

# Exploring Experiences of Drink and Needle Spiking Incidents Among Global Drug Survey Respondents from 22 Countries

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## Abstract

This study explored experiences of spiking following the re-opening of nightlife settings post COVID-19 lockdown. Global Drug Survey 2022, respondents were asked about experience, context, and consequences of drink/needle spiking. In a sample of 7697 respondents 2% reported experiencing spiking the last 12 months, and 20% over a year ago. Most occurred in clubs/bars (54.8%), but a quarter occurred in a private home. 84.9% of respondents suspected a drug was added to their drink; 4.2% thought they had been injected with a drug. Almost a fifth experienced sexual assault during the incident. Only 7.2% who experienced drink spiking reported it to police. Higher AUDIT scores, being a woman, recent illicit substance use and recent clubbing experience were also associated with recent spiking. Low rates of reporting means it is difficult to understand prevalence and causes. However, media reports of an epidemic of spiking appear to have been disproportionately emphasised.

## Keywords

spiking, drink spiking, injection spiking, media panic

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## Introduction

Drink spiking – defined as ‘adding a substance to someone’s drink without their consent or knowledge’ - has a long history. Chicago newspapers in 1903 reported that *Mickey Finn* the manager of the Lone Star Saloon in Chicago had used knockout drops to incapacitate and rob some of his patrons (Donovan, 2016). The bartender’s name became synonymous with the practice from 1915 when it was first noted in the Oxford English Dictionary. In the 1980s drinking spiking was linked to substance facilitated sexual assault with high profile cases involving celebrities and serial killers. Such narratives served to keep the public’s awareness of how the surreptitious administration of drugs to people could leave them vulnerable to sexual assault and other harms (Donovan, 2016).

So as a behaviour, and one that engaged the media, drink spiking was not new. However the column inches, expert interviews and clamour for an effective response in 2021, following the re-opening of nightlife settings post COVID-19 lockdown (Blandamer et al., 2023; Campion-Vincent, 2022; UK Parliament, 2022), were likely disproportionate to the prevalence. While not all incidences of administering alcohol and other drugs to another person without consent involves sexual violence (Clinnick et al., 2023), media reports focussed heavily on this outcome. In our opinion it shifted the focus away from the far more common experience of being taken advantage of while under the influence of alcohol, and other drugs that may have been intentionally and knowingly consumed (Anderson et al., 2017; Busardò et al., 2019).

In addition, while drink spiking was the most common form of spiking mentioned in research reports and the media (Bendau et al., 2023; Donovan, 2016), a novel method of spiking involving injection into the body emerged in these reports, drawing considerable attention (Blandamer et al., 2023; Clinnick et al., 2023). For example in the United Kingdom there were 1382 reports of people experiencing injection spiking from September 2021-January 2022 (UK Parliament, 2022). Media reports labelled this new landscape a ‘Spiking Epidemic’ (Campion-Vincent, 2022) leading to nightclub boycotts like the ‘Girls Night In’ movement (Gallagher, 2021; Nicholls, 2022). These incidents are not restricted to the UK, with recent concerns underscored by American (Jackson, 2021) and Australian media (Lewin, 2023).

Obtaining accurate data on the number of drink spiking episodes is almost impossible, assuming the vast majority cases will go unreported or undetected (Bendau et al., 2023). Even so, the media reporting on needle spiking did prompt many to seek out what data there were. According to a freedom of information request obtained by the I newspaper in 2022, there had been a 54% increase in reports of drink spiking in the UK between 2018 and 2021. In that period of the 3625 reported cases, 3161 were reported as crimes. Only 1.4% resulted in a person being charged, a further 0.47% receiving a caution (YouGov, 2021). The huge mismatch between reports and criminal charge being filed is similar to that seen in cases of reported sexual assault and rape. Underlying both are issues of guilt, shame, uncertainty of what happened and who may be held accountable, loss of recall, and low levels of likely conviction. However within the media and wider population drink spiking and drug facilitated sexual assault did appear to share the ‘double standard’ in the public perception of intoxicated sexual assault: intoxicated perpetrators tend to be held *less* responsible for their actions, while intoxicated victims tend to be held *more* so (Finch & Munro, 2007).

Generally, individuals believe they have been spiked when they encounter a level of intoxication surpassing their anticipated threshold (in relation to their alcohol intake) or experiencing unexpected physiological manifestations like vomiting, hallucinations, impaired coordination, or loss of consciousness (Hughes et al., 2007). Another reason for uncertainty over just how many cases of drink spiking there are in a population comes from the difficulty in obtaining irrefutable evidence of the offence. Evidence to support a case being brought relies on witnesses, appropriate

biological samples, and a reliable recall of events. All of these make understanding just how common drink spiking is very difficult. While it may be distressing to believe drink or needling spiking has occurred, it is important to note that subjective reporting may not be a reliable measure of drink spiking and it is difficult to get medical proof (Quigley et al., 2009; Stephenson et al., 2023).

In an Australian study of 101 cases presenting to hospital emergency departments within 12 hours of suspected drink spiking (Quigley et al., 2009), only 9 out of 97 tested samples were considered plausible cases. In no instance was a sedative drug found to be added to drink in bar/club. However, 28% of the sample tested positive for illicit drugs and the sample had consumed a mean of 10 units of alcohol. Interestingly when the results were fed back to the study participants 35% remained adamant they had been spiked despite evidence to the contrary (Quigley et al., 2009).

The present study conducted at the end of 2021 though to early 2022 was thus interested not so much on the prevalence of suspected drink spiking (utilising a non-probability sample would not allow this in any case), but instead a desire to understand what people's experiences. For example, what had led people to think they had been spiked, associated consequences, the environment they were in and what actions they took. Previous research has indicated gendered outcomes for individuals subjected to spiking with women experiencing more adverse effects, such as sexual assault, blacking out, and getting sick (Swan et al., 2017). Such experiences have led to debate within the empirical literature about the problem of spiking, with two emergent perspectives.

The first perspective considers drink-spiking a significant issue for (primarily) women's safety in the night time economy, and thus aims to identify its risk factors for preventive purposes (Lasky et al., 2017a, 2017b; Swan et al., 2017). For example, much of the research in this sphere focusses on college student samples, and highlights correlates of spiking victimisation, including heavy alcohol consumption and sorority membership at United States colleges (Lasky, Fisher, Henriksen, & Swan, 2017). The second perspective in the literature questions the existence of a substantial spiking problem and examines how beliefs surrounding drink-spiking persist as a predatory crime narrative (Burgess et al., 2009; Donovan, 2016; Sheard, 2011). This perspective acknowledges the role of drugs, especially alcohol, in facilitating sexual assault encounters (Anderson et al., 2017; Brooks, 2013; Busardò et al., 2019; Olszewski, 2009). However, proponents of this perspective argue that the perception of surreptitious drugging for sexual assault purposes is overestimated (Colyer & Weiss, 2017; Weiss & Colyer, 2010; Weiss & Dilks, 2016). Scholars who take this perspective are critical of the media's role in perpetuating a myth of widespread spiking incidents where women must be on their guard at all times to protect themselves from this threat (Clinnick et al., 2023).

Therefore, in the post-pandemic return to night time economies, juxtaposed by a media storm surrounding spiking incidents, we sought to explore experiences of the issue using a large international sample of respondents known to be active in the night time economy.

## Methods

### *Design and Procedure*

The GDS is an anonymous, online, cross sectional survey. The core GDS survey assessed socio-demographic characteristics, drug use history and drug-related consequences. GDS2022 was open between 9 November 2021 and 14 March 2022 and took between 15 and 60 min to complete (depending on drug use history). While the survey was translated into 11 languages, the section on drink spiking was only available in English, due to being added later than other sections, following media coverage of the topic. Recruitment into GDS is facilitated by mainstream and social media and harm reduction organisations; see Winstock et al. (2022) for further details on recruitment and other methods. It is a non-probability survey, and not intended to be representative of the

populations within the included countries. Nonetheless, it has been demonstrated that GDS recruits people who use alcohol and cannabis who are similar in age and gender to people completing general household surveys in Australia, the United States and Switzerland (Barratt et al., 2017). The GDS received ethics approval from University College London (11671/001), which was registered at RMIT University (2020-23913-11758) and The University of Queensland (2017001452).

## *Participants and Measures*

The sample for the current study is restricted to those who were presented the survey section on spiking (those who reported lifetime use of alcohol) and chose not to skip the section. At the start of the section, respondents were advised that the questions may ask them to reflect on a distressing experience, and advised to skip the section if that was the case (see supplementary materials for all questions). A total of 7607 respondents chose not to skip the section. We were interested in whether respondents had experienced spiking in the last 12 months, or more than 12 months ago. For those who reported drink spiking in the last 12 months, we asked about a range of experiences including what made them think they had been spiked and what happened. See [Online Appendix A](#) for all survey items.

*Alcohol Consumption.* GDS2022 used the Alcohol Use Disorders Identification Test (AUDIT; Babor et al., 2001), a 10 item questionnaire used to assess risk of alcohol dependence. The scale ranges from 0-40 and respondents' classification of alcohol dependence – based on AUDIT scores – are categorised as lower risk (0-7), increasing risk (8-15), higher risk (16-19) and possible alcohol dependence (20+).

*Sociodemographic Measures.* GDS2022 also contained a broad range of demographic measures but for the purpose of this study we included gender, age, sexuality and country of residence.

## *Data Analysis*

We used descriptive statistics to examine the contextual details and occurrences of recent drink spiking experiences among respondents. The number and percentage of respondents who had never experienced spiking, ever experienced and experienced in the last 12 months were explored using percentages and Chi-Squared tests. We then performed three binary logistic regression models to explore variables associated with lifetime experiences of spiking compared to never, last 12 months experience compared to more than 12 months ago, and last 12 months compared to never. Age was rescaled in five year increments in the model, other predictors were gender, AUDIT score, lifetime and last 12 month illicit drug use, employment, student status, ethnicity, sexuality, and recent clubbing experience. Country was not treated as a random effect in the regression models due to low numbers of spiking incidents reported in some countries (e.g.  $N = 1$  for lifetime or last 12 months experience of spiking), and because there is no current evidence to suggest country differences in this behaviour.

## **Results**

### *Sample*

The final sample for this study consisted of 7607 respondents from 22 countries ([Table 1](#)) and the majority of respondents came from New Zealand (40.4%) and the UK (13.9%). The majority of the

**Table 1.** Drink Spiking Responses by Respondent Country.

Country	N (%)	Never spiked N (%)	Yes, but not in the last 12 months N (%)	Yes, in the last 12 months N (%)
<b>Total</b>	<b>7607</b>	<b>5921 (77.8)</b>	<b>1520 (20)</b>	<b>166 (2.2)</b>
Australia	935 (12.3)	689 (73.7)	217 (23.2)	29 (3.1)
Austria	27 (0.4)	22 (81.5)	5 (18.5)	0 (0)
Belgium	16 (0.2)	13 (81.3)	3 (18.8)	0 (0)
Brazil	41 (0.5)	34 (82.9)	5 (12.2)	2 (4.9)
Canada	135 (1.8)	103 (76.3)	31 (23.0)	1 (0.7)
Colombia	17 (0.2)	14 (82.4)	2 (11.8)	1 (5.9)
Denmark	19 (0.2)	14 (73.7)	4 (21.1)	1 (5.3)
Finland	428 (5.6)	333 (77.8)	80 (18.7)	15 (3.5)
France	24 (0.3)	22 (91.7)	1 (4.2)	1 (4.2)
Germany	301 (4.0)	259 (86.0)	41 (13.6)	1 (0.3)
Hungary	33 (0.4)	29 (87.9)	3 (9.1)	1 (3.0)
Ireland	127 (1.7)	89 (70.1)	34 (26.8)	4 (3.1)
Italy	79 (1.0)	62 (78.5)	13 (16.5)	4 (5.1)
Mexico	41 (0.5)	24 (58.5)	14 (34.1)	3 (7.3)
Netherlands	76 (1.0)	58 (76.3)	15 (19.7)	3 (3.9)
New Zealand	3070 (40.4)	2426 (79.0)	606 (19.7)	38 (1.2)
Poland	250 (3.3)	203 (81.2)	39 (15.6)	8 (3.2)
Spain	31 (0.4)	25 (80.6)	6 (19.4)	0 (0)
Sweden	109 (1.4)	94 (86.2)	14 (12.8)	1 (0.9)
Switzerland	32 (0.4)	27 (84.4)	5 (15.6)	0 (0)
United Kingdom	1055 (13.9)	792 (75.1)	233 (22.1)	30 (2.8)
United States	761 (10.0)	589 (77.4)	149 (19.6)	23 (3.0)

sample ( $N = 5921$ , 77.8%) had never encountered an experience of drink spiking (Table 1). A further 1520 (20%) reported they had experienced drink spiking, but not in the last 12 months. One hundred and sixty-six respondents (2.2%) indicated they had experienced drink spiking in the last 12 months. The characteristics sample are reported in Table 2.

### *Experiences of Drink Spiking in the Last 12 Months*

Cis women, trans women and people with another gender identity were more likely to report a spiking experience in the last 12 months than cis and trans men. Spiking in the last 12 months was also associated with being younger in age, and 40% of those reporting last 12 months drink spiking were in the increasing risk AUDIT category. Reporting last 12 months spiking was also associated with sexuality, recent clubbing experiences, recent and lifetime illicit substance use and being a student (see Table 2).

### *What Happened when Drink Spiking Occurred in the Last 12 Months?*

Contextual information about the drink spiking experience is shown in Table 3.

**Table 2.** Sociodemographic Comparisons and Bivariate Associations Between those Reporting Never Being spiked, Ever Being Spiked and Spiked in the Last 12 Months.

	N	Never spiked N (%)	Yes, but not in the last 12 months N (%)	Yes, in the last 12 months N (%)	Chi square $\chi^2$ , p value
<b>Total</b>	<b>7607</b>	<b>5921 (77.8)</b>	<b>1520 (20)</b>	<b>166 (2.2)</b>	
<b>Gender</b>					$\chi^2$ 264.7, p < .001
Cis man	4199 (55.2)	3529 (59.6) <sup>a</sup>	613 (40.3) <sup>b</sup>	57 (34.3) <sup>b</sup>	
Trans man	42 (0.6)	30 (0.5) <sup>a</sup>	11 (0.7) <sup>a</sup>	1 (0.6) <sup>a</sup>	
Cis woman	3052 (40.1)	2131 (36.0) <sup>a</sup>	832 (54.7) <sup>b</sup>	89 (53.6) <sup>b</sup>	
Trans woman	29 (0.4)	24 (0.4) <sup>a</sup>	2 (0.1) <sup>a</sup>	3 (1.8) <sup>b</sup>	
Non-binary	242 (3.2)	179 (3.0) <sup>a</sup>	54 (3.6) <sup>a</sup>	9 (5.4) <sup>a</sup>	
Other gender ID	43 (0.6)	28 (0.5) <sup>a</sup>	8 (0.5) <sup>a</sup>	7 (4.2) <sup>b</sup>	
<b>Age</b>					$\chi^2$ 134.2, p < .001
16-25	1698 (22.3)	1370 (23.1) <sup>a</sup>	239 (15.7) <sup>b</sup>	89 (53.6) <sup>c</sup>	
26+	5909 (77.7)	4551 (76.9) <sup>a</sup>	1281 (84.3) <sup>b</sup>	77 (46.4) <sup>c</sup>	
<b>Sexual orientation</b>					$\chi^2$ 69.19, p < .001
Bisexual	1250 (16.4)	884 (14.9) <sup>a</sup>	316 (20.8) <sup>b</sup>	50 (30.1) <sup>c</sup>	
Heterosexual	5494 (72.2)	4391 (74.2) <sup>a</sup>	1008 (66.3) <sup>b</sup>	95 (57.2) <sup>c</sup>	
Homosexual	426 (5.5)	320 (5.4) <sup>a</sup>	90 (5.9) <sup>a</sup>	6 (3.6) <sup>a</sup>	
Other	447 (5.9)	326 (5.5) <sup>a</sup>	106 (7.0) <sup>ab</sup>	15 (9.0) <sup>b</sup>	
<b>AUDIT risk categories</b>	7598	5913	1517	166	$\chi^2$ 193.0, p < .001
Low risk	4205 (55.4)	3468 (58.7) <sup>a</sup>	699 (46.0) <sup>b</sup>	38 (22.9) <sup>c</sup>	
Increasing risk	2423 (31.9)	1774 (30.0) <sup>a</sup>	582 (38.3) <sup>b</sup>	67 (40.4) <sup>b</sup>	
Higher risk	512 (6.7)	361 (6.1) <sup>a</sup>	122 (8.0) <sup>b</sup>	29 (17.5) <sup>c</sup>	
Possible dependence	456 (6.0)	310 (5.2) <sup>a</sup>	114 (7.5) <sup>b</sup>	32 (19.3) <sup>c</sup>	
<b>Clubbing experience</b>					$\chi^2$ 135.63, p < .001
Never	653 (8.6)	597 (10.1) <sup>a</sup>	44 (2.9) <sup>a</sup>	11 (6.6) <sup>b</sup>	
In the last 12 months	2968 (39.0)	2203 (37.2) <sup>a</sup>	820 (3.9) <sup>b</sup>	109 (65.7) <sup>c</sup>	
Over a year ago	3987 (52.4)	3121 (52.7) <sup>a</sup>	656 (43.2) <sup>b</sup>	46 (27.7) <sup>a</sup>	
<b>Lifetime drug use</b>					$\chi^2$ 79.1, p < .001
Lifetime illicit (yes)	6742 (88.6)	5147 (86.9) <sup>a</sup>	1432 (94.2) <sup>b</sup>	163 (98.2) <sup>b</sup>	
Lifetime illicit (no)	865 (11.4)	774 (13.1) <sup>a</sup>	88 (5.8) <sup>b</sup>	3 (1.8) <sup>b</sup>	

(continued)

Table 2. (continued)

	N	Never spiked N (%)	Yes, but not in the last 12 months N (%)	Yes, in the last 12 months N (%)	Chi square $\chi^2$ , p value
Last 12 month drug use					
12 month illicit (yes)	5288 (69.5)	4006 (67.7) <sup>a</sup>	1128 (74.2) <sup>b</sup>	154 (92.8) <sup>c</sup>	$\chi^2$ 67.8, $p < .001$
12month illicit (no)	2319 (30.5)	1915 (32.3) <sup>a</sup>	392 (25.8) <sup>b</sup>	12 (7.2) <sup>c</sup>	
<b>Employment</b>	7600	5915	1519	166	
Full time	4434 (58.3)	3395 (57.4) <sup>a</sup>	950 (62.5) <sup>b</sup>	89 (53.6) <sup>ab</sup>	$\chi^2$ 14.8, $p = .005$
Part time	1306 (17.2)	1036 (17.5) <sup>a</sup>	238 (15.7) <sup>a</sup>	32 (19.3) <sup>a</sup>	
Other	1860 (24.5)	484 (25.1) <sup>a</sup>	331 (21.8) <sup>b</sup>	45 (27.1) <sup>ab</sup>	
<b>Education</b>	7599	5915	1518	166	
Not studying	5713 (75.2)	4485 (75.8) <sup>a</sup>	1142 (75.2) <sup>a</sup>	86 (51.8) <sup>b</sup>	$\chi^2$ 96.2, $p < .001$
Part time	758 (10.0)	519 (8.8) <sup>a</sup>	209 (13.8) <sup>b</sup>	30 (18.1) <sup>b</sup>	
Full time	1128 (14.8)	911 (15.4) <sup>a</sup>	167 (11.0) <sup>b</sup>	50 (30.1) <sup>c</sup>	
<b>Ethnicity</b>	7580	5896	1519	165	
White	6734 (88.8)	5270 (89.4) <sup>a</sup>	1320 (86.9) <sup>b</sup>	144 (87.3) <sup>ab</sup>	$\chi^2$ 7.9, $p = .019$
Other ethnicity	846 (11.2)	626 (10.6) <sup>a</sup>	199 (13.1) <sup>b</sup>	21 (12.7) <sup>ab</sup>	

Note. Each subscript letter denotes a subset of categories whose column proportions do not differ significantly from each other at the .05 level.

**Table 3.** Spiking Experiences of Those Spiked in the Last 12 Months. Trans Man, Trans Woman, Non-binary and Other Gender ID Combined due to Low Numbers.

	All N (%)	Cis man	Cis woman	Trans/Non-binary/other
<b>Sample</b>	<b>166</b>	<b>57</b>	<b>89</b>	<b>20</b>
<b>Location</b>				
Club/bar	91 (54.8)	31 (54.4)	52 (58.4)	8 (40.0)
Pub	23 (13.9)	8 (14.0)	12 (13.5)	3 (15.0)
Festival	2 (1.2)	-	2 (2.2)	
Private home	36 (21.7)	12 (21.1)	19 (21.3)	5 (25.0)
Other	14 (8.4)	6 (10.5)	4 (4.5)	4 (4.5)
<b>Drinks</b>				
Mdn (P25; P75))	5 (3,7)	5 (3,8)	4 (3,6)	4 (2, 10,25)
<b>Why suspected?</b>				
Passed out	44 (26.5)	12 (21.1)	24 (27.0)	8 (40.0)
Felt weird/not drunk	84 (50.6)	30 (52.6)	44 (49.4)	10 (50.0)
Lost memory	89 (53.6)	28 (49.1)	50 (56.2)	11 (55.0)
Sharp needle like pain	5 (3.0)	2 (3.5)	2 (2.2)	1 (5.0)
Vision/hearing went weird	42 (25.3)	12 (21.1)	23 (25.8)	7 (35.0)
Seeing/hearing things/confused	44 (26.5)	15 (26.3)	21 (23.6)	8 (40.0)
Woke up somewhere strange	41 (24.7)	16 (28.1)	17 (19.1)	8 (40.0)
Other	47 (28.3)	15 (26.3)	26 (29.2)	6 (30.0)
<b>How spiked?</b>				
Added alcohol to drink	10 (6.0)	5 (8.8)	4 (4.5)	1 (5.0)
Added drug to drink	141 (84.9)	49 (86.0)	73 (82.0)	19 (95.0)
Injected you with a drug	7 (4.2)	3 (5.3)	3 (3.4)	1 (5.0)
Don't know	32 (19.3)	11 (19.3)	18 (20.2)	3 (15)
<b>Perpetrator?</b>				
Someone known	44 (26.5)	18 (31.6)	19 (21.3)	7 (35.0)
A stranger	86 (51.8)	29 (50.9)	49 (55.1)	8 (40.0)
Don't know	36 (21.7)	10 (17.5)	21 (23.6)	5 (25.0)
<b>Reported?</b>				
Reported to police?	12 (7.2)	2 (3.5)	10 (11.2)	-
Reported to venue?	22 (13.3)	5 (8.8)	16 (8.0)	1 (5.0)
<b>Assault?</b>				
No	129 (77.7)	50 (87.7)	66 (74.2)	13 (65.0)
Yes – sexual assault	32 (19.3)	3 (5.3)	22 (24.7)	7 (35.0)
Yes – not sexual assault	5 (3.0)	4 (7.0)	1 (1.1)	-
<b>Hospital?</b>				
Yes	12 (7.2)	1 (1.8)	11 (12.4)	-

**Location.** Of the 166 reporting last 12 month spiking, participants reported being predominantly in a club or bar (54.8%), private home (21.7%), with smaller representations in pubs (13.9%), and festivals (1.2%).

**Alcohol Consumption.** The median number of drinks reported to have been consumed was 5 (P25 = 3; P75 = 7).



*Why Drink Spiking was Suspected.* Participants endorsed a range of reasons that indicated to them they had been spiked. The most highly endorsed response options were lost memory (53.3%) and feeling weird (50.6%). About a quarter (26.5%) had passed out and similar proportions described seeing or hearing things or changes to vision or hearing.

*How Respondents Thought they had been Spiked.* Most (141; 84.9%) thought that a drug had been added to their drink. About a fifth of respondents (19.3%) did not know what had happened. Ten (6%) thought that alcohol had been added to their drink and 7 (4.2%) thought someone had injected them with a drug.

*Perpetrator and Reporting.* Of the people who participants believed to have spiked them, over half of participants (51.8%) believed it was a stranger, with smaller representations indicating they knew the person (26.5%) or had no idea (21.7%).

*Reporting of the Incident.* Only 12 (7.2%) participants reported the incident to the police, while a slightly higher proportion (13.3%) reported the incident to the venue. Lastly, few participants (7.2%) reported attendance to hospital.

*Experiences of Assault.* Approximately one-fifth of participants (19.3%) were victims of sexual assault as a result of the spiking, with a small number (3%) reported other types of instances of assault.

### *Exploring Variables Associated with Reporting Drink Spiking Experiences*

Logistic regression models were performed to explore whether demographic variables, alcohol consumption, other drug use and clubbing participation were associated with drink spiking experiences (see [Table 4](#)). Bootstrapped estimates for the confidence intervals in the regression models are shown in [Supplemental Table 1](#).

Ever experiencing drink spiking (either in the last 12 months or longer ago) compared to never experiencing drink spiking was associated with gender, AUDIT score, last 12 month and lifetime illicit drug use, employment, student status, clubbing participation and sexual orientation.

Experiencing drink spiking in the last 12 months compared to experiencing it more than 12 months ago was associated with gender, age, AUDIT score, last 12 month drug use, student status, and clubbing participation.

In particular the models highlighted that cis women, trans women and those with other gender identities were more likely to report recent spiking experiences compared to cis men. Higher AUDIT scores, recent illicit substance use and recent clubbing experiences also appear to be associated with reporting drink spiking. Students compared to non-students are also more likely to report recent spiking experiences.

## **Discussion**

This exploratory study aimed to describe experiences of drink spiking in a large sample of respondents from 22 countries. Although a non-probability study, and as such, the results should not be used in any meaningful way to report prevalence, based on this sample, one in five respondents reported believing they had been spiked; 2.2% believed this happened in the last 12 months. These data suggest that this is not something that is so rare that it is outside the experience of community members, particularly younger people.

**Table 4.** Logistic Regression Models Exploring Predictors of Experiencing Drink-Spiking Incidents.

Covariate	Ever spiked versus never spiked				Last 12 month spiked versus lifetime spiked			
	OR	<i>p</i>	95% CI lower	95% CI upper	OR	<i>p</i>	95% CI lower	95% CI upper
Gender		<.001				0.003		
Trans man	2.30	0.021	1.13	4.67	0.424	0.493	0.037	4.913
Cis woman	2.62	<.001	2.31	2.97	1.18	0.419	0.79	1.764
Trans woman	1.45	0.466	0.53	3.94	13.698	0.009	1.927	97.378
Non-binary	1.98	<.001	1.43	2.75	1.596	0.309	0.648	3.934
Other gender ID	3.46	<.001	1.77	6.79	11.625	<.001	2.8	48.264
Alcohol								
AUDIT	1.05	<.001	1.04	1.06	1.067	<.001	1.041	1.094
Illegal drug use								
Lifetime use	1.82	<.001	1.40	2.36	1.211	0.785	0.307	4.774
Last 12 month	1.19	0.031	1.02	1.39	2.341	0.022	1.133	4.836
Age								
Age_5	1.41	<.001	1.22	1.63	0.251	<.001	0.164	0.385
Age_5 <sup>2</sup>	0.98	<.001	0.97	0.99	1.077	<.001	1.049	1.105
Employment		0.006				0.31		
Part time	0.76	0.002	0.65	0.90	0.666	0.133	0.392	1.131
Other	0.95	0.494	0.81	1.11	0.794	0.371	0.479	1.317
Studying		<.001				0.126		
Part time student	1.66	<.001	1.39	1.98	1.435	0.149	0.878	2.343
Full time student	0.93	0.475	0.76	1.14	1.627	0.071	0.959	2.76
Ethnicity								
Other ethnicity	1.17	0.086	0.98	1.39	0.841	0.553	0.475	1.49
Clubbing		<.001				0.188		
In the last 12	2.47	<.001	1.82	3.37	0.537	0.154	0.229	1.262
More than a year	2.18	<.001	1.61	2.97	0.446	0.072	0.185	1.075
Sexual orientation		0.015				0.172		
Heterosexual	0.79	0.004	0.68	0.93	1.136	0.568	0.733	1.76
Homosexual	0.98	0.908	0.75	1.29	0.378	0.061	0.137	1.044
Other	0.96	0.734	0.74	1.24	0.824	0.609	0.392	1.732

Notes. Reference categories: Gender = cis man, lifetime/last 12 month illegal drug use = no; employment = full time; studying = not studying; ethnicity = white; clubbing = never; sexual orientation = bisexual. For categorical variables *p* value relates to the robust (omnibus) test.

Our study sheds light on the current understanding of drink spiking as it is being experienced by people at the beginning of the 2020s. Our findings challenge gender based stereotypes and the belief that drink spiking occurs most commonly in association with drug facilitated sexual assault. It also questions the presumed dominant role of alcohol as the most frequently used substance in spiking incidents. However, our study cannot exclude the possibility that unexpected experiences were the result of intentionally consumed other psychoactive substances.

The rate of spiking in our sample is similar to that of a recent German study, which found 22.2% of respondents who were engaged in the Berlin nightlife scene had experienced drink spiking (Bendau et al., 2023). In line with our findings, only a small proportion of respondents had reported the incident to the police or received medical attention (Bendau et al., 2023). In the Berlin

study, it was not possible to ascertain whether the spiking experiences were recent or historical. In our study, only a very small number of respondents (2.2%) suspected they had been spiked in the last 12 months.

In line with the wealth of existing evidence (e.g. [Anderson et al., 2017](#); [Bendau et al., 2023](#)) suspected spiking was more likely to be reported by women and younger respondents in our sample. However, spiking experiences were also reported by men in the sample. Most research on the causes and consequences of spiking is focused on cis women (e.g. [Brooks, 2013](#); [Clinnick et al., 2023](#); [Colyer & Weiss, 2017](#)). However, some research points towards different reasons for spiking experienced by men. For example men might be spiked if someone in their social group believes they need to relax and, therefore, drugs may then be administered to them passed to them for their ‘benefit’ ([Swan et al., 2017](#)). Spiking is also reported by men who have sex with men in the chemsex scene - where substances are used to enhance and prolong a sexual experience ([Bourme et al., 2015](#); [Glyde, 2015](#)).

A fifth of respondents spiked in the last 12 months had experienced sexual assault during the incident. While any number of cases is a cause of concern, this evidence highlights that most spiking incidents, fortunately, do not result in assault. This finding concurs with recent findings ([Stephenson et al., 2023](#)) and compels researchers to interrogate this complex phenomenon more fully. Media reports tend to focus solely on the narrative of spiking victimisation ([Agustin et al., 2022](#)), which perpetuates a landscape of fear, victim blaming and reprisal ([Campion-Vincent, 2022](#)).

Those who suspected spiking in our sample were more likely to have higher AUDIT scores, report recent illicit drug use, and engaged in nightlife settings. Student studies suggest that those who drank in the past month were more likely to be spiked than those who did not drink ([Butler et al., 2021](#); [Lasky, Fisher, Henriksen, & Swan, 2017](#)). However, rather than pointing towards individual substance use behaviours as a modifiable risk factor, this finding underscores that those who participate more frequently in the nightlife settings are likely to be exposed to contexts where spiking may occur or be suspected. To underscore this point, most recent spiking experiences in our sample occurred in a nightlife setting, in line with other findings ([Prego-Meleiro et al., 2020](#)), although it is important to note that a fifth occurred in a private home. Most were believed to be perpetrated by someone not known to the victim and to involve a drug other than alcohol being added to a drink. Counter to this, evidence from medical settings often suggests that alcohol is the most common drug identified in spiking incidents ([Hughes et al., 2007](#); [Scott-Ham & Burton, 2005](#)). However, with very low levels of presentation at medical facilities in our sample, it is possible that actual rates of spiking with an illicit substance are unknown. Underreporting of suspected spiking incidents may occur from a fear of being judged for voluntary illicit substance use, and subsequently blamed for being a victim of spiking ([Colyer & Weiss, 2017](#); [Prego-Meleiro et al., 2020](#)).

Needle spiking was rarely suspected in our sample, also in line with other recent studies ([Bendau et al., 2023](#)). As far as the authors are aware, there is a lack of evidence reporting proven incidents of needle spiking at present ([Blandamer et al., 2023](#); [Koppen et al., 2023](#)). It is unlikely that someone would not notice straight away if they were administered an intramuscular injection of a dose high enough to cause sedation ([Bendau et al., 2023](#)). In a clinical case study report, the suspected victim found a bruise and puncture mark on their thigh the morning after the incident ([Blandamer et al., 2023](#)).

Our study was limited by its opportunistic recruitment methods and cross-sectional design, which means we make no claims for the representativeness of the findings. We framed the initial questions as specific to drink spiking, and then went on to ask about needle spiking. It is possible that this framing impacted the responses. An additional consideration is as mentioned in the method section, the questions on drink spiking were only offered in English. Further contextual details about suspected spiking incidents, for example whether it had occurred to the respondent

more than once, would allow further insights. It is also important to ask about spiking perpetration, rather than focusing on victimisation.

### *Practical Implications*

The current study contributes to our understanding of spiking incidents. Importantly, the findings underscore that suspected needle spiking incidents are a rare occurrence, and did not warrant the media storm that resulted in many countries around the world during 2021. Rather than doing a service to the general public, media stories create a sense that women, in particular, should be on high alert to the risk of drink or needle spiking in nightlife settings. While noting that women do, unfortunately, often need to be alert in nightlife settings, it seems from our findings the media focussed on a small risk, when it would perhaps be better to focus on the level of unwanted attention and sexual assault that occurs in public spaces all the time. Nuanced and balanced reports should focus on the relatively few cases of assault as a result of suspected spiking, whilst not ignoring that sexual assault is prevalent regardless, particularly in student populations (Camp et al., 2018). As a result, we suggest prevention efforts should focus on educating people about sexual consent and appropriate behaviour, rather than encouraging vigilance about leaving drinks unattended.

### *Research Implications*

Returning to the dominant perspectives in the literature on drink spiking, our findings also highlighted some important gaps for further research. While it is laudable to explore risk factors for spiking, literature which considers a preventive approach lays the blame, and, therefore, the solution for the problem at the feet of the (predominantly female) victim, rather than the perpetrator of the assault. Our data suggest the need to move away from a solely female victim/male perpetrator narrative. Prevention efforts such offering people caps to put over their drinks perpetuate the perception of ubiquitous spiking (Bendau et al., 2023). Our data also show that most spiking incidents do not result in sexual assault, which supports researchers who critique the media's role in perpetuating the dangers of spiking posed to women in nightlife settings. Notably, this should not downplay that sexual assault itself is a frequent occurrence. However, assault is more likely following voluntary, rather than involuntary, drug consumption (Anderson et al., 2017). Further understanding of the experiences of spiking in men and in trans and non-binary people is needed, as well as research into motives for perpetration.

What each perspective on drink spiking highlights, is that women's existence within the night time economy is fraught with danger and uncertainty (Colyer & Weiss, 2017). Nicholls (2022) highlights the tension between 'letting go' and enjoying a night out and the need to be vigilant to sexual harassment and other forms of unwanted attention from men. She found that women perceived gender-based violence as unavoidable, and in some ways an accepted part of the night time economy, something to be laughed off, and something to have strategies in place to manage (Nicholls, 2022). A recent study of UK festival attendees found that sexual assault and harassment was normalised in the festival spaces (Bows et al., 2022). Spiking in this context is just one form of potential assault to be contended with, and its existence may act as a form of social control for women's behaviour (Colyer & Weiss, 2017). It is not surprising from any of these perspectives that feelings of shame, guilt, and apprehension of reprisal, mean that the reporting frequency of spiking incidents remains low (Anderson et al., 2019; Hagemann et al., 2013; Stephenson et al., 2023). Further research should attempt to understand how to increase levels of reporting by victims of all types of assault, and to challenge the normalisation of harassment behaviours that lead to low levels of reporting. Such efforts need to include men, women and people of minority genders, and

not solely focus on either ‘victims’ or ‘perpetrators’ in recognition that everyone has a role in safe, welcoming nightlife and festival settings.

## Conclusions

In conclusion, should there be an increased focus on the prevention of spiking or is it over-estimated and a way to instil fear in women? We argue that a more nuanced understanding of spiking is required, given that it likely remains underreported. Further research focussing on perceptions of spiking would be beneficial. Sexual assault and violence are very real issues particularly for more marginalised groups (Connolly et al., 2021), but most are not linked to drink spiking incidents. There is a need for nightlife settings to develop into spaces where people feel safer, perpetrators are less emboldened and to counter such powerful narratives around victimisation through spiking.

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## Supplemental Material

Supplemental material for this article is available online.

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