



## Original Research

## Drug-facilitated sexual assault in youth nightlife contexts in Spain

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## ABSTRACT

**Objectives:** This study aimed to provide epidemiological information on drug-facilitated sexual assault in Spanish youth partying, with a focus on prevalence rates and associated sociodemographic factors.

**Study design:** Cross-sectional study.

**Methods:** Quota sampling was used to recruit 1601 young people aged 18–35 years in Spain from a digital panel. A validated questionnaire on drug-facilitated sexual assault was used to assess five types of lifetime victimisation experiences while partying. Chi-square and the exact Fisher tests were used to describe the prevalence of victimisation, drug use patterns, and perpetrator profiles. Generalised ordered logistic regression was used to explore factors associated with victimisation, analysed by gender.

**Results:** Half of young women and one-quarter of young men had experienced drug-facilitated sexual assault in their lifetime. Female victimisation due to touching and kissing was notably high, whereas men comprised almost half of the victims of more invasive DFSA experiences involving masturbation, penetration, and oral sex. Opportunism prevailed as the assault tactic, consisting of taking advantage of the victims' incapacity derived from voluntary alcohol use. Among women, risk of victimisation was associated with a lower education level, foreign-born status, and being non-heterosexual. Male victimisation risk was highest among non-heterosexual men.

**Conclusions:** Drug-facilitated sexual violence in youth nightlife contexts is a serious public health issue in Spain, which requires urgent action. Most assaults involve taking advantage of victims who are incapacitated by the effects of voluntary alcohol consumption. This sexual violence primarily affects women with lower educational levels or those who are foreign-born and non-heterosexual men and women.

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## Introduction

Sexual violence is a widespread public health issue that requires urgent action.<sup>1</sup> As defined by the World Health Organisation (WHO), sexual violence includes unwanted sexual acts, comments,

or insinuations ranging from verbal harassment to forced penetration.<sup>2,3</sup> Sexual victimisation can lead to severe consequences, including depression, substance use, and suicidal ideation,<sup>4–8</sup> which is worsened by socio-economic difficulties, such as stigma, work disability, and school dropout.<sup>2,9,10</sup> In Spain, 6.5% of women have experienced non-partner sexual violence at some point in their lives, and 8.9% have been subjected to violence by a current or former partner.<sup>11</sup>

Drug-facilitated sexual assault (DFSA) is a specific form of sexual violence in which perpetrators take advantage of victims who are

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incapacitated by psychoactive substances, including alcohol and other drugs, consumed either voluntarily or involuntarily.<sup>12</sup> The US National Intimate Partner and Sexual Violence Survey revealed that 12% of women and 2% of men aged >18 years have experienced rape while incapacitated by alcohol or other drugs.<sup>13</sup> The Campus Sexual Assault Study provided similar results in a college population.<sup>14</sup> DFSA is also an important issue at the European level.<sup>15,16</sup> A cross-cultural study across 10 European countries found that 17% of women and 15% of men aged 18–27 years had experienced sexual violence through exploitation of their inability to resist.<sup>17</sup> In the Spanish context, DFSA is referred to as “chemical submission or vulnerability” (*sumisión o vulnerabilidad química*),<sup>18</sup> and the issue has seen increasing social concern in recent years.<sup>11,17–19</sup> Nevertheless, research on DFSA in the Spanish context is scarce, and most of the research comes from case studies in the legal<sup>20,21</sup> and hospital<sup>22–24</sup> settings. According to the single available epidemiological study at the national level, which concerns only penetrative sexual assaults, 1.8% of women reported experiencing non-consensual sexual intercourse with a current or former partner, and 0.9% reported such incidents involving a non-partner; victims were unable to refuse to participate in these incidents because of the influence of alcohol or other substances.<sup>11</sup> Youth nightlife is the primary context where DFSA victimisation takes place in Spain<sup>21,25,26</sup> and other countries.<sup>27–29</sup> Along the same lines, almost three-quarters of Spaniards highlight partying as the most prominent setting for sexual assaults.<sup>19</sup>

Knowing the prevalence of DFSA in youth partying contexts and identifying risk factors using a gender-based approach are needed to develop effective prevention strategies aimed at eradicating DFSA. Therefore, this study aimed to determine the prevalence of DFSA in Spanish youth partying contexts considering gender and related socio-demographic factors.

## Methods

### Study design and participants

This cross-sectional study used an anonymised, self-administered online survey for sexual victimisation (Computer Assisted Web Interviewing). The study population consisted of individuals aged 18–35 years who were residing in Spain in January 2022; a total population of 9,250,779 (49.15% women and 50.85% men).<sup>30</sup> A minimum sample size of 1537 individuals was required to conduct the survey (with a prevalence of 50%, marginal error of 2.5% and confidence level of 95%), and this study analysed a final sample size of 1601 individuals.

Study participants were randomly selected from a digital panel following proportions established according to sex, age (categories: 18–24 and 25–35 years), and region (17 categories) of the Spanish population. A company that specialises in providing advice and validation for online fieldwork was consulted. Selected participants received personalised email invitations. Among the 1707 participants selected, 6.2% refused to participate or did not complete the survey. Participants were required to confirm their voluntary and anonymous consent before accessing the survey. Special attention was given to designing questions that avoided collecting identifiable information and social desirability biases. This study did not gather data regarding IP addresses or cookies.

The survey, developed by an interdisciplinary team from the University of Alcalá, was tailored *ad hoc*, drawing from various sources, including the 2019 Macro-Survey on Violence Against Women<sup>11</sup> and the Sexual Experiences Survey Short Form Victimization.<sup>31</sup> Survey development involved a pilot phase, which included a pre-test followed by group discussions with >100 voluntary participants, including undergraduate and master's students.

### Variables

The main variable was DFSA, defined as “having ever experienced alcohol-facilitated and/or other drug-facilitated sexual violence during or just after partying” (no/yes). The affirmative option was divided into two groups based on the level of invasiveness of the incident: less invasive (experiencing touching and/or kissing, exclusively) and more invasive (experiencing masturbation by another person and/or oral sex and/or penetration [vaginal and/or anal] with or without touching and/or kissing).

Independent variables included the following: gender, age, educational level (university; non-university), sexual orientation (heterosexual; non-heterosexual), political ideology (left; right), nationality (Spanish; foreign born), and socio-economic level assessed by family income in € net/month (low to low/medium [ $\leq 2000$ €]; medium/high to high [ $> 2000$ €]).

Variables concerning characteristics of the DFSA experience based on victims' statements included substance(s) affecting victims while they experienced DFSA (alcohol; cannabis; stimulants/hallucinogens; new drugs; rape drugs; pharmaceutical drugs), substances used by victims (voluntarily; involuntarily), and perpetrator's sex and the number of perpetrators (one man; one woman; several men; several women; men and women). The variables related to the characteristics of the DFSA experience referred to the most recent assault experienced by the victim. When someone reported more than one DFSA, the described characteristics corresponded to the most recent assault.

### Statistical analyses

A descriptive analysis of the socio-demographic characteristics and gender-specific prevalence rates of DFSA was carried out. Associations between the main variable (i.e., DFSA) and covariates were examined using the Chi-square and Fisher's exact tests for categorical variables and analysis of variance for continuous variables.

Generalised ordinal logistic regression models and partial proportional odds models<sup>32</sup> were performed to explore the association between DFSA (0 = no DFSA, 1 = less invasive DFSA, 2 = more invasive DFSA) and socio-demographic covariates, both in the total study population and stratified by gender. These models provided odds ratios and their corresponding 95% confidence intervals.

Under generalised ordinal logistic regression models, not all covariates in the model are required to adhere to the proportional odds assumption; in these cases, they may align with the partial proportional odds assumption. Nonetheless, the overall model still fulfils the original proportional odds assumption.<sup>33</sup>

The proportional odds assumption for the final model was assessed using the Wald test. All analyses were conducted using the statistical software Stata 17 (StataCorp, College Station, USA).

## Results

### Participant characteristics

Of the 1601 respondents, 50.2% were women, the mean age was 27.0 years (standard deviation = 5.1), 78.4% were heterosexual, 52.0% had a university degree, 54.6% had a low to medium/low socioeconomic status, 91.4% had Spanish nationality, and 75.8% had a left-wing ideology.

### Results of the univariate analysis

The prevalence of experiencing DFSA at some point in life, either during or immediately after partying was 37.9% (Table 1). Unwanted

sexual touching was the most common experience (32.7%), followed by kissing (19.1%), masturbation (4.6%), penetration (3.8%), and oral sex (2.7%). By gender, DFSA prevalence while partying was 48.4% among women and 27.0% among men. Considering the invasive nature of the assault, 40.9% of women and 20.7% of men experienced less invasive DFSA. This gender disparity diminished when examining more invasive sexual violence, where 7.5% of women and 6.4% of men experienced such violence.

Alcohol and cannabis were the most prevalent substances used among women (79.0% and 8.9%, respectively) and men (83.3% and 15.7%, respectively); only cannabis was more prevalent in men ( $P < 0.028$ ) when comparing both genders (Table 2). Most consumption by victims was voluntary in both genders (70.9% and 73.3%,  $P = 0.206$ ). In women, the assailant was a lone man in 91.4% of incidents, whereas 6.2% involved group assault by several men. This profile was different among male victims, where a lone woman perpetrated most of the DFSA cases against men (57.2%) ( $P < 0.001$ ) and group assault cases against men perpetrated by several women peaked at 5.0% ( $P < 0.001$ ) (Table 2).

Non-heterosexual individuals were more likely to experience DFSA, both less invasive and more invasive, for both women (47.4% and 9.6%, respectively) and men (22.9% and 15.7%) [Table 3]. Among men, the prevalence of the most invasive DFSA was significantly higher among non-heterosexuals (15.7%) than among heterosexuals (3.7%) ( $P < 0.001$ ). Foreign-born individuals experienced more DFSA, both less invasive and more invasive, for both women (45.1% and 12.7%, respectively) and men (21.0% and 15.8%, respectively). Among male victims, the most invasive DFSA was higher among foreign-borns (15.8%) than among men with Spanish nationality (5.5%) ( $P < 0.05$ ). In terms of education level, individuals without a university degree were more affected by less invasive DFSA for women (44.9%) and men (25.4%). More invasive DFSA was also higher among women without a university education (8.6%) ( $P < 0.05$ ), but it was more common among males with a university education (7.5%) ( $P < 0.05$ ). In terms of socio-economic level, less invasive DFSA mainly affected men with a medium/high to high socio-economic level (24.1%). In comparison, the more invasive DFSA prevailed among males with a low/medium to low socio-economic level (9.0%) ( $P < 0.05$ ) (Table 3).

Results of the multivariable logistic regression

The likelihood of experiencing any form of DFSA was 2.78 times higher among women than among men ( $P < 0.001$ ) [Table 4]. However, no significant differences were observed based on gender concerning more invasive DFSA. For women, all variables in the model met the assumption of proportional odds, yielding consistent results for the risk of experiencing any DFSA and the risk of experiencing invasive DFSA. The risk was 65.0% higher among non-heterosexual women ( $P < 0.05$ ) and increased by 53.0% among those without a university education ( $P < 0.05$ ) and by 73.0%

among foreign-born women ( $P < 0.05$ ). Simultaneously, among non-heterosexual men, the risk of any DFSA was 88.0% higher ( $P < 0.05$ ), and the risk of invasive DFSA was more than seven times greater ( $P < 0.001$ ). The risk of experiencing invasive DFSA increased by 35.0% among men with a university education ( $P < 0.05$ ) (Table 4).

Discussion

This study is the first in Spain to determine and discuss the prevalence of DFSA in partying contexts. One-third of young people and half of women have experienced at least one assault during their lives. Touching and kissing were the most common forms, whereas masturbation, penetration, or oral sex was experienced by one in ten individuals. The likelihood of DFSA was almost three times higher among women, although there were critical gender-based differences according to the invasive nature of the violence experienced and related factors. Female victimisation due to touching and kissing was notably high, whereas men comprised almost half of the victims of more invasive DFSA.

Limited available literature makes it difficult to compare the prevalence obtained in the current study. The only epidemiological approach to this phenomenon at the national level<sup>11</sup> lacks data on specific behaviours other than penetrative sexual assaults and female sexual victimisation. Similarly, case studies involve sampling bias due to under-reporting and focus only on a small proportion of those more invasive incidents reported to authorities. Other authors have explored the prevalence of drug-influenced sexual interactions and subsequent regret but did not connect regret and DFSA.<sup>34–36</sup> A recent survey study focussed on DFSA victimisation in adolescents aged 12–17 years in a specific regional school setting.<sup>37</sup> In light of the limitations in the existing literature, this study not only presents the prevalence for less and more invasive DFSA in men and women but also explores the characteristics of the incident.

Alcohol remains the overwhelmingly dominant substance in DFSA, as previously noted in the Spanish context,<sup>21</sup> which highlights the need to raise awareness of the alcohol-related DFSA phenomenon among the Spanish population. Likewise, cannabis, stimulants, and hallucinogens are particularly relevant, whereas rape drugs, such as gamma-hydroxybutyric acid and scopolamine (commonly known as *burundanga*), are marginally important. These results align with previous observations based on victims' statements<sup>27,38</sup> and toxicological analyses.<sup>21,39–45</sup> Moreover, inhalable aerosols, such as ethyl chloride, Popper-type nitrites and nitrous oxide (or laughing gas) are emerging substances in DFSA, particularly among male victims. This observation opens a new avenue for research as current studies on new substances related to sexual victimisation mainly focus on Popper-type nitrites and do not explore their relationship with DFSA experiences.<sup>46</sup>

Opportunistic tactics prevail among perpetrators by which they take advantage of victims' incapacitation resulting from voluntary

**Table 1**  
Prevalence of having experienced DFSA at some point in life in the partying context.

DFSA	Total		Women		Men	
	N (%)	95% CI	N (%)	95% CI	N (%)	95% CI
<b>Total DFSA</b>	596 (37.9)	35.5–40.3	381 (48.4)	44.9–51.9	210 (27.0)	24.0–30.3
Touching	515 (32.7)	30.4–35.1	338 (42.9)	53.6–46.4	174 (22.1)	19.3–25.1
Kissing	302 (19.1)	17.2–21.2	189 (24.0)	21.1–27.1	109 (13.9)	11.6–16.5
Masturbation	72 (4.6)	3.6–5.7	42 (5.3)	4.0–7.2	29 (3.7)	2.6–5.3
Penetration	60 (3.8)	3.0–4.9	36 (4.6)	3.3–6.3	24 (3.2)	2.1–4.7
Oral sex	42 (2.7)	2.0–3.6	20 (2.5)	1.6–3.9	22 (2.8)	1.9–4.2
<b>No DFSA</b>	976 (62.1)	59.7–64.5	406 (51.6)	48.1–55.1	567 (73.0)	69.7–76.0

CI, confidence interval; DFSA, drug-facilitated sexual assault.

**Table 2**

Characteristics of the last DFSA experience according to victims and broken down by gender.

Characteristic	DFSA				P-Value
	Women		Men		
	N (%)	95% CI	N (%)	95% CI	
<b>While experiencing DFSA, the victim was under the effect of ...</b>					
Alcohol	301 (79.0)	74.6–82.8	175 (83.3)	77.6–87.8	0.137
Cannabis	34 (8.9)	6.4–12.2	33 (15.7)	11.4–21.3	0.028
Stimulants/hallucinogens <sup>a</sup>	16 (4.2)	2.6–6.8	18 (8.6)	5.5–13.2	0.099
New drugs <sup>b</sup>	11 (2.9)	1.6–5.1	15 (7.1)	4.3–11.5	0.068
Rape drugs <sup>c</sup>	10 (2.6)	1.4–4.8	9 (4.3)	2.2–8.1	0.712
Pharmaceutical Drugs <sup>d</sup>	9 (2.4)	1.2–4.5	11 (5.2)	2.9–9.2	0.205
<b>The perpetrator took advantage of the victim's vulnerability, enhanced by psychoactive substances used ...</b>					
Voluntarily	270 (70.9)	66.1–75.2	154 (73.3)	66.9–78.9	0.206
Involuntarily <sup>e</sup>	11 (2.9)	1.6–5.1	9 (4.3)	2.2–8.1	0.354
Voluntarily and involuntarily	6 (1.6)	0.7–3.5	8 (3.8)	1.9–7.5	0.142
<b>Concerning perpetrator sex and number, DFSA was perpetrated by ...</b>					
One man	341 (91.4)	88.1–93.9	67 (33.3)	27.1–40.2	<0.001
One woman	4 (1.1)	0.4–2.8	115 (57.2)	50.2–63.9	<0.001
Several men	23 (6.2)	4.1–9.1	4 (2.0)	0.7–5.2	0.024
Several women	2 (0.5)	0.1–2.1	10 (5.0)	2.7–9.0	<0.001
Men and women	3 (0.8)	0.3–2.5	5 (2.5)	1.0–5.9	0.101

CI, confidence interval; DFSA, drug-facilitated sexual assault.

<sup>a</sup> Cocaine and/or amphetamines (MDMA, EME, ecstasy, crystal, speed, mephedrone, cathinones, methamphetamine) and/or hallucinogens (lysergic acid diethylamide, mushrooms, etc.).<sup>b</sup> Chloroethyl, Popper, laughing gas (nitrous oxide).<sup>c</sup> Scopolamine (burundanga), gamma-hydroxybutyric acid (GHB), Ketamine.<sup>d</sup> Tranquiliser, sedative or anti-anxiety medications.<sup>e</sup> Covert administration, forced administration, injection.

substance use. This result aligns with a recent systematic review that highlighted voluntary alcohol use by victims as the prevailing drug-use pattern.<sup>12</sup> Nevertheless, it is necessary to better understand how societal narratives about drink-spiking rapes may impact victims' self-identification in cases of opportunistic assaults involving voluntary drug use.<sup>47</sup> Most assaults on women involve male perpetrators, whereas for assaulted men, almost two-thirds of incidents involve female perpetrators. Similarly, according to the National Crime Victimization Survey (NCVS) in the US, women perpetrated 46.0% of sexual violence cases against men.<sup>48,64</sup>

Additional studies on male sexual victimisation highlight that exploiting the victim's incapacity is a common strategy among women who admit to perpetrating sexual violence.<sup>48–50</sup> Group assaults are significantly more common in DFSA experienced by men, although most cases of DFSA involve a single assailant, as observed by other studies.<sup>29,51</sup>

A strong link exists between sexual orientation and experiencing DFSA. Among women, non-heterosexuals face a 70.0% higher risk. Non-heterosexual men are six times more likely to experience more invasive DFSA. These findings have been described in other

**Table 3**

Socio-demographic characteristics, in women and men, among victims of less invasive DFSA, more invasive DFSA, and non-victims of DFSA.

Characteristic	DFSA women [N (%)]				DFSA men [N (%)]			
	Yes		No	P-Value	Yes		No	P-Value
	Less invasive <sup>a</sup>	More invasive <sup>b</sup>			Less invasive <sup>a</sup>	More invasive <sup>b</sup>		
<b>No. of cases</b>	322 (40.9)	59 (7.5)	406 (51.6)		161 (20.7)	49 (6.3)	567 (73.0)	
<b>Age (years)</b>				0.547				0.004
Median ± SD	26 ± 5	26 ± 5	26 ± 5		29 ± 5	27 ± 5	28 ± 5	
<b>Sexual orientation</b>				0.050				<0.001
Heterosexual	245 (39.8)	41 (6.7)	330 (53.5)		121 (20.1)	22 (3.7)	459 (76.2)	
Non-heterosexual	74 (47.4)	15 (9.6)	67 (42.9)		38 (22.9)	26 (15.7)	102 (61.4)	
<b>Political ideology</b>				0.280				0.701
Left-wing	265 (42.3)	46 (7.4)	315 (50.3)		112 (20.0)	36 (6.4)	413 (73.6)	
Right-wing	56 (35.0)	13 (8.1)	91 (56.9)		49 (22.7)	13 (6.0)	154 (71.3)	
<b>Nationality</b>				0.081				0.007
Spanish	287 (40.5)	47 (6.6)	375 (52.9)		147 (20.6)	39 (5.5)	527 (73.9)	
Foreign born	32 (45.1)	9 (12.7)	30 (42.2)		12 (21.0)	9 (15.8)	36 (63.2)	
<b>Socio-economic level</b>				0.737				0.025
Low to medium/low	157 (44.5)	27 (7.6)	169 (47.9)		56 (17.4)	29 (9.0)	236 (73.6)	
Medium/high to high	107 (41.3)	21 (8.1)	131 (50.6)		74 (24.1)	15 (4.9)	218 (71.0)	
<b>Educational level</b>				0.018				0.007
University	149 (37.2)	25 (6.3)	226 (56.5)		67 (16.7)	30 (7.5)	304 (75.8)	
Non-university	172 (44.9)	33 (8.6)	178 (46.5)		94 (25.4)	18 (4.9)	258 (69.7)	

CI, confidence interval; DFSA, drug-facilitated sexual assault; SD, standard deviation.

<sup>a</sup> Having experienced DFSA at some point in your life while partying, consisting only of touching and/or kissing.<sup>b</sup> Having experienced DFSA at some point in your life while partying, consisting of masturbation and/or oral sex and/or penetration (vaginal and/or anal), with or without touching and/or kissing.



**Table 4**  
Generalised ordinal logistic regression, stratified for women and men in the sample.

Characteristic	Having experienced DFSA at some point in your life while partying			
	DFSA women		DFSA men	
	Yes vs no	More invasive vs. less and no	Yes vs no	More invasive vs. less and no
	OR <sup>a</sup> (95% CI)	OR <sup>a</sup> (95% CI)	OR <sup>a</sup> (95% CI)	OR <sup>a</sup> (95% CI)
<b>Age (years)</b>	1.02 (0.99–1.05)	1.02 (0.99–1.05)	1.03 (0.99–1.07)	1.03 (0.99–1.07)
<b>Sexual orientation</b>				
Heterosexual	Ref.	Ref.	Ref.	Ref.
Non-heterosexual	1.65 (1.16–2.34)**	1.65 (1.16–2.34)**	1.88 (1.28–2.75)**	7.23 (3.93–13.3)**
<b>Educational level</b>				
University	Ref.	Ref.	Ref.	Ref.
Non-university	1.53 (1.15–2.05)**	1.53 (1.15–2.05)**	1.24 (0.88–1.75)	0.35 (0.19–0.64)**
<b>Nationality</b>				
Spanish	Ref.	Ref.	Ref.	Ref.
Foreign born	1.73 (1.05–2.83)*	1.73 (1.05–2.83)*	1.45 (0.80–2.61)	1.45 (0.80–2.61)

\*Adjusted  $P < 0.05$  \*\*Adjusted  $P < 0.001$ .  
CI, confidence interval; DFSA, drug-facilitated sexual assault; OR, odds ratio.  
<sup>a</sup> OR estimated using generalised ordinal logistic regression models with all covariates simultaneously.

countries<sup>6,52–54</sup> and could be partially related to chemsex (drug use to enhance sexual experiences), which is especially frequent among male sexual minorities and has been identified as a context with sexual-consent ambiguity.<sup>55</sup> A US study found that sexual minority individuals engaged in chemsex have a 12-fold higher risk of experiencing sexual violence.<sup>55</sup> In the Spanish context, there are only a few case studies on alleged sexual assaults during chemsex<sup>23,24,56,57</sup> and very little information regarding the prevalence of chemsex. Therefore, this possible relationship should be studied in future research.

Women with lower education levels face a higher risk of DFSA, echoing prior Spanish research on female sexual victimisation.<sup>58</sup> However, this study uncovers an inverse relationship for men (i.e., a higher risk among those with a higher educational level), which is difficult to explain. This inverse relationship could hide a response bias: higher-education men might have overcome the stigma of male sexual victimisation and acknowledge themselves as victims,<sup>59,60</sup> at least more so than less educated men. Regarding geographical origin, foreign-born women have a higher risk of DFSA, in line with previous studies in Spain.<sup>11,22,58</sup> These results highlight the fact that it is necessary to develop sexual-orientation- and gender-specific preventive interventions, with foreign women as a population of particular relevance. This study reveals a higher prevalence of male sexual victimisation than that indicated by previous studies in Spain<sup>20–23,56</sup> and other countries.<sup>27–29,39,61–63</sup> In this sense, a significant under-reporting of sexual violence has been pointed out.<sup>59,60</sup> A study based on the NCVS revealed that only 15.0% of men reported experiences of sexual victimisation to authorities, compared to 30.0% of women.<sup>64</sup> As women, male victims also face challenges in identifying and communicating sexual violence,<sup>65,66</sup> associated with myths and stigmas<sup>59,60</sup> about self-control.<sup>64</sup> As a response to the under-reporting of male sexual victimisation, a discourse of male empowerment has been suggested, whereby acknowledging victimisation in cases of sexual violence while intoxicated provides men with a way to rationalise their vulnerability and emphasise their participation in substance use as risky or masculine behaviour.<sup>64</sup> In this sense, a recent review noted a remarkable male sexual victimisation by taking advantage of victims' incapacitation due to alcohol or drugs.<sup>60</sup> Likewise, the NCVS observed that men were three times more likely to acknowledge drinking alcohol or using other drugs before experiencing sexual violence.<sup>64</sup> Along these lines, studying 'softer' or 'less severe' coercive tactics, such as exploiting a victim's incapacitation, is recommended in sexual victimisation research to avoid underestimating male victimisation.<sup>60</sup> Consequently, this study is

particularly relevant because it sheds light on the impact of groups not previously studied, visualising their experiences of sexual victimisation, in addition to representing the current youth population in Spain. Future research should include a gender-based perspective covering male victimisation and female perpetration, with focus on non-heterosexuals, chemsex, and new substances. Preventive efforts should consider opportunistic DFSA involving victims who voluntarily consume alcohol.

The results of this study play a crucial role in tackling some of the important challenges outlined in the United Nations Sustainable Development Goals. In particular, by unveiling the prevalence of DFSA in the Spanish society, this study supports the 2030 Agenda's overarching goal of eradicating all forms of violence against women. Moreover, by including male sexual victimisation, this research is steadfast in upholding the global imperative to 'leave no one behind' in the pursuit of a sustainable and equitable future.

This study has some limitations. Firstly, cross-sectional studies limit the establishment of causal relationships. Although efforts were made to ensure representativeness in terms of age and gender, sexual orientation was not taken into account. This omission could have introduced response bias, particularly when interpreting male victimisation results. Socio-demographic variables were selectively collected to uphold respondents' sincerity. The study also lacked a substance-specific analysis of victimisation experiences, which is an area worth exploring in future studies. Nevertheless, this study marks the inaugural attempt to address DFSA prevalence and its associated factors in Spain.

Conclusions

Alcohol- and other drug-facilitated sexual violence in youth partying contexts is a serious public health issue in Spain, affecting half of women and one-quarter of men. Most assaults involve opportunistic perpetrators, taking advantage of victims incapacitated under the effects of voluntarily used alcohol. Among women, this sexual violence mainly affects those with lower educational levels, those of foreign origin, and non-heterosexuals, and assaults are generally made by one man in the vast majority of cases. There is a significant prevalence of male sexual victimisation, perpetrated by both men and women, particularly affecting non-heterosexual men. Urgent action is required to eliminate drug-facilitated sexual violence in youth nightlife contexts. This study will help develop future prevention and awareness interventions that target male and female profiles and support victims.

## Author statements

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## Ethical approval

The Research Ethics Committee of the University of Alcalá approved the execution of the project within which this study falls on March 31, 2022, with approval code CEIP2022/2/040.

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## Competing interests

No declared potential conflicts of interest concerning the research, authorship, and publication.

## Author contributions

PPM took the lead in writing the manuscript with support from LS and TLC. PPM, LS, and TLC performed the analytic calculations. PPM, IRE, and HDC designed and planned the study. CGR and GM contributed to the planning and implementation of the research. All authors critically revised the content and approved the final version.

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