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ABSTRACT

Preventing and responding to sexual violence in nightlife settings is increasingly of global concern. The goal of this article was to identify and summarise academic studies on nightlife-related sexual violence. Specifically, to explore the nature, extent and consequences of, or associations with nightlife-related sexual violence, and interventions to prevent and respond. Of the 61 studies identified, 29 explored or reported on the nature of nightlife-related sexual violence, 22 provided information on extent, 38 on associations, and 19 on prevention and response. The majority of studies had been implemented in the past ten years (2009-2018) and in high-income countries. The review illustrates that nightlife-related sexual violence is pervasive, with lifetime prevalence reaching over 50% amongst numerous study samples. Studies suggest that a combination of factors at an individual, relationship, and community/environmental level are associated with nightlife-related sexual violence. No studies directly explored consequences, and few studies evaluated prevention and response approaches. Globally, further research is required to understand nightlife-related sexual violence, and inform the development of prevention programmes across all but particularly low and middle-income countries. Critically, interventions aimed at preventing and responding to nightlife-related sexual violence require thorough evaluation, with findings disseminated in both lay and academic literature.

Keywords: sexual; violence; rape; nightlife; bars; prevention

1. INTRODUCTION

The World Health Organization defines sexual violence as: “any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed, against a person’s sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work” (World Health Organization [WHO], 2010). Globally, sexual violence is a significant public health, human rights and gender equality issue, placing large burdens on individuals’ health and well-being, as well as local communities, public services and wider society (WHO, 2010). Accordingly, preventing sexual violence and associated risk factors are key targets in the United Nations Sustainable Development Goals (United Nations, 2015). Efforts to understand, prevent and respond to sexual violence have increased in recent decades, and various factors have been identified as increasing, or mitigating risks of harm (WHO, 2010). Amongst these, visiting pubs, bars and nightclubs has been associated with increased risk of sexual violence (Curry, 1998; Go et al, 2010; Parks and Miller, 1997; Parks and Scheidt, 2000; Parks and Zetas-Zanatta, 1999; Pino and Johnson, 2009), with a growing body of research identifying nightlife environments as hot spots for sexual violence; and hence critical settings for prevention (Graham et al, 2017; Hughes et al, 2008; Tinkler et al, 2018).

Nightlife environments can provide a safe space for people to socialise and have fun. However, many studies suggest that they are also key settings for engagement in risky behaviours (e.g. excessive alcohol consumption; illicit drug use) and harms including sexual violence (Graham et al, 2017; Hughes et al, 2008; Tinkler et al, 2018), particularly amongst young people. Sexual violence can manifest in nightlife environments in a number of ways (Kavanaugh, 2013; Graham et al, 2010; 2014a). It may occur through misperceptions, such as when an individual incorrectly perceives another person to be sexually interested in them or a sexual action to be

acceptable to them. It may be opportunistic, for example if someone takes advantage of crowding to touch another person or if someone's intoxication is exploited sexually by another person (Sanchez et al, 2019). Predatory individuals may target nightlife venues as easy locations for finding victims, particularly those who are heavily intoxicated. Such harms may occur directly within nightlife settings, or in other settings following a night out (e.g. sexual violence within the home following a night out, perpetrated by someone who the victim had met that night in the NTE). Critically, prevailing social norms may support sexual violence and prevent people from recognising this as such (e.g. if women who drink or work in bars are considered to be 'loose' or if being 'touched up' on a night out is accepted as normal behaviour) (Tinkler et al, 2018). Meeting potential romantic or sexual partners is one of the main reasons why young people go to bars and nightclubs, meaning nightlife environments can be highly sexualised (Graham et al, 2014a). This, in addition to widespread alcohol (and drug) use, which can both reduce inhibitions and increase vulnerability to all forms of interpersonal violence (WHO, 2005), may complicate understanding and recognition of the issue. A broad range of factors at an individual, relationship, community and societal level have been associated with sexual violence. Understanding these various factors, and how they interplay within a complex community system, such as the NTE, is critical to informing prevention approaches (WHO, 2010).

Sexual violence can have devastating impacts on victims. These can include injury, sexually transmitted infections, unwanted pregnancies, and in the most severe circumstances disability and even death (WHO, 2010). However, most acts of sexual violence do not result in injury; yet they can have lasting impacts on victims' mental health, social relationships and life opportunities, through impacts on education, employment and health-related behaviours (e.g. use of alcohol or drugs as a coping mechanism) (WHO, 2010). Such harms place significant

pressures on public services and society. Further, experiencing, or the fear of experiencing, sexual violence in nightlife may also affect the night-time economy, as patrons may be deterred from visiting nightlife venues (Hardcastle et al, 2015). Consequently, there is a growing interest in preventing sexual violence in nightlife settings.

Globally, various countries have implemented measures with the aim of developing healthy and safer nightlife settings, and in particular to reduce violence, traffic incidents and other harms (Jones et al, 2011). With increasing recognition, and decreased tolerance of sexual violence, in recent years a number of strategies have also been implemented specifically aimed at preventing sexual violence across nightlife and other settings (e.g. Me Too, 2018; Powers and Leili, 2018). However, despite attracting media attention, many interventions aimed at nightlife settings are often short term and/or not evidence based, and very few have been rigorously evaluated (National Pubwatch, n.d; Power and Leila, 2018; Ramaswamy, 2017). Despite a growing interest in preventing and responding to nightlife-related sexual violence (i.e. sexual violence occurring in nightlife, or other settings following a night out), there have been few attempts to collate evidence on the issue. This article reports findings from a systematic scoping review of the academic literature on nightlife-related sexual violence. The review sought to identify and summarise studies exploring the nature, extent and consequences of nightlife-related sexual violence, factors associated with such violence across the social-ecological model (i.e. individual, relationship, community and societal level), and interventions to prevent and respond.

2. METHODS

2.1 Search strategy

A systematic literature search was undertaken to identify peer-reviewed journal articles that describe the nature, extent and consequences of nightlife-related sexual violence; associated factors; and interventions to prevent and respond. Searches were undertaken in Medline, Criminal Justice Abstracts, PsycINFO, CINAHL, and the Social Sciences Citation Index in January/February 2017, and repeated in December 2018 (See figure 1). A search strategy was developed using a combination of free text terms for ‘sexual violence’ combined with terms for ‘nightlife’ or ‘alcohol drinking settings’, and controlled vocabulary terms adapted for each database (e.g. see Box 1). For each included article, the reference list was reviewed to identify (and subsequently retrieve) additional articles that may meet inclusion criteria. The conduct of the systematic review was guided by the PRISMA checklist (PRISMA, 2015).

Box 1: Search terms

The search strategy used a combination of free text terms for sexual violence combined with terms for nightlife or alcohol drinking settings using Boolean operators (e.g. AND, OR, NOT), wildcard and truncation operators (e.g. * to search for all alternate endings to a word) and proximity definitions (e.g. to specify that two terms must be within two words of one another). Base words included:

Sexual violence: violence, aggression, hostile, bully, assault, maltreatment, offence, harassment, abuse, exploitation, coercion, crime, sex, sexual, force, rape.

Nightlife or alcohol drinking settings: patron, pub, bar, club, restaurant, hotel, premise, outlet, license/ce, nightlife/night-life, nighttime/night-time, alcohol, drinking, environment, setting, establishment, venue, alcohol, serve, service, sell, supply, purchase.

2.2 Study selection

The search was restricted to English language studies, published since 1970. Editorials, commentaries, and letters to the editor were excluded. Studies were included if they provided information or discussion on nightlife-related sexual violence including the nature, extent or consequences of, or associations with nightlife-related sexual violence, or interventions to

prevent and respond. Nightlife-related sexual violence was defined as incidents of sexual violence occurring within nightlife settings, or associated with exposure to nightlife settings (e.g. sexual violence within the home following a night out and perpetrated by someone who the victim had met that night in the NTE), or violence/conflicts that were reported as sexual in nature (see e.g. Ball et al, 2018). 2,270 articles were identified, providing 301 unique articles following removal of duplicates and editorials, letters and non-English language articles (Figure 1). One reviewer independently screened all titles and abstracts identified through the searches; a second reviewer screened a random sample of 10% of the titles and abstracts identified. Following title and abstract screening, 124 articles were identified and retrieved for full text review. Screening of full text articles was undertaken independently by two reviewers. Any disagreements relating to inclusion and exclusion decisions were discussed and resolved. Following full-text review, 61 studies were identified that met the criteria for inclusion in the review (Table 1).

2.2 Data extraction and analysis

A single reviewer independently extracted data into an Excel worksheet; a second reviewer checked all data extracted. Information was extracted on article data type (quantitative, qualitative or mixed methods), year published and country of study; sample characteristics including age, gender and population type (e.g. students, nightlife patrons); and the type of information included (nature, extent, consequences, associations, and prevention/response). Data were extracted on the prevalence (%) of sexual violence as a victim, perpetrator or witness, including measurement details such as violence type (e.g. rape, unwanted sexual touching), period (e.g. last 12 months) and location (e.g. in bar/nightlife). For associations/consequences, data included a description of the factor and its type (i.e. individual, relationship, community/environmental and societal), and where available effect sizes. For

prevention/response, a brief description of the intervention was recorded, and where available data on outcomes measured and effect sizes.

The purpose of the analysis was to provide a narrative summary of the research that has been conducted on nightlife-related sexual violence. Analysis utilised descriptive statistics. Studies were grouped into five categories (nature; extent; consequences; associated factors; prevention/response) and could contribute to more than one category. The nature category included studies that discussed and described the nature of nightlife-related sexual violence. Studies that reported on the prevalence of nightlife-related sexual violence were grouped under the extent category. Studies that explored the relationship between nightlife-related sexual violence and individual, relationship and community/environmental/societal level factors were included under the associated factors category. A final category grouped together studies that examined activity to prevent and/or respond to nightlife-related sexual violence.

3. RESULTS

3.1 Characteristics of included studies

The majority of studies had been conducted in high-income countries (85.2%). Two thirds (67.2%) were from the Region of the Americas (mostly the USA). Seven in ten (70.5%) had been published over the last ten years (2009-2018). Half (52.5%) were quantitative studies, 32.8% qualitative and 14.8% used mixed methods. Study samples included patrons and staff in nightlife environments, students and the general population (including sub-populations of nightlife patrons). Whilst most studies included males and females (54.1%), a third (32.8%) included females only. Twenty-nine studies explored or reported on the nature of nightlife-related sexual violence, 22 provided information on extent, and 38 on associations. We

identified no studies that specifically explored the consequences of nightlife-related sexual violence. Nineteen studies provided information or discussion on the prevention of, and response to, nightlife-related sexual violence (Table 1). Only two studies specifically evaluated the impact of prevention and response approaches designed to target nightlife-related sexual violence directly.

3.1 Nature and extent of nightlife-related sexual violence

The 29 studies on the nature of nightlife-related sexual violence had used a mix of qualitative and quantitative research (e.g. Angelone et al, 2007; Fileborn, 2014). The scope of sexual violence covered across the studies varied, with some exploring sexual violence broadly and others focusing on specific sub-types of abuse (e.g. sexual aggression, sexual molestation). Across quantitative studies, measures of sexual violence varied substantially (e.g. rape, unwanted sexual touching; Table 2). Most studies focused on nightlife patron experiences as either a victim, witness or perpetrator. One study explored the proportion of observed incidents of sexual violence that were perpetrated by or towards nightlife workers (Graham et al, 2014b).

Table 2 presents data from the studies providing information on the extent of nightlife-related sexual violence, including sexual violence measure, prevalence level (%) and role (i.e. victimisation / perpetration / witness), study population, period and location (Table 2). Four in ten (40.9%; n=9) studies surveyed nightlife patrons during their night out to assess experience of sexual violence that night. Across these studies, prevalence of sexual violence victimisation experienced on the night of survey ranged from 10% (kissed or tried to have intercourse against will, in nightclubs in Brazil; Santos et al, 2015) to 50% (unwanted and/or persistent sexual aggression, on night out in Canada; Graham et al, 2014a). Reported prevalence of sexual

violence perpetration was less than one in twenty (across two studies of the same population: Fung et al, 2018; Santos et al, 2015).

A quarter (27.3%, n=6) of studies explored lifetime exposure to nightlife-related sexual violence, which ranged from 6.5% (male victims of unwanted sexual contact, in bar/club/other public drinking venue in the USA; Tinkler et al, 2018) to 82.5% (female victims of buttock touching, in singles bars in Canada; Huber and Herold, 2006), with other studies exploring exposure over shorter times (e.g. last 12 months). One study reported on female perpetration of sexually overt approach behaviours across their lifetime (e.g. genital touching, 8.4%; buttock touching, 31.5%: Huber and Herold, 2006).

Five studies (22.7%) reported on incidents of violence victimisation and/or perpetration that were sexual in nature or linked to sexual/romantic overtures including those that were observed by third parties.

3.2 Associated factors

Table 3 summarises individual, relationship, community/environmental and societal level factors that have been associated with nightlife-related sexual violence across the 38 articles that contributed to this category.

3.2.1 Individual level

Six studies identified relationships between socio-demographics (i.e. age, gender and ethnicity) and sexual violence (Fung et al, 2018; Hughes et al, 2008; Miller et al, 2015; Parks and Zetas-Zanatta, 1999; Sanchez et al, 2019; Thompson and Cracco, 2008). Some studies suggested that females were more likely than males to experience nightlife-related sexual violence as a victim,

and males more likely to be a perpetrator (Fung et al, 2018; Hughes et al, 2008). Whilst some studies suggested that both victims and perpetrators tend to be of a younger age (Parks and Zetas-Zanatta, 1999; Sanchez et al, 2019; Thompson and Cracco, 2008), others found no significant association (Hughes et al, 2008; Fung et al, 2018) (however, studies included different age ranges). Three studies alluded to relationships between low mental health and victimisation or perpetration of sexual violence in nightlife or other social dating settings (Hutton 2004; Parks and Zetas-Zanatta, 1999; Romero-Sanchez and Megias, 2015).

Across 16 studies, increased alcohol consumption, signs of intoxication and engagement in specific drinking patterns by either the victim or perpetrator was associated with nightlife-related sexual violence (Ball et al, 2018; Becker et al, 2015; Buddie and Parks, 2003; Connor et al, 2014; Egan and Cordon, 2009; Flowe et al, 2011; Fung et al, 2018; Graham et al, 2014; Hughes et al, 2008; Hutton, 2004; Kelley-Baker et al, 2008; Parks and Scheidt, 2000; Parks et al, 1998, 2008; Santos et al, 2015; Watt et al, 2012). A history of violence as a victim or perpetrator, including sexual and other forms of violence both within and external to nightlife settings was associated with nightlife-related sexual violence in four studies, primarily conducted in the USA (Kelley-Baker et al, 2008; Miller et al, 2015; Parks and Zetas-Zanatta, 1999; Parks et al, 2008). Seven studies found relationships between sexual behaviours (e.g. intentions to have sex on night out; levels of sexual activity in venues; number of previous partners) and nightlife-related sexual violence, with most studies suggesting an increase in sexual violence (Ball et al, 2018; Fung et al, 2018; Graham et al, 2006a; Huber and Harold, 2006; Parks et al, 1998; Thompson and Cracco, 2008; Wall et al, 2012). One study found that men who were sexually aggressive in bar settings embody dominant cultures of masculinity (e.g., being assertive, dominant, willing to take risks, forceful) (Thompson and Cracco, 2008).

Further, a number of studies suggested that attendance at nightlife venues was associated with sexual violence (Curry, 1998; Go et al, 2010; Parks and Miller, 1997; Parks and Scheidt, 2000; Parks and Zetas-Zanatta, 1999; Pino and Johnson, 2009).

3.2.2 Relationship level

Nine studies explored the association between group dynamics, behaviours and experience, and individual group members' experiences of sexual violence in nightlife settings (Bourdeau et al, 2017; Buddie and Parks, 2003; Curry, 1998; Graham et al, 2014; Johnson et al, 2015; Miller et al, 2015; Parks et al, 1998; Parks and Scheidt, 2000; Romero-Sanchez and Megias, 2015). Individuals have been found to have greater risks of experiencing sexual aggression on a night out when members of the group they are out with have experienced sexual violence (either on the same or a previous night) and when group intoxication levels are higher. Individual members' social status within the group has also been related to experience of sexual violence (Graham et al, 2014; Miller et al, 2015). In one study, lower social status in the group was associated with increased risk of being a victim of sexual aggression amongst females who had consumed five or more alcoholic drinks (Graham et al, 2014). Another study found that females who were more familiar with the group had increased risk of being a victim of sexual aggression during the night out (Johnson et al, 2015).

3.2.3 Community/environmental and societal level

Four studies found that higher levels of sexual violence at a neighbourhood/campus level were associated with on-licensed alcohol outlet (i.e. bars, pubs and nightclubs) density (Franklin et al, 2010; Hewitt et al, 2018; Scribner et al, 2009; Toomey et al, 2012). Specific venue-level factors were also associated with the prevalence of a sexual violence within venues and during a night out (Buddie and Parks, 2003; Calafat et al, 2013; Fileborn, 2012; Fung et al, 2018;

Graham et al, 2006; Hutton, 2004; Kavanaugh and Anderson, 2009; Kelley-Baker et al, 2008; Sanchez et al, 2019). These characteristics included: customer intoxication and alcohol promotions (e.g. drink specials, entrance consumption fee); sexual activity/promiscuity/opportunities for sex (including reserved areas for sex); patron aggression/violence; crowding; illicit drug use/dealing; young customers; and music style (Buddie and Parks, 2003; Calafat et al, 2013; Fung et al, 2018; Kavanaugh and Anderson 2009; Kelley-Baker et al, 2008; Sanchez et al, 2019). One study found the presence of supportive venue staff was associated with reduced risks of sexual aggression during the night out (Kelley-Baker et al, 2008). The attitudes, expectations and social norms regarding what is acceptable and/or an expected behaviour in nightlife settings were cited as contributors to nightlife-related sexual violence across a number of studies (Becker and Tinkler, 2015; Curry, 1998; Graham et al, 2014; Huber and Herold, 2006; Parks et al, 1998; Parks and Scheidt, 2000; Rich et al, 2015; Romero-Sanchez and Megias, 2015; Thompson & Cracco, 2008; Watt et al, 2012). In one study, permissive attitudes towards sexually overt approach behaviours were associated with experience of sexually overt approach behaviours in the bar environment (Huber and Herold, 2006).

3.3 Prevention and response

Of the nineteen articles that discussed prevention and/or response to nightlife-related sexual violence, only two studies evaluated the impact of preventive action. Five articles highlighted ways in which individuals (primarily females) may monitor or alter their behaviours to reduce their level of vulnerability when frequenting nightlife settings (Fileborn, 2016; Graham et al, 2014b, 2017; Kavanaugh and Anderson, 2009; Kovac and Trussell, 2015). Strategies included: limiting alcohol consumption; not walking around alone/avoiding interactions with strangers; alerting others to, or shaming aggressors; and watching drinks to ensure they are not tampered

with or only drinking out of bottles. Beynon et al (2006) explored the sensitivity and specificity of two drug-facilitated sexual assault drug detector kits, and concluded that the use of such kits by the public in the nightlife environment needs further investigation, as they may create a false sense of security (false negatives) and undue concern (false positives) among kit users.

Five articles explored bystander opportunities or approaches to preventing and responding to sexual violence (Fileborn, 2017; Graham et al, 2014b; Haikalis et al, 2018; Powers and Leili, 2016, 2018). In an observation study in Canadian bars and clubs, bystanders (i.e. nightlife patrons) intervened in a fifth of aggressive incidents involving sexual advances; however, whilst this was often to support the victim, sometimes it involved encouraging the perpetrator (Graham et al, 2014b). Powers and Leili (2018) examined the impact of a bar staff bystander training programme, with findings suggesting positive impacts on altering rape myths and barriers to intervention, including bartenders' willingness to intervene (Powers and Leili, 2018).

Four articles discussed the role of awareness raising/media campaigns (Brooks, 2011; Fileborn, 2017; Gunby et al, 2017; Lippy and Degue, 2016) in sexual violence prevention. Gunby et al (2017) argue that the sexualised nature of nightlife settings, including alcohol advertisements, conflicts with sexual violence prevention activity in nightlife settings, and limits the effective communication of prevention messages (Gunby et al, 2017). Seven studies explored the role of alcohol legislation/policies (e.g. control of outlet density, alcohol pricing, and management of drinking environments) on levels of sexual violence, particularly at a community or venue level (De Vocht et al, 2016, 2017; Fileborn, 2017; Hewitt et al, 2018; Lippy and DeGue, 2016; Tinkler et al, 2018; Toomey et al, 2012). For instance, a study in England found that local areas with more intense alcohol licensing policies had steeper declines in rates of violent crimes, sexual crimes and public order offences over time (De Vocht et al, 2016).

4. Discussion

Preventing nightlife-related sexual violence is a key priority across many countries, and critically supports global efforts to prevent sexual violence, and violence against women and girls (WHO, 2010). In order to address the issue effectively, and support and advocate for the development and implementation of prevention programmes, robust evidence is essential. This scoping review aimed to collate academic studies on nightlife-related sexual violence to inform the development of future prevention programmes and research. Overall, 61 academic papers were identified that provided information on the nature, extent of, or associations with nightlife-related sexual violence, and interventions to prevent and respond. Encouragingly, the review suggests that evidence on nightlife-related sexual violence is increasing, with seven in ten identified studies published in the last 10 years (2009-2018). However, the review also illustrates the scarcity of evidence on many aspects of nightlife-related sexual violence, particularly in relation to its consequences, and what works to prevent and respond to it. Further, most studies emerged from a few high-income countries, predominantly the USA, with only five identified studies conducted specifically in low or middle-income countries.

Whilst nearly half of identified studies reported on the nature of nightlife-related sexual violence, only a third explored its prevalence. Critically, there was very little consistency in the measurement of sexual violence across these studies, with variations in both the scope of sexual violence covered, and the measurement period and incident location. However, available evidence illustrates that nightlife-related sexual violence is pervasive, with lifetime prevalence reaching over 50% amongst numerous study samples (Becker and Tinkler, 2015; Flack et al, 2007; Graham et al, 2017; Huber and Herold, 2006; Kavanaugh, 2013; Tinkler et al, 2018). Further, studies surveying nightlife patrons during their night out to assess experience

of sexual violence that night identified prevalence rates of between 10% (Santos et al, 2015) and 50% (Graham et al, 2014a). Whilst such studies may be less affected by recall bias, they may also underestimate violence by missing experiences that occur after surveys have occurred. Whilst no studies specifically explored the prevalence of sexual violence amongst nightlife workers, one observational study reported on the proportion of observed incidents of sexual violence that were perpetrated by or towards nightlife workers, demonstrating that harms may be experienced (and perpetrated) by both patrons and staff (Graham et al, 2014b). Further research should explore nightlife worker experience of sexual violence whilst working in and frequenting the NTE.

Our review found no studies that specifically identified the impacts of nightlife-related sexual violence, illustrating a gap in the literature. Two studies were identified through the review process that alluded to potential impacts relating to individuals' well-being (e.g. feeling upset or unsafe [Bellis et al, 2015; Huber and Herold, 2006]) and another noted that individuals may perpetrate violence in response to experiencing sexual violence in nightlife settings (Parks et al, 1998). However direct impacts were not measured and thus these studies were excluded from the review. Despite limited studies, broader evidence illustrates the wide ranging impacts sexual violence places on individuals, services and communities (WHO, 2010). Further, studies suggest that experiencing sexual violence or perceiving high levels of such violence may decrease feelings of safety and deter people from visiting nightlife settings and specifically venues associated with such violence (Bellis et al, 2015; Hardcastle et al, 2015). Raising awareness of such effects may increase support for prevention activity among bar owners as well as authorities seeking to promote night-time economies.

The majority of studies explored factors associated with nightlife-related sexual violence, including at an individual, relationship, community/environmental, and to a lesser extent societal level. Collectively studies suggest that efforts to prevent nightlife-related sexual violence need to modify both the drinking environment and the behaviours and expectations of those engaging in nightlife. However, our review found very little evidence of what works to prevent nightlife-related sexual violence. Some studies discussing prevention and response focused on approaches individual's (primarily females) took to improve their own safety, including adapting their behaviours to reduce their level of vulnerability when frequenting nightlife settings (Fileborn, 2017; Graham et al, 2014b, 2017; Kavanaugh and Anderson, 2009; Kovac and Trussell, 2015). Very few studies evaluated the impact of preventive action.

A few studies explored bystander opportunities or approaches to preventing and responding to sexual violence (Fileborn, 2017; Graham et al, 2014b; Haikalis et al, 2018; Powers and Leili, 2016, 2018). Specifically, one study examined the impact of a bar staff bystander training programme implemented in the USA, with findings suggesting positive impacts on altering rape myths and barriers to intervention, including bartenders' willingness to intervene (Powers and Leili, 2018). Evidence from grey literature suggests that a small number of other programmes have been developed to encourage positive bystander behaviours to prevent and respond to sexual violence in nightlife settings (e.g. Who Are You?, New Zealand [www.whoareyou.co.nz/]; vulnerability training, South Wales UK [Swansea Council, 2017]), however evidence of their impact is scant. Whilst information on the impact of such programmes in nightlife is certainly in its infancy (Power and Leili, 2018), evaluation of bystander programmes implemented in other settings, predominantly in the USA (e.g. college campuses) suggest that they may be associated with reductions in violence, including sexual violence (Coker et al, 2016). Further, evidence suggests that these interventions may be

adaptable across countries and settings (Powers and Leili, 2018). For example, a bystander intervention has recently been implemented in UK universities, with a preliminary evaluation suggesting that it is associated with altering norms that promote sexual violence and increasing bystander efficacy, readiness to help and perceived responsibility (Fenton and Mott, 2018).

Other studies in this review explored awareness raising/media campaigns (Brooks, 2011; Fileborn, 2017; Gunby et al, 2017; Lippy and Degue, 2016) and the role of alcohol legislation/policies (De Vocht et al, 2016; Fileborn, 2017; Hewitt et al, 2018; Lippy and DeGue, 2016; Tinkler et al, 2018; Toomey et al, 2012). Globally various media campaigns have been implemented to raise awareness of sexual violence, offer victims a platform to share their experience and build advocacy for prevention (e.g. Me Too, 2018). In the UK and Australia, the Ask for Angela scheme is a media campaign that aims to encourage people who are on a date or who have met someone at a bar or nightclub to get help from bar staff if they feel unsafe (National Pubwatch, n.d). Whilst the scheme has attracted a large amount of public interest (e.g. Ramaswamy, 2017), there is a lack of research on the impacts of the scheme for customers and staff within venues. Future research should focus on evaluating such campaigns, particularly considering the potential influence of the sexualised nature of nightlife settings on effective communication of prevention messages (Gunby et al, 2017), and the needs of nightlife workers in providing an effective response (Powers and Leili, 2018).

Consistent with other studies exploring violence-related research, our review found that most studies have been conducted in high-income countries, particularly the USA (Hughes et al, 2014). Implementing research in low-and-middle-income countries is critical, particularly in countries that may have emerging nightlife scenes, and high levels of sexual violence and violence against women in other settings. Further, there may be cultural differences across

countries that may not be identified in studies conducted in high-income countries. For example in Brazil, some nightlife venues have dark rooms, areas reserved for sexual interaction, and these have been associated with sexual violence (Sanchez et al, 2019). The exclusion of non-English language studies, and review of academic studies only, may have limited the review, and in particular identification of low and middle-income studies.

Conclusion

Developing understanding of nightlife-related sexual violence is increasingly being prioritised across high-income countries, and efforts to prevent and respond to such harms have increased in recent years. However, gaps in the evidence remain, particular in relation to prevention and response. Further research is required to identify which interventions are effective in preventing nightlife-related sexual violence, including in low and middle-income countries where nightlife settings may be emerging, or be fundamentally different to those settings previously studied, or other nightlife scenes where sexual violence may not be recognised, or currently tolerated. Critically, this review highlights that nightlife-related sexual violence is related to a combination of factors, many of which are also related to broader harms in nightlife and sexual violence at a population level. Consequently, preventing sexual violence should form part of a suite of programmes that aim to prevent harms in nightlife settings more broadly, including those to reduce excessive alcohol consumption, modify the drinking environment to make it safer, and the implementation of laws to ensure inappropriate sexual behaviour specific to sexual violence is both discouraged and addressed. Further, programmes are needed that aim to promote gender equality and address norms that promote sexual violence at a societal level.

Figure 1: PRISMA flow diagram of inclusion process

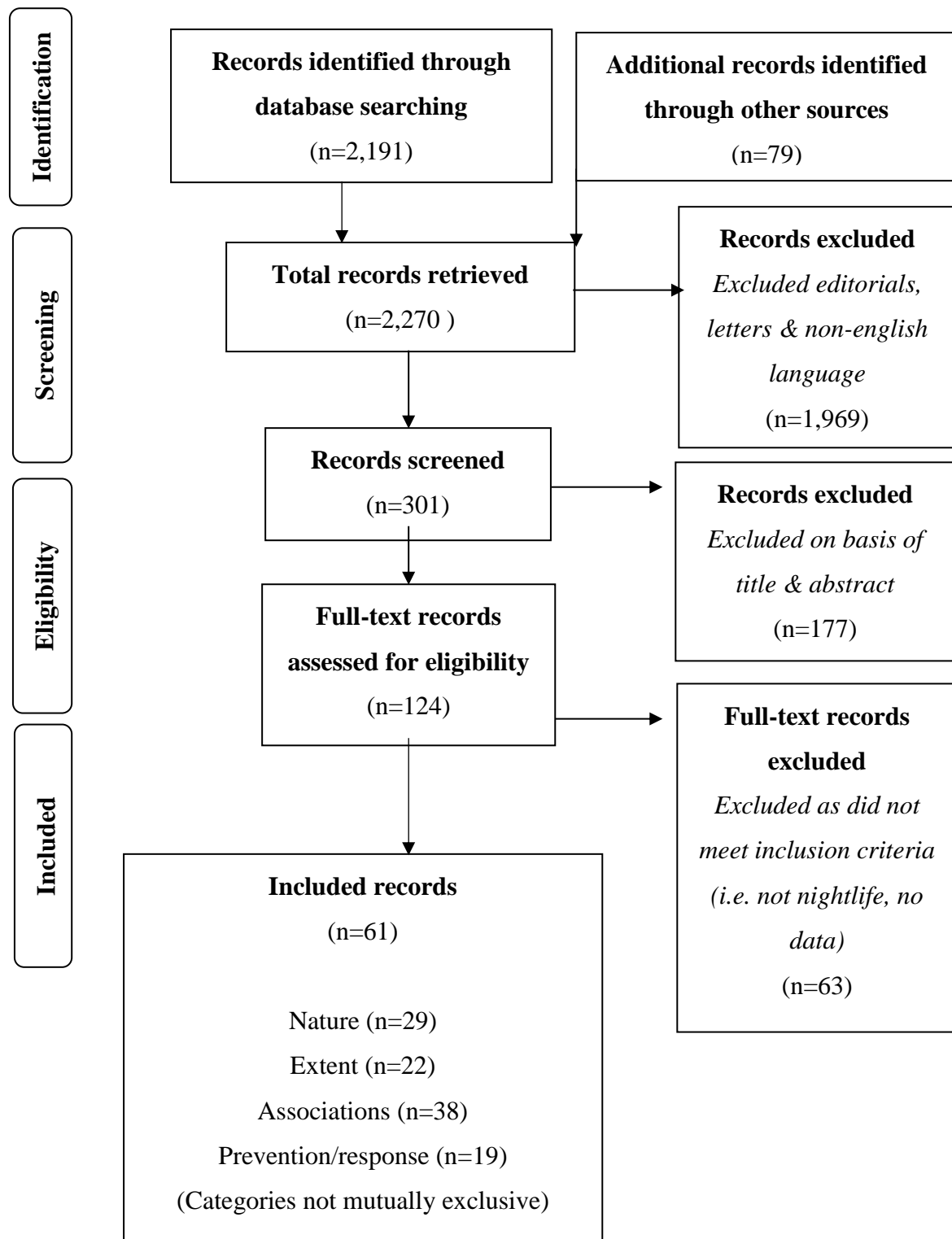


Table 1: Characteristics of included studies (n=61)

Characteristics		N	%
Year published	<2009	18	29.5
	2009-2018	43	70.5
Study country income level	High income	52	85.2
	Low/middle income	5	8.2
	Mixed	4	6.6
Region of study	Region of the Americas	41	67.2
	European Region	11	18.0
	South-East Asia Region	1	1.6
	Western Pacific Region	5	8.2
	African Region	2	3.3
	Global	1	1.6
Data type	Qualitative	20	32.8
	Quantitative	32	52.5
	Mixed	9	14.8
Sample population	General/sub-population (other)	12	19.7
	General/sub-population (nightlife patrons)	16	26.2
	Not applicable	6	9.8
	Nightlife patrons/workers*	19	31.1
	Students	8	13.1
Sample gender	Female	20	32.8
	Male	7	11.5
	Mixed	33	54.1
	Not applicable	1	1.6
Provides information on:	Nature	29	47.5
	Extent	22	36.1
	Associations	38	62.3
	Prevention/response	19	31.1

* Nightlife patrons refer to those visiting the NTE for a night out. Nightlife workers refer to those working in pubs/bars/nightclubs.

Table 2: Extent of nightlife-related sexual violence

Country	Citation	Study population	Sexual violence measure	Period	Location	Extent (%)
Brazil*	Fung et al, 2018	Nightlife patrons (aged 18+) (n=1832)	Kissed or tried to have intercourse against will	Night of survey	In nightclubs	Perpetration: females, 2.5%; males, 4.7% ^a
	Santos et al, 2015	Nightlife patrons (aged 18+) (n=1833)	Kissed or tried to have intercourse against will	Night of survey	In nightclubs	Victim: females, 10.8%; males, 10.2%. Perpetrator: females, 3.0%; males, 4.7%
	Sanchez et al, 2019 (online 2018)	Nightlife patrons (mean age 25) (n=1822)	Sexual aggression (Forced kissing/groping, intention/execution of rape)	Night of survey	In nightclubs	Victim: 11.5% (groping/forced kissing, 9.8%; rape not executed, 1.1%; rape executed, 0.6%) ^a
Canada	Graham et al, 2014a	Female nightlife patrons (aged 19-29) (n=114)	Unwanted and/or persistent sexual aggression	Night of survey	In nightlife	Victim: Persistence or unwanted touching, 50%; Persistence only, 28.9%; Both persistence and unwanted touching 18.7%; Unwanted touching only, 5.3%
	Graham et al, 2006a	Observed incidents (n=1052) in venues (n=118)	Physical aggression - unwanted sexual contact (invasive & non-invasive)	Night of observation	In bars/nightclubs	Perpetration by females/males: invasive, 11.2%/88.8% of incidents; non-invasive, 3.3%/96.7%
	Graham et al, 2010	Observed incidents (n=1052) in venues (n=118)	Verbal or physical aggression related to sexual/romantic overtures	Night of observation	In bars/nightclubs	24.0% of incidents
	Graham et al, 2017	Population - female nightlife patrons (mean age 21.8)	Unwanted sexual touching and unwanted persistence	Lifetime	At drinking establishment or party	Victim: Unwanted sexual touching and unwanted persistence, 47.1%; unwanted persistence, 60.0%; unwanted sexual touching, 60.0%.

Country	Citation	Study population	Sexual violence measure	Period	Location	Extent (%)
	Huber and Herold, 2006	Female students (aged 18-28) (n=155)	Sexually overt approach behaviours	Lifetime	In singles bars	Victimisation/perpetration: buttock touching 82.5%/31.5%; breast/chest touching 37.8%/22.4%; genital touching 25.9%/8.4%; grinding (pelvis to pelvis) 68.3%/50.3%; grinding from behind 83.9%/49.7%
Mexico/ USA	Kelley-Baker et al, 2008	Females nightlife patrons (aged 16+) (n=1172)	Moderate sexual: being touched or grabbed in an unwanted sexual way. Severe sexual, including unwanted or coerced intercourse	Night of survey	In nightlife	Victim: Moderate 38.0%, severe 1.5%
United Kingdom	Hughes et al, 2008	Nightlife patrons (aged 18-35) (n=380)	Sexual molestation	Past 12 months	In nightlife	Victim: Preloaders ^c 11.6%, non-preloaders 5.0%
USA	Ball et al, 2018	Bar conflicts (n=150) reported by population - nightlife patrons (mean age 23.8) (n=175)	Sexually related causes of bar conflicts	Past 3 months	In bars	18.3%
	Becker and Tinkler, 2015	Population – nightlife patrons (aged 21-25) (n=126)	Unwanted sexual contact	Lifetime	In bars/nightclubs	Victim: All 57.0%; females 61.0%; males 43.0%
	Buddie and Parks	Population - female nightlife patrons (age 18-52) (n=198)	Minor and severe physical and sexual (including unwanted contact, coerced sexual intercourse,	Past 12 months	In or outside bar, shortly after leaving the bar with someone	Figures split by environmental characteristics of participants favourite bar/hangout (past 12 months) – victim range 6%-79%

Country	Citation	Study population	Sexual violence measure	Period	Location	Extent (%)
			attempted rape, and completed rape) aggression			
	Flack et al, 2007	Incidents (n=52) reported by students (age range 18-25 years) (n=178)	Unwanted fondling	Lifetime	At parties or bars	78% of incidents
	Kavanaugh, 2013	Female nightlife patrons (aged 18-55) (n=198)	Unwanted sexual contact	Lifetime	In nightlife	Victim: 80.0%
	Johnson et al, 2015	Nightlife patrons (n=1765)	Unwanted touching or fondling	Night of survey	In nightlife	All 20.0%; females 25.4%; males 14.6%
	Miller et al, 2015	Nightlife patrons (aged 18+) (n=986)	Touching or grabbing or fondling, without invitation	Night of survey	In nightlife	Victim: 12.6%
	Parks & Miller, 1997	Population - female nightlife patrons (n=52)	Sexual experiences survey (unwanted contact, attempted rape, sexual coercion or rape)	Past 12 months	During/after drinking in bars	Victim: 48.1% ^b
	Parks & Zetas-Zanatta, 1999	Population - female nightlife patrons (n=198)	Rape	Past 12 months	During/after drinking in bars	Victim: 21.0%
	Parks, 2000	Incidents (n=62) reported by population - female nightlife patrons (age mean 31.6) (n=26)	Barroom aggression - sexual in nature	12-24 weeks,	In bars	32.3% of incidents

Country	Citation	Study population	Sexual violence measure	Period	Location	Extent (%)
	Thompson & Cracco, 2008	Male student nightlife patrons (aged 17-49) (n=264)	Perpetrated sexually aggressive acts	Since being a student	In bars	Perpetration: 92% ^{cd}
	Tinkler et al, 2018	Population - nightlife patrons (aged 21-25) (n=197)	Unwanted sexual contact	Lifetime	In bar, club or other public drinking venues	Victim: male, 6.5%; female, 63.8%. Victim/witness: male, 65%; female, 64%

^a Figures also split by other variables, e.g. sociodemographics, nightlife usage, relationship to perpetrator.

^b Figures also provided for each measurement of the Sexual Experiences Survey.

^c Nightlife patrons who consumed alcohol at home, or a friend's home, prior to going on their night out.

^d Figures also provided for specific acts, e.g. asked a woman you did not know to have sex, grabbed a woman's butt.

* Articles come from the same study.

Table 3: Type (ecological level) of factors associated with nightlife-related sexual violence by study region, and direction of association

		Region of the Americas	European Region	South-East Asia Region	Western Pacific Region	African Region
Individual	Alcohol consumption/patterns	√ ↑	√ ↑		√ ↑	√
	History of violence	√ ↑				
	Mental well-being	√ ↑	√			
	Sexual behaviours	√ ↑↓				√
	Socio-demographics	√ ↑↓	√ ↑			
	Exposure to nightlife/use of nightlife	√ ↑		√ ↑		
Relationship	Group dynamics/behaviours/experience	√ ↑↓	√			
Community	Outlet density	√ ↑				
	Venue characteristics	√ ↑↓	√ ↑		√	
Society	Social norms	√ ↑	√			√

Symbol note: √ study suggesting association between factor and nightlife-related sexual violence (quantitative studies: direction of significant effects were found shown as: ↑↓ increases and decreases; ↑ increases only; ↓ decreases only).

Table 4: Studies on prevention and response approaches to nightlife-related sexual violence

Intervention type	Broad description of article content	Number of articles (citations)
Awareness raising/ media campaign	Discussion of the role of awareness raising/media campaigns in sexual violence prevention	4 (Brooks, 2011; Fileborn, 2017; Gunby et al, 2017; Lippy and DeGue, 2016)
Bystander approaches/ programmes	Exploration of nightlife worker bystander programmes, and the nature and extent of bystander intervention in incidents of sexual violence	5 (Fileborn, 2017; Graham et al, 2014b; Haikalis et al, 2018; Powers & Leili, 2016, 2018*)
Individual level risk management	Descriptions of individual strategies to reduce risks of nightlife-related sexual violence (e.g. limiting alcohol consumption; not walking around alone), and evaluation of drink spiking kits.	6 (Beynon et al, 2006*; Fileborn, 2016; Graham et al, 2014, 2017; Kavanaugh and Anderson, 2009; Kovac and Trussell, 2015)
Legislative changes/ policy implementation	Exploration of the role of alcohol legislation/policies (e.g. control of outlet density) on levels of sexual violence at a population level	7 (De Vocht et al, 2016, 2017; Fileborn, 2017; Hewitt et al, 2018; Lippy and DeGue, 2016; Tinkler et al, 2018; Toomey et al, 2012)
* Includes evaluation of intervention/approach		

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COMPETING INTERESTS

None declared.

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