to all field researchers. General guidance notes for field research coordinators/research leads were also produced covering aspects such as coordinating the field research, and collating and ratifying the observation and incident forms.

3.4 Ethics

Ethical approval for the study was obtained from Liverpool John Moores University research ethics committee in the UK.

4. Results

4.1 Alcohol survey

A total of 838 individuals completed the alcohol survey, 222 in Liverpool, 221 in Ljubljana, 191 in Palma and 204 in Utrecht. Overall, 57.6% were male and the mean age was 23 years. The sample from Liverpool had significantly more females and younger samples were obtained in Liverpool and Palma (Table 1).

Table 1: Participant gender and age, by city

		Liverpool	Ljubljana	Palma	Utrecht	P
	n	222	221	191	204	
Gender (%)	Male	46.8	59.7	64.7	60.3	0.002
	Female	53.2	40.3	35.3	39.7	
Age Group (%)	16-19	30.2	15.8	33.0	15.7	<0.001
	20-24	45.0	42.1	33.5	45.6	
	25-35	24.8	42.1	33.5	38.7	

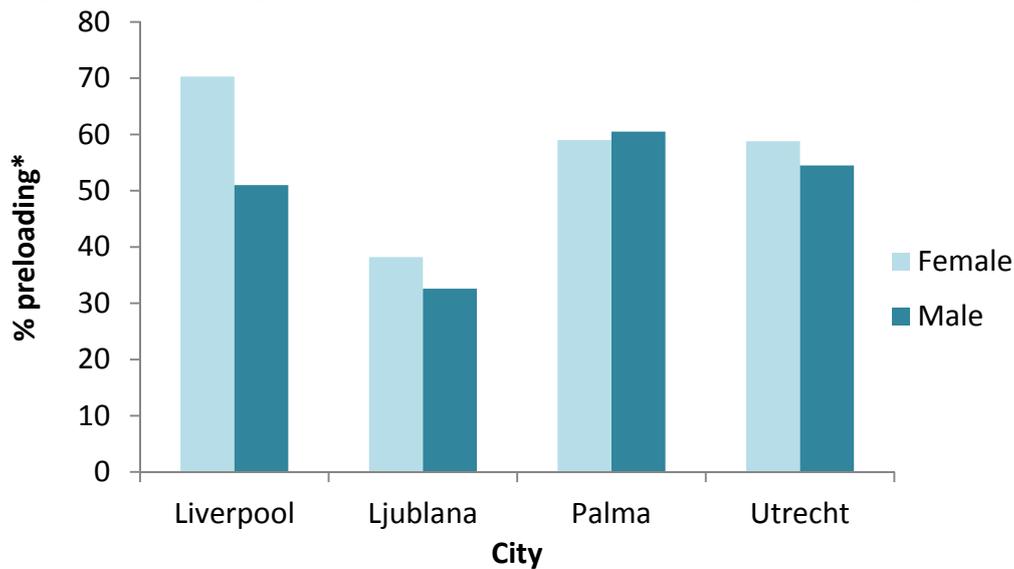
In all cities, the majority of participants had been drinking alcohol for at least three hours by the time of interview (Table 2). Most participants in Ljubljana and Palma had been in the nightlife environment for at least three hours, whereas half of those from Liverpool and Utrecht had been out for less than three hours. In general, those from Utrecht reported staying out in nightlife environments for shorter periods than those from other cities.

Table 2: Nightlife participation on survey night, by city

		Liverpool	Ljubljana	Palma	Utrecht	P
Hours since first drink at interview (%)	<3 hrs	24.8	24.9	22.9	20.8	0.007
	3 to 5 hrs	40.5	46.9	54.7	39.1	
	>5 hrs	34.8	28.2	22.4	40.1	
Hours spent in nightlife setting at interview (%)	<3 hrs	51.4	25.2	13.9	54.7	<0.001
	3 to 5 hrs	28.1	46.3	53.9	25.8	
	>5 hrs	20.5	28.5	32.2	19.5	
Expected total hours in nightlife setting (%)	<3 hrs	4.2	4.2	0.7	17.4	<0.001
	3 to <5 hrs	42.1	34.1	30.3	42.1	
	5 to <7 hrs	23.1	28.5	40.1	22.1	
	>7 hrs	30.6	33.2	28.9	18.5	

Participants were asked whether they had consumed alcohol at home or a friend's home before going out that night – known as preloading. Almost half (45.1%) of all participants had preloaded with prevalence highest in Liverpool (61.4%) and lowest in Palma (25.7%). However, in Palma a third (33.9%) of participants reported drinking in botellón before attending bars and nightclubs - a common practice in Spain whereby young people congregate to drink in public places - and this was considered form of preloading. Thus, participants from Palma had preloading levels similar to those in Liverpool. Figure 1 shows the prevalence of preloading in each city by gender; differences were only significant in Liverpool where females were more likely to report having preloaded than males.

Figure 1: Percentage of participants having preloaded*, by city and gender



* Including botellón in Palma. Breakdown for Palma sample: males 24.4% preload, 36.1% botellón; females 27.9% preload, 31.1% botellón

Table 3 shows reported alcohol consumption and measured BAC in participants by city and gender. In both genders, there were significant differences between cities in median %BAC measured at interview, with this being highest in Liverpool, followed by Utrecht. In both genders, Liverpool had the greatest proportion of participants with BAC levels greater than 0.08%. In males, this same pattern was seen in the quantity of alcohol participants reported having consumed prior to interview; males in Liverpool reported having consumed a median of 104 grams of alcohol by interview, falling to 64 grams in Ljubljana. For females, however, there were no significant differences between cities in the quantity of alcohol participants reported having consumed prior to interview. This suggests that females in Liverpool may have underestimated or under-reported the amount of alcohol they had consumed. However, in both genders, participants in Liverpool reported expecting to drink the highest quantity of additional alcohol over the remainder of their night out. Thus, the total quantity of alcohol expected to be consumed over the whole night (combining that already consumed and that expected) was significantly higher in Liverpool than in other cities. The overall quantity of alcohol males in Liverpool reported expecting to drink was more than double that of males in both Ljubljana and Palma.

In the UK, binge drinking is often defined as drinking more than six (females) or eight (males) units of alcohol in one session, with one unit equating to 8 grams of alcohol. Thus, here binge drinking was defined as consuming more than 48.0 (female) or 64.0 (male) grams of alcohol on the survey night. Table 3 shows that median quantities of alcohol consumed by interview were equivalent to binge drinking in all cities. Across the whole night (combining alcohol consumed by interview and that expected post interview), the majority of participants in all cities expected to binge drink that night.

As well as alcohol consumption, 10.7% of participants reported having used, or intending to use, illicit drugs on the survey night - mostly cannabis (73.3%) followed by cocaine (30.2%). Drug use was most commonly reported in Palma (21.3%, compared with 6.0%, 8.1% and 9.0% in Utrecht, Liverpool and Ljubljana respectively).

Table 3: Recorded blood alcohol concentration (%BAC) at interview and reported alcohol consumption during the night out, by gender and city

	Liverpool	Ljubljana	Palma	Utrecht	P
Females					
Median %BAC at interview	0.10	0.05	0.06	0.07	<0.001
% with BAC >0.08%	58.5	34.8	34.8	34.6	<0.001
Median grams of alcohol by interview	56.8	50.4	50.4	54.4	0.147
Median grams expected after interview	40.0	17.6	16.8	22.4	<0.001
Median total grams of alcohol	104.8	66.4	72.0	76.8	<0.001
% expecting to binge drink that night*	82.5	67.9	63.8	80.5	<0.05
Males					
Median %BAC at interview	0.13	0.08	0.07	0.09	<0.001
% with BAC >0.08%	70.9	50.8	47.1	58.7	0.002
Median grams of alcohol by interview	104.0	64.0	70.4	92.8	<0.001
Median grams expected after interview	62.4	18.4	16.8	33.6	<0.001
Median total grams of alcohol	176.8	79.2	87.2	139.2	<0.001
% expecting to binge drink that night*	96.0	61.6	72.3	85.8	<0.001

* Sum of grams consumed by interview and expected additional grams over the remainder of the night greater than 48.0 grams for females and 64.0 grams for males.

Table 4 shows the proportion of participants that had consumed different types of drinks by the point of interview. The majority of participants in Liverpool, Palma and Ljubljana had consumed spirits. Spirits were the most common drink consumed by females in Liverpool, and both males and females in Ljubljana and Palma. Lager or beer was the most common drink consumed by males in Utrecht and Liverpool, while wine was the most common drink consumed by females in Utrecht.

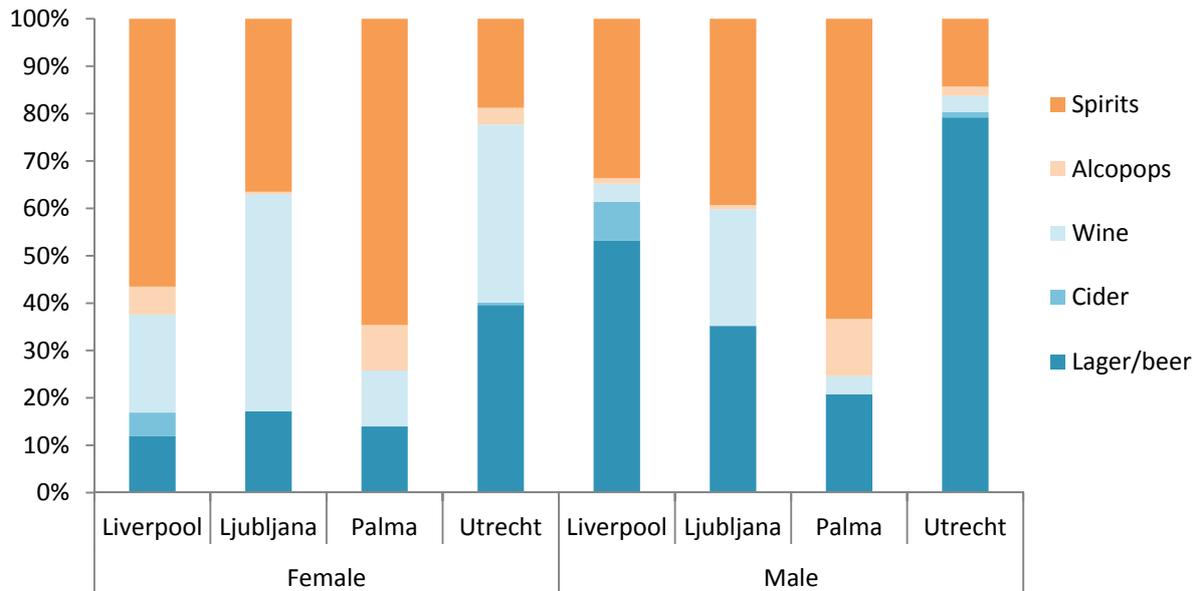
Table 4: Percentage of participants having consumed different drink types by interview

	Liverpool		Ljubljana		Palma		Utrecht	
	Female	Male	Female	Male	Female	Male	Female	Male
Lager/beer	16.1	75.0	32.6	56.1	21.2	40.5	55.6	85.4
Cider	9.3	14.4	0	0	0	0	1.2	0.8
Wine	28.8	7.7	46.1	25.8	22.7	9.1	60.5	9.8
Alcopops	16.1	5.8	1.1	1.5	30.3	28.1	9.9	7.3
Spirits	85.6	71.2	59.6	58.3	71.2	74.4	35.8	26.8

* For both genders and all drinks categories, differences between cities were significant at the P<0.001 level

In Figure 2, the total quantity of alcohol consumption reported by participants prior to interview is summed to show the proportion of alcohol consumed that was accounted for by different drink types. Spirits accounted for over half of all grams of alcohol consumed by females in Liverpool and both females and males in Palma. Beer accounted for the majority of alcohol consumed by males in Utrecht, and over half of those by males in Liverpool. Almost half of all alcohol consumed by females in Ljubljana was accounted for by wine.

Figure 2: Percentage of alcohol consumed by participants prior to interview that was accounted for by different drink types*



* grams of alcohol consumed by interview for individuals within each category were summed by drink type to show the proportion of grams reported by the sample that was accounted for by different drink types

As surveys and breathalyser tests were conducted at different times of night, participants' alcohol consumption prior to interview and their %BAC were examined based on the length of time they had been drinking for when they were interviewed (i.e. the time since their first drink). Among those that had been drinking for less than three hours, there were no significant differences between genders or cities in either the median quantity of alcohol consumed or median %BAC (Tables 5 and 6). Across all cities, the quantity of alcohol consumed by interview increased in those who had been drinking longer (Table 5). This increase was most pronounced in the samples from Liverpool. In females, %BAC only increased with time drinking in Liverpool, where %BAC reached a median on 0.13 in those that had been drinking for longer than five hours at interview, compared with 0.07 in females from Utrecht and Palma and 0.04 in females from Ljubljana (Table 6). In males, increases in %BAC with time spent drinking were seen in all but those from Palma. Again, the increase was particularly pronounced in the Liverpool sample where %BAC in those that had been drinking for over five hours reached a median of 0.17, compared with 0.11 in Utrecht and 0.09 in both Ljubljana and Palma.

Finally, to identify factors independently associated with high BAC at interview (>0.08%; a commonly used marker of intoxication¹⁸), backward conditional logistic regression analysis was undertaken. This found high BAC to be associated with being male, aged greater than

19 years, being from Liverpool, having consumed spirits prior to interview, and having been drinking for a longer period of time (Table 7).

Table 5: Median grams of alcohol reported to have been consumed prior to interview, by time between participants' first alcoholic drink and interview

	Females					P ^a	Males				
	Liverpool	Ljubljana	Palma	Utrecht	P ^a		Liverpool	Ljubljana	Palma	Utrecht	P ^a
< 3 hours	32	32	36	39	ns	45	35	48	45	ns	
3-5 hours	64	58	44	58	ns	88	70	66	96	***	
> 5 hours	96	59	80	64	*	146	89	89	112	**	
p ^b	***	**	ns	***		***	***	**	***		

^aP between cities across time periods, ^bP between time periods within cities; * P<0.05, ** P<0.01, *** P<0.001

Table 6: Median BAC by time between participants' first alcoholic drink and interview

	Females					P ^a	Males				
	Liverpool	Ljubljana	Palma	Utrecht	P ^a		Liverpool	Ljubljana	Palma	Utrecht	P ^a
< 3 hours	0.05	0.04	0.06	0.04	ns	0.05	0.05	0.07	0.05	ns	
3-5 hours	0.12	0.05	0.06	0.06	***	0.10	0.08	0.07	0.11	**	
> 5 hours	0.13	0.04	0.07	0.07	*	0.17	0.09	0.09	0.11	***	
p ^b	***	ns	ns	ns		***	*	ns	**		

^aP between cities across time periods, ^bP between time periods within cities; * P<0.05, ** P<0.01, *** P<0.001

Table 7: Adjusted odds ratios (AOR) for having BAC >0.08% at interview

		AOR	95%CIs	P
Gender	Female (Ref)			*
	Male	1.53	1.07-2.19	
Age Group	16-19 (Ref)			***
	20-24	2.50	1.66-3.78	
	25-35	1.96	1.28-3.01	
Country	Slovenia (Ref)			**
	Spain	0.89	0.54-1.46	
	Netherlands	1.17	0.75-1.83	
	UK	2.26	1.43-3.58	
Time spent drinking by point of interview	< 3 hours (Ref)			***
	3 to 5 hours	2.26	1.50-3.41	
	> 5 hours	3.62	2.28-5.74	
Consumed spirits prior to survey	No (Ref)			*
	Yes	1.59	1.07-2.34	

*P < 0.05, **P < 0.01, ***P < 0.001; 95%CIs = 95% confidence intervals

Analysis uses backward conditional logistic regression. Only significant variables are shown. Other variables entered into the model included: whether participants had preloaded; whether they had consumed lager/beer, cider, wine, or cider prior to interview; and whether they had used, or intended to use, illicit drugs on the survey night. Missing data values limited the sample to 750.

4.2 Observational study

In the second part of the study, 238 hours of structured observations were undertaken in 60 youth focused bars: 15 in each of the four cities. The key bar characteristics assessed during the observations are shown in Table 8. As one observation in Utrecht did not record an overall rating of customer intoxication in the venue – the key variable of interest – this observation was excluded from analysis. Thus, the total number of observations per city was:

- Liverpool n=60, Ljubljana n=60, Palma n=60, Utrecht n=57.

Each observation was treated as a separate case in analysis.

Although bars observed in the study were not intended to be representative of all bars in the four cities, initial analysis examined differences between cities in bar characteristics recorded during the observations. Table 9 shows the proportion of observations in each city that recorded bar characteristics measured through categorical variables. There were significant differences between cities in most characteristics. For example, while the majority of observations in all cities recorded door staff managing the entrance to the venue, this ranged from 63.3% of observations in Ljubljana up to 98.3% of observations in Liverpool. Observations in Ljubljana were most likely to record the presence of house rules inside venues (63.3%, falling to just 3.3% in Liverpool). Those in Liverpool were most likely to feature cheap alcoholic drink promotions, while non-alcoholic drink promotions were more commonly identified in observations in Palma and Utrecht than in other cities. Almost three quarters of observations in Ljubljana recorded the use of plastic glassware, compared with only around one in ten in Palma and Utrecht. Bar staff in Palma were generally identified as being older than in other cities, while the clientele in bars in Utrecht was generally identified as being younger. In a third of observations in Liverpool, police were patrolling the outside of bars when researchers first entered. Such policing is a common tactic in UK drinking environments, yet a police presence was rarely recorded in observations in both Ljubljana and Utrecht.

Table 10 shows the mean ratings by city for scale variables measuring aspects of the physical environment and staff and customer behaviours. For all scales, higher values represented more 'problematic' levels. The key purpose of the scale variables is to assess associations with alcohol-related harm, rather than to compare across cities. Ratings are likely to be limited by cultural interpretation of bar environments, with observations being undertaken by different research teams in each city. There were significant differences between cities in mean ratings of most variables.

Researchers were asked to identify the price of a range of drinks during observations. Figure 3 presents the mean price of these drinks by city. However, drink prices cannot be considered representative for each city, particularly as drink serving sizes and strengths may have varied between cities.¹⁶

Table 8: Description of observational schedule measurements used in analyses

Scale variables			Categorical variables	
Label	Scale	Scale range	Label	Yes/No
Intoxication	Intoxication level of people in the venue	0 no sign of intoxication → 9 everyone is drunk	Door staff	Staff managing entrance to the venue
Seating	Proportion of the venue floor space containing seating	0 90% or more → 9 <10%	Queue	There was a queue to enter the venue
			Entrance fee	Entrance fee had to be paid
Noise	Noise level in loudest part of venue	0 very quiet/easy to talk → 9 hurts ears/cannot talk	House rules (entry)	House rules displayed at venue entrance
Crowding ^a	Crowding at busiest time (exc.dancefloor)	0 lots of space → 9 cannot move	Dance floor	Venue had a designated dance floor area
Movement ^a	Movement (at busiest time/part of venue)	0 little movement → 9 constant	Pool tables	Venue had pool tables
Ventilation ^b	Ventilation in the venue	0 extremely fresh → 9 extremely stuffy/stale	TV screens	Television screens ^b visible in the venue
Lighting ^b	Level of lighting inside the venue	0 bright/can clearly see → 9 very dark/can hardly see	House rules (inside)	House rules displayed inside the venue
Temperature	Temperature in the venue	0 very cold → 9 very warm	Rock/heavy music	Rock/heavy metal music being played
Clearing ^c	Clearing of tables/other surfaces ^e	0 always → 9 never	Rap/hip hop music	Rap or hip hop music being played
Cleanliness ^c	Extent that indoor premises are kept clean (spills, litter) including the floor	0 always → 9 never	Pop/dance music	Pop or dance music being played
			Alcohol promotions	Cheap alcoholic drink promotions ^h
Glass on floor	Extent of glass/bottles on venue floor ^f	0 none → 9 everywhere	Low drinks prices	Drink prices below average for that city ⁱ
Toilets	Extent that toilets are kept in order (e.g., locks) and stocked (soap, toilet rolls etc.)	0 clean/fresh/stocked → 9 vandalised/foul	Soft drink promotions	Non-alcoholic drinks promoted ^j
			Plastic glassware	Drinks served in plastic glasses ^k
Staff monitoring	To what extent are staff generally monitoring all areas of the venue?	0 constantly monitored → 9 unmonitored	Table service	Drinks served at tables
			Food service	Food available during the observation
Staff coordination	To what extent do staff seem to be coordinated as a team?	0 constant radio or eye contact → 9 not coordinated at all	Fewer bar staff	30 or more customers per bar server
			Young staff	>50% thought to be under age 25
Staff attitude	Are servers cheerful, courteous and friendly (CCF) in a professional way or distant, unfriendly, stern or even rude/obnoxious (DUS)?	0 all were CCF → 9 all were DUS	Male staff	>50% male
			Glass collectors	Glass collectors working in the venue
			Male clientele	>50% clientele were male
			Young clientele	>50% clientele estimated to be <age 22
Staff boundaries	Extent that servers maintained professional (P) boundaries from patrons	0 all completely P, clear boundaries → 9 all socialising with customers	Single sex groups	>50% clientele in single sex groups
Permissiveness	Overall decorum/behavioural expectations	0 no offensive/abusive behaviour → 9 anything goes	Police outside	Police were outside the venue at entry
Dancing	Proportion of customers dancing	0 <10% → 9 90% or more	High alcohol drinks	High alcohol content ^l drinks most common
Sexual activity ^d	Sexual activity in venue	0 none → 9 explicit sexual contact	Outdoor area	Outdoor eating/drinking/smoking area
Sexual competition ^d	Sexual competition in venue	0 scoping not the focus for anyone → 9 scoping the focus of 76–100%	100+ customers	100+ customers in venue at peak time
Rowdiness	Global rating of rowdiness in the venue	0 none/very rare → 9 out of control	Later visit	Later 50% of observations (per city)

The following variables were strongly correlated and were combined into single scales for hierarchical modelling: ^a Crowding and movement ($r=0.686$); ^b Ventilation and Lighting ($r=0.607$); ^c Clearing and Cleanliness ($r=0.788$); ^d Sexual activity and Sexual competition ($r = 0.765$); ^e Highest rating from two scales covering tables/other surfaces separately; ^f Highest rating from two scales covering glass/bottles separately; ^g Typically showing music videos or venue marketing/promotions; ^h e.g., buy one get one free, free shots; ⁱ Based on spirits or lager depending on which drink was most commonly being consumed in the venue; ^j Including energy drinks; ^k Partly or wholly; ^l High alcohol: spirits/wine, low alcohol: lager/cider/alcopops.

Table 9. Proportion of observations recording various bar activities on offer, by city

	Liverpool	Palma	Utrecht	Ljubljana	P
Number of venues	15	15	15	15	
Number of visits ¹	60	60	57	60	
Venue entrance					
Door staff	98.3	88.3	75.4	63.3	<0.001
Queue	15.0	35.0	31.6	13.3	0.006
Entrance fee	11.7	40.0	14.0	26.7	0.001
House rules (entry)	8.3	46.7	31.6	41.7	<0.001
Bar activities					
Dance floor	86.7	46.7	71.9	36.7	<0.001
Pool tables	6.7	11.7	0.0	6.7	0.080
TV screens	68.3	57.1	52.6	46.7	0.103
House rules (inside)	3.3	38.3	12.3	63.3	<0.001
Rock/heavy music	3.3	31.7	5.3	23.3	<0.001
Rap/hiphop music	58.3	0.0	19.3	15.0	<0.001
Pop/dance music	90.0	68.3	78.9	58.3	0.001
Alcohol and food					
Alcoholic drink promotions	46.7	13.3	17.5	28.3	<0.001
Low drink prices ²	37.9	73.3	66.7	36.7	<0.001
High alcohol drinks	41.7	95.0	5.3	40.0	<0.001
Soft drink promotions	1.7	21.7	21.1	15.0	0.007
Plastic glassware	30.0	11.9	8.8	73.3	<0.001
Table service	3.3	25.0	7.0	78.3	<0.001
Food service	3.3	6.7	3.5	16.7	0.018
Staff characteristics					
Fewer bar staff	16.7	70.0	38.6	10.0	<0.001
Young staff	55.0	0.0	47.4	46.7	<0.001
Male staff	48.3	26.7	73.7	60.0	<0.001
Glass collectors	78.3	61.7	68.4	8.3	<0.001
Customer type					
Male clientele	60.0	75.0	63.2	81.7	0.033
Young clientele	11.7	8.3	33.3	11.7	0.001
Single sex groups	70.0	36.7	77.2	30.0	<0.001
Additional variables					
Police outside	33.3	18.3	7.3	1.7	<0.001
Outdoor area	23.3	66.7	63.2	86.7	<0.001
100+ customers	63.3	81.7	59.6	35.0	<0.001

Table 10: Mean ratings on physical environment, staff behaviour and customer behaviour scales, by city of observation

	Liverpool	Palma	Utrecht	Ljubljana	P
Physical environment					
Seating	6.8	6.5	7.5	4.0	<0.001
Noise	6.2	6.5	5.8	5.1	<0.001
Crowding	4.7	3.9	5.1	3.7	0.001
Ventilation	2.1	3.6	3.6	2.4	<0.001
Temperature	4.2	4.7	5.4	4.4	<0.001
Clearing	4.8	4.8	6.6	4.4	<0.001
Glass on floor	2.5	1.6	2.5	1.4	0.006
Cleanliness	4.4	4.6	6.2	4.1	<0.001
Toilets	3.8	4.1	4.0	3.8	0.764
Lighting	3.1	4.2	3.6	2.8	<0.001
Staff behaviours					
Staff monitoring	2.6	3.3	3.8	2.9	0.004
Staff coordination	4.2	5.0	4.7	3.8	0.002
Staff attitude	1.5	3.2	2.1	1.7	<0.001
Staff boundaries	1.3	3.4	3.4	1.6	<0.001
Permissiveness	2.9	1.8	2.4	0.9	<0.001
Customer behaviours					
Dancing	4.5	3.7	4.8	3.3	0.033
Sexual activity	3.2	3.1	3.0	2.6	0.436
Sexual competition	3.5	2.7	2.7	1.7	<0.001
Rowdiness	3.3	2.9	3.2	0.9	<0.001
Movement	4.8	4.7	4.9	4.0	0.099
Overall customer intoxication rating*	4.0	3.7	4.0	3.5	0.313

Figure 3: Mean drink prices by city of observation



£ sterling prices converted to euros at a rate of 1.1531

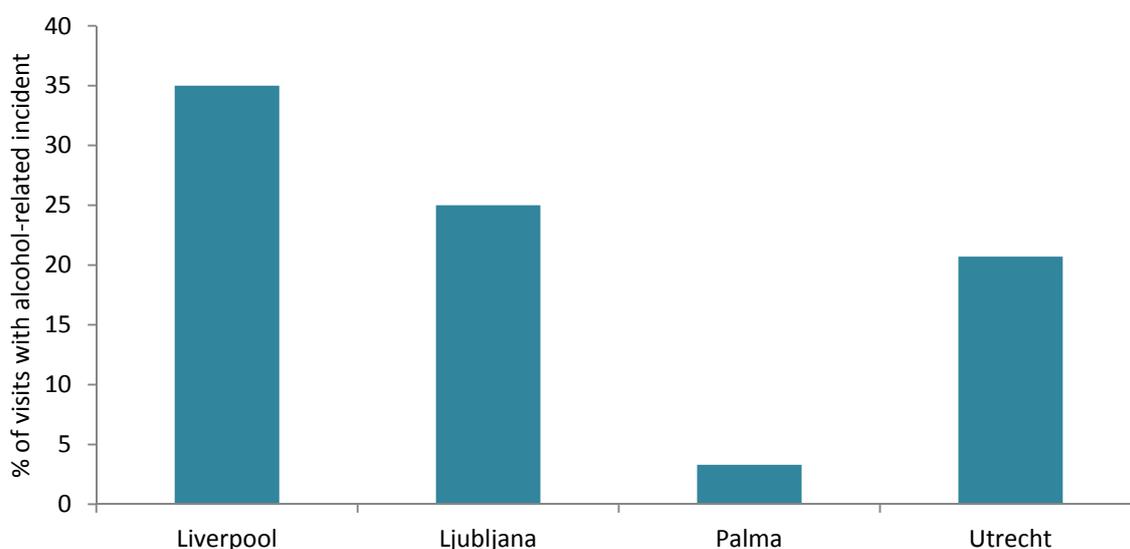
*Researchers were asked to request the price of a 'single' vodka yet in Spain spirits serving sizes are known to be larger.¹⁶

In a fifth of all observational visits (21.0%), researchers witnessed at least one alcohol-related incident inside the venue. Table 11 shows the types of alcohol-related incidents that were measured and the proportion of visits overall that recorded each incident. The most common type of incident was someone falling over drunk (observed in one in ten visits), followed by people arguing. However, there were wide variations between cities with incidents observed most commonly in Liverpool (35.0% of visits) and least commonly in Palma (3.3%; Ljubljana 25.0%, Utrecht 20.7%; $P < 0.001$; Figure 4). Someone falling over drunk was the most common type of incident in Liverpool (23.3% of all visits; Ljubljana 11.7%, Utrecht 5.2%, Palma 0%; $P < 0.001$) while people arguing was the most common in Ljubljana and Utrecht (13.3% and 21.1% of visits respectively; Liverpool 10.0%, 0% in Palma; $P < 0.05$). There were no significant differences between the cities in other incident types that were observed less often. Only three incidents were recorded in Palma – someone hitting someone; a physical fight; and someone vomiting.

Table 11: Percentage of observational visits during which alcohol-related incidents were observed inside the venue

Label	Description	% of visits
Arguing	People arguing	8.8
Threats	Someone threatened a person/group (incl. with a weapon)	0.8
Pushed	Someone pushed/grabbed someone else aggressively	3.4
Hit	Someone hit someone else	2.5
Fighting	A physical fight	1.7
Objects thrown	Someone threw something in anger at someone	0.8
Falling over	Someone fell over drunk	10.1
Vomiting	Someone vomited	2.1
Injured	Someone injured themselves	0.8
Intoxicated	Someone severely drunk requiring assistance (e.g. to walk)	5.0
Any incident	Any of the above	21.0

Figure 4: Percentage of visits in which an alcohol-related incident was observed, by city



Associations between bar characteristics and customer intoxication ratings

Hierarchical modelling was used to identify bar characteristics associated with overall ratings of customer intoxication during observations. All bar characteristics were first tested individually for their relationship with customer intoxication (Table 12). Here, having door staff managing venue entrance, a queue to get in and an entrance fee were all associated with increased customer intoxication ratings. Inside the venue, all physical environment factors were significantly associated with intoxication; less seating, louder noise, greater movement/crowding, lower ventilation/lighting, higher temperature, poor clearing/cleanliness, more glass on the venue floor and poorer toilet facilities were all related to increased customer intoxication. Having a dance floor was also associated with greater intoxication, as were non-alcoholic drinks promotions and use of plastic glassware. Both food service and the service of alcohol at tables (rather than just at the bar) were associated with lower intoxication ratings.

The presence of glass collectors, poorer staff monitoring, attitudes and boundaries, and greater levels of permissiveness (tolerance of antisocial behaviour) were all associated with higher intoxication ratings. For customer factors, younger clientele, more dancing, and higher sexual activity/competition and rowdiness ratings were all significantly associated with higher customer intoxication.

Two contextual variables were also associated with increased intoxication: greater number of customers in the venue during the observation (>100 at the busiest time) and observation timing (later observations based on an equal split of early/late in each city) (Table 12). Other contextual variables examined that had no relationships with intoxication were city, police outside the venue, and outdoor drinking area.

Variables were then entered into six multivariate models relating to: 1) entrance to the venue; 2) the physical environment inside the venue; 3) activities and entertainment in the bar; 4) alcohol and food service in the venue; 5) staff characteristics; and 6) customer characteristics (Table 13). Each model also included the two significant contextual variables (number of customers, time of observation). In these block analyses none of the variables relating to the entrance to the venue had an independent relationship with intoxication ratings. Across the block of factors relating to the physical environment inside venues, only greater movement/crowding and poorer toilet facilities maintained their relationship with higher customer intoxication ratings (Table 13). Among bar activity factors, both the presence of a dancefloor and TV screens were associated with increased intoxication ratings. In the alcohol and food service block, the promotion of non-alcoholic drinks and the use of plastic glassware both retained their association with increased intoxication, and table service was independently associated with lower intoxication ratings. Of staffing factors, only poorer staff monitoring and greater permissiveness had significant independent relationships with increased intoxication ratings. However, all customer factors that were associated with increased intoxication ratings in bivariate analysis maintained this relationship in multivariate block analysis.

Table 12: Bivariate associations between bar characteristics and researcher ratings of customer intoxication

Variable	P	slope ^a	Variable	P	slope
Contextual factors			Alcohol and food		
>100 customers	***	↑	Alcoholic drink promotions	ns	
Later visit	***	↑	Low drink prices	ns	
Entry			Soft drink promotions	**	↑
Door staff	**	↑	Plastic glassware	**	↑
Queue	*	↑	Table service	**	↓
Entrance fee	*	↑	Food service	*	↓
House rules (entry)	ns		Venue staff		
Physical environment			Fewer bar staff	ns	
Seating	***	↑	Young staff	ns	
Noise level	***	↑	Male staff	ns	
Movement/Crowding	***	↑	Glass collectors	*	↑
Ventilation/Lighting	***	↑	Staff monitoring	***	↑
Temperature	***	↑	Staff coordination	ns	
Clearing/Cleanliness	***	↑	Staff attitude	*	↑
Glass on floor	***	↑	Staff boundaries	*	↑
Toilets	***	↑	Permissiveness	***	↑
Bar activities			Customers		
Dancefloor	***	↑	Male clientele	ns	
Pool tables	ns		Young clientele	**	↑
TV screens	ns		Single sex groups	ns	
House rules (inside)	ns		High alcohol drinks	ns	
Rock/heavy music	ns		Dancing	***	↑
Rap/hiphop music	ns		Sexual activity/comp.	***	↑
Pop/dance music	ns		Rowdiness	***	↑

In the final stage of analysis, all factors that had independent associations with intoxication ratings were entered into an overall model (Model 1, Table 13), along with the two significant contextual factors. Here, factors that emerged as having significant associations with increased intoxication ratings were: later observation time; poorer toilet facilities; non-alcoholic drink promotions; use of plastic glassware; greater staff permissiveness; and greater customer sexual activity/competition.

As customers are likely to be attracted to a venue due to its social and physical environment, a second model was run that excluded all customer-focused variables (Model 2, Table 13). In this model, the relationships between later observation time, non-alcoholic drink promotions and permissiveness were strengthened, while the association between a dance floor and increased intoxication ratings also became significant.

Table 13: Multivariate associations between bar characteristics and researcher ratings of customer intoxication

Variable	Block analysis		Model 1		Model 2	
	P	slope	P	slope	P	slope
<i>Contextual factors</i>						
>100 customers	na		ns		ns	
Later visit	na		* ↑		*** ↑	
<i>Physical environment</i>						
Movement/Crowding	* ↑		ns		ns	
Toilets	* ↑		* ↑		* ↑	
<i>Bar activities</i>						
Dancefloor	*** ↑		ns		* ↑	
TV screens	* ↑		ns		ns	
<i>Alcohol and Food</i>						
Soft drink promotions	** ↑		* ↑		** ↑	
Plastic glassware	** ↑		** ↑		** ↑	
Table service	** ↓		ns		ns	
<i>Staff factors</i>						
Staff monitoring	** ↑		ns		ns	
Permissiveness	*** ↑		* ↑		*** ↑	
<i>Customer factors</i>						
Young clientele	* ↑		ns			
Dancing	** ↑		ns			
Sexual activity/comp.	* ↑		* ↑			
Rowdiness	*** ↑		ns			

^a slope direction shows whether the variable was associated with an increase (↑) or decrease (↓) in intoxication rating. na = not applicable; these two variables were included in all block analyses; ns = not significant; * P< 0.05; ** P< 0.01; *** P< 0.001.

Associations between bar characteristics and observed alcohol-related incidents

To examine associations between bar characteristics and alcohol-related incidents witnessed by researchers during observations, logistic regression analysis was used. All bar characteristics were initially tested for bivariate associations with whether at least one alcohol-related incident was observed or not. Table 14 shows variables for which significant associations were identified. These factors were included in the logistic regression model, with highly correlated scale variables ($r>0.6$) combined and standardised: sexual activity/sexual competition; permissiveness/rowdiness; crowdedness/movement; and, seating/dancing. In the model, two variables emerged as having significant independent associations with alcohol-related incidents: permissiveness/rowdiness (AOR=1.8; $p<.01$) and plastic glassware (AOR = 6.7; $p<.05$).

Table 14: Percentage of visits recording staffing, customer and environmental factors, and mean ratings for staffing, customer and environmental related scales, by whether alcohol-related incidents were observed

		No incidents %/mean	Incidents observed %/mean	χ^2/f	P
City	Liverpool	20.7%	42.0%	18.95	***
	Palma	30.9%	4.0%		
	Utrecht	24.5%	24.0%		
	Ljubljana	23.9%	30.0%		
Physical environment	Seating	5.9	7.1	7.43	**
	Crowding	4.1	5.2	10.8	**
	Glass on floor	1.7	3.1	17.13	***
	Toilets	3.7	4.5	5.18	*
Bar activities	Rock/heavy music	18.6%	6.0%	4.69	*
Alcohol and food service	Alcoholic drink promotions	23.4%	38.0%	4.32	*
	Plastic glassware	25.5%	52.0%	12.9	***
Bar staff	Young staff	34.0%	50.0%	4.30	*
	Permissiveness	1.7	3.0	25.6	***
Customer type and behaviours	Single sex groups	50.0%	66.0%	4.06	*
	Dancing	3.7	5.2	8.86	**
	Sexual activity	2.7	3.7	9.79	**
	Sexual competition	2.4	3.6	13.46	***
	Rowdiness	2.3	3.6	18.21	***
	Intoxication	3.6	4.6	13.71	***
	Movement	4.4	5.2	5.74	*

Bivariate analyses of categorical and continuous variables utilise chi-squared and ANOVA. ns = not significant; *P<.05; **P<.01; ***P<.001.

5. Discussion

The Amphora drinking environments study has provided a wealth of information to support the development of policy and practice to reduce harm in European drinking environments. The study represents the first cross-national exploration of drinking behaviours through alcohol surveys and breathalyser tests in European settings. Findings suggest that drinking behaviours and levels of intoxication in nightlife environments vary across Europe. Although samples were not intended to be representative of all nightlife users in the four cities, participants of both genders in Liverpool had significantly higher blood alcohol concentrations at interview than those from other cities and expected to drink a significantly greater quantity of alcohol during their night out. Participants in Utrecht generally had the next highest levels of alcohol use, with those from Ljubljana and Palma showing less drunkenness. In general, analysis of alcohol consumption and %BAC by time spent drinking suggested that participants in Utrecht, Palma and Ljubljana had greater control over their alcohol consumption across the course of a night out, whereas those in Liverpool continued to consume alcohol and become increasingly intoxicated. This finding requires further investigation with larger and more representative samples but still has important implications for the transferability of interventions to prevent intoxication and alcohol-related harm across Europe. Thus, those developed to manage high levels of intoxication in UK settings may be inappropriate in countries where intoxication is less widespread, and vice versa. A greater understanding of how and why people drink the way they do in different European settings would further support the development of measures to prevent alcohol-related harm.

Despite differences in measures of intoxication, the study also highlighted similarities in drinking behaviours across cities. Most participants in all cities expected to binge drink on the night they participated in the study, and in all cities and both genders median grams of alcohol reported at interview had already reached binge drinking levels. The study also found high levels of preloading in all cities, albeit lower in Ljubljana. With the exception of those from Ljubljana, the majority of nightlife users had consumed alcohol at home, a friend's home or, in the case of Palma, in public places prior to visiting public drinking environments. This preloading behaviour is often motivated by price, with alcohol often being much cheaper in off-licensed premises such as supermarkets than in pubs, bars and nightclubs. However, preloading has important implications for preventing harm in drinking environments. Individuals who preload arrive at pubs, bars and nightclubs already under the influence of alcohol, and in some cases will already be intoxicated. It is illegal to serve alcohol to individuals who are drunk in most European countries, yet studies suggest that over-serving is common and enforcement of legislation is weak.^{19 20} Growing trends towards preloading will mean that bar managers and staff face an increasingly intoxicated customer base. Discrepancies between on- and off-licensed premises in the price of alcohol are something that requires addressing. Higher alcohol prices can reduce alcohol consumption and related harm^{21 22} and consequently, focus should be placed on increasing prices in off-licensed premises.

The Amphora observational study has also been the first time environmental assessments of bars have been implemented cross-nationally in Europe. Again, while venues cannot be considered representative of all drinking premises in the four cities, findings suggests there

are wide variations between cities regarding the way venues are managed and staffed. The *European action plan to reduce the harmful use of alcohol 2012-2020*⁸ proposes that guidelines and standards are developed for the design of drinking premises, server training and the monitoring and enforcement of licensing laws, and findings from this study should facilitate their development. The study has found that many of the key environmental factors linked to alcohol-related harm in international bar studies (see Appendix 1) are relevant to European drinking environments. Venues that were crowded, unclean and had permissive environments, for example, were rated as having higher levels of customer intoxication and were more likely to be the scenes of alcohol-related incidents. Such characteristics are likely to be symptomatic of poorly managed bars where drunkenness and anti-social behaviour is left unchecked. Thus, permissiveness had one of the strongest independent relationships with both intoxication and alcohol-related incidents.

Uniquely, the Amphora study also found strong relationships between plastic glassware and both intoxication and alcohol-related harm. Plastic glassware is often used in high risk bars (often enforced by police or licensing authorities) to prevent serious violent injury, yet our findings suggest that bars' use of plastic does not stop customers getting drunk or prevent alcohol-related incidents from occurring – but rather may just limit their immediate impacts in terms of injury inside premises. Thus, use of plastic glassware should not be considered sufficient to demonstrate responsible management; its use must be accompanied by action to reduce intoxication in order to prevent broader alcohol-related harms, including those that can occur when intoxicated individuals leave the relative safety of glass-free premises.¹⁹

Another unique finding was the association between the promotion of non-alcoholic drinks and increased intoxication ratings. There are several potential reasons for this association. Non-alcoholic drink promotions may represent a concerted effort by high risk bars to prevent intoxication, or an attempt to increase drink sales in bars where customers have preloaded. However, researchers identified that many non-alcoholic drinks being promoted were “energy” drinks (e.g., containing caffeine) that are often used as mixers with spirits. Energy drinks can desensitise users to the signs of intoxication, have diuretic effects that increase thirst, and be used as stimulants to help drinkers stay awake and continue drinking over long nights out.^{23 24} These effects may be exploited by bar managers, with energy drinks being promoted to encourage customers to continue purchasing and consuming drinks. A growing body of research is showing that individuals who consume alcohol mixed with energy drinks have greater risks of intoxication and alcohol-related problems.²⁵⁻²⁷ Thus, any efforts to promote the sale of non-alcoholic drinks in bars as a preventive measure should be implemented with caution, and should specifically exclude energy drinks.

Well-managed bars are likely to see less customer intoxication and experience fewer alcohol-related problems. The development and adoption of standards and guidelines across Europe would help bar managers and authorities understand the links between how bars are managed and alcohol-related harm, and could help encourage bars to compete based on the quality of the bar experience rather than the quantity of alcohol sold. Any such standards or guidelines however should be implemented alongside strong enforcement activity, other community focused activity, and broader regulatory measures that limit the sale of cheap alcohol elsewhere.

5.1 Recommendations

Based on findings from the Amphora study, a number of recommendations are proposed:

- **Develop a better understanding of nightlife drinking behaviours**
This study has suggested there are wide variations in drinking behaviours across European nightlife environments that can have important implications for the development and transferability of preventive interventions. A more thorough understanding of nightlife drinking behaviours is needed, as nightlife alcohol consumption is typically missed in standard alcohol surveys. Research should examine issues including the extent of alcohol consumption during nights out, drinking patterns, drivers of preloading, and reasons why young people in some cultures drink to intoxication. Understanding of these issues will facilitate the development of interventions to prevent intoxication and reduce harm in drinking environments.
- **Reduce price discrepancies between on- and off-licensed premises**
Concerted efforts should be made to prevent cheap alcohol sales in off-licensed premises. Such sales encourage preloading, which in turn complicates efforts to prevent harm in drinking environments by meaning people are already drunk when arriving at bars and encouraging poor bar management (e.g. through cheap drinks promotions and cost cutting). Efforts to prevent harm in drinking environments need to take into account the broader alcohol environment and ensure that alcohol policy and regulation supports good management in drinking environments.
- **Raise awareness on the links between bar management and alcohol-related harm**
This study and previous research has shown that the way in which bars are managed can have an important impact on levels of intoxication and alcohol-related harm in drinking environments. Well managed bars are likely to see less intoxication and less alcohol-related harm. Raising awareness of the links between bar management and alcohol-related problems, and aspects of bar management that can prevent harm, should help in the development of healthier bar environments and the regulation of poorly managed bars.
- **Focus on improving bar management**
Prevention efforts in bars may be best focused on improving management practice. The development of standards and guidelines for bars should help to ensure consistent advice and support in bar design and management for bar managers and the authorities that regulate them. Such standards should be implemented alongside broader measures to enforce regulation and prevent intoxication and alcohol-related harm.
- **Avoid a primary focus on 'harm reduction' in bar interventions**
Harm reduction measures such as plastic glassware are frequently promoted as good practice in bars to prevent alcohol-related harm. However our findings suggest that such measures may in fact allow intoxication and alcohol-related problems to continue even if serious harm such as violent injury is limited. Thus, the use of harm reduction measures should not be considered sufficient to protect public health or to demonstrate

social responsibility in high risk bars. Although such measures can be useful, they should be accompanied by those to prevent intoxication and broader alcohol-related problems.

- **Consider how standards and guidelines for bars may best be implemented**

Should standards and guidelines for bars be developed at a European level, consideration needs to be given to how these could best be implemented. Previous efforts to implement standards at local or national levels have included award schemes, voluntary agreements and the use of licensing legislation. Such measures have rarely been evaluated and where assessments have taken place, interventions have often been found to suffer through poor uptake or adherence and lack of enforcement. The development of standards and guidelines should be supported by implementation advice and research.

References

1. Bellis MA, Hughes K, Quigg Z, Morleo M, Jarman I, Lisboa P. Cross-sectional measures and modelled estimates of blood alcohol levels in UK nightlife and their relationships with drinking behaviours and observed signs of inebriation. *Subst Abuse Treat Prev Policy* 2010;5:5.
2. Hughes K, Anderson Z, Morleo M, Bellis MA. Alcohol, nightlife and violence: the relative contributions of drinking before and during nights out to negative health and criminal justice outcomes. *Addiction* 2008;103(1):60-5.
3. Wahl SK, L.:Berner, M. Drinking before going out--a predictor of negative nightlife experiences in a German inner city area. *Int J Drug Policy* 2010;21(3):251-4.
4. Livingston M, Chikritzhs T, Room R. Changing the density of alcohol outlets to reduce alcohol-related problems. *Drug Alcohol Rev* 2007;26:557-66.
5. Gruenewald PJ, Freisthler B, Remer L, LaScala EA, Treno AJ, Ponicki WR. Ecological associations of alcohol outlets with underage and young adult injuries. *Alcoholism: Clinical and Experimental Research* 2010;34:519-27.
6. Livingston M. Alcohol outlet density and harm: comparing the impacts on violence and chronic harms. *Drug Alcohol Rev* 2011;30(5):515-23.
7. Newton AD, Hirschfield A. Measuring violence in and around licensed premises: the need for a better evidence base. *Crime Prevention and Community Safety* 2009;11:153-70.
8. World Health Organization Regional Office for Europe. European action plan to reduce the harmful use of alcohol 2012-2020. Copenhagen: World Health Organization Regional Office for Europe, 2011.
9. Wallin E, Norstrom T, Andreasson S. Alcohol prevention targeting licensed premises: a study of effects on violence. *Journal of Studies on Alcohol* 2003(270-277).
10. Warpenius K, Holmila M, Mustonen H. Effects of a community intervention to reduce the serving of alcohol to intoxicated patrons. *Addiction* 2010;105:1032-40.
11. Florence C, Shepherd J, Brennan I, Simon T. Effectiveness of anonymised information sharing and use in health service, police, and local government partnership for preventing violence related injury: experimental study and time series analysis. *BMJ* 2011;342:d3313.
12. Homel R, Carvolth R, Hauritz M, McIlwain G, Teague R. Making licensed premises safer for patrons: what environmental factors should be the focus of interventions? *Drug Alcohol Rev* 2004;23:19-29.
13. Graham K, Bernard S, Osgood DW, Wells S. Bad nights or bad bars? Multi-level analysis of environmental predictors of aggression in late-night large-capacity bars and clubs. *Addiction* 2006;101(11):1569-80.
14. Hughes K, Quigg Z, Eckley L, Bellis MA, Jones L, Calafat A, et al. Environmental factors in drinking venues and alcohol-related harm: the evidence-base for European intervention. *Addiction* 2011;106 S1:37-46.
15. Hughes K, Sharples O, Quigg Z. Impact of managing drinking environments on alcohol-related harm. Liverpool: Centre for Public Health, Liverpool John Moores University, 2012.
16. Gual A, Martos AR, Lligona A, Llopis JJ. Does the concept of a standard drink apply to viticultural societies? *Alcohol Alcohol* 1999;34:153-60.
17. HM Government. Transport Act 1981. London: Her Majesty's Stationery Office, 1981.

18. Shanin H, Gopinath SP, Robertson CS. Influence of alcohol on early Glasgow Coma Scale in head-injured patients. *Journal of Trauma* 2010;69:1176-81.
19. Bellis MA, Hughes K. Getting drunk safely? Night-life policy in the UK and its public health consequences. *Drug Alcohol Rev* 2011;30(5):536-45.
20. Rossow I, Baklien B. Effectiveness of responsible beverage service: the Norwegian experience. *Contemporary Drug Problems* 2010;37:91-107.
21. World Health Organization and Centre for Public Health LJMU. Preventing violence by reducing the availability and harmful use of alcohol. Geneva: World Health Organization, 2009.
22. Purhouse R, Brennan A, Latimer N, Meng Y, Rafia R, Jackson R, et al. Modelling to assess the effectiveness and cost-effectiveness of public health related strategies and interventions to reduce alcohol attributable harm in England using the Sheffield Alcohol Policy Model version 2.0. Sheffield: University of Sheffield, 2009.
23. Ferreira SE, De Mello MT, Pompeia S, De Souza-Formigoni MLO. Effects of energy drink ingestion on alcohol intoxication. *Alcoholism: Clinical and Experimental Research* 2006;30:598-605.
24. Marczynski CA. Alcohol mixed with energy drinks: consumption patterns and motivations for use in U.S. college students. *International Journal of Environmental Research and Public Health* 2011;8:3232-45.
25. Thombs DL, O'Mara RJ, Tsukamoto M, Rossheim ME, Weiler RM, Merves ML, et al. Event-level analyses of energy drink consumption and alcohol intoxication in bar patrons. *Addictive Behaviors* 2010;35:325-30.
26. O'Brien MC, McCoy TP, Rhodes SD, Wagoner A, Wolfson M. Caffeinated cocktails: energy drink consumption, high-risk drinking, and alcohol-related consequences among college students. *Academic Emergency Medicine* 2008;15:453-60.
27. Brache K, Stockwell T. Drinking patterns and risk behaviors associated with combined alcohol and energy drink consumption in college drinkers. *Addict Behav* 2011;36:1133-40.

Appendix 1: Summary of findings from the literature

Tables A1 and A2 present a summary of findings from the literature review conducted to inform the development of the Amphora drinking environments study. Table A1 shows environmental factors associated with alcohol use and server practices in international studies, and the countries in which these links have been identified. Table A2 presents factors associated with alcohol-related harm. Full findings from the literature review are presented in the following two publications:

Hughes K, Quigg Z, Eckley L, Bellis MA, Jones L, Calafat A, et al. Environmental factors in drinking venues and alcohol-related harm: the evidence-base for European intervention. *Addiction* 2011;106 S1:37-46.

Hughes K, Sharples O, Quigg Z. Impact of managing drinking environments on alcohol-related harm. Liverpool: Centre for Public Health, Liverpool John Moores University, 2012.

References for studies included in the tables are listed after Table A2.

Table A1: Environmental factors associated with alcohol use and service practices in international studies

Environmental Factor		Country in which links identified						
		USA	Australia	Canada	Netherlands	France	Sweden	Bulgaria
Physical Factors	Poor ventilation			↑●				
	Poor cleanliness			↑●			◆ ^a	
	Crowded venues	↓◆		↑●			↓◆	
	Crowded dance floors	↑■ ^b						
	Noisy, loud music			↑●	↑▲	↑■	↓◆ ^c	
	Lighting	↑■ ^b						
	Venue style	↓◆ ^d ■ ^b		↑● ^e				
Social Factors	Cheap drinks, drinks promotions	↑●■						↑+ ^b
	Permissive environment ^f			↑●			↓◆	
	Live bands, juke boxes, discos, dancing	↑■ ^b	↑■	↑●	↑▲			
	Food availability			↓●				
Staff Factors	Younger staff	↑◆						
	Friendly staff			↓●				
	All female staff			↓●				
	Warning signs, staff policies ^g	↓◆						
	Continuing to serve drunk customers		↑■					
References		1-5	6,7	8	9-11	12,13	14-16	17

Key to symbols

- Intoxication
- Alcohol use, binge drinking, high risk drinking, abusive drinking
- ◆ Over-serving (to pseudo-drunk customers)
- + Underage drinking
- ▲ Drinking speed
- ↑ Indicates an increase associated with the environmental factor
- ↓ Indicates a decrease associated with the environmental factor

^a 'Average' hygiene in restrooms was associated with reduced service refusal to pseudo-drunk customers, compared with 'good + bad' hygiene; ^b Linked through qualitative/ethnographic research without statistical analysis - moderate lighting observed to be associated with increased risk of alcohol abuse, compared with bright or low lighting; Tranquil artwork observed to be associated with controlled social drinking; ^c probability of over-serving was higher at a communicable noise level, than at high level, low level or no music; ^d Upscale establishment; ^e Shabby decor, no theme, low expenditure on furnishings, low maintenance; ^f Canada: 'Anything goes' atmosphere, swearing and overt sexual contact. Sweden: overall order at the premises; ^g against the service of alcohol to drunk customers

Only findings that have been associated with increases or reductions in alcohol measures are shown. Thus findings where associations were absent, mixed or unclear are not included in the table.

Table A2: Environmental factors associated with alcohol-related problems

Environmental Factors		Countries in which a link has been identified					
		USA	Australia	Canada	UK	Spain	Bulgaria
Physical Factors	Poor ventilation/smokiness	↑●	↑●	↑●			
	Poor cleanliness	↑●	↑●	↑●	↑●■		
	Crowded venues/dance floors/bars	↑●	↑●	↑●			
	Noisy, loud music	↑●	↑● ^a	↑●		↑●	
	Low lighting		↑●				
	High temperature	↑●					
	Combined variable including the above	↑●			↑● ↑↓■		
	Seating		↑● ^b	↑● ^c			
	Low impact-resistance glassware				↑+		
	Unattractive bars (e.g. shabby)	↑●		↑●			
Social Factors	Line up			↑●			
	Cheap drinks and drinks promotions	↑●	↑●			↑●	
	Permissive environment ^d	↑● ^a	↑●	↑●	↑●■	↑●	
	Games (e.g. pool, billiards)	↑●	↓● ^e	↑●	↑●■	↑●	
	Dancing, juke boxes, discos, bands etc.	↑●	↑●▲	↑●			
	Illegal activity (e.g. drugs, prostitution)	↑●	↑●	↑●	↓● ^f		
	Beer, spirits, high volume alcohol sales		↑●◆				
	Non-alcoholic drinks on sale	↓■					
	Drunk customers		↑●	↑●	↑●■	↑●	
	Availability of food	↓■	↓●	↓●			
Staff Factors	Staff characteristics	↑●(Most ♂ ^g)	↓● ^g	↓●(All ♀ ^g)			
	Poor staff control/practice	↑● ^h	↑●▲ ⁱ	↑● ^{jk}	↑■ ⁱ		
	Staff intervention	↑● ^m ↓■ ^m	↑● ⁿ ↓● ^m		● ^o		
	Ineffective door supervisors	↑●	↑●	↑●			↑● ^a
	Presence of door supervisors	↑↓●	↑●	↑●	↑● ^p		
	Low staff:patron ratio		↑●				
References		18-25	6,7,26-38	8,39-45	32-34,24	50	17

Key to symbols

- Aggression, violence, assaults
- Crime, police complaints/ call-outs
- ◆ Drink driving
- ⊕ Staff injury
- ▲ Alcohol-related harm (injury, drink driving, crime, violent argument or fight, accident, time off work)
- ↑ Indicates an increase associated with the environmental factor
- ↓ Indicates a decrease associated with the environmental factor

^a Linked through qualitative/ethnographic research without statistical analysis; ^b lack of seating, low comfort; ^c seating in rows; ^d e.g. decorum expectancies, rowdiness, swearing, sexual contact, underage patrons; ^e Boredom associated with aggression; entertainment (e.g. game machines, quizzes, stage shows) reduced boredom. ^f Higher drug use; ^g friendlier door supervisors; ^h staff drinking; ⁱ continuing to serve drunk people; ^j ability to identify and handle problems; ^k Customers having 2+ drinks/hanging around at closing time; ^l presence of underage customers; ^m ID checks; ⁿ staff intervention with drunk customers; ^o physical staff intervention (v non-physical) with disorderly customers increased perceptions of violence in a venue; ^p based on perceptions of violence in venues with or without door supervisors. *Only findings that have been associated with increases or reductions in alcohol-related harm are shown. Thus findings where associations were absent, mixed or unclear are not included in the table.*

References for Tables A1 and A2

1. Kuo M, Wechsler H, Greenber P et al. The marketing of alcohol to college students: The role of low prices and special promotions. *Am J Prev Med* 2003; 25: 204-11.
2. Lenk KM, Toomey TL, Erickson DJ. Propensity of alcohol establishments to sell to obviously intoxicated patrons. *Alcohol Clin Expl Res* 2006; 30: 1194-99.
3. Thombs DL, Dodd V, Porkorny SB et al. Drink specials and the intoxication levels of patrons exiting college bars. *Am J Health Behav* 2008; 32: 411-19.
4. Schaefer JM. The physical setting: behaviour and policy. In, Single E., Storm T., editors. *Public Drinking and Public Policy*. Toronto, Canada: Addiction Research Foundation; 1984. pp71-84.
5. Babor TF, Mendelson JH, Uhly B et al. Drinking patterns in experimental and barroom settings. *J Stud Alcohol* 1980; 41: 635-51.
6. Stockwell T, Lang E, Rydon P. High risk drinking settings: the association of serving and promotional practices with harmful drinking. *Addiction* 1993; 88: 1519-26.
7. Lang E, Stockwell T, Rydon P et al. Drinking settings and problems of intoxication. *Addict Res* 1995; 3: 141-49.
8. Graham K. Determinants of heavy drinking and drinking problems: the contribution of the bar environment. In, Single E, Storm T, eds. *Public Drinking and Public Policy*. Toronto, Canada: Addiction Research Foundation; 1985. pp71-84.
9. Knibbe RA, Van de Goor L, Drop MJ. Contextual influences on young people's drinking rates in public drinking places: an observational study. *Addict Res* 1993; 1(3): 269-78.
10. Van de Goor LAM. Situational aspects of adolescent drinking behaviors. Maastricht: Datawyse; 1990.
11. Van de Goor LA, Knibbe RA, Drop MJ. Adolescent drinking behavior: an observational study of the influence of situational factors on adolescent drinking rates. *J Stud Alcohol* 1990; 51(6): 548-55.
12. Gueguen N, Jacob C, Le Guellec H et al. Sound level of environmental music and drinking behaviour: a field experiment with beer drinkers. *Alcohol Clin Exp Res* 2008; 32: 1795-98.
13. Gueguen N, Le Guellec H, Jacob C. Sound level of background music and alcohol consumption: an empirical evaluation. *Percept Mot Skills* 2004; 99: 34-8.
14. Wallin E, Gripenberg J, Andreasson S. Overserving at licensed premises in Stockholm: effects of a community action program. *J Stud Alcohol* 2005; 66: 806-14.
15. Wallin E, Gripenberg J, Andreasson S. Too drunk for a beer? A study of overserving in Stockholm. *Addiction* 2002; 97: 901-07.
16. Andreasson S, Lindewald B, Rehnman C. Over-serving patrons in licensed premises in Stockholm. *Addiction* 2000; 95: 359-63.
17. Tutenges S. Safety problems among heavy-drinking youth at a Bulgarian nightlife resort. *Int J Drug Policy* 2009. Available from doi:10.1016/j.drugpo.2008.11.004.
18. Buddie AM, Parks KA. The role of the bar context and social behaviors on women's risk for aggression. *J Interpers Violence* 2003; 18: 1378-93.
19. Fox JG, Sobol JJ. Drinking patterns, social interaction, and barroom behavior: A routine activities approach. *Deviant Behav* 2000; 21: 429-50.
20. Johannessen K, Glider P, Collins C et al. Preventing alcohol-related problems at the University of Arizona's homecoming: An environmental management case study. *Am J Drug Alcohol Abuse* 2001; 27: 587-97.
21. Leonard KE, Collins R, Quigley BM. Alcohol consumption and the occurrence and severity of aggression: An event-based analysis of male to male barroom violence. *Aggress Behav* 2003; 29: 346-65.

22. Leonard KE, Quigley BM, Collins RL. Drinking, personality, and bar environmental characteristics as predictors of involvement in barroom aggression. *Addict Behav* 2003; 28: 1681-700.
23. Quigley BM, Leonard KE, Collins RL. Characteristics of violent bars and bar patrons. *J Stud Alcohol* 2003; 64: 765-72.
24. Collins RL, Quigley B, Leonard KE. Women's physical aggression in bars: An event-based examination of precipitants and predictors of severity. *Aggress Behav* 2007; 33: 304-13.
25. Roberts JC. Barroom aggression in Hoboken, New Jersey: don't blame the bouncers! *J Drug Educ* 2007; 37: 429-45.
26. Chikritzhs T, Stockwell T. The impact of later trading hours for hotels on levels of impaired driver road crashes and driver breath alcohol levels. *Addiction* 2006; 101: 1254-64.
27. Gruenewald PJ, Stockwell T, Beel A et al. Beverage sales and drinking and driving: the role of on-premise drinking places. *J Stud Alcohol* 1999; 60: 47-53.
28. Homel R, Hauritz M, Wortley R et al. Preventing alcohol-related crime through community action: the Surfers Paradise Safety Action project. In Homel, R., editor. *Policing for prevention: reducing crime, public intoxication and injury*. Monsey, NY: Criminal Justice Press; 1997.
29. Homel R, Hauritz M, McIlwain G et al. Preventing drunkenness and violence around nightclubs in a tourist resort. In Clark RVG, ed. *Situational Crime Prevention: successful case studies*. Guilderland, NY: Harrow and Heston; 1997. pp 263-82.
30. Hauritz M, Homel R, McIlwain G et al. Reducing violence in licensed venues through community safety action projects: The Queensland experience. *Contemp Drug Probl* 1998; 25: 511-51.
31. Hauritz M, Homel R, McIlwain G et al. Reducing violence in licensed venues: Community safety action projects. Canberra, Australia: Australian Institute of Criminology; 1998.
32. Hauritz M, Homel R, Townsley M et al. An evaluation of the local government Safety Action Projects in Cairns, Townsville and Mackay. Brisbane: Griffith University; 1998.
33. Homel R, Carvolth R, Hauritz M et al. Making licensed venues safer for patrons: what environmental factors should be the focus of interventions? *Drug Alcohol Rev* 2004; 23: 19-29.
34. Homel R, Tomsen S, Thommeny J. Public drinking and violence: Not just an alcohol problem. *J Drug Issues* 1992; 22: 679-97.
35. Tomsen S, Homel R, Thommeny J. The causes of public violence: situational "versus" other factors in drinking related assaults. In Chappell D, Grabosky P and Strang H, editors. *Australian violence: contemporary perspectives*. Sydney, NSW: Australian Institute of Criminology; 1991. pp176-193.
36. Homel R, Tomsen S, Thommeny J. Public drinking and violence: Not just an alcohol problem. *J Drug Issues* 1992; 22: 679-97.
37. Homel R, Clark J. *The prediction and prevention of violence in pubs and clubs*. Crime Prevention Studies (vol 3). New York: Criminal Justice Press; 1994.
38. Macintyre S, Homel R. Danger on the dancefloor: a study of interior design, crowding and aggression in nightclubs. In Homel R, ed. *Policing for prevention: reducing crime, public intoxication and injury* (vol.7). Monsey, NY: Criminal Justice Press; 1997. pp91-113.
39. Graham K, Bernards S, Osgood DW et al. Bad nights or bad bars? Multi-level analysis of environmental predictors of aggression in late-night large-capacity bars and clubs. *Addiction* 2006; 101: 1569-80.
40. Graham K, Osgood DW, Wells S et al. To what extent is intoxication associated with aggression in bars? A multilevel analysis. *J Stud Alcohol* 2006; 67: 382-90.
41. Graham K, Wells S. Aggression among young adults in the social context of the bar. *Addiction Research & Theory* 2001; 9: 193-219.
42. Graham K, West P, Wells S. Evaluating theories of alcohol-related aggression using observations of young adults in bars. *Addiction* 2000; 95: 847-63.
43. Wells S, Graham K, West P. "The good, the bad, and the ugly": Responses by security staff to aggressive incidents in public drinking settings. *J of Drug*

Issues 1998; 28: 817-36.

44. Graham K, Wells S. "Somebody's gonna get their head kicked in tonight!": aggression among young males in bars - a question of values? *Br J Criminol* 2003; 43: 546-66.
45. Graham K, La Rocque L, Yetman R et al. Aggression and barroom environments. *J Stud Alcohol* 1980; 41: 277-92.
46. Marsh P, Kibby KF. *Drinking and public disorder*. London: Portland Group; 1992.
47. Forsyth AJM. *Assessing the relationships between late night drinks marketing and alcohol-related disorder in public space*. Glasgow: Glasgow Caledonian University; 2006.
48. Forsyth AJM, Cloonan M, Barr J. *Factors associated with alcohol-related problems within licensed premises*. Glasgow: Greater Glasgow NHS Board; 2005.
49. Leather P, Lawrence C. Perceiving pub violence: The symbolic influence of social and environmental factors. *Br J Soc Psychol* 1995; 34: 395-407.
50. Hughes K, Bellis MA, Calafat A et al. Predictors of violence in young tourists: a comparative study of British, German and Spanish holidaymakers. *Eur J Public Health* 2008; 18: 569-74.

Appendix 2: The four study cities

During the development of the Amphora study, research leads in each city collected a range of data regarding nightlife in the city and its management. The information was gathered at the start of the study (2009) and consequently is relevant to the situation in each city at that point in time.

LIVERPOOL

1. Is there a licensing system in place governing bars and nightclubs and the sale of alcohol?

Yes, Licensing Act 2003

2. What are the requirements for opening and running a bar and nightclub? (e.g. regulations/governance)

Premises license and personal licence for the manager/owner (Licensing Act 2003)

3. Are there requirements for bars and nightclubs to have security staff? If so are these governed?

Yes, all bars must have door staff that are licensed and registered. Bars in Liverpool that do not have door staff cannot stay open longer than 11pm. There is a security forum that meets every 2 months involving security providers/companies. The Agenda covers renewals of licenses and the processes involved, guidance for door staff, recent news and developments. In Liverpool only there is a new directive whereby door staff work with ambulance staff to secure off the area to enable paramedics to do their job/provide a safe environment. Door staff must escort ambulance staff and also secure the ambulance to prevent theft/vandalism of equipment/vehicle. Liverpool security staff are briefed to look out for customers whilst in the establishment - e.g. warning females to look after their bags/cover their drinks. Head-cams (pilot scheme) worn by security staff in Liverpool as a deterrence to criminals, whilst also used to police the door staff themselves. They are more efficient than CCTV on doors. Recordings are taken into a power pack which is locked and can't be tampered with by door staff - only access is by police or security staff managers. Training is being delivered in Liverpool to prevent 'hate crimes' by door staff- e.g. homophobia in gay friendly areas. Door staff taught to be tolerant of race, sexuality etc.

4. Is smoking permitted in bars and nightclubs? If not, what are the restrictions?

No, there is a complete ban enforced by the government.

5. Is there any legislation regarding noise inside venues?

Noise is a factor controlled by the Environmental Health department. They have 'noise officers' who visit each establishment and take decibel readings. License can be reviewed or completely removed if over maximum decibel level. Trying to promote staff wearing earplugs in Liverpool - as a health and safety precaution it is up to the manager to provide these for bar staff as an option.

6. Are there restrictions on how many people are allowed in a venue at one time?

Yes, capacity is decided by the fire department depending on access to fire exits. It is part of licensing conditions to have a set capacity, cannot go over this or licence can be reviewed.

7. Is there a requirement to employ glass collectors?

There is no legislation to employ glass collectors *but* licensed premises must adhere to health and safety by law- providing a safe environment. Risk is removed by glass collectors, plus this is cost efficient to employers due to less breakages. Some premises use bar staff as glass collectors because of the cost to employ extra staff- current recession.

8. In the city are there any regulations or programmes around staff training? What does it cover? How often is it delivered? Who provides the training?

Liverpool licensing department leads on 'Conflict Resolution' training and employed Merseyside Police to deliver this. Tailored packages for bar staff: support them to deal with intimidation by drunk and aggressive customers, teaching them how to be confident in refusing to serve; make them aware of fixed penalties they could receive by serving drunk or underage customers; make them aware of the typical body language and behavioural patterns of drunk people. In Liverpool they have started delivering conflict resolution to kebab shop owners and workers- using translators for ethnic minorities - to prevent the use of violence and weaponry by family businesses.

9. What is the legal age for entering bars, drinking alcohol in bars and purchasing alcohol in bars? Is this enforced? How and why?

Age 18, this is enforced by local authorities and licensing authorities. Age limits are controlled by ID checks by doorstaff and bar staff. Operate 'Challenge 25' schemes in many bars in Liverpool, barstaff have the right of refusal to serve unless provided with ID. Those who knowingly serve or give entry to underage patrons are prosecuted. Training provided by licensing department and trading standards for bar staff on how to refuse service.

10. Is it illegal to serve drunk customers in bars? If so, is this enforced? How and why?

Yes, police provide fixed penalty notices; staff and management are liable for prosecution. Training is provided by licensing department and trading standards for bar staff on how to refuse service.

11. Are there any regulations governing sales of alcohol? (E.g. promotions, price of non-alcoholic drinks) How is this enforced?

No, legislation can govern the retailing of alcohol - controlled by the Office of Fair Trading. Cannot define/control the cost of a certain product - this creates a cartel which is against legislation; can only advise premises to retail responsibly and re-iterate that the authorities are not supportive of irresponsible pricing/promotions. Nothing can prevent pre-loading (drinking at home before going out). There is nothing to prevent staff commission and incentives - e.g. selling certain deals to receive commission - staff often rely on deals to meet targets and keep their jobs. In Liverpool, Business Development Stakeholders get together (e.g bar owners, license department) to discuss current promotions and pricing and are trying to find ways of deterring irresponsible retailing/ drinks promotions. Multi-agency visits (e.g. fire department, health and safety, trading standards, noise control, security licensing etc) can be sent to establishments who continue to retail irresponsibly.

12. What is the law regarding use of illegal drugs and distribution of drugs in bars?

There is an open relationship between door staff, managers and police who all work together. Bar managers are no longer penalised for having drugs on their premises unless they willfully knew of it. In Liverpool police are working with bar managers to identify areas that can be improved to prevent drug use- refurbishment of premises (e.g. toilet cubicles) and placement of CCTV to deter dealers.

13. What are the laws around closing times?

Premises in UK can apply for anything up to a 24 hour license by law, however in Liverpool there are no 24 hour bars/nightclubs. Closing times in Liverpool are staggered to enable policing of streets in certain areas. Temporary Event Notices can be applied for to extend licensing hours (e.g. Mathew Street festival).

14. Are there regulations around taking drinks out of the venue?

Drinks can be consumed on the premises - this includes outdoor areas such as steps, smoking areas, beer gardens. However, as soon as anyone steps onto the public highway they can be prosecuted/arrested. During outdoor street events (e.g. Matthew Street Festival) stewards are employed to provide plastic cups to those drinking on the street. Bars/nightclubs must provide plastic cups to people leaving premises with drinks purchased in that venue.

15. Are there any regulations around type of glasses used in bars?

Only if the license of the premises has been taken to review by trading standards, police, fire department, licensing team, due to repeat incidents occurring involving violence, measures, breakages etc. Responsible agencies can ask for conditions of glassware. Events - Liverpool licensing team make agreements with bars to use polycarbonates in busy periods. For outdoor events, plastic cups must be provided.

16. Are there any other interventions that may affect the environment of bars?

Liverpool does not have the Best Bar None Scheme - this is because bars are already adhering to the Best Bar None legislations and many already have accreditation from the scheme. The Best Bar None Scheme needs to be better advertised to the public so that they are aware of safe and award winning premises. Bars need to be rated (like the hotel star system). The government are currently piloting the 'Purple Flag Scheme'. Liverpool is constantly evaluating the use of different schemes that have been successful in other areas of the UK.

17. Are there any other regulations that have been developed to govern and manage the night-time environment?

- CCTV and head cams
- High profile policing
- Matrix policing- yellow vans/ more forceful police officers who deal with violence
- Taxi marshalling
- Goal Zone Policing- police employed to look after retail and business premises- deterring shoplifting, street crimes, vandalism, drinking on the streets.
- Response vehicles on hand.
- Liverpool is piloting the use of street pastors (religious based groups) who volunteer their help to help people who are drunk on the streets, stay with people who may be lost etc.
- Banning Order Scheme- people can be banned from all licensed premises.
- Liverpool licensing has strong links media- TV, Radio, Newspapers etc- helping to use campaigns (e.g. recent Vulnerable People Campaign), protecting students who arrive in Liverpool (fresher fairs, safety tips for young females), giving out taxi numbers.
- Liverpool has a Bluetooth scheme in bars- Merseyside Police send messages about safety in night-time environment.

UTRECHT

1. Is there a licensing system in place governing bars and nightclubs and the sale of alcohol.

Yes. The so called alcohol and bars and clubs Act (2000) is currently being updated. The starting date of the new Act depends on parliament. The existing Act regulates the sale of alcohol and aims to prevent negative health and social consequences of alcohol misuse. In the current law selling regular alcoholic drinks (beer, wine) to those aged under 16 years old and spirits (brandy, vodka) to under 18s is forbidden. Also selling to persons who are clearly intoxicated is forbidden. The Act is currently maintained by the Food and Beverage Authority. In the new Act municipalities will be enabled to maintain this law (Utrecht, as a pilot, already does). Also in the

new Act possession of alcohol in public areas by youths aged less than 16 years of age will be forbidden.

On a local level Utrecht has a charter 'Going Out Safely in Utrecht' which includes agreements concerning happy hours. Happy hours should be limited and not aimed at youth and can't be held just before closing time.

2. What are the requirements for opening and running a bar and nightclub (e.g. regulations/governance – we do not need very detailed information, just a general idea of the rules)?

All premises selling alcohol are required to have a premises license. The alcohol and bars and clubs Act requires there is always at least one person present that holds the declaration of 'Social Hygiene'. Only with this declaration are they allowed to sell alcohol. The hours of alcohol service can vary between venues – individual premises agree their hours of sale with local authorities as part of the licensing process.

The local charter stipulates that bar and club owners should formulate house rules and visibly communicate these within premises.

3. Are there requirements for bars and nightclubs to have security staff? If so, are these governed? How? Who by?

There are no rules for security staff. Local authorities can place conditions on the licenses of premises on an individual basis to ensure they meet the objectives of the Licensing Act. These conditions can include requiring venues to have CCTV, employ x number of door supervisors during set times and provide a fixed number of seats.

The local charter requires that the current panel door policy continues. The goal is to increase the number of members (75% of all restaurants with doormen at the end of 2010) and increase awareness. This panel door policy prescribes that bars and nightclubs are committed to house rules and rules about behaviour, and publish them in a visible spot in the club/bar. Security staff are intensively involved in developing door policy. Basic rule: visitors are not discriminated against.

4. Is smoking permitted in bars and nightclubs? If not, what are the restrictions?

In July 2008 there was a definitive ban on smoking in all catering venues. Cafes and restaurants do have the ability to create special spaces for smokers, such as a place outside with heating in the winter.

5. Is there any legislation regarding noise inside venues? If so, please provide details.

There are no official limits of noise. Above 85 dB employees are required to wear hearing protection. The employer must provide suitable hearing protectors for their employees. The Ministry of Social Affairs indicates that bar employees, glass collectors, security staff and DJs who play loud music are at risk of irreparable harm.

Labour inspection could be checking whether they adequately protect employees from excessive noise. Inspectors will also check the maximum noise in the club and if the bar is separated from the dance floor, so that staff can work in areas where noise is less.

6. Are there restrictions on how many people are allowed in a venue at one time? If so, please provide details.

The fire service sets capacity limits for individual bars and nightclubs based on their size.

A range of other regulations govern the operation and management of licensed premises, including the size of alcohol sales, environmental health matters, the number of fire exits etc

7. Is there a requirement to employ glass collectors? If so, please provide details.

No, in small bars there are no special glass collectors. In bigger places there is a glass collector available.

8. In the city are there any regulations or programmes around training staff (e.g. managers, bar staff and security staff)? If so, please provide details (e.g. is it compulsory; who attends the training; what does it cover [e.g. conflict resolution, responsible server training]; how often is it delivered; and who provides the training).

There are several training programmes staff can do:

- Conflict resolution training – called Barveilig. This is delivered by the Police (via a training bureau) to bar staff covering early intervention, body language, warning and danger signs etc. The training has been delivered thus far to one club as a pilot and will be wider implemented in Autumn '09.
- Alcohol and drug prevention training – called Barcode. This is delivered by the local agency for addiction care to bar staff. It teaches them skills to prevent them serving to minors or drunks and to detect signals of drug use or dealing.

Neither training programme is compulsory.

9. What is the legal age for entering bars, drinking alcohol in bars and purchasing alcohol in bars? Is this enforced? If yes, how and who by?

In the current law selling regular alcoholic drinks (beer, wine) to under 16 year olds and spirits (brandy, vodka) to under 18s is forbidden. In some bars you could only enter if you are 18+.

The local charter requires that the bar manager will check the age for alcohol drinking and strictly monitor the compliance rules in this regard.

10. Is it illegal to serve drunk customers in bars? If so, is this enforced? If yes, how and who by?

Yes, selling to persons who are clearly intoxicated is forbidden. See answer to question 1.

The local charter requires that bar managers will give instructions to staff not to sell alcohol to drunken visitors. Neither are drunken visitors allowed in the bar.

11. Are there any regulations governing sales of alcohol (e.g. promotions, price of non-alcoholic drinks)? If so, please provide details including if and how it is enforced.

See answer to question 1.

The local charter requires that bar managers will give instructions to staff to keep Responsible alcohol consumption in mind regarding to the visitors. Centrum Maliebaan (institution for addiction) can provide an alcohol and drug prevention training for staff (Barcode).

12. What is the law regarding use of illegal drugs and distribution of drugs in bars?

Using or selling Illegal drugs is not allowed except for coffeeshops which sell cannabis.

The local charter requires that bar managers are aware incidents involving drugs and alcohol and provide assistance where necessary to early warning systems or peer prevention campaigns. In house rules it is included that drug use is prohibited. Police have regular meetings with bar managers about drug abuse by visitors. If necessary they can seek professional advice. There are special safes to deposit seized weapons and drugs.

13. What are the laws around closing times?

There are no restrictions to closing hours, but most pubs close between 2 and 4am. Most clubs close between 4 and 5am. Some pubs have a dance floor, which is mainly used in the last few hours.

14. Are there regulations around taking drinks out of the venue? If so, please provide details.

That is not allowed - only during the day on the terraces.

15. Are there regulations around types of glasses used in bars (e.g. do they have to use plastic glasses after a certain time)? If so, please provide details.

There are no specific rules but they tend to provide plastic glasses with bigger events like concert/parties. The local charter requires the use of safety glass (eco-glass) or plastic for events.

16. Are there any other interventions that may affect the environment of bars (e.g. in the UK high risk bars are visited by the police on a regular basis / many bars take part in the best bar none scheme, which is an accredited programme promoting good practice)? If so, please provide details.

All pubs and clubs owners have subscribed to a charter with police and the public prosecutor to create a safer nightlife. They have committed to not having Happy hours, prevent alcohol misuse and drug use, have a well communicated door policy and a panel door policy (for complaints). A number of clubs and bars have also united to have a 'collective bars and clubs entrance refusal system'. Visitors who have been a nuisance or caused violence in one bar, will be refused entrance by all bars and clubs within the network. Members of the national union for clubs, bars and restaurants (the vast majority) can be forced by their union to implement the charter.

On Thursday, Friday and Saturday night police have a special team called UIT. On these nights an additional 3 or 4 pairs of police are present in and around the major squares. Other: Camera surveillance: there are 43 cameras in Utrecht's city centre; Police have a special 'clubbing phone line' which enables pub and club staff to get help from the police quickly; lighting is checked. Regular meetings of police and owners of bars and clubs.

The police and the community started using CCTV in Utrecht in February 2001. There are now 43 movable and fixed cameras placed in the area around bars and clubs and the corridors between them. The police view the tapes on Thursday, Friday and Saturday nights. All tapes are stored.

Police and security staff made agreements on the handling of violent crimes. In the interest of safety in the bar, security staff remain at the door after involvement in a violent crime. After closing time security staff will always report crime to the police.

Communication and consultation

To ensure safety in the Utrecht city communication and consultation between the various parties are extremely important. Information exchange is essential. Ongoing consultations is needed between the various parties (police, bar and club managers, Mayor, Koninklijke Horeca Nederland, Panel door policy etc). All the parties shall make joint arrangements on definitions used and explain the current arrangements as similar as possible into a measurable set. All parties jointly take responsibility for the local charter to communicate to their own constituency or organization.

Other initiatives:

- People arrested in the weekend for nuisance/vandalism are held in custody till Monday so that they cannot appear at work. The measure will have greater impact on people's life.

(This measure has currently been disputed in court, it is not clear if people can be held in custody for so long.)

- To explore the use of measures such as closing time of bars & clubs/curfews, with the intended effect that this leads to a reduction of excessive alcohol consumption and problems. Develop, implement and enforce stricter rules for the licensing of events to prevent excessive alcohol use. Strict enforcement of age limits and rules regarding celebrations and parties. Explore the possibility of an intervention team which help people with an alcohol or drug problem.
- Give alcohol and drugs information to students during the introduction weeks. Provide information, advice and consultation (test service) on party drugs. Peer prevention in the nightlife environment and peer prevention by and for young immigrants.

17. Are there any other regulations that have been developed to govern and manage the night-time environment? If so, please provide details.

The local charter describes the quality and attractiveness of public areas:

- Bar/club/restaurant managers make sure that there is enough lighting outside the building in order to increase safety for visitors and staff.
- The bar manager ensures that it is clean around his bar. Waste is collected at special places and times. The bar manager ensures that dirt in the immediate vicinity of the bar after closing time will be removed.

LJUBLJANA

1. Is there a licensing system in place governing bars and nightclubs and the sale of alcohol?

No, there is no licensing system in place governing bars and night clubs and the sale of alcohol.

2. What are the requirements for opening and running a bar and nightclub (e.g. regulations / governance – we do not need very detailed information, just a general idea of the rules)?

The bar or nightclub owner shall acquire a certificate of occupancy (or occupancy permit) for the premise which allows him/her to start a business. He/she shall take into consideration legislation including laws and regulations on reduction of alcohol consumption, tobacco, catering, public order and peace, minimum technical requirements and minimum extent of catering services, criteria on defining operating time of the premises, foodstuffs (especially hygiene and health provisions), waste and garbage handling, labelling and pricing etc. No special education is required for owning a catering business. The owners of nightlife premises need special consensus on operating time issued by local authority. The nightlife premises with recorded or live music should take into consideration legislation on noise reduction as well.

3. Are there requirements for bars and nightclubs to have security staff? If so, are these governed? How? Who by?

The Private Security Act (law) also includes provisions on security in bars and nightclubs. The law defines several responsibilities of the Ministry of Interior regarding security services and staff which include: (1) granting, changing and withdrawal of the licence to perform private security; (2) granting and withdrawal of service cards; (3) determining the contents and course of professional training upon a proposal of the Private Security Chamber; (4) giving consent to foreign individuals to carry out services of private security in Slovenia; (5) control of the implementation of the Private Security Act provisions and regulations deriving from it; and (6) keeping the register and records. The Ministry of Interior drafted a new regulation (adopted by the government in March 2010) which defines obligatory assurance of security service on public events (bars and nightclubs are included) and additional safety/security requirements. Private security companies are

controlled by the Ministry of Interior. Those companies are united (on voluntary basis) within the Private Security Chamber.

4. Is smoking permitted in bars and nightclubs? If not, what are the restrictions?

Smoking is on principle not permitted inside the bars and nightclubs. There are some regulations which permit smoking inside and outside the premise under very strict requirements. In August 2007 the Act Amending the Restriction of the Use of Tobacco Products Act (law) entered into force in Slovenia, prohibiting smoking in all enclosed workplaces and public places, including means of public transport, bars and restaurants. The law allows smoking only in separate smoking rooms of the accommodation facilities and other facilities that provide overnight stays, in the residential rooms of the old people's homes and in prisons, in separate smoking rooms of the psychiatric hospitals and in the rooms designed specially for smoking- the so-called smoking rooms or chambers (this refers to bars and nightclubs as well). It is not allowed to bring or serve food and drinks inside smoking rooms/chambers and they can comprise no more than 20% of the total area of the public or working place. Smoking rooms/chambers are not allowed in places to which total ban of smoking has applied so far, i.e. healthcare and educational institutions. The law also prohibits the purchase and sale of tobacco products by or to people under the age of 18.

5. Is there any legislation regarding noise inside venues? If so, please provide details.

The nightlife premises with recorded or live music shall take into consideration legislation on noise reduction. The owners of such nightlife premises need special consensus on operating time issued by local authority. They shall take into consideration a special regulation on limitations of noise in the environment which is controlled and enforced by the Inspectorate of the RS for the Environment and Spatial Planning. It is also a minor offence (under the Protection of Public Order and Peace Act) if somebody uses music and other devices in a sense of disturbing peace or rest of people in the neighbourhood. The law also defines fines and is controlled and enforced by the Police.

6. Are there restrictions on how many people are allowed in a venue at one time? If so, please provide details.

There are no obligatory requirements (i.e. exact number of visitors per square metre or similar) on how many people are allowed in a venue at one time. But all venues shall have internal venue regulations which include fire safety plan, evacuation plan, limitation of number of visitors (the exact number shall be written in the document and they are then obliged to take this into account while managing the venue) etc. Regarding maximum number of visitors per square metre they shall follow guidelines recommended by the Inspectorate of the RS for Protection against Natural and Other Disasters and the Administration of the RS for Civil Protection and Disaster Relief. Ensures the unified enforcement of regulations and carries out inspection supervision for the enforcement of regulations on protection against natural and other disasters.

7. Is there a requirement to employ glass collectors? If so, please provide details.

No requirements to employ glass collectors. This is regular job of barmen and barwomen.

8. In the city are there any regulations or programmes around training staff (e.g. managers, bar staff and security staff)? If so, please provide details (e.g. is it compulsory; who attends the training; what does it cover [e.g. conflict resolution, responsible server training]; how often is it delivered; and who provides the training).

Regarding bars and nightclubs, only security staff training is required in Slovenia. Training for security staff is compulsory to get a license for work. Training covers topics such as measures and tasks of security staff, human rights, self-defensive skills and practical procedure, criminal acts and measures, usage of technical devices to protect people and property, safety at work, fire

safety, first aid and communication skills. Training is provided by 5 different companies, educational centres and the Private Security Chamber under special mandate given by the Ministry of Interior.

9. What is the legal age for entering bars, drinking alcohol in bars and purchasing alcohol in bars? Is this enforced? If yes, how and who by?

There is no legal age for entering bars, except for those teenagers under 16 years old after midnight (in bars and nightclubs which sell and serve alcohol). Drinking alcohol in bars: no age limits for drinking alcohol, but selling and serving alcohol to minors (under 18 years old) is strictly prohibited in general under the Reduction of Alcohol Consumption Act (law). Purchasing alcohol in bars: no age limits for purchasing alcohol, but selling and serving alcohol to minors (under 18 years old) is strictly prohibited in general. (Article 7.1: 'The sale and provision to persons under the age of 18 of alcoholic drinks or drinks to which alcoholic drinks are added shall be prohibited'). Control and enforcement are the responsibility of the Health Inspectorate and the Police. Both responsible authorities control and enforce age limits for selling and serving alcohol to minors on a regular basis and randomly.

10. Is it illegal to serve drunk customers in bars? If so, is this enforced? If yes, how and who by?

It is illegal to serve drunken customers in bars and nightclubs under the Reduction of Alcohol Consumption Act (law) (Article 7.2: 'The sale of alcoholic drinks to persons displaying obvious signs of alcohol intoxication shall be prohibited'). Control and enforcement is responsibility of the Police which controls and enforces selling and serving alcohol to drunken customers on regular basis and randomly.

11. Are there any regulations governing sales of alcohol (e.g. promotions, price of non-alcoholic drinks)? If so, please provide details including if and how it is enforced.

Yes, there are regulations governing sales of alcohol (the Reduction of Alcohol Consumption Act) (Article 13: 'The sellers of alcoholic drinks must sell at least two different types of non-alcoholic drinks that have an equal or lower price than the cheapest alcoholic drink'). Control and enforcement is the responsibility of the Health Inspectorate which controls and enforces this regulation on regular basis and randomly (i.e. checking pricelists and offers).

12. What is the law regarding use of illegal drugs and distribution of drugs in bars?

The use (consumption) per se of illegal drugs is not an offence in Slovenia, but illegal possession of drugs is considered a minor offence under the Production and Trade in Illicit Drugs Act (Article 33). According to this, unauthorised possession of drugs is subjected to a fine of between 208 € and up to 625 €. Individuals who possess a smaller quantity of illicit drug for one-off personal use are liable to a monetary fine of between 42 € and 208 €. According to the provisions of the Misdemeanours Act, the persons committing such an offence may be subject to more lenient punishment if they voluntarily enter the programme of treatment for illicit drug users or social security programmes approved by the Ministry of Health or the Ministry of Labour, Family and Social Affairs. There is no limited quantity to indicate what is personal use. According to the new Penal Code (adopted in 2008), 'unlawful manufacture and trade in illicit drugs, illicit substances in sports and precursors' (Article 186) and 'rendering opportunity for consumption of illicit drugs or illicit substances in sports' (Article 187) are classified as criminal acts.

13. What are the laws around closing times?

Operating (opening and closing) time of catering premises (including bars and nightclubs) is divided on regular and extended operating time under the national and local regulations on operating time of catering premises. Regular operating time is between 6am and 10pm. To extend operating time, the owners of catering premises are obliged to get permission of

competent neighbourhood authorities, neighbours, owners and co-owners of the building (if the premise is in multi-residential building) etc.

14. Are there regulations around taking drinks out of the venue? If so, please provide details.

No regulations around taking drinks out of the venue. Usually it depends on house (bars and nightclubs) own regulations. There are many bars and nightclubs which enforce these regulations.

15. Are there regulations around types of glasses used in bars (e.g. do they have to use plastic glasses after a certain time)? If so, please provide details.

No regulations around types of glasses used in bars and nightclubs.

16. Are there any other interventions that may affect the environment of bars (e.g. in the UK high risk bars are visited by the police on a regular basis / many bars take part in the best bar none scheme, which is an accredited programme promoting good practice)? If so, please provide details.

Since 2007, a number of major campaigns were undertaken in Slovenia to reduce alcohol-related harm and road traffic accidents. The campaigns focused mostly around two key party periods – the week surrounding St Martin’s Day in November (when must traditionally turns to wine), and the Christmas and New Year holiday season. A key factor of the campaigns were an increase in enforcement activity, particularly at weekend nights but also taking into account the increased consumption of alcohol during the day time and in workplaces over the holiday period. Enforcement activity included random police breath testing of drivers and increased inspections in licensed premises to enforce legislation on underage alcohol sales and sales of alcohol to intoxicated customers. The campaigns were supported by intense media coverage, including posters, billboards, and radio and television advertisements. Campaign materials were targeted at young people most at risk of drink driving, including in and around nightlife premises and during the most popular television shows watched by 18-24 year olds). A telephone survey of drivers was also undertaken in 2008 to measure public opinion on drink driving and methods of its prevention.

In 2008, police statistics show that during the first period of the campaign (November), officers stopped and breathalysed 15,660 drivers. Of these, 4.5% had breath alcohol concentrations higher than the legal permitted level. During the second part of the campaign (December), 74,720 drivers were stopped and breathalysed by police. Of these, 2.1% were found to be over the legal breath alcohol concentration limit. Compared with the same periods in the previous year (2007), the number of road traffic accidents and road traffic fatalities decreased significantly during the campaign. The number of drivers in road traffic crashes who were under the influence of alcohol also decreased, although there was a slight increase in the proportion of all drivers in road traffic crashes who were under the influence of alcohol. Evaluation of the media campaign found that the majority of drivers surveyed were aware of, and strongly supported the campaign, including increased random breath tests and detention of drunk drivers. A major benefit of the campaign was also considered to be the greater awareness and reduced acceptance of drink driving by the media and civil society.

17. Are there any other regulations that have been developed to govern and manage the night-time environment? If so, please provide details.

No other regulations that have been developed to govern and manage the night-time environment. The Ministry of Interior drafted a new regulation (adopted by Government in March 2010) which defines obligatory assurance of security service on public events (bars and nightclubs are included) and additional safety/security requirements.

PALMA

1. Is there a licensing system in place governing bars and nightclubs and the sale of alcohol?

No, alcohol can be sold in all venues without special licensing.

2. What are the requirements for opening and running a bar and nightclub (e.g. regulations/governance – we do not need very detailed information, just a general idea of the rules)?

There is legislation regulating opening and running venues (opening/closing times, permission to play music, environmental conditions of the premises, safety conditions, etc.)

The main laws are:

At national level: law: LEY ORGÁNICA 1/1992, DE 21 DE FEBRERO, SOBRE PROTECCIÓN DE LA SEGURIDAD CIUDADANA.

At regional Level: law: Ley 16/2006, de 17 de octubre, de Régimen jurídico de las licencias integradas de actividad de las Illes Balears.

At local level: municipal regulation: 'Ordenança de regulació d'horaris d'obertura al públic, de condicions dels locals, d'emplaçament i d'instal·lació dels establiments de les ofertes d'entreteniment i restauració' approved in 2003

3. Are there requirements for bars and nightclubs to have security staff? If so, are these governed? How? Who by?

Since 2003 there is a local regulation (article 21):

According to this regulation it is mandatory for all premises under "B class. Playing music", if its capacity equals 100 clients or over to have at least one security staff employee to control the venue including accesses and exits.

Security staff are in charge of controlling public order inside the venue and of calling the police forces if their instructions are not followed by patrons.

For venues having more than one access/exit door it is mandatory to have security staff in all open accesses/exits to the venue.

4. Is smoking permitted in bars and nightclubs? If not, what are the restrictions?

In Spain there is a Tobacco law regulating smoking in venues (Law 28/2005, January 1st, 2006). It states:

1. Owners can decide if they want the establishment to be smoking or non smoking.
2. If venues are under 100m², they display their selected option (whether they are smoking or non-smoking?) at the entrance and in all advertising. Minors are allowed in these places under current regulations.
3. If venues are over 100m², they should display their selected option at the entrance. If they have selected smoking, they will have to provide a smoking section inside the venue, duly signposted, that cannot be over 30% of the venue surface and no bigger than 300m². Under-16s will not be allowed in the smoking areas.
4. Since September 1st 2006, smoking areas must be enclosed and have an independent ventilation system.

Smoking will not be allowed in bars and restaurants located inside shopping centres with the exception of premises separated from the shopping centre that provide smoking areas according to the same regulations stated above.

This past summer, the Minister of Health proposed a new and more restrictive law but some groups opposed it and nothing has been done since then.

5. Is there any legislation regarding noise inside venues? If so, please provide details.

Yes, the local normative states that:

Premises under the classification 'without music' can play music from 10h to 24h if the music level is below 70dB.

Premises under classification 'with music' can play it at a higher level but must meet conditions to control noise is not listened out the premise.

According to the regional law, Ley Balear 16/2006, (article 74) it is mandatory before opening a venue to elaborate a technical report on noise control, but it is very imprecise. The regional law, Ley Balear de 1/2007, March 16th, (BOIB Núm 045/2007 of 24/03/2007) does not state the maximum level of dB allowed inside nightlife venues.

6. Are there restrictions on how many people are allowed in a venue at one time? If so, please provide details.

Although it is regulated (regional law), there is no enforcement. Each premise has an assigned capacity that must be shown at the premise entrance (Ley Balear 16/2006, (article 37) but not all the premises have that information on view.

7. Is there a requirement to employ glass collectors? If so, please provide details.

No, there isn't

8. In the city are there any regulations or programmes around training staff (e.g. managers, bar staff and security staff)? If so, please provide details (e.g. is it compulsory; who attends the training; what does it cover [e.g. conflict resolution, responsible server training]; how often is it delivered; and who provides the training).

Although there are some staff training programmes financed by the PNSD (National Plan on Drugs) available, at the time of collecting this information none had been implemented in Mallorca.

The regional law (Ley Balear 16/2006, articles 39-40) is intended just for door staff:

Article 39

1. Door staff should prevent/stop access to the premises to people who show violent behaviour, that annoy other clients, or that disrupt regular activities

1. In order to fulfil the listed requirements door staff should be in possession of the title of the basic door staff course on admissions control.

2. The training centres developing the admission control courses should comply with the requirement stated under regulation.

Article 40

1. License holders of the activities will be obliged to: a) adopt the general health and security disposition, and the specifics required by license or activity, to insure the establishment and installations are kept under perfect working conditions

9. What is the legal age for entering bars, drinking alcohol in bars and purchasing alcohol in bars? Is this enforced? If yes, how and who by?

According to the Law (1/1992) in the Balearic Islands the legal age for drinking alcohol is 16 but there is some confusion. Most people think legal age is 18 because it is forbidden to sell alcoholic beverages to under-18s. Entering clubs and discos is forbidden to under-16s.

10. Is it illegal to serve drunk customers in bars? If so, is this enforced? If yes, how and who by?

To serve drunk customers is not illegal

11. Are there any regulations governing sales of alcohol (e.g. promotions, price of non-alcoholic drinks)? If so, please provide details including if and how it is enforced.

No, there are not regulations in general terms. Promotions and advertisement are not allowed if addressed at minors.

12. What is the law regarding use of illegal drugs and distribution of drugs in bars?

There are two. At national level, the 'Ley Corcuera' (1992) and at regional level (2005) but just for tobacco and illegal drugs (alcohol not included).

13. What are the laws around closing times?

This is a local regulation (from city hall), approved in 2003

Closing time for bars and clubs is 4:00am and for discos 6:00am

There is one controlled area in Palma, classified as ZAC (Zona Altament Contaminada /Highly Noise Polluted Area) where closing time is 1:00 am.

14. Are there regulations around taking drinks out of the venue? If so, please provide details.

No

15. Are there regulations around types of glasses used in bars (e.g. do they have to use plastic glasses after a certain time)? If so, please provide details.

No

16. Are there any other interventions that may affect the environment of bars (e.g. in the UK high risk bars are visited by the police on a regular basis / many bars take part in the best bar none scheme, which is an accredited programme promoting good practice)? If so, please provide details.

Although regular inspections are carried out, they are mostly technical ones, carried out during the day (non working hours) and just to check venues comply with security regulations, unless there is a complaint against the premise.

Acknowledgements

The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-13) under grant agreement No.223 059—Alcohol Measures for Public Health Research Alliance (AMPHORA). We would like to thank Kathryn Graham for her permission to use the research tools used in the study and her advice in its implementation. We would also like to thank Alasdair Forsyth for his advice in developing the study. We are grateful to all the researchers who assisted with the study, particularly Sara Wood, Adam Caris, Lindsay Eckley, Steve Duggan, Ian Wood, Olivia Sharples, Sanela Talić, Mirela Brkić, Joanne van der Leun, Cristina Gelabert, Marc Riera, Noelia Martínez, Rafael Umbert and Joan Recasens.

Contact

Karen Hughes
Centre for Public Health
Liverpool John Moores University
15-21 Webster Street
Liverpool L3 2ET
UK

Tel: +44 (0)151 231 4510
Email: k.e.hughes@ljmu.ac.uk
www.cph.org.uk
www.amphoraproject.net

Published January 2013