Sexual Violence at Higher Education Institutions: Prevalence, nature, and opportunities for prevention

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Abstract

Sexual Violence at Higher Education Institutions: Prevalence, nature, and opportunities for prevention

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Background: Sexual violence (SV) in higher education institutions (HEIs) threatens student safety, health, well-being, and educational outcomes. While there is an abundance of evidence from the United States on SV in these settings, there is a need to understand how this issue manifests itself both globally and in the United Kingdom (UK) context. Universities UK has specifically called for UK HEIs to collect adequate data on SV at HEIs to inform current and future prevention and response initiatives.

Objectives: The first objective was to gather and synthesise the available evidence on the prevalence of SV at HEIs globally. The second objective was to explore the prevalence, nature, and culture of SV among students at a UK HEI by implementing a pilot survey at the University of Oxford.

Method: First, I conducted a systematic review of SV prevalence studies at HEIs and meta-analysed the prevalence of SV disaggregated by gender, type of SV, and world region. Second, in collaboration with stakeholders across the University of Oxford, I developed a cross-sectional survey (the OUR SPACE survey) to measure the prevalence, nature, and context of SV at the University of Oxford. This survey was administered to all full-time registered students in 2021. Using the OUR SPACE data, I estimated the past-year prevalence of SV at the University of Oxford disaggregated by type of SV, gender identity, sexual orientation, and ethnicity. I also used the OUR SPACE data to analyse respondent attitudes about SV, respondent bystander behaviours, and the relationship between the two variables.

Results: Through the systematic review with meta-analyses of prevalence studies I found that 11% of students experienced SV (which included attempted and completed forced sexual touching, coercive sex, and attempted or completed rape) while attending an HEI. Among the students participating in the OUR SPACE survey, I found 20% experienced at least one act of SV and 53% experienced at least one act of sexual harassment (which included unwanted acts of a sexual nature that did not involve physical touch, such as crude sexual or sexist remarks and stalking). Across both studies I found that women and transgender and gender-diverse people experienced the largest burden of all types of SV. Using the OUR SPACE data, I also found that gendered differences persisted across willingness to engage in bystander behaviour to prevent or respond to SV, with men being less likely to engage in bystander behaviour to prevent SV and more likely to endorse attitudes that place the blame of SV on victims or survivors. I further found that respondents with attitudes of SV that placed the blame for SV on survivors were less willing to engage in bystander behaviour to prevent or respond to SV.

Conclusion: I contributed to existing evidence on the prevalence, nature, and culture of SV in HEIs. In doing so I experienced barriers such as limitations to the existing evidence base on prevalence studies (e.g., nonresponse bias and measurement issues) and limitations to the validity and generalisability of the OUR SPACE data (e.g., low response rate). I also encountered significant political sensitivities with regard to reporting the findings to relevant stakeholders, potentially threatening the ability of internal researchers to carry out such research, as suggested by Universities UK. Despite these challenges, this research has the potential to impact the way policy makers and practitioners prioritise the problem of SV in the UK and inform the development of evidence-based programming to address and respond to the problem.

1. Introduction

Sexual violence (SV), defined as non-consensual sexual experiences, including rape, sexual assault, and sexual harassment (SH) (unwelcome comments or advances that are sexual in nature), are prevalent public health and human rights issues. They are experienced across all demographics and settings and can have long-lasting, detrimental consequences on survivors' physical health and mental well-being (Abrahams et al., 2014; Black et al., 2016; Dilip & Bates, 2021; Krebs et al., 2007; McMahon et al., 2019). A renewed emphasis has been placed on SV as a result of the #metoo movement (Gronert, 2019). Popularised in 2017, this movement condemns SV occurring among colleagues, peers, and employees, and subsequently the topic has received significant attention by media, policy makers, and educational institutions worldwide.

Outrage toward SV occurring in higher educational institutions (HEIs) also gained traction among student groups and media, and one study from the United States (US) even reported an increase in self-reports of SV among university students after the #metoo movement (Palmer et al., 2021). However, the existence of SV at HEIs is not a new phenomenon; it has been a topic of growing interest for decades, and researchers and activists have been dedicated to the issue for over 60 years (Cantor et al., 2015; Humphreys & Towl, 2022; Kirkpatrick & Kanin, 1957). As a result, federal legislation and institutional policies, particularly in the US, have been implemented to protect the safety and well-being of higher education students (Holland et al., 2018). Still, the shifting public discourse from the #metoo movement has moved the field of research on SV into a "moment of unprecedented opportunity" as societal intolerance for SV strengthens (Harris et al., 2019, p. 263).

The existence of SV at HEIs may not seem intuitive. This environment is populated by highly educated people who are presumably aware of their rights and responsibilities. Yet, SV

most often occurs between the ages of 18 and 24 years (Basile et al., 2007), most survivors know the perpetrator (Avegno et al., 2009; Planty et al., 2013), and incidences are often linked to environments where there is alcohol (Abbey et al., 2001), absence of guardianship or effective bystanders (Gialopsos, 2017), and men's peer support for SV (Yapp & Quayle, 2018). As a result, HEIs, where many of these risk factors converge, could be particularly risky settings for SV.

Underreporting of SV means that formal reports to HEIs or to law enforcement officials have limited utility and accuracy for estimating prevalence and informing intervention efforts (Sinozich & Langton, 2014). Anonymous self-reported survey data collected through campus climate surveys offer the opportunity to ascertain more accurate prevalence rates and also offer insight into how the environment and culture of where students are living and socialising might contribute to or prevent SV. Systematic reviews of North American campus climate surveys have indicated that approximately 20% of women have experienced SV (Fedina et al., 2018; Krause et al., 2018) and approximately 29% of men have perpetrated SV while attending university (Anderson et al., 2021). However, comprehensive and rigorous data collection on SV among HE students in other parts of the world, including the UK, is in its infancy (Bull et al., 2022).

There is increasing demand for rigorous empirical research on SV at HEIs, and, in particular, HEIs in the UK (Bull et al., 2022). In the UK, data from the Office for National Statistics found that between the years of 2018 and 2020 full-time students over the age of 16 experienced the highest rates of past-year sexual assault when compared to people in any other occupation; the survey found that across all occupations 2.9% of women and 0.7% of men experienced sexual assault but that 11.6% of women full-time students and 4.3% of men full-time students experienced sexual assault (2021). Given the heightened risk full-time students in

the UK seem to face for experiencing SV, UK HEIs are being called upon to investigate the prevalence, nature, and culture of SV among their students (Bull et al., 2022).

The introduction to a special journal issue of *Sexual Abuse* focused on SV at HEIs discussed the importance and role of research in developing and implementing polices to effectively prevent and respond to SV (Harris et al., 2019). Collecting institutional data about university climate, including attitudes and beliefs about SV and bystander behaviour, as well as the prevalence and nature of SV allows decision makers "to make data-driven decisions about prevention programming and university policy" (Krause et al., 2018, pp. 12-13). Research that investigates the nature and scope of the problem from the perspective of all students can increase the knowledge base of how SV manifests itself and inform evaluations of institutional efforts to respond to SV (Harris et al., 2019).

In 2016, on request of the Universities Minister, Universities UK published their Changing the Culture report and found no comprehensive data on SV at universities in the UK (2016). Universities UK specifically encouraged institutions to take an active role in utilising the academic expertise and resources available to them to collect reliable and transparent data on SV. The report indicated that prevention and response efforts at universities are often led by a specific office or by the student unions, and that universities lack a unified, systematic approach. A set of core questions would allow for evaluating SV on a regional or even national level with comparable data (Bull et al., 2022; Krause et al., 2018). Recommendations from the Universities UK report included: engaging senior leadership to develop an institution-wide approach, establishing high quality data collection for monitoring and evaluating the issues, and sharing information and best practices throughout the sector (2016). HEIs have the potential, with their personnel and infrastructure, to be at the forefront of rigorous data collection, knowledge sharing, and innovative collaborative and evidence-based interventions (Harris et

al., 2019). As a result, HEIs are a promising setting for joining research and practice; they offer a unique opportunity to bring together researchers as key partners alongside students and administrators (Harris et al., 2019).

In this thesis I contributed to the small but growing body of research on SV in UK HEIs by estimating the scope of the problem to inform prevention and response efforts across the sector. Developing effective and sustainable interventions for SV requires a comprehensive understanding of the problem – a nuanced picture of the prevalence, nature, and culture of SV in HEI contexts (Allan et al., 2006; Bacchi, 2000). The first step was to review and synthesise the available literature on the prevalence and nature of SV among higher education students. Building on the information and learnings from the review, I developed a shareable and novel research agenda to collect data on SV experienced by HEI students in the UK.

1.1 Research questions and objectives

In this thesis, I explored the following research questions through two main studies: (1) What is the available evidence on the prevalence of SV in higher education? (2) What is the prevalence, nature, and culture of SV at a large HEI in the United Kingdom?

The first aim was to gather and synthesise the available evidence on the prevalence of SV at HEIs through achieving the following objectives:

1. Establish an evidence base on the prevalence of SV at HEIs.
2. Formally assess characteristics of studies and identify geographical and demographic gaps in research.
3. Meta-analyse the prevalence estimates from these studies.
4. Provide analyses on the context and nature of SV at HEIs in terms of gender identity, world region, and type of SV experienced.

The second aim of this DPhil research was to utilise learnings from the review to design a pilot survey at the University of Oxford to collect and analyse original and unique data on SV in the UK HEI context. The design of this survey reflected the need for sustainable and wide-spread assessment of SV at HEIs, given how little is known about the phenomena. The resulting analyses contribute to the limited volume of research on SV in HEIs and models the types of analyses that can be done on subsequent surveys. The objectives of the study were to:

1. Work with stakeholders to adapt, implement, and evaluate a survey targeted at HEI students to understand their experiences with SV.
2. Develop a survey that is inclusive of gender identity, sexual orientation, and ethnicity.
3. Estimate the prevalence of SV.
4. Assess student attitudes toward SV and bystander behaviour.
5. Suggest generalizable recommendations for HEIs on SV interventions.
6. Reflect on the feasibility and practicality of conducting a survey on SV at a UK HEI.

1.2 Background

1.2.1 Defining 'sexual violence'

The term 'sexual violence' (SV) is broad; the World Health Organization (WHO) definition includes acts ranging from verbal sexual harassment to forced penetration (or rape) (Garcia-Moreno et al., 2012). Other terms commonly used in the literature, that fall within this WHO definition, are sexual assault (for example: Krebs et al., 2007), sexual aggression (for example: Schuster & Krahe, 2019), and sexual coercion (for example: Adams-Curtis & Forbes, 2004). These terms are used to describe a spectrum of sexual acts that are forced, coerced, or committed when the survivor does not or is unable to give consent (Krause et al., 2018). There is substantial inconsistency in how research studies operationalise the definition of SV. For the purposes of this thesis the term SV will be most often used to broadly encapsulate all non-

consensual, unwanted, or coerced behaviour of a sexual nature (Walters, 2016). Sexual harassment (SH) will be used to describe a subset of SV that includes unwanted comments, advancements, or propositions that are implicitly or explicitly sexual in nature but do not involve attempted or completed physical touch (Fitzgerald, 1990). While SH sits within some definitions of SV (it is included in the WHO definition), it is at times important to distinguish between the two concepts to better understand the experiences of survivors. Subsequent results chapters will provide more specification on how definitions of SV and SH are operationalised in the analyses.

It is worth examining SV against women at HEIs independently from other forms of gender-based violence or dating violence which encompass physical, emotional, and psychological violence in addition to SV (WHO, 2003). SV has unique attributes when compared to other types of violence. According to some estimates, perpetration rates of physical and psychological aggression in dating relationships are consistent between men and women (Duval et al., 2018); however, on average, women experience more SV when compared to men (Black et al., 2016) and men perpetrate SV at higher rates than women (Duval et al., 2018).

In HEI settings perpetrators can include classmates, friends, housemates, acquaintances, professors, and tutors, as well as sexual partners and boyfriends (Flack et al., 2016). There is a need to understand the nuanced sexual interactions between young people in contexts within dating relationships and outside of them. Existing research shows that the majority (60%) of American young adults at HEIs have engaged in sexual acts with people they are not in a committed relationship with (Duval et al., 2018; Kuperberg & Padgett, 2016; Monto & Carey, 2014). Further, evidence suggests that these casual sexual encounters, or “hookups”, are increasing at HEIs and that most committed romantic relationships at HEIs begin with a casual hookup (England et al., 2008; Garcia et al., 2012; Lambert et al., 2003). Research that

exclusively focuses on SV within dating or intimate partner relationships is limited as it fails to consider sexual encounters between strangers, acquaintances, friends, and previous romantic partners where SV can and does occur (Duval et al., 2018).

1.2.2 Prevalence

SV prevalence is challenging to establish due to chronic underreporting and methodological disparities in how SV is conceived and defined (Degue et al., 2014). As a result, prevalence estimates can vary drastically across studies. For example, Fedina et al. (2018) conducted a review of SV prevalence among US women HEI students and found that the prevalence ranged from 1.8%-34% for unwanted sexual contact and 0.5%-8.4% for rape. A review on SV perpetration conducted by Anderson et al. (2021) across Canada and the US found that, on average, 29% of men perpetrated SV as an higher education student but also reported a vast range of estimates across included studies (6.7%-92.0%).

Two recent systematic reviews have summarised the literature specifically on SH among higher education students. Bondestam and Lundqvist (2020), across 802 studies, reported that one in four female higher education students experienced SH but that research on SH in HEIs lacks theoretical perspective and intersectional approaches. In their review of 24 studies from the US, Klein and Martin (2021) found being White, a woman, or a sexual minority were risk factors for increased SH, and that the impacts of the SH were most severe for non-White women when compared to White women. They also found that reporting instances of SH to the university was rare (Klein & Martin, 2021).

The evidence base on SV prevalence in the UK HEI setting is less established. To date, few studies have established prevalence of SV at HEIs (Bull et al., 2022). Only four peer reviewed studies have been published using data from campus climate surveys administered at UK HEIs. Two of these four studies measured attitudes and beliefs about SV without offering

prevalence estimates. Fenton and Jones (2017) conducted the first cross-sectional study in England that measured 'rape myth acceptance' and 'student readiness to change'. Within their sample of 381 undergraduate students, they found that men endorsed rape myths more than women and that higher rape myth endorsement was associated with denying SV as a problem (Fenton & Jones, 2017). Bovill and White (2022) reported on two surveys administered at a UK HEI that measured awareness of SV and bystander intervention. They found that within their sample of 1604 respondents there was low awareness of sexual and domestic abuse as a problem within the institution but that increased awareness of the problem was associated with effective bystander intervention (Bovill & White, 2022). The other two UK studies measured prevalence. Roberts et al. (2022) conducted a survey at a university in the north of England which found that of the 1034 participants, 15.9% of women and 5.4% of men experienced unwanted sexual contact and 32.6% of women and 9.2% of men experienced unwanted sexual comments. However, the authors did not specify a recall period (a time frame within which the act(s) of SV occurred) and did not use a validated measure, instead making up their own questions. Anyadike-Danes et al. (2022) conducted a validation study for the Sexual Experiences Survey (Short Form-Victimisation) (Koss et al., 2007) among a sample of 1033 students from two universities in Northern Ireland. Within their sample, 53% reported experiencing one unwanted sexual experience since attending university, and female and non-heterosexual students reported significantly higher rates than men (Anyadike-Danes et al., 2022).

Additional estimates on SV in the UK HEI context come from surveys run by student groups. Queen's University Belfast in Ireland conducted their Stand Together Survey in 2016. Within their sample of 3097 student respondents, 5.5% experienced sexual penetrative assault, 7.9% experienced attempted sexual penetrative assault, 33.5% experienced unwanted touching, and 33.2% experienced unwanted verbal sexual harassment (Haughey et al., 2016). Further, the

National Union of Students carried out the Hidden Marks survey between August 2009 and March 2010 and assessed prevalence and nature of sexual assault and harassment (Smith, 2010). This survey found that 14% of the 2000 women respondents experienced sexual assault or physical violence while attending an HEI (Smith, 2010). No subsequent Hidden Marks surveys have been administered. A less rigorous newspaper survey estimated that one third of female undergraduate students in the UK have experienced inappropriate touching or groping as students (Goldhill & Bingham, 2015).

Comparable countries to the UK, such as Canada and Australia, have released findings from large scale government surveys on SV at HEIs. In Canada, a survey of 160,000 HEI students in Ontario found that 63% had experienced at least one incident of SH and 23% had a non-consensual sexual encounter in 2018 (*Student voices on sexual violence*, 2019). In Australia, a survey conducted by the Human Rights Commission on 30,000 students found that in 2016, 25% had "witnessed another student being sexually harassed in a university setting" and 6.9% were sexually assaulted (2017).

1.2.3 Consequences of surviving sexual violence

SV has been correlated to the health of survivors in a variety of ways. Immediate health concerns for SV survivors can include unwanted pregnancy and sexually transmitted infections (Jina et al., 2010). In the long term, SV survivors are nine times more likely to engage in risky sexual behaviours (Howard & Wang, 2005), five times more likely to develop disordered eating (Ackard & Neumark-Sztainer, 2002), three times more likely to suffer from poor mental health (Agardh et al., 2012), and two times more likely to consider suicide (Howard & Wang, 2005). A meta-analysis conducted by Dworkin et al. (2020) on the association between sexual assault and suicide found that across 88,376 participants, those exposed to sexual assault reported significantly more suicidal ideation and suicide attempts when compared to those who had never

experienced sexual assault. Gastrointestinal issues have also been associated with SV (Astbury, 2007; Leserman, 2005), with women survivors being two times more likely to report nausea, vomiting, abdominal pain, and diarrhoea than women who had not experienced SV (Golding, 1994). Further chronic conditions such as pain, migraines, insomnia, and fatigue are prevalent conditions among survivors (Astbury, 2007; Green et al., 1999; Kimerling & Calhoun, 1994; Leserman, 2005).

In addition to health outcomes, experiencing SV as an HEI student can have impacts on academic outcomes. A systematic review on the impact that sexual assault has on academic outcomes in university settings found that across 13 articles, sexual assault was associated with lower grades, dropping out of university, and learning problems (Molstad et al., 2021). Further, a rigorous longitudinal study on SV at HEIs found that SV exposure correlated to lower grades and that survivors of SV were two times more likely to leave higher education without completing their degree (Baker et al., 2016).

1.2.4 Measuring sexual violence

The Sexual Experiences Survey (SES) was the first reliable and valid scale to measure the prevalence of SV in large populations (Koss & Gidycz, 1985). Since its development, it has become the most commonly used tool to measure unwanted sexual touching, coercive sex, attempted rape, and rape, among HEI students (Anyadike-Danes et al., 2022; Canan et al., 2020). One of the key strengths of this measure is its use of behaviourally specific language to measure SV instead of asking explicitly about ‘rape’ or ‘assault’ (Canan et al., 2020). Over time, the survey tool has been revised to use gender-inclusive language, and separate questionnaires have been developed for both victimisation and perpetration with short-form and long-form versions (Koss et al., 2007). The most recent version of the short-form SES for measuring victimisation (SES-SFV) is the version usually used to assess SV among HEI students. This

version asks about experiences with attempted and completed non-penetrative sexual behaviors, oral sex, vaginal penetration, and anal penetration (Koss et al., 2007). Debates persist about the reliability and validity of the SES-SFV (Anderson et al., 2018; Canan et al., 2020). However, it is currently the most robust measure available for researchers to use to measure SV in HEI settings.

In addition to potential psychometric concerns with the SES, there are persistent inconsistencies in the ways in which researchers use the tool. For example, the recall period in which studies use to assess experiences of SV among HEI students varies. The SES was designed to ask about experiences since the age of 14 and past-year experiences (Koss et al., 2007); however, some studies only include one of these reference points (for example, Osman, 2021). Studies that sample HEI students and measure experiences since the age of 14 are unable to explore how the higher education environment intersects with SV experiences. Other studies have generated their own recall period of 'past academic year' (for example: Daigle et al., 2008; Hossain et al., 2014; White, 2017) or 'since attending higher education' (for example: DeKeseredy et al., 2019; Iliyasu et al., 2011; Mezie-Okoye & Alamina, 2014) to be highly reflective of the HEI context, but this creates a lack of standardisation across the evidence base of SV studies in HEI setting and makes it challenging to draw comparisons across studies.

Arguably the most important problem with how SV is measured is that despite having a validated tool to measure SV some studies do not use this tool at all, instead opting to make up their own questions entirely (for example: Ajayi et al., 2021; Lydston, 2016). The latter is particularly problematic, as it jeopardises the validity of the results (Borsboom et al., 2004) and again makes it difficult to situate the findings within the larger body of evidence (Mokkink et al., 2018).

A necessary consideration in employing the SES is that it only captures instances of attempted or completed violence and does not measure forms of SH (Koss et al., 2007). There is considerably less standardisation for how SH is defined and measured when compared to SV (Bondestam & Lundqvist, 2020). For example, outside of relying on legal definitions of SH, there is no consistent way of defining acts of SH and no validated measure exists (Bondestam & Lundqvist, 2020). As a result, there is room for considerable theoretical and methodological advancements to improving the quality of research on SH among HEI students.

1.2.5 Campus climate surveys

The most common way SV is measured at HEIs is through campus climate surveys. These surveys gather data to help to understand the scope of SV at a particular HEI and to inform response and prevention efforts (Moylan et al., 2018). They can measure prevalence and risk factors and assess institutional climate (including attitudes and beliefs about SV, bystander behaviour, or knowledge of policies and supports) (Bull et al., 2022; Krause et al., 2018; Moylan et al., 2018). Official accounts of SV at HEIs are underreported and therefore campus climate surveys have the potential to ascertain a more accurate prevalence rate (Cantalupo, 2014). Campus climate surveys also have the scope to include measures that go beyond assessing prevalence to understand the culture surrounding SV in HEIs. By only measuring prevalence of SV, researchers risk focusing solely on victims or survivors of SV, which could unintentionally lead to victim blaming, where survivors of SV are held responsible for preventing SV (Linder et al., 2020). Measuring the climate or culture of an environment not only helps to contextualise the setting in which SV is occurring but also is a recognition of the role that the whole community plays in contributing to and preventing incidences of SV (Linder et al., 2020).

Campus climate surveys emerged as a result of the American Task Force to Protect Students from Sexual Assault which provided federal-level guidance on how to prevent SV at

HEIs (2014). Since then, a recent systematic review on campus climate surveys in the US, conducted by Krause et al. (2018) found 107 different reports on these surveys from 101 different institutions. The main findings from this review were: (1) there is no database of campus climate surveys or list of universities who have conducted a campus climate survey, and (2) a single survey should be developed for all HEIs to implement due to wide variation between existing surveys (Krause et al., 2018).

A review of American campus climate surveys, conducted by Moylan et al. (2018), assessed 105 implemented campus climate surveys. Similar to Krause et al. (2018), Moylan et al. (2018) found little consistency in the way SV was assessed in each of the surveys. Specifically, as discussed in the previous section, there were differences in questions about the timing of the incident (i.e., in the last year, in the last two years, since arriving at the HEI, etc.) (Moylan et al., 2018). Additionally, the scales used to measure SV differed. Some questions were modelled after pre-existing tools for assessing SV such as the Sexual Experiences Survey (Koss & Gidycz, 1985) or Krebs et al.'s Campus Climate Survey Validation Study (2016). Other surveys developed their own approach (Moylan et al., 2018). Krause et al. (2018) suggested that a national and publicly available tool for measuring SV on campus was essential. This would involve a set of core questions to compare data across institutions. The first step would be to establish a working group of policymakers, students, practitioners, and researchers to agree on a set of core questions to include in surveys (Krause et al., 2018). Presently, some individual HEIs have developed their own survey instruments and others are working in groups to standardise the process.

A coordinated effort to measure SV among HEI students does not exist in the UK context. Currently, there is no standardised tool that has been adopted by the sector. While several institutions are monitoring this issue (Bull et al., 2022; Chantler et al., 2019), the results

are rarely publicly reported. As stated earlier in this document, there has been a recent rise in disparate academics and student groups working across the UK to collect their own data on SV (Anyadike-Danes et al., 2022; Bovill & White, 2022; Bull et al., 2022; Fenton et al., 2016; Roberts et al., 2022). This is an important first step for equipping advocates and student groups with the empirical evidence needed to gain support from HEIs to invest in preventing and responding to this issue and suggests positive momentum in the direction of establishing a tool that can be consistently used and repeated across UK HEIs.

1.2.6 Risk and protective factors

There are many individual and environmental risk- and protective factors related to SV. Most of the literature on risk factors for SV (including SH) at HEIs examines individual factors for victimisation such as gender identity (Krebs et al., 2016) and sexual orientation (Johnson et al., 2016). There is overwhelming evidence that women, when compared to men, experience higher rates of SV in general and in the HEI environment (Cantor et al., 2015; Fisher, 2000; Sinozich & Langton, 2014). There is also increasing evidence from the US context that transgender and gender-diverse people (Cantor et al., 2015; Coulter & Rankin, 2020) and non-heterosexual students (Blosnich & Bossarte, 2012; Krebs et al., 2016; Martin et al., 2011) are at a heightened risk for experiencing SV. Analyses of US-based campus climate surveys are beginning to report on differences in SV experiences based on ethnic or racial identity, with a particular contextual focus on Black and Latinx students (Barrick et al., 2012; White, 2017). However, there is currently limited data on the ways in which SV is experienced among different ethno-racial groups in HEIs in the UK (Towl & Walker, 2019).

Insights on individual determinants of SV, according to Hirsch and Khan (2020), are critical, but more attention must be paid to the social context in which SV occurs. For example, the roles that relationships, institutional and organizational dynamics, and cultural norms play

are useful for holistically explaining SV (Hirsch & Khan, 2020). Organisational and environmental factors such as alcohol availability and social or athletic groups fostering hyper-masculine norms are also related to the prevalence of SV at HEIs (Moylan & Javorka, 2020). Participation in social groups (for example, fraternities and athletic teams) have been correlated to SV perpetration (Humphrey & Kahn, 2000; Murnen & Kohlman, 2007). Further, social environments like parties and bars have been found to be stronger risk factors for perpetration when compared to certain individual-level risk factors such as binge drinking, but measuring the relationship between these environments and SV is difficult (Testa & Cleveland, 2017).

Khan et al. (2020) argue that the underlying culture of certain contexts perpetuate rape myth acceptance (beliefs that men are entitled to sex, that violence against women is normal, or that women are at fault for experiencing SV), hostile views of women, and more traditional forms of masculinity. The promotion of misogynistic gender norms that place the rights, desires, and autonomy of men ahead of women has also been empirically linked to SV perpetration (Franklin & Menaker, 2018; Krebs et al., 2016). Further, the transition from adolescence to young adulthood can place increasing pressure on individuals to conform to "traditional gender roles which can result in some young men believing that control and aggression through sex is necessary for establishing a masculine identity" (White & Smith, 2009, p. 4).

Factors for reducing the likelihood of SV victimisation could include a sense of connectedness and strong social support (Perez-Trujillo et al., 2019), but studies rarely explore protective factors. This may be because there is an inconsistent understanding among researchers on how to define a protective factor, making it challenging to determine whether or not some factors analysed in studies could be protective factors (Farrington & Ttofi, 2011). Some researchers determine a protective factor to be one that "interacts with a risk factor to nullify its effect" and other researchers see it as the exact opposite of a risk factor (a factor that

predicts a relatively low rather than relatively high chance of perpetrating) (Farrington & Ttofi, 2011, p. 72). A potential criticism of exploring protective factors for SV is that it could imply that there are things survivors could or should have done to not have experienced SV or that the onus for reducing SV is on potential victims rather than perpetrators (Linder et al., 2020). As a result, careful attention to how protective factors are researched and discussed is needed.

1.2.7 Prevention and response

In response to calls from activists and researchers, HEIs are beginning to implement SV prevention programs for their students. One increasingly popular approach is bystander intervention programming, where training is offered to students on how to effectively intervene to interrupt instances of SV and respond after SV occurs (Banyard et al., 2004; Jouriles et al., 2018; McMahon et al., 2017). A bystander is an individual who witnesses or is aware of a crime occurring and can make the choice to either offer assistance or do nothing (Banyard et al., 2004). Bystander intervention has been deemed particularly promising in higher education settings where most incidents of SV occur or start occurring in social settings (Fisher, 2000). Involving bystanders is also appealing to HEIs as prevention policies in these settings are shifting to a 'whole institution' approach, where accountability for addressing the problem is not solely placed on survivors and instead engages the entire community in prevention and response (Banyard et al., 2004; Humphreys & Towl, 2020; McMahon, 2000; Sweeting et al., 2021).

There have been several systematic reviews related to bystander behaviour to prevent SV in higher education contexts. Jouriles et al. (2018) conducted a review with meta-analyses on the effectiveness of bystander intervention programs on college campuses and concluded that bystander intervention was effective in fostering greater pro-social attitudes and increasing bystander behaviour but that the effects diminished over time. Building on this review, Kettrey and Marx (2019) argued that while bystander programs appear to be promising, little is known

about which programs or program components are effective. They synthesised evidence on the effectiveness of interventions on both bystander behaviour and perpetration and found that bystander programs increase bystander intervention but have no impact on SV perpetration (Kettrey & Marx, 2019). They also found no evidence that implementing separate interventions for men and women would moderate the effectiveness of bystander programs on bystander intervention (Kettrey & Marx, 2019).

Mainwaring et al. (2022) conducted a systematic review on the individual, situational, and contextual variables for facilitating or inhibiting bystander behaviour in instances of SV. Across 85 studies they identified that (1) gender was the most commonly included individual variable, (2) the presence of other bystanders was the most commonly included situational variable, and (3) that social norms that promote intervention was the most commonly included contextual variable. The authors concluded that females were more likely than males to intervene to prevent SV, that there was inconclusive evidence on how the presence of other bystanders influence intervention, and that social norms that support intervention increased bystander behaviour (Mainwaring et al., 2022). Mujal et al. (2021) offered a more rigorous review on the effectiveness of bystander programs by only including studies that employed randomisation or quasi-experimental designs to measure outcomes. They concluded that in-person bystander training contributed to positive changes in attitudes and behaviors through increasing participant awareness of SV and fostering a sense of responsibility to intervene.

1.3 Theoretical framework for understanding why sexual violence occurs in higher education

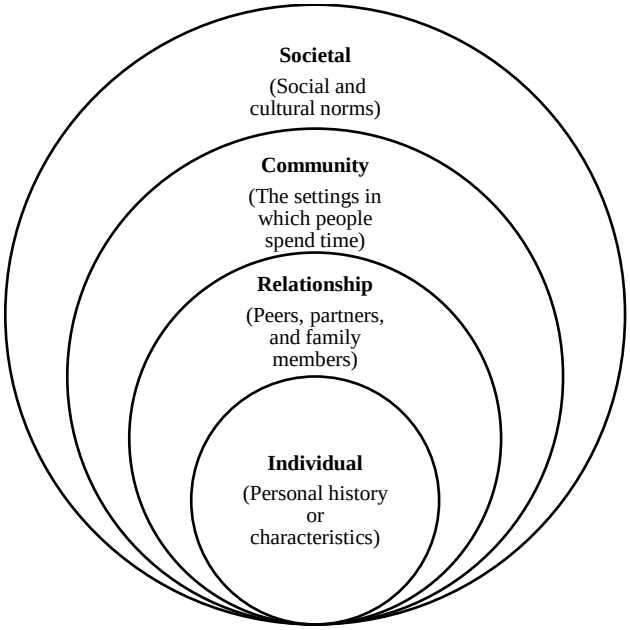
Numerous theories across disciplines such as criminology and psychology have been used to understand the occurrence of SV, but these theories may have limited relevance to SV experienced by higher education students. In this section, I aim to summarise and integrate

theoretical explanations for why SV might occur in HEI settings specifically. While it is beyond the scope of this thesis to make novel theoretical contributions that explain SV in HEIs, exploring these theories is essential for interpreting and explaining the findings presented in the subsequent results chapters. Specifically, findings on the prevalence of SV across gender and other social identities and on the contextual climate and culture related to SV in higher education.

A unique challenge to applying theories of sexually violent crime to the HEI context is that these theories often try to explain deviant behaviour when there is increasing evidence to show that SV in the HEI context could be a result of conforming behaviour (Godenzi et al., 2001). For example, the sociopathy model, often used to understand criminal behaviour, suggests that perpetrators are rare, but perpetration is common – a small group of individuals enact SV frequently and have many victims (Lisak & Miller, 2002). However, Khan et al. (2020) suggest that in the HEI context, SV perpetration is more widespread and that SV should be conceptualised within a social-ecological model where a spectrum of sexually violent acts is perpetrated by *many* people, and often men.

The social-ecological model is useful for capturing the complexity of SV in higher education contexts as a conforming behaviour though individual, relational, community, and societal levels (Casey & Lindhorst, 2009; Dills et al., 2016; Krug et al., 2002). The model provides a framework for integrating the range of factors that put people at risk for SV. Existing cross-disciplinarily theories can work together within the social-ecological model to help explain and understand the occurrence of SV among students at the individual, relationship, community, and societal level. Figure 1.1 visualises how the social-ecological model is typically used for describing SV. The overlapping levels of the model are used to explain how the factors at one level influence and relate to factors at other levels.

Figure 1.1: The Social-ecological model for understanding sexual violence



(Dahlberg, 2002)

Integrated socio-ecological theories are particularly useful for conceptualising SV in HEIs as they offer an explanation for the phenomena that incorporates different ecological levels. For example, routine activities theory is often used to explain crime that occurs in the HEI context. This theory, originally proposed by Cohen and Felson (1979), identifies multiple conditions occurring at different levels of the social-ecological model for crime: "a motivated offender, a suitable target, and an absence of capable guardians" (Cohen & Felson, 1979, p. 588). The HEI context has been described as an environment where these three conditions commonly converge (Fisher & Sloan, 2013; Fisher et al., 1998; Henson & Stone, 1999). HEIs provide (1) an "atmosphere of proximity" where students will spend time with each other in classes, in the library, and at sporting events and parties (Cass, 2007, p. 351), and (2) opportunities to participate in activities, such as drinking events, that heighten the risk for experiencing SV (Fisher, 2000). Ultimately, students who spend more time in the HEI context may increase exposure to potential perpetrators, which increases risk of SV (Cass, 2007).

However, this theory may not fully explain SV in the HEI context. It does not explicitly address elements of gender inequality and discrimination which underpin all forms of gender-based violence, nor does it account for the role that culture and norms play in perpetuating SV in this setting (Cass, 2007).

Critical feminist theory can be used to fill this gap. Critical feminist theory describes HEIs as inherently patriarchal environments—environments of systemic gender inequality and oppression where women are seen as less than men in policy and practice. For example, HEIs have historically responded to SV by blaming women and suggesting ways for women to better protect themselves or by protecting perpetrators through a lack of consequences or accountability for their actions (Wooten, 2015). Critical feminist theory also draws attention to the intersection of discrimination, misogyny, heteronormativity, and racism in relation to SV. A critical feminist lens helps to change discourses about SV that are informed by heteronormative and White constructions of women as 'ideal' victims (Wooten, 2015). SV is entwined with other forms of oppression, including racism and homophobia and a critical feminist perspective encourages researchers to incorporate these perspectives rather than treating them as distinct issues (Harris et al., 2017), and to involve those who influence and are impacted by policy, education, resources, and support services for systemic change that targets the root causes of SV (Sisneros & Rivera, 2018). Critical feminist theory underscores one of the central aims of this thesis to offer a comprehensive understanding of SV prevalence by considering how social locations including gender identity, sexual orientation, and ethnicity, intersect with experiences of SV.

Situational action theory (SAT), emerging as a more sophisticated descendent of routine activities theory, explains how individual beliefs and traits interact with environmental factors to lead to crime (Wikström, 2019). This theory posits that an act of crime is dependent on the

interaction between individual morality and the moral environment (Wikström, 2019), and therefore allows for the inclusion of critical feminist theory. This person-environment interaction level explores situational factors and processes that lead some individuals (and not others) to commit a crime (Wikström, 2017). SAT uniquely accounts for differences in how individuals respond to similar motivating and deterring factors (Wikström, 2017).

Within SAT, moral values influence people's perceptions and choices to engage in crime and prevent crime. A critical component of SAT involves the social and moral context that shape the development of people's moral values and lead people to act on their values. As discussed earlier in this chapter, HEI settings often involve high risk activities (events involving drinking, partying, large groups etc.) and the absence of guardians, often for the first time in young peoples' lives (Fisher & Sloan, 2013). However, additional considerations of the social moral consideration of the environment must be considered.

Godenzi et al. (2001) put forth an integrated gendered social bond and male peer support theory to explain the phenomena of SV at HEIs. Gendered social bond and male peer support theory was partially developed as a response to a call by Miller and Wellford (1997) for scholars to develop an integrated theory that explains men's perpetration and women's victimisation of SV. Godenzi et al. (2001) claimed that SV is a result of "men's attempt to maintain a social bond with a conventional or traditional social order marked by gender inequality" (p. 11). Group behaviours, attitudes, and ideologies can promote, justify, and legitimise SV, and perpetration of SV can be a learned behaviour through social interactions with peers (DeKeseredy & Schwartz, 2013). For example, peer groups in the HEI setting may promote attitudes that blame survivors for experiencing SV given the patriarchal environment of HEIs (Godenzi et al., 2001). A recent systematic review with meta-analyses on individual risk factors for perpetration found that history of perpetration and peer norms that support SV were the most salient predictors of

perpetration in an HEI environment (Steele et al., 2020). Specifically, groups of men such as fraternities and sports teams have been found to foster a hypermasculine culture in which men feel at the same time pressure and entitlement to use coercion and force for sex (Godenzi et al., 2001). In the UK, 'lad culture' is a term used to describe this concept; a certain form of masculine identity that is performed by groups of predominately White and privileged men (Phipps, 2017). Within this culture, attitudes that promote sexism and the objectification of women reinforce attitudes that normalise and at times incite acts of SV (Phipps et al., 2018). These attitudes can and should be measured alongside SV prevalence to understand the conditions and context under which SV is occurring.

Social learning theory helps to further explain the importance of the social and moral context by describing how gender norms perpetrated through male bonds and social activities play a role in SV. This commonly used and tested theory for explaining criminal behaviour views SV as a phenomenon that is learned and continued if it is reinforced (Akers & Sellers, 2009). Through social learning, individuals can come to understand a crime as justified; not being held accountable for past criminal behaviour or not seeing others being held accountable can lead to a perception that the behaviour will yield greater reward than punishment (Akers, 1998). This theory has been tested and substantiated in studies on SV (Boeringer et al., 1991) and in studies on intimate partner violence (Sellers et al., 2003; Cochran et al., 2011). In addition to offering an explanation to why people might perpetrate SV, social learning theory can be used to understand the role that communities have played in perpetuating SV by turning a blind eye to the phenomena and excusing sexually violent behaviour, especially sexually violent behaviour of young men. HEIs in particular have a history of blaming women for the violence they experience and of not holding perpetrators accountable (Wooten, 2015). This lack of accountability coupled with the powerful role male peer support plays in promoting and

reinforcing sexually violent behavior in social settings is exacerbated in the HEI context (Godenzi et al., 2001).

An important consideration when employing SAT to explain SV in HEIs is the extent to which it is assumed that an individual is aware that what they are doing is a crime. A key component of SAT is the self-awareness by the perpetrator that they are doing something wrong or illegal. However, it is hypothesised that some individuals may not know that certain forms of SV constitute criminal action, believing instead that SV is at times the fault of the victim rather than the perpetrator, which could further impact their choice to engage in the act (Hirsch & Khan, 2020).

Resolving or testing the theoretical tensions introduced in this chapter is beyond the scope of this thesis, but a first step to building knowledge about this problem is to collect and synthesise data. The interpretation of findings in this thesis on SV prevalence across gender identities as well as on attitudes toward SV and behaviours related to preventing and responding to SV will rely on the theories outlined in this section. However, novel theoretical contributions explaining SV in HEI will require empirical research that is better suited to unpacking the applicability and relevance of the existing theoretical models used to explain SV in HEIs. Doing so is critical for designing and evaluating effective and inclusive prevention and response initiatives.

1.4 Chapter summary

In this chapter, I provided a working definition of SV and described the scope and burden of SV on higher education students, including health and educational outcomes. I introduced and described campus climate surveys as the tool used, predominately in the US, to measure SV in HEIs and discussed how this work is expanding globally. Then, I provided an overview of some of the most commonly studied risk- and protective factors for experiencing

SV in HEI and highlighted bystander interventions as a promising and increasingly popular tool for preventing and responding to SV. The last section of this chapter presented common theoretical frameworks for explaining SV in HEI settings and argued that an integrated socio-ecological model is most useful for capturing the complexity of phenomena of SV among university students. Chapter 2 expands upon the stated research aims and objectives presented in this chapter and describes the methods and methodological considerations for advancing the field of quantitative research on SV in HEIs.

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2. Methodology

As discussed in Chapter 1, SV among HEI students is a prevalent public health issue with demonstrated impacts on the health and well-being of survivors. Still, limitations to existing evidence mean that further exploration of this issue is needed. This DPhil is centered around two overarching research questions:

1. What is the available evidence on the prevalence of SV in higher education?
2. What is the prevalence, nature, and culture of SV at a large HEI in the United Kingdom?

2.1 Restatement of research objectives

As outlined in Chapter 1, the first aim of this DPhil project was to gather and synthesise the available evidence on the prevalence of SV at HEIs through achieving the following objectives:

1. Establish an evidence base on the prevalence of SV at HEIs.
2. Formally assess characteristics of studies and identify geographical and demographic gaps in research.
3. Meta-analyse the prevalence estimates from these studies.
4. Provide analyses on the context and nature of SV at HEIs in terms of gender identity, world region, and type of SV experienced.

The second aim was to utilise learnings from the above review to collect and analyse original and unique data on SV among UK HEI students by implementing a pilot survey at the University of Oxford. The objectives were to:

1. Work with stakeholders to adapt, implement, and evaluate a survey targeted at HEI students to understand their experiences with SV.
2. Develop a survey that is inclusive of gender identity, sexual orientation, and ethnicity.

3. Estimate the prevalence of SV.
4. Assess student attitudes toward SV and bystander behaviour.
5. Suggest generalizable recommendations for HEIs on SV interventions.
6. Reflect on the feasibility and practicality of conducting a survey on SV at a UK HEI.

2.2 Research philosophy

I relied on feminist principles to conduct this DPhil research (Lather, 1988; Margaret Fonow & Cook, 2005). Feminist research aims to "correct both the invisibility and distortion" of women's experiences with the intention of social change (Lather, 1988, p. 571). In taking a feminist approach, I acknowledge that a feminist research perspective is not homogeneous and that there are healthy debates and considerable nuance surrounding its application. In this thesis, I do not attempt to explore this complexity but instead draw upon the unifying and consistent elements generated through feminist research scholarship to inform my research design.

I conducted research that incorporated elements of feminist intersectionality (Davis, 2008) through examining how social positions including sexuality and ethnicity, in addition to gender, shaped individual experiences (Worthen & Wallace, 2017). Aligning with core feminist principles, the goal of this thesis was to conduct research that could inform policy within patriarchal environments (Margaret Fonow & Cook, 2005; Thompson, 1992). This research was participatory, collaborative, and designed to empower and offer voice to research participants and university partners and promote collective engagement throughout the entirety of the research process (Reinharz, 1992; Stacey, 1988).

I approached this thesis research on SV in HEIs from a feminist perspective for two reasons. First, it was feminist activism that brought attention and awareness to the issue of SV at HEIs (Bevacqua, 2000; Jessup-Anger et al., 2018) and acted as the driving force behind the implementation of efforts made by institutions to respond to the problem (Jessup-Anger et al.,

2018). Second, feminist principles are useful for understanding the unique contextual factors of HEIs as elite institutions with embedded gender inequity, racism, and heterosexism that are at the same time sites of innovative research and student led activism that powerfully and effectively work to dismantle the status quo (Sharp et al., 2017).

I chose to align my data collection approach (surveys on student experiences related to SV) with an empiricist feminist epistemology that views experiences, including the experiences of women, as the primary source of knowledge (Grasswick, 2011; Hundleby, 2011; Thompson, 1992). Feminist empiricists position scientific knowledge as both rigorous and contextual and socially situated (Hundleby, 2011; Longino, 2013), which allows for feminist research within conventional scientific methods (Campbell & Wasco, 2000; Wigginton & Lafrance, 2019). This approach is particularly useful for HEI settings, where student surveys on prevalence and nature of SV are becoming increasingly popular (and in some cases mandated) and where they are used as tools advocating for change (Krause et al., 2017). As such, this thesis relied on high quality traditional quantitative survey data collection methodologies to both rigorously approach the research questions and at the same time achieve feminist research objectives.

2.3 Analytical approach and justification

As stated in the research objectives, this thesis is comprised of two main studies. First, a systematic review with meta-analyses, and, second, a pilot survey on SV administered at the University of Oxford. In this section, I discuss the justification for relying on these two methods to achieve the research objectives.

2.3.1 Systematic review with meta-analyses

A systematic review is a proven approach for identifying, appraising, and synthesising the body of empirical evidence that pertains to a specific research question (Higgins & Green, 2008). Systematic reviews are used to build consensus on a particular issue and can aid policy

makers who are looking to make evidence-based decisions. For this DPhil research, a systematic review on existing prevalence research on SV in HEIs was necessary for informing the justification, development, and design of a novel survey in the UK context. Understanding and learning from the state of existing evidence in a field is essential before embarking on new data collection (Chalmers & Glasziou, 2009).

A meta-analysis is a way of synthesising data collected in a systematic review. It combines data from several comparable primary studies and produces a pooled estimate (Gopalakrishnan & Ganeshkumar, 2013). Synthesising evidence using meta-analysis is particularly relevant when there are primary studies at the local level and the aim of the research is to provide national or global prevalence (Munn et al., 2015) or when the aim is to make policy recommendations or guidelines related to a certain phenomenon (Gopalakrishnan & Ganeshkumar, 2013).

Meta-analysing prevalence data has been critiqued for generating misleading findings due to the vastly different prevalence estimates of studies conducted in different contexts (Munn et al., 2015). A single, pooled value may sacrifice the useful information provided in the variation at the individual, institutional, and regional level (Munn et al., 2015). However, meta-analyses can also be used to explore inconsistency across a body of evidence and creating precise estimates that take into account heterogeneity across study designs through subgroup analyses (Aguinis et al., 2011; Gopalakrishnan & Ganeshkumar, 2013). This is particularly relevant for studies on the prevalence of SV in HEI settings, where, as discussed in Chapter 1, previous reviews have found a vast range in estimates (Fedina et al., 2018; Krause et al., 2018).

2.3.2 Campus climate survey

Surveys are a common tool used in HEIs to learn more about students' needs and concerns, evaluate courses and programming, or better understand the prevalence and

pervasiveness of certain phenomena (Fosnacht et al., 2017). Campus climate surveys have been a popular tool used in the US to understand the prevalence and culture of SV at HEIs. Table 2.1 is not exhaustive but provides an overview of commonly used campus climate survey tools.

Table 2.1: Campus climate survey examples

Survey name	Description	Open Access
AAU Campus Climate Survey (developed in partnership with Westat)	Survey on sexual assault and sexual misconduct administered in 2015 across 27 different schools and repeated in the spring of 2019 across 33 schools.	No
ARC 3: Administrator Researcher Campus Climate Collaborative	Survey developed by a group of researchers and practitioners responding to the White House Task Force on SV at HEIs.	Yes
Campus Climate Survey Validation Study	Survey developed by White House Task Force to Protect Students from Sexual Assault.	Yes
Education Advisory Board Toolkit	Implementation tool kit, discussion, and action planning guide, as well as communication planning guide for administering campus climate surveys.	No

These types of surveys are just emerging in the UK (Bull et al., 2022). In the UK, most of the understanding of SV prevalence comes from nationally representative population surveys (Brunton-Smith et al., 2022). These surveys are not limited to HEI students and are useful for comparing student experiences to the general population. Unlike campus climate surveys, these surveys tend to cover a wide range of topics related to crime or violence and, as a result, the questions used to ask about SV are less in depth and detailed, often excluding questions on types of SV, frequency of SV, the location of the incident and the characteristics of the perpetrator (Brunton-Smith et al., 2022). They also do not offer an opportunity for individual institutions to understand the contextual and cultural elements of the student community in relation to SV. HEIs are increasingly looking for data on their students to understand the magnitude and impact of SV in specific institutional settings with the intention of using that information to design and resource prevention and response efforts (Krebs et al., 2016).

An analysis conducted by Krebs et al. (2022) on the value and validity of campus climate surveys found that official reports of SV at HEIs only capture a small proportion of incidents

experienced by students. If HEIs were to only rely on official reports to the university or the police, they would be missing the majority of SV acts that occur and ultimately unable to justify funding to investigate incidents or offer support services to survivors (Krebs et al., 2022). Rigorous self-reported surveys administered in a confidential and trauma-informed way ensure participants feel safe taking the survey and offer HEIs a unique opportunity to more accurately capture the prevalence of SV among students at an institution (Krebs et al., 2022).

Additionally, campus climate surveys offer researchers and institutions the opportunity to measure constructs other than SV prevalence. For example, campus climate surveys often include questions on bystander behaviour and participant beliefs and attitudes about SV (Linder et al., 2020). Capturing more information about the contextual and cultural elements of an environment in addition to prevalence is useful for understanding how environments relate to the phenomena of SV among HEI students and for informing interventions that involve the whole campus community in prevention and response.

While campus climate surveys address data limitations on SV across the higher education sector, they should be interpreted with caution. Sutton (2020, p. 9) aptly described them as "useful but imperfect" barometers of SV highlighting the lack of uniformity across surveys as a barrier to compare and contextualise results across institutions. As discussed in Chapter 1, differing approaches to data collection impact the rates of reported SV (Rennison & Addington, 2014). Further, studies inconsistently report on location of the incident, the relationship between the survivor and perpetrator, and the demographic information of the respondent, which makes it challenging to draw conclusions about the role context and environment play in SV (Fedina et al., 2018).

Another limitation of campus climate surveys are that they are often cross-sectional in nature – they collect observational data on a certain population at a single point in time

(Rothman et al., 2008). They can be used to establish the frequency and distribution of a certain phenomenon in a defined population, but they are unable to prove causality (Setia, 2016). Longitudinal data is needed to establish the presence of a risk- or protective factor before the presence of the outcome (Setia, 2016). There are, however, benefits of cross-sectional data. Cross-sectional surveys are cost effective and can be conducted relatively quickly, when compared with cohort studies (Mann, 2003). They are particularly useful for establishing prevalence, especially in contexts where there has been no previous data collection and for monitoring student attitudes and bystander behaviour. They can also be used to pilot and test measures and scales that have limited psychometric evidence. Cross-sectional surveys can also be useful for reducing participant survey fatigue (Krause et al., 2018). When students are repeatedly asked about traumatic events, they can experience survey fatigue and undue stress. For example, through their We Speak survey on attitudes of sexual misconduct, Princeton University found that students were less willing to complete subsequent surveys on the same topic due to the stress caused by the responding to sensitive topics (2017).

All data used in this research project originated from anonymous self-reports of SV in campus climate surveys. SV is notoriously underreported to both authorities as well as educational institutions. The use of anonymous self-reported data provides the most accurate sense of prevalence possible and is consistently used across all existing SV surveys in the HEI environment (Gross et al., 2006; Taylor, 2018). However, important methodological considerations need to be explored in depth when collecting, analysing, and interpreting cross-sectional self-reported data from SV surveys.

2.4 Considerations for interpreting self-report survey data on sexual violence

As discussed in the previous section, there are several strengths to relying on self-report survey data from campus climate surveys for understanding the prevalence of SV in HEIs. Both

the systematic review in this thesis and the survey conducted in this thesis rely on this type of data collected through campus climate surveys. Yet, these tools can have limitations that compromise the comparability, accuracy, and generalisability of data on SV. In this section, I highlight some of the key methodological considerations emerging from self-report survey data and the implications they have for interpreting findings on the prevalence and nature of SV in higher education settings.

2.4.1 Definitional inconsistencies

The ways in which SV is framed, defined, explained, and interpreted has practical and methodological implications as it determines what exactly is measured, which informs prevention and response initiatives (Krause et al., 2018). Criminal definitions and interpretations of SV may be too narrow to capture the pervasiveness of the issues (Krause et al., 2018). SV measurements that holistically measure the construct may be more useful in the higher education setting. Still, the wide range of colloquial and clinical definitions of what constitutes SV leads to inconsistency in what types of SV are measured across studies and contributes to the discrepancies in prevalence findings (Rennison & Addington, 2014). The terms "forcible rape, completed rape, attempted rape, sexual coercion, unwanted sexual contact, incapacitated rape, and alcohol- and drug-facilitated rape" are inconsistently used (Fedina et al., 2018, p. 78; Rennison & Addington, 2014).

Learnings from existing studies measuring SV suggest asking about a wide range of sexual acts in "behaviourally specific" language to achieve the most valid and reliable findings (Koss et al. 2007). It is considered best practice among researchers to use "behaviourally specific" language when measuring SV (Krause et al., 2018). Behaviourally specific language conceptualises violence through acts experienced and tactics used, and behaviourally specific measurements use words to describe the experience of the incident (for example, 'someone

touched a private area of my body without my consent'), rather than referring to the incident using terms such as sexual assault (for example, 'I was sexually assaulted') (Johnson et al., 2014).

The use of behaviourally specific language is particularly important as survivors of SV may not report or characterise their assault as SV (Backes, 2013). For example, SV committed by an acquaintance is sometimes characterised as a misunderstanding and is less likely to be reported or investigated and prosecuted by the legal system when compared to SV perpetrated by a stranger (Walters, 2016). SV perpetrated by an acquaintance is the most common form of SV at HEIs, therefore measurements on SV must capture this type of SV. Efforts have been made to improve the measurement of SV, but HEIs rarely report on standardised definitions of rape or sexual assault (Backes, 2013).

2.4.2 Data disaggregation and subgroup analysis

SV research at HEIs lacks a focus on hidden populations and the ways transgender and gender-diverse people, sexual minority communities, and people of color are impacted (Eisenberg et al., 2017). If there is no research on these subgroups, then prevention and response initiatives will not be inclusively informed by student experiences. Despite the critical importance of disaggregating data to look at subgroups and regions, there are limitations to doing so. In observational studies, findings could be confounded by other study level characteristics. Best practice guidance suggests that subgroups and levels of data disaggregation are specified before the research is conducted and the data is analysed, and that findings are reported with the appropriate caveats (Section, 9.6.6, Higgins & Green, 2008).

A challenge to conducting subgroup analyses occurs when there is a lack of power within subgroups. When there are small numbers of respondents within certain groups, subgroup analyses become unreliable or impossible to conduct (Brookes et al., 2004). For

example, disaggregating and reporting on data by all types of gender identities is an important, inclusive practice; however, due to limitations related to sample size, sometimes only men and women are reported on, excluding 'transgender and gender-diverse people' (Puckett et al., 2020).

2.4.3 Sampling strategies and nonresponse bias

A common sampling approach for campus climate surveys is census sampling. Using this approach, all students in an HEI are invited to participate in the survey (Krause et al., 2018). The strengths of census sampling are that it is cost effective and inclusive (McMahon et al., 2014), but a limitation is that it typically yields low response rates. Declining survey participation rates have been deemed a threat to the efficacy of campus climate surveys. Low response rates, common in campus climate surveys, can increase the likelihood of nonresponse bias, compromising the accuracy and generalisability of prevalence estimates (Cantor et al., 2015; Rosenberg et al., 2019). Nonresponse bias in surveys emerges as a result of missingness related to the intended population (meaning survey respondents have different characteristics than survey nonrespondents) (Lavallée & Beaumont, 2015).

For surveys on SV in HEI settings, there may be a difference in propensity to respond based on demographic characteristics such as gender identity and ethnicity. For example, Giroux et al. (2020) conducted a survey on sexual assault experiences at a US HEI with the specific intention of understanding how missing data in SV campus climate surveys impacts the generalizability of the results. The authors found that students who responded to the survey did not represent the total student population in terms of age, gender, ethnicity, international student status, and year in school, and suggested that SV prevalence estimates among women may be overestimated while estimates among men may be underestimated (Giroux et al., 2020). To help mitigate the potential of this bias present in census sampling, weights can be assigned to

observations based on the average characteristics of the total population. Applying weights is a particularly useful strategy for addressing key demographic differences between the survey sample and the total population sample, when there is demographic information available for the total population (which is often the case in HEIs) (Lavallée & Beaumont, 2015). However, if the propensity to respond to a survey on SV is also correlated with the risk of SV, the survey estimate may still be biased (Brunton-Smith et al., 2022).

Nonresponse bias is defined using the following equation (Cantor et al., 2015):

$$NRB = (1 - \rho_r) \times (X_R - X_{NR})$$

NRB is nonresponse bias, ρ_r is the response propensity, X_R is the value among respondents for an outcome of interest, and X_{NR} is the value among nonrespondents for the outcome of interest. As demonstrated in the equation, the only way to actually measure nonresponse bias is to know the outcome of interest for nonrespondents. In surveys where the outcome of interest is exposure to SV, there is a possibility that survivors of SV choose to participate at a higher or lower rate than those who have not been exposed to SV (Brunton-Smith et al., 2022; Jeffrey et al., 2022).

There is inconclusive evidence across the existing literature attempting to estimate the presence and direction of this potential non response bias (Jeffrey et al., 2022). For example, Cantor et al. (2019) provided evidence that campus climate surveys could both overestimate and underestimate the prevalence of certain types of SV through conducting a comparison of 'early and late' respondents. Specifically, they found that surveys slightly underestimate SV prevalence for male students and slightly overestimate prevalence, but these findings were not statistically significant (Cantor et al., 2019). In their comparison of samples who had received incentives and those who did not, Cantor et al. (2019) found no evidence of nonresponse bias for SV prevalence outcomes. Giroux et al. (2020) conducted a similar analysis comparing groups of respondents who answered the survey immediately with groups who responded after

several reminders and also found small differences in SV reported between early and late respondents. Early female respondents reported more sexual assault than late female respondents (the risk difference ranged from 1.1 for attempted assault to 1.8 for assault with penetration) and early male respondents reported less sexual assault than late male respondents (the risk difference ranged from -0.3 for unwanted touching to -1.3 for assault with perpetration), but none of these differences were statistically significant (Giroux et al., 2020). These results indicate that the propensity to respond to a campus climate survey might change based on exposure to SV (Berg, 2010; Brunton-Smith et al., 2022). However, Rosenthal and Freyd (2018) found no evidence that rates of SV were impacted by nonresponse bias. They compared the rates of SV among groups of participants who were given different information about the survey topic before participating in the survey (Rosenthal & Freyd, 2018).

Random sampling can be employed to obtain more representative samples to help overcome the challenges of low response rates (Dillman et al., 2014; Rosenberg et al., 2019). This approach involves selecting a subgroup of the sample at random to participate, allowing for targeted recruitment and the opportunity to provide all respondents incentives. However, research conducted Fosnacht et al. (2017) countered the assumption that low response rates from census sampling are inherently unreliable and found that the size of the sampling frame should be an indicator for the ideal response rate; surveys with smaller sampling frames have a higher response rate while surveys with larger sampling frames can have reliable results with a lower response rate. Jeffrey et al. (2022) substantiated this finding through their comparison of SV prevalence rates obtained from campus climate surveys using census sampling with a low response rate (12%) and random sampling with a higher response rate (50%) and found that a survey with a low response rate could accurately estimate SV when census sampling was used.

Given the inconclusive evidence on the role nonresponse bias plays in campus climate surveys, it is essential that studies, especially ones that have very low response rates and/or small samples, explore the ways in which their sample could be impacted. However, this important consideration has largely been left out of the literature of SV surveys in HEI settings and as a result there is inconclusive information on how to account for this potential nonresponse bias in the analysis stage and on how to interpret the accuracy and generalisability of findings.

2.4.4 Missing data from item nonresponse

Campus climate surveys are typically self-completed and web-based, meaning that respondents can complete the survey in private and on their own time (Krebs et al., 2016). This approach is important for protecting participant anonymity and confidentiality, especially given the sensitive subject matter; however, it can also increasing missing data in participant responses, sometimes referred to as item nonresponse (Couper, 2008; Galesic, 2006). This type of missing data can arise when respondents stop answering a survey before the survey is completed (often referred to as survey breakoff (Krebs et al., 2016)) or when respondents intentionally or unintentionally do not respond to certain questions (Giroux et al., 2020). Missing data from item nonresponse could occur as a result of survey fatigue or if respondents feel uncomfortable about a sensitive question, do not understand a question, think a question is not applicable or relevant to them, or experience technological issues (Krebs et al., 2016).

There are different ways researchers deal with missing data on campus climate surveys, but there is little guidance in the field on what is the best approach, and many studies do not report how missing data is handled (for example: Campbell et al., 2017; Fuentes-Pumarola et al., 2021). For campus climate studies that do report on how missing data is handled, many have relied on complete cases to analyse data, either excluding participants entirely who did not

respond to every question on the survey (for example: Ajayi et al., 2021; Blanco et al., 2022), or, more commonly, excluding participants who did not answer the outcome variables of interest (for example: Cantor et al., 2015; Cusano et al., 2021; Marcantonio et al., 2021; Mennicke et al., 2021). However, if the missing data was not missing at random then datasets that exclude participants with missing data could be biased (Sterne et al., 2009).

Another way of approaching missing data from item nonresponse to help mitigate potential bias emerging from complete case analyses is through imputation. Imputation involves generating a replacement value for each missing value (Chen & Haziza, 2019). There are a variety of different techniques to imputing missing data that broadly fall into two general categories single imputation or multiple imputation. Single imputation involves replacing a missing data point with a single value (Chen & Haziza, 2019). Multiple imputation is a more rigorous approach that creates two or more imputed data sets each, containing different imputed data (Sterne et al., 2009). Analyses are conducted on each dataset and then combined or pooled (Sterne et al., 2009). This approach is more rigorous at it helps to account for uncertainty about the missing data (Van der Heijden et al., 2006), but imputation is rarely used in analyses of campus climate surveys.

There is extensive literature on handling missing or incomplete data in survey research (Brick & Kalton, 1996; Rubin & Little, 2019), and researchers in the field of campus climate surveys could benefit from unified and rigorous guidance for approaching this issue. In this DPhil thesis, each chapter transparently reports how missing data was handled, providing justification for the approach taken for each analysis.

2.5 The OUR SPACE study

As stated in the beginning of this chapter, an aim of this thesis was to collect and analyse data on the prevalence, nature, and culture of SV in the UK. To achieve this aim, I developed

and implemented a pilot campus climate survey to be administered at the University of Oxford. This was one of the first studies of its kind to be conducted in the UK and the first study of its kind to be conducted at the University of Oxford. After recieving approval from the Pro Vice-Chancellor of Equity and Diversity at the University of Oxford to conduct this DPhil research, I developed the Oxford Understanding Relationships, Sex, Power, Abuse, and Consent Experiences (OUR SPACE) survey. This survey was administered to all University of Oxford students in May 2021. The data from this survey is used in the empirical analyses presented in Chapter 4 and Chapter 5. This section details the methods used to conduct the OUR SPACE study. The protocol for the study was published in *BMJ Open* (Steele et al., 2021).

2.5.1 Procedure

The OUR SPACE cross-sectional study was administered to all students at the University of Oxford in May 2021. The design employed a complete sampling approach, which means an email with a link to the survey was sent to the entire student population (n=25,820). As the University of Oxford academic year consists of three terms (trimesters), the survey was launched during May–July 2021 (the final term) to capture experiences from the entire academic year. Emails were supplemented by additional online promotional campaigns ran through the student government, colleges, and university platforms to raise awareness of the survey, to educate students on the importance of participating in the study, and to encourage participation in the study (See Figure 2.1 for an example of how the survey was shared through social media). The link to complete the survey was open for two months after the launch, and students received three reminder emails. Those who completed the survey indicated if they wanted to be entered into a lottery to receive a prize (iPads (3) and £50 Amazon vouchers (10)).

Figure 2.1: Example promotional tweet for the OUR SPACE survey



Qualtrics™ survey software was the electronic platform used to implement the survey. Students were able to click on the link included in their recruitment email which took them to an information and consent page. The survey took on average 15 minutes to complete, and students were able to terminate the survey at any time. Students who participated were provided with a list of supports and resources before, during, and after completing the survey in accordance with ethical guidelines.

2.5.2 Stakeholder engagement and collaboration

Following suggestions by Universities UK, the development of the OUR SPACE survey was informed by relevant stakeholders, specifically University of Oxford administration and the

student advocacy groups working within the university (2016). This involved regular meetings with the university's Sexual Harassment and Violence Support Service, the Oxford Student Union, the It Happens Here Campaign, and university communications officials over the course of a year leading up to the survey launch. Further, the survey was presented at a series of university welfare forums and communications groups. This research has also received support from the University of Oxford's Governance and Planning Office's van Houten Fund. University-wide working groups brought together interdisciplinary academic specialists, student groups, and university administration to facilitate a whole-institution approach. The OUR SPACE research team further engaged stakeholders at the national level, including representatives from Universities UK and the Cabinet Office. These stakeholders have been involved in the development of the survey, the interpretation of the findings, and the communication of the results.

2.5.3 Ethics

This research took careful consideration of ethics and confidentiality as dictated by the University of Oxford. The study obtained approval from the University of Oxford (Ref No: R73805/RE001). See Appendix A for the confirmation of ethical approval. Participants were provided with a consent and information form when they received the electronic survey. Students were able to provide digital consent after reading this form by ticking a box and agreeing to proceed with the survey. The consent and information forms indicated that responses to the survey would be anonymous and confidential and the Qualtrics survey platform ensured that responses were encrypted.

Students were informed of the sensitive nature of survey questions in the consent and information form. Each page of the survey provided the contact information for SV response

support services both internal to the University of Oxford and external to the university. See Figure 2.2 for the referral messaging used on the OUR SPACE survey.

Figure 2.2: OUR SPACE survey referral messaging

Please remember the following supports are available to you should you need them. If you would like support related to sexual harassment, sexual violence, or relationship violence, below are some suggestions of services you could contact.

- University of Oxford's Sexual Harassment and Violence Support Service at supportservice@admin.ox.ac.uk
- Oxford University's Independent Sexual Violence Advisor at oxforduniisva@osarcc.org.uk
- Oxfordshire Sexual Abuse and Rape Crisis Centre at 0800 783 6294
- Rape Crisis England and Wales National Helpline at 0808 802 9999
- University of Oxford's Counselling Service at counselling@admin.ox.ac.uk

The survey utilised skip logic, so students were only asked questions relevant to them and their experiences. Students were told that they were under no obligation to complete the survey and that they could skip any response at any point during the survey to help prevent re-traumatisation.

2.5.4 Survey measures and outcomes

The OUR SPACE survey measures were adapted from previously conducted campus climate surveys in the US context, specifically the Johns Hopkins University Health and Safety Study from 2017 and questions from the Sexual Experiences Survey (SES) (Koss et al., 2007). Survey items were reviewed by practitioners working to prevent and respond to SV at the University of Oxford. This was done through regular focus group discussions throughout the survey development process and through having student volunteers pilot the survey. The full OUR SPACE survey can be found in Appendix B.

The survey measures outlined in Table 2.2 focused on four key areas:

1. Sociodemographic characteristics: the survey asked about participants' gender identity, sexual orientation, race/ethnicity, and parental education. Participants were also asked

to identify if they were living with a disability and where they lived during the academic year.

3. University climate: participants were asked about their beliefs pertaining to statements about consent and rape myths, whether or not they were aware of university support services for victims of SV, and their bystander behaviour.
4. Sexual harassment: participants indicated if they experienced a series of sexual harassment acts in the past year. Participants who indicated that they had experienced SV were directed to a series of related follow-up questions pertaining to the incident.
5. Sexual violence: an adapted version of The Sexual Experiences—Short Form Victimisation was used to measure non-consensual sexual contact and SV. To improve recall reliability, participants were asked about SV experiences in the past year (Krebs et al., 2016). If an incident of SV was experienced, respondents were asked follow-up questions related to the incident.

Table 2.2: OUR SPACE survey content

Survey section	Description	Open Access
Section 1 – Respondent characteristics	Year of birth	NA
	Gender identity	Man; Transgender man; Woman; Transgender woman; Gender non-conforming, nonbinary, or queer
	Affiliation with the university	Undergraduate student; Postgraduate student
	Year in degree program	NA
	Domestic/international student	NA
	Ethnicity	Arab; Asian/Asian British; Black/ African/ Caribbean/ Black British/ Mixed/ multiple ethnic groups; White; Any other ethnic group
	Sexual orientation	Bisexual; Gay or lesbian; Heterosexual; None of the above; Prefer not to say
	Type of secondary school attended	State school in the UK; Independent school in the UK; Other
	Disability	Yes; No
	Parental education (distinct questions for maternal and paternal education)	Less than secondary school; Secondary school graduate; Vocational or technical training; Undergraduate degree; Post-graduate degree
	Accommodation	College accommodation; University accommodation; Private accommodation in Oxford; Outside of Oxford
	College affiliation	NA
	Participation in sex work (online or offline)	Yes; No
Section 2 – University climate	Witnessing sexual harassment	Never; Rarely; Sometimes; Often
	Personal and peer beliefs and perceptions about sexual violence	Agree; Disagree; Undecided
	Bystander behaviour	Likely; Unsure; Not likely
	Awareness of University resources	Yes; No; Unsure
Section 3 – Sexual harassment	Sexual harassment (series of statements)	Yes; No
	Frequency	Once in past year; 2 or 3 times in past year; 4 or 5 times in past year; More than 5 times in past year
	Location	At University of Oxford; In Oxford but outside university; Online; Outside of Oxford
	Relationship to perpetrator	Family member; Friend not at Oxford; Member of University staff; Professor or lecturer; Supervisor; Sports coach; Stranger; Employer; Oxford student; Romantic partner; Ex-romantic partner; Other
Section 4 – Sexual violence	Sexual violence (series of statements increasing in severity)	Sexual Experiences Survey (Koss et al. 2007)
	Frequency	Once in past year; 2 or 3 times in past year; 4 or 5 times in past year; More than 5 times in past year
	Location	College accommodation; University accommodation; Public setting in Oxford; Social setting at University of Oxford; Private accommodation in Oxford; Outside of Oxford
	Relationship with perpetrator	Family member; Friend not at Oxford; Member of University staff; Professor or lecturer; Supervisor; Sports coach; Stranger; Employer; Oxford student; Romantic partner; Ex-romantic partner; Other
	Gender identity of perpetrator	Man; Transgender man; Woman; Transgender woman; Gender non-conforming, nonbinary, or queer; unsure
	Quality of support from University of Oxford	Poor; Adequate; Excellent
	Incident reported to police or University of Oxford	Yes; No; Unsure
Section 5 – Participant burden	Participant distress from survey and participant regret for taking survey	Yes; Somewhat; No

The key outcome variables within the OUR SPACE survey were reported on in this thesis. However, it was not possible to analyse all data collected from the OUR SPACE survey

in this thesis. Table 2.2 provides an overview of the entire OUR SPACE survey while Chapters 4 and 5 of this thesis analyse the following outcomes: sexual violence and sexual harassment prevalence, bystander behaviours, and attitudes about SV. I will continue to explore other variables within the OUR SPACE data outside of this thesis.

2.5.5 Description of the setting

The University of Oxford is located in the city of Oxford in central southern England. It is one of the oldest universities in the world, having been established approximately nine centuries ago (University of Oxford, 2022). The university is comprised of 36 colleges, each independent and self-governing. The colleges offer students accommodation, meals, common rooms, libraries, sports and social facilities, and pastoral care (University of Oxford, 2022). For undergraduate students, colleges are also responsible for teaching and welfare. At the time of data collection, there were almost 26,000 students attending the university (University of Oxford, 2022). Table 2.3 describes the demographic information of the student population during data collection in May 2021. The university student population was comprised of 51% males and 49% females, with the majority identifying as White. Further, 40% of the students were coming from outside the UK. About half of the student body was comprised of undergraduate students with the other half being post-graduate students.

Table 2.3 Description of the University of Oxford student population at time of data collection

Characteristic	University of Oxford population[1] N = 25,820
Gender	
Male	13,235 (51%)
Female	12,585 (49%)
Ethnicity	
Asian / Asian British	5,155 (20.0%)
Black / African / Caribbean / Black British	815 (3.2%)
Mixed / Multiple ethnic groups	1,655 (6.4%)
White	16,485 (64%)
Any other ethnic group	655 (2.5%)
No Answer	1,050 (4.1%)
Student status	
Continuing education student	1,530 (5.9%)
Postgraduate student	12,090 (47%)
Undergraduate student	11,935 (46%)
Visiting student	265 (1.0%)
Domestic or international student	
EU student	2, 985 (12%)
International student (non- EU student)	7, 240 (28%)
UK or domestic student	15, 595 (60%)

[1]Data from publicly available from the University of Oxford website

2.6 Chapter summary

This chapter described the methods employed in this thesis to address the research aims and objectives. I outlined the type of data that forms the foundation for the empirical analyses of this thesis (self-reported survey data from campus climate surveys) and discussed the strengths and limitations of using these tools, including considerations for interpreting findings. I then described the methods used to conduct the OUR SPACE survey. The OUR SPACE data is used in the empirical analyses in Chapter 4 and Chapter 5.

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3. Prevalence of sexual violence experienced by higher education students: A systematic review with meta-analyses

3.1 Introduction

In this chapter I report on a systematic review with meta-analyses on the prevalence of SV in HEIs. As presented in Chapter 1, SV experienced by HEI students is a public health and human rights issue. Experiencing SV as a student can result in significant consequences for survivors' physical health and mental well-being (Black et al., 2016; Krebs et al., 2007; McMahon et al., 2019), as well as educational outcomes (Baker et al., 2016).

The most common way SV is measured at HEIs is through campus climate surveys. As discussed in Chapter 1, these surveys help to determine the scope of SV and to inform response and prevention efforts (Moylan et al., 2018). Underreporting of SV means that formal reports to institutions or to law enforcement officials have limited utility and accuracy for estimating prevalence and informing intervention efforts, therefore campus climate surveys have the potential to ascertain more accurate prevalence rates (Cantalupo, 2014). Campus climate surveys emerged as a result of the 2014 American Task Force to Protect Students from Sexual Assault, which provided federal-level guidance on how to prevent SV in HEIs, and educational institutions around the world have begun to adopt and adapt them. As a result, there is now an abundance of studies outside of the US measuring SV prevalence among HEI students, but this data has not been systematically reviewed and meta-analysed.

Reviews published in recent years have synthesised specific bodies of evidence on the prevalence of SV experienced by higher education students. For example, a review of 22 studies on SV from US colleges found that SV victimization prevalence ranged from 4.7% to 58% (Stoner & Cramer, 2019). Another review of 35 studies on sexual aggression found that

prevalence rates for victimisation ranged from 0.4 %-85 % (Hernández-Romero et al., 2019). Lastly, a review of studies published in the US between 2000 and 2015 found that the prevalence of SV ranged from (1.8% to 34%) across 34 studies (Fedina et al., 2018). Existing reviews have not included studies globally. It is important to consider the evidence base outside of the US, as different contextual factors such as economic and sociocultural factors, norms, laws, and response services may produce different estimates of SV in these types of surveys (García-Moreno et al., 2013). Additionally, existing reviews did not conduct meta-analyses and did not examine SV prevalence disaggregated by gender identity, type of SV, or recall period. In this chapter I explore this vast discrepancy across prevalence estimates by systematically reviewing and meta-analysing evidence on the prevalence of SV experienced by higher education students, stratifying by gender identity, type of SV, recall period, and world region (García-Moreno et al., 2013).

Synthesising survey data on SV among HEI students is essential for informing the design and evaluation of prevention and response interventions. Universities are increasingly developing procedures and guidance on sexual consent training and bystander awareness and creating and adapting policies to address SV among students (Anderson & Whiston, 2005; Degue et al., 2014; Jouriles et al., 2018). However, this work is mostly being done in the US context and may have limited relevance globally. Identifying the prevalence of SV experienced by HEI students globally is critical for developing and monitoring programs and policies tailored for different environments, as developing effective and sustainable interventions will require a comprehensive understanding of the problem starting with a nuanced picture of the prevalence of SV in higher education contexts (Allan et al., 2006; Bacchi, 2000). It is also critical, as countries outside of the US, such as the UK, are beginning to implement similar

types of surveys in HEIs to measure SV (Bull et al., 2022) and could benefit from a synthesis of the strengths and limitations of the existing evidence base.

3.2 Methods

To conduct this systematic review with meta-analyses, I followed guidance outlined in the Cochrane Handbook for Systematic Reviews of Interventions and followed PRISMA reporting guidance, adapting the recommendations when necessary to be appropriate for a systematic review of prevalence estimates (Higgins & Green, 2008). Prior to conducting the review, a protocol was written and published (Prospero Protocol No. CRD42020171142). The protocol is included in Appendix C. The review received ethical approval from the Departmental Research Ethics Committee (See Appendix D). A completed Prisma checklist can be found in Appendix E.

3.2.1 Inclusion criteria

Included studies were required to meet the following criteria:

1. The sample population was students attending higher education during the data collection period.
2. The outcome was self-reported SV (defined as any attempted or completed sexual act obtained by force, violence, or coercion) while a student was a registered student.
3. The data collection method was a cross-sectional quantitative survey (prospective studies were included if their first measurement time point assessed experiences of SV after entering HE) (Munn et al., 2015).

These inclusion criteria varied from the protocol by including all cross-sectional survey designs regardless of whether they used probabilistic random sampling. There were no geographical limits placed on the location of included studies. The search was conducted in four

languages: English, French, Italian, and Spanish. Studies published in any of these languages were included with the assistance of translators.

Studies were excluded if they fit any of the below criteria:

1. Reported on young adults but did not restrict the sample to HEI students.
2. Measured sexual harassment and not SV.
3. Reported only on SV experiences of HEI educators or administration/staff.
4. Only assessed lifetime SV prevalence or SV prevalence after the age of 14.
5. Were qualitative, reported on an HEI intervention, or assessed vignettes, hypothetical situations, or attitudes about SV.

3.2.2 Search strategy

I piloted and refined the following search terms, considering both sensitivity and specificity (Higgins & Green, 2008):

> **(**((sex OR intercourse) AND (assault OR aggression OR harassment OR violence OR abuse OR non-consensual OR forced)) OR rape**)** AND (college OR university OR postsecondary OR higher education OR undergraduate OR graduate or campus) AND (survey OR prevalence OR epidemiology OR incidence OR observational)

In August 2020, I implemented the search strategy in Medline, EMBASE, Global Health, PsycINFO, Web of Science, ERIC, CINAHL. Additionally, LILACS, a regional database, was used to search in English and Spanish. Further, Google Scholar was used to search in French, Spanish, and Italian. Relevant grey literature publications, including theses and dissertations, were searched in addition to forward and backward citation tracking. The search was updated in May 2022. See Table 3.1 for the full search strategy as executed in Medline.

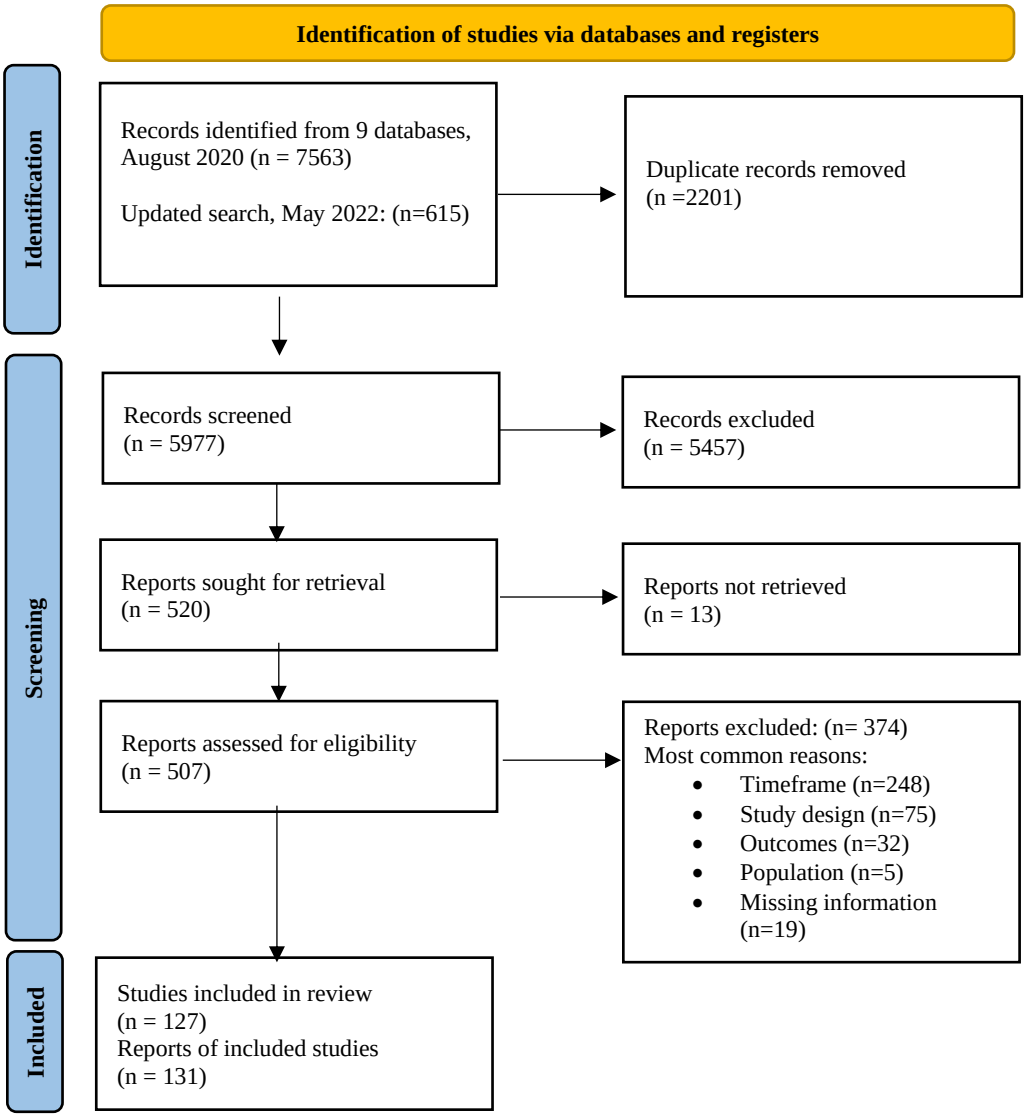
Table 3.1: Example search strategy

1.	(((sex* or intercourse) and (assault* or aggress* or harass* or violen* or abus* or non-consensual or forced)) or rape*).ti. or exp rape/
2.	(college* or universit* or post?secondary or higher?education or undergraduate or graduate or campus*).tw. or exp universities/
3.	(survey* or prevalence or epidemiolog* or incidence or observational).tw. or *prevalence/
4.	1 and 2 and 3

3.2.3 Study selection

After completing the search, I imported records into the reference manager software Covidence, and removed duplicates. I first screened titles and abstracts of studies according to the set of pre-specified inclusion and exclusion criteria and then screened selected full-text studies (Figure 3.1). Following best practice guidance, a second reviewer also screened a random 10% of the articles at both stages (Lombard et al., 2002). Interrater reliability was 92%. Disagreements were resolved through conversations with my supervisor.

Figure 3.1: PRISMA flow diagram



3.2.4 Risk of bias

I assessed study risk of bias using The Joanna Briggs Institute's *Checklist for Prevalence Studies* (2017). The following nine criteria were assessed: 1. Was the sample frame appropriate to address the target population? 2. Were study participants sampled in an appropriate way? 3. Was the sample size adequate? 4. Were the study subjects and the setting described in detail? 5. Was the data analysis conducted with sufficient coverage of the identified sample? 6. Were valid methods used for the identification of the condition? 7. Was the condition measured in a

standard, reliable way for all participants? 8. Was there appropriate statistical analysis? 9. Was the response rate adequate, and if not, was the low response rate managed appropriately? Each criterion was given a score of 1 if the criterion was met, 0 if the criterion was not met, and NA (scored as 0) if the criterion was not applicable.

3.2.5 Data analysis

The following information was extracted from each article: the definition of SV used; the SV measure used; the country; the sampling method; study sample size; response rate; prevalence estimates of each type of SV (Table 3.2); and prevalence estimates disaggregated by gender identity. When studies reported on gender identities other than men and women, for example transgender (Hoxmeier, 2016), gender minority (Parr, 2020), or genderqueer or nonconforming (Cantor et al., 2015; Cusano et al., 2021), these prevalence estimates were meta-analysed together due to the small number of studies that reported on this subgroup.

When studies presented estimates disaggregated by type of SV, multiple estimates were extracted. The data extraction was an iterative process where estimates were eventually grouped together based on types of SV following a mapping process (Figure 3.2). To ensure reliability and replicability in the data extraction process, two reviewers extracted data for 10% of included studies. No discrepancies were identified in this process.

Table 3.2: Definitions for types of sexual violence

Type of sexual violence	Definition
Rape	Unwanted sexual penetration
Attempted rape	Unwanted attempted sexual penetration
Coercive sex	Unwanted sexual penetration or sexual touching that occurs when the perpetrator uses their position of authority, offers bribes in exchange for sexual activity, or applies non-physical threats, such as ending the relationship
Forced sexual touching	Unwanted contact by force, threat, or incapacitation that is sexual in nature but does not involve sexual penetration

Prevalence estimates were recorded as the proportion of participants from the study sample who had experienced each type of SV. If reported, the proportions were extracted directly from a study. If not directly reported, the proportions were calculated by dividing the number of participants who experienced SV by the total number of participants (Munn et al., 2015). To explore possible causes of heterogeneity among study results, proportions were stratified by gender identity (studies that did not report gender disaggregated estimates were meta-analyzed separately) and type of SV. Studies were also coded as belonging to one of the following WHO global regions (Popova et al., 2017): African, Eastern Mediterranean, European, Americas, South-East Asia, and Western Pacific.

Meta-analyses were conducted to synthesise results of the included studies. The pooled prevalence estimates were determined using a random-effects generalised linear mixed model with logit transformed proportions (Munn et al., 2015). A total estimate of SV for each gender identity was assessed, and then for each gender identity the estimates were stratified by recall period and type of SV, as well as geographic location. The pooled prevalence estimates were arrived at through meta-analyses that included studies that were based on any kind of sample (e.g., random, convenience, not specified). This differed from the PROSPERO protocol which stated that the primary studies needed to use probabilistic random sampling. The intention of the protocol was to only include studies that employed rigorous methodologies (such as probabilistic random sampling) to reduce response bias from self-selection. However, given the emerging evidence that accurate prevalence rates on SV in campus climate surveys can be obtained through a variety of different sampling strategies (Jeffrey et al., 2022; Rosenthal & Freyd, 2018), I made the decision to not restrict the inclusion criteria to a specific sampling strategy. The implications of this decision are discussed in the risk of bias and discussion sections of this chapter. When the same study was reported on by more than one article, one

article for each study was selected. This selection was made by selecting the article that was most comprehensive and reported the most disaggregated results for the outcomes of interest in this review. Results were presented with 95% confidence intervals (95% CI) (Higgins & Green, 2008). All meta-analyses were conducted in R Statistical Software (v4.2.1) using metafor (Viechtbauer, 2010) and lme4 (Bates et al., 2015) packages.

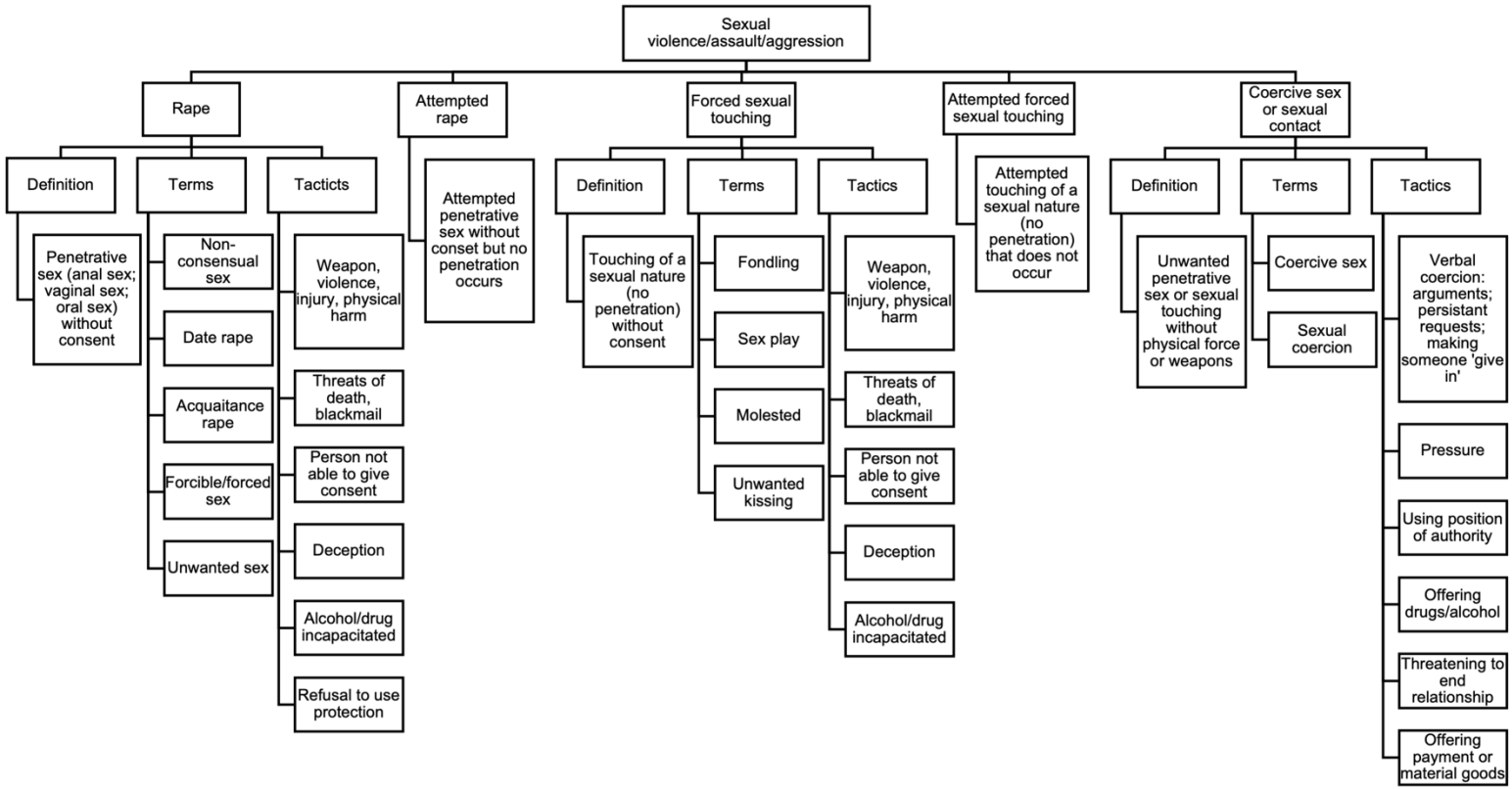
Heterogeneity between studies was assessed by the I^2 index. To address the potential of high heterogeneity, meta-analyses were conducted using subgroups and as recommended by Migliavaca et al. (2022) and IntHout et al. (2016), 95% prediction intervals (95% PI), in addition to confidence intervals were reported for each meta-analysed estimate. A 95% PI estimates the expected true prevalence estimate for 95% of future comparable studies (IntHout et al., 2016). Prediction intervals are useful for understanding the variability and uncertainty surrounding prevalence estimates when there is substantial variation in estimates across studies settings (IntHout et al., 2016). The implications of the heterogeneity were assessed and discussed in the discussion section of this chapter.

When studies reported findings based on the same samples, the study that provided the most detailed information was included in the meta-analysis (Stoltenborgh et al., 2012). Each participant was only included once in each meta-analysis.

After all prevalence estimates were extracted, a review of the terms, definitions, different sexually violent acts, and categories of SV reported in the included studies was conducted and visualised. This process involved extracting the terms and definitions of each included study. Understanding how included studies define SV was essential for understanding how SV was defined, conceptualised, and measured in each included study (Figure 3.2). Four overarching types of SV were identified: rape (unwanted sexual penetration by force, incapacitation, or threat), attempted rape (attempted unwanted sexual penetration by force,

incapacitation, or threat), forced sexual touching (unwanted contact by force, threat, or incapacitation that is sexual in nature but does not involve sexual penetration), and coercive sex (unwanted penetration or sexual touching that occurs when the perpetrator uses their position of authority, offers bribes in exchange for sexual activity, or applies non-physical threats, such as ending the relationship).

Figure 3.2: Defining sexual violence based on included studies



3.3 Results

3.3.1 Overview of included studies

The search retrieved 5,977 articles. Of which, 131 articles were included with 114 reporting on women's victimization, 56 reporting on men's victimization, 11 reporting on victimization of transgender or gender-nonbinary people, and 45 reporting only gender aggregated victimization. A reference list of all included studies can be found in Appendix F and a table with details of each included study can be found in Appendix G. The most common reason for excluding articles was that a study had a recall period for SV that predated their time in higher education. For example, Osman (2021) asked about SV since the age of 14. The PRISMA flowchart (Figure 3.1) outlines the study selection process (Moher et al., 2009).

Included articles were published from 1982 to 2022. The most commonly used SV measure was Koss' Sexual Experiences Survey (n=42 or 32% of articles). The samples in each article varied from n= 71 to n= 116,627. Most articles (73%) used samples from the United States (n=95) followed by Canada contributing samples to 5% of included articles (n=8). Eleven countries contributed only one study. In terms of WHO regions, only one study was from the South-East Asian region, and no included studies were from the Eastern Mediterranean region. The recall periods measured in each article ranged from within the past year (n=67) to throughout the entire time in higher education (n=70). Table 3.3 provides information on the characteristics of included articles.

Table 3.3: Summary of study characteristics

Characteristics	Median (IQR)	Range	N	%
Sampling strategy				
Total population or random sampling			69	51.9
Convenience sampling			54	41.2
Did not report			10	6.9
Gender [1]				
Included men			55	41.2
Included women			111	84.0
Included transgender and gender-diverse people			11	8.4
Included gender aggregated			45	32.8
Recall period [2]				
Past year experiences			67	50.4
Entire time in higher education			70	52.7
Geographical setting				
African Region			8	6.1
Region of the Americas			107	80.9
Eastern Mediterranean region			0	0
European Region			10	7.6
South-East Asian Region			1	0.8
Western Pacific region			7	4.6
Sample Size	869 (321, 3611)	102 - 64005		
Response rate [3]	0.46 (0.25, 0.69)	0.05 - 0.98		

[1] Total exceeds 100% as some studies included both men and women

[2] Total exceeds 100% as some studies asked about SV both in the past year and in the entire time in higher education

[3] 69 articles did not report

3.3.2 Risk of bias

I identified the following types of risk of bias in included articles (see Appendix H). The most common reason for increased risk of bias was the sampling strategy. While many studies used an appropriate sampling frame (total population, representative sample, or a random sample), convenience sampling was used in 54 studies. Convenience sampling can be problematic as it does not provide a representative sample of the population and can lead to nonresponse bias (when survey respondents have different characteristics than survey nonrespondents) (Lavallée & Beaumont, 2015). Specifically for surveys on SV in HEI settings, women have been found to be more likely to respond than men (Giroux et al., 2020). Further, individuals who have experienced SV may be more or less likely to respond to surveys on SV; however, there is limited research in the field exploring this potential bias. Low response rates can also contribute to risk of bias, with 31 including studies reporting insufficient response rates. Finally, there was a lack of reporting on the tool used to measure SV; 44 studies did not report how SV was measured. These inconsistencies have the potential to limit the overall quality and interpretability of the pooled effect sizes.

3.3.3 Prevalence

The prevalence of any type of SV victimization was 11% (95% CI: 9.0%–13.3%, $p<0.001$; 95% prediction interval (PI): 2.7%–35.1%). Prevalence varied by gender with 17.5% of women experiencing any type of SV (95% CI: 15.3%–20.0%, $p<0.0001$; 95% PI: 4.2%–52.4%), compared to 7.5% of men (95% CI: 5.7%–10.5%, $p < 0.0001$; 95% PI: 0.9%–41.2%; see Table 3.4 & Figure 3.3). Further, 18.1% of transgender and gender-diverse students experienced SV (95% CI: 13.7%–23.5%, $p < 0.0001$; 95% PI: 5.6%–40.0%).

Separate meta-analyses for each type of SV by gender are shown in Figure 3.3. Across all types of SV, women experienced higher prevalence rates. Forced sexual touching was the most

common SV act; 14.0% of women (95% CI: 11.7%-17.0%, $p<0.0001$; 95% PI: 2.6%–52.0%) and 6.4% of men (95% CI: 4.4%%-9.3%, $p<0.0001$; 95% PI: 1.2%–27.8%) experienced it as higher education students. Coercive sex was experienced by 11.2% of women (95% CI: 3.1%-14.3%, $p<0.0001$; 95% PI: 1.2%–53.6%) and 6.8% of men (95% CI: 3.1%-14.3%, $p<0.0001$; 95% PI: 0.5%–46.0%). The global prevalence of attempted rape was 8.2% for women (95% CI: 5.8%–11.5%, $p<0.0001$; 95% PI: 1.5%–35.6%) and 1.1% for men (95% CI: 0.2%–4.8%, $p<0.0001$; 95% PI: 0.0%–54.1%), and rape was experienced by 5.9% of women (95% CI: 4.2%–8.0%, $p<0.0001$; 95% PI: 0.5%–42.4%) and 2.4% of men (95% CI: 1.2%–4.9%, $p<0.0001$; 95% PI: 0.1%–36.0%).

The prevalence of SV experienced varied based on world region (see Table 3.5 and Figure 3.4). The African Region had the highest prevalence of SV among women at 25.9% (95% CI: 19.2%–33.8%, %, $p < 0.0001$; 95% PI: 10.2%–51.7%), followed by the Americas at 17.9% (95% CI: 15.5%–20.5%, $p < 0.0001$; 95% PI: 4.4%–50.5%), which was the region with the most studies (n=86). The prevalence of any type of SV experienced by women in the European Region was 15.6% (95% CI: 7.7%–29.0%, $p < 0.0001$; 95% PI: 1.5%–69.1%), and in the Western Pacific Region prevalence was 15.6%, (95% CI: 9.4%–25.0%, $p < 0.0001$; 95% PI: 3.8%–46.2%).

Only three of six WHO world regions had estimates for men's SV victimisation and the vast majority were from the Americas. The prevalence of victimisation among men was more than double in the Americas: 7.8% (95% CI: 5.9%–10.2%, $p < 0.0001$; 95% PI: 1.2%–36.3%) compared to the European region's 3.6% (95% CI: 0.6%–18.4%, $p < 0.0001$; 95% PI: 0.0%–74.2%). However, the Western Pacific Region had the highest rates of men's SV at 9.9% (95% CI: 5.4%–17.5%, $p < 0.0001$; 95% PI: 2.2%–35.0%).

Table 3.4: Meta-analysed prevalence of sexual violence victimization stratified by recall period and type of sexual violence

Types of SV	Recall period		
	Past year prevalence with confidence	Entire time at an HEI prevalence with	Overall prevalence with confidence intervals
Rape			
Women	0.051*** (0.034, 0.076) studies: 29	0.07*** (0.043, 0.111) studies: 29	0.059*** (0.042, 0.080) studies: 58
Men	0.015*** (0.007, 0.036) studies:12	0.049*** (0.018, 0.126) studies: 9	0.024*** (0.012, 0.049) studies:21
Transgender or gender-diverse	NA	NA	NA
Gender aggregated	NA	NA	NA
Attempted rape			
Women	0.081*** (0.051, 0.124) studies: 15	0.084*** (0.048, 0.142) studies: 11	0.082*** (0.058, 0.115) studies: 26
Men	0.005*** (0.001, 0.022) studies: 7	0.07* (0.007, 0.449) studies: 3	0.011*** (0.002, 0.048) studies: 10
Transgender or gender-diverse	NA	NA	NA
Gender aggregated	NA	NA	NA
Forced sexual touching			
Women	0.152*** (0.108 0.208) studies: 25	0.139*** (0.095, 0.199) studies: 22	0.14*** (0.11, 0.17) studies: 47
Men	0.077*** (0.046, 0.126) studies: 14	0.053*** (0.032, 0.089) studies: 7	0.064*** (0.044, 0.093) studies: 21
Transgender or gender-diverse	NA	NA	NA
Gender aggregated	NA	NA	NA
Coercive sex			
Women	0.114*** (0.065, 0.193) studies: 13	0.113*** (0.063, 0.194) studies: 12	0.112*** (0.031, 0.143) studies: 25
Men	0.062*** (0.021, 0.172) studies: 6	0.079*** (0.029, 0.195) studies: 3	0.068 *** (0.031, 0.143) studies: 9
Transgender or gender-diverse	NA	NA	NA
Gender aggregated	NA	NA	NA
Overall			
Women	0.180*** (0.148, 0.216) studies: 47	0.168*** (0.138, 0.203) studies: 50	0.175*** (0.153, 0.20) studies: 97
Men	0.09*** (0.060, 0.135) studies: 27	0.063*** (0.040, 0.096) studies: 20	0.078*** (0.057, 0.105) studies: 47
Transgender or gender-diverse	NA	NA	0.181*** (0.137, 0.235) studies: 8
Gender aggregated	0.102*** (0.068, 0.149) studies: 13	0.114*** (0.086, 0.149) studies: 24	0.110*** (0.087, 0.137) studies: 37

[1] NA indicates that meta-analyses were not possible due to the number of included studies; *** $p<0.001$

Table 3.5: Sexual violence prevalence disaggregated by WHO world region

World region	Overall prevalence with confidence intervals
African region	
Women	0.259*** (0.192, 0.338) studies: 8
Men	One study
Transgender or gender-diverse	No studies
Gender aggregated	One study
Region of the Americas	
Women	0.179*** (0.155, 0.205) studies: 86
Men	0.078*** (0.059, 0.102) studies: 43
Transgender or gender-diverse	0.181*** (0.137, 0.235) studies: 8
Gender aggregated	0.112*** (0.092, 0.135) studies: 37
South-East Asian region	
Women	One study
Men	No studies
Transgender or gender-diverse	No studies
Gender aggregated	No studies
European region	
Women	0.156*** (0.077, 0.290) studies: 9
Men	0.036*** (0.006, 0.184) studies: 5
Transgender or gender-diverse	No studies
Gender aggregated	0.063*** (0.021, 0.173) studies: 4
Eastern Mediterranean region	
Women	No studies
Men	No studies
Transgender or gender-diverse	No studies
Gender aggregated	No studies
Western Pacific region	
Women	0.156*** (0.094, 0.250) studies: 6
Men	0.099*** (0.054, 0.175) studies: 5
Transgender or gender-diverse	No studies
Gender aggregated	0.144*** (0.085, 0.234) studies: 5

*** $p<0.001$

Figure 3.3: Sexual violence prevalence disaggregated by type of sexual violence and gender

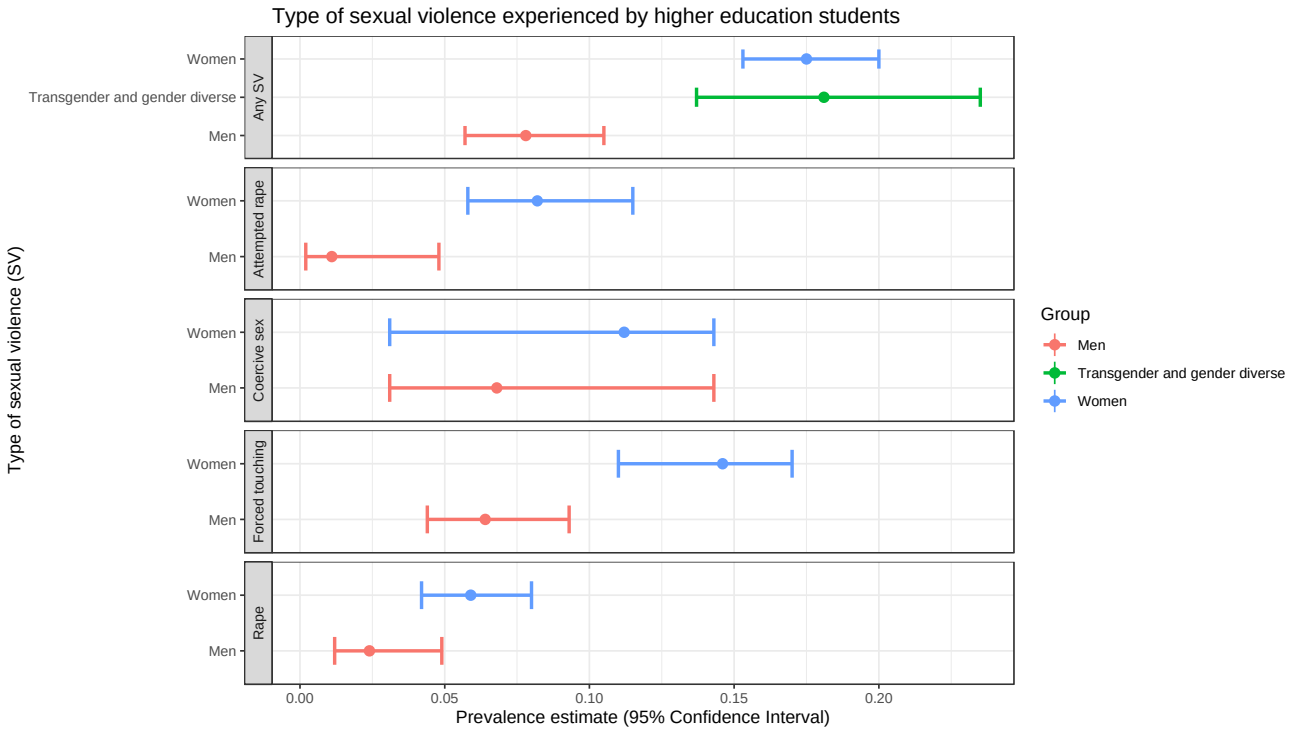
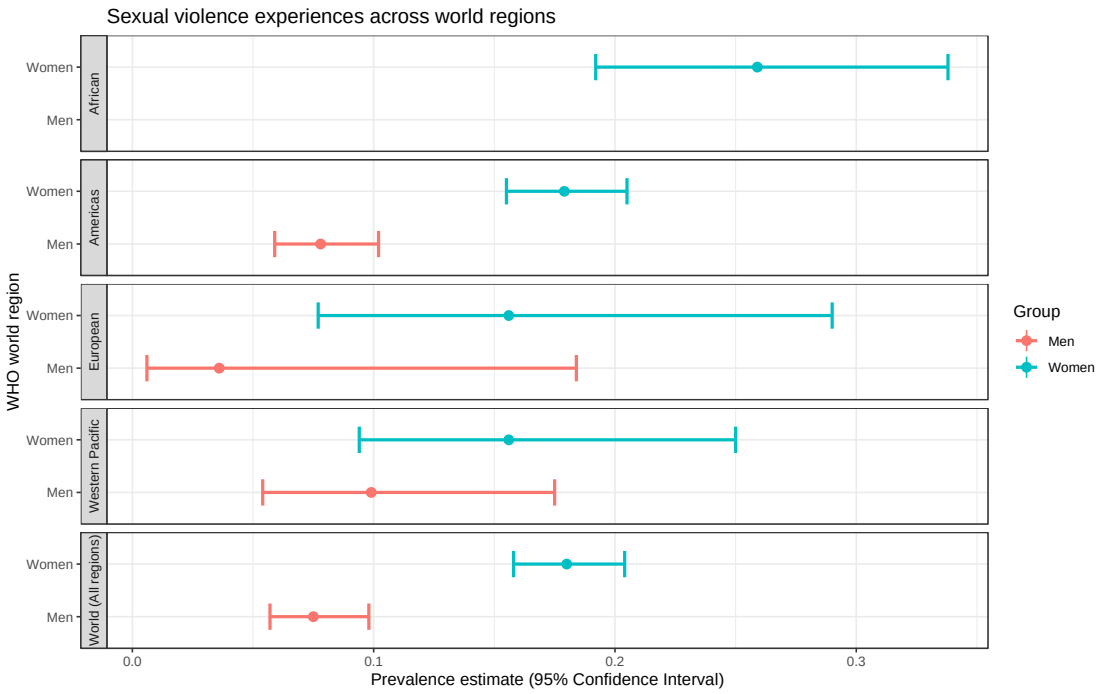


Figure 3.4: Sexual violence prevalence disaggregated by WHO world region and gender



3.4 Discussion

Across all included studies, I found that 17.5% of women and 7.8% of men higher education students have experienced SV. I found that women faced higher rates of all types of SV (rape, attempted rape, coerced sex, forced sexual touching) when compared to men. While only a small number of studies reported on SV among transgender and gender-diverse samples, I found that this population experienced high rates of SV (18.1%). This finding is consistent with research outside of the HEI context (Stotzer, 2009) and should be used to inform prevention and responses initiative in HEI settings that often unintentionally exclude transgender and gender-diverse communities.

The most common act of SV reported in included studies was forced sexual touching, irrespective of gender identity. This act was more common than coercive sex, attempted rape, or rape. This finding aligns with the review on SV prevalence at US HEIs conducted by Fedina et al. (2018), which found consistently higher rates of unwanted sexual contact across included studies, when compared to rape. This finding also aligns with UK national prevalence surveys that found higher rates of completed SV when compared to attempted SV, and also higher rates of unwanted sexual touching when compared to penetrative violence (Brunton-Smith et al., 2022). Understanding how SV manifests itself among HEI students is important for designing tailored and effective prevention initiatives and response services that reflect student experiences.

At the global level, although there remains limited evidence from the South-East Asian and Eastern Mediterranean region, especially for men, the meta-analysed estimates showed that women reported consistently higher rates of SV victimisations in each region and were most at risk in the African Region. This finding makes an important contribution to the body of evidence

on SV at HEIs. A meta-analysis of the worldwide prevalence of SV (Abrahams et al., 2014) found that in 2010 7.2% of women had experienced non-partner SV, with the highest prevalence rates in Sub Saharan Africa. I similarly found that across included studies measuring SV in higher education the prevalence of SV was highest for women in studies from the African Region. However, I also found that all meta-analysed regional estimates on SV prevalence among higher education students were more than double than what Abrahams et al. (2014) found in the general population, indicating that higher education could be a particularly risky place for experiencing SV.

This chapter further contributes to the literature by meta-analysing men's experiences with SV. While significantly less prevalent when compared to women and gender-diverse samples, I found that a substantial proportion of men have experienced SV in higher education (7.8%). Regional estimates for men were not possible due to a lack of studies in three of the six WHO regions, including the African Region, which reported the highest rates of SV among women. The Western Pacific Region had the highest estimates for men's SV, however there were only five studies included in the analysis. More research is needed on men's SV, especially outside of the Americas. The way in which men experience SV and the stigmas men face around reporting SV are different than women which has theoretical and methodological implications for the field of SV in HEI research (Hlavka, 2017).

There are several limitations to this review. Although this is the first systematic review to examine the prevalence of SV at HEIs outside of the US, the searchers were still limited to only four languages (English, French, Spanish, and Italian). There may be opportunities in future research to expand the remit of searches to other global regions not covered here. Second, all meta-analyses had considerable heterogeneity (I^2>97%), which potentially limits the reliability and the generalizability of the pooled estimates. Despite the presence of heterogeneity in study

characteristics, synthesizing the evidence was important given the abundance of studies at the local level that had not been captured by US-focused reviews (Munn et al., 2015). This is important, as included studies from outside the US report high rates of SV. For example, the one included study from Turkey found that 45.2% of women and 39.6% of men have experienced SV in the past year (Schuster et al., 2016), and the one included study from Eswatini found that 38% of women experienced sexual assault and 20% experienced rape in the past year. (Fielding-Miller et al., 2019). Another limitation to the evidence base is the potential presence of nonresponse bias in included studies (where survey respondents have different characteristics than survey nonrespondents) (Brunton-Smith et al., 2022). For example, the propensity to respond to a survey might be different for people based on their exposure to SV (Brunton-Smith et al., 2022). Nonresponse bias is a particular concern in included studies that used convenience sampling and studies with low response rates; declining survey participation rates due to student survey fatigue and lack of institutional trust have been deemed a threat to the efficacy of SV surveys in HEIs (Tschepikow, 2012). Further research is needed to understand and address the direction and magnitude of nonresponse bias in research on SV in higher education (Fosnacht et al., 2017).

Quantifying the prevalence and burden of SV experienced by students has implications for policy and programming change. The findings identify the potential scale of SV among higher education students globally and demonstrate the need for intervention to prevent and respond to SV among this population. Higher education can have transformative outcomes throughout the life course (Mayhew et al., 2016), but the results of this research suggest safety concerns exist for students pursuing this education across the world. Universities and policy makers may be more inclined to dedicate financial resources and capacity to preventing and responding to incidences of SV due to the high proportion of students who are survivors of SV.

With an increasing amount of research highlighting the scope and consequences of SV globally, the higher education sector is and will continue to face increasing pressure to protect the safety and well-being of students.

3.5 Chapter summary

In this chapter, I systematically reviewed and summarised the quantitative evidence for self-reported experiences of SV in HEIs. Meta-analysed prevalence estimates were disaggregated by type of SV, recall period, gender identity, and world region to provide a rigorous analysis and description of the state of SV among HEI students globally. Notably, I highlighted an increasing body of evidence outside of the US context that has yet to be synthesised and found considerable heterogeneity in how SV is defined and measured across included studies. The results presented in this chapter help to understand the pervasiveness of SV among the HEI population but also point to key methodological gaps in the field that limit the strength of these estimates. Chapter 4 aims to build on the identified limitations by conducting one of the first surveys of its kind in the UK to rigorously measure and report on SV among HEI students.

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4. Prevalence of sexual violence and sexual harassment from the OUR SPACE cross-sectional survey

4.1 Introduction

Collecting SV data through self-report surveys in HEIs is essential as underreporting of SV means formal reports to law enforcement officials are limited in their ability to accurately estimate the scale of the problem (Sinozich & Langton, 2014). For example, at the University of Oxford, the administration team received a total of only four sexual misconduct reports in the 2020/2021 academic year (Prosser, 2022), however 203 students contacted the Sexual Harassment and Violence Support Service at Oxford in the 2020/2021 academic year to seek support for experiencing SV (Mandeville, 2022).

In the UK, data from the Crime Survey for England and Wales, administered by the Office for National Statistics found that between 2018 and 2020 full-time students over the age of 16 were at the highest risk of experiencing past-year sexual assault when compared to people in any other occupation; the survey found that across all respondents 2.9% of women and 0.7% of men experienced sexual assault but that 11.6% of women full-time students and 4.3% of men full-time students experienced sexual assault (2021). There is a potential that students attending higher education in the UK are living and studying in particularly risky environments for experiencing SV, but more data is needed at the institutional level (Bull et al., 2022).

Surveys of SV in HEIs, commonly called campus climate surveys, are specifically important for (1) understanding the scope of the problem and who is impacted; (2) monitoring trends overtime; and (3) using student voices to inform institutional policies and procedures (Krause et al., 2018). However, as found in Chapter 3, most campus climate surveys have been conducted in the US. In the UK, there is far less research with only a handful of surveys publishing their data (Anyadike-Danes et al., 2022; Bull et al., 2022; Roberts et al., 2022).

Roberts et al. (2022) found that in a sample of 1034 students in the North of England, 15.9% of women and 5.4% of men respondents experienced unwanted sexual contact and 32.6% of women and 9.2% of men respondents experienced unwanted sexual comments. Anyadike-Danes et al. (2022) found that in a sample of 1033 Northern Ireland HEI students, 53% of respondents reported experiencing one unwanted sexual experience since attending university (Anyadike-Danes et al., 2022).

These existing UK campus climate studies have methodological limitations. For example, Roberts et al. (2022) did not use a validated tool for measuring SV or report the recall period, and both Roberts et al. (2022) and Anyadike-Danes et al. (2022) did not report the location of the incidents, estimate prevalence of SV for gender minority students, or apply survey weights to their sample. Further, neither study explored the implications of potential of nonresponse bias related to experiencing or not experiencing SV.

The aim of this chapter was to contribute to the limited evidence base on SV at UK HEIs by using the Oxford Understanding Relationships, Sex, Power, Abuse and Consent Experiences (OUR SPACE) survey data — a cross-sectional study of all undergraduate and graduate students over the age of 18 at the University of Oxford — to provide an estimate of the prevalence of SV experienced by HEI students in the UK disaggregated by gender identity, sexual orientation, ethnicity, and location of the incident.

4.2 Methods

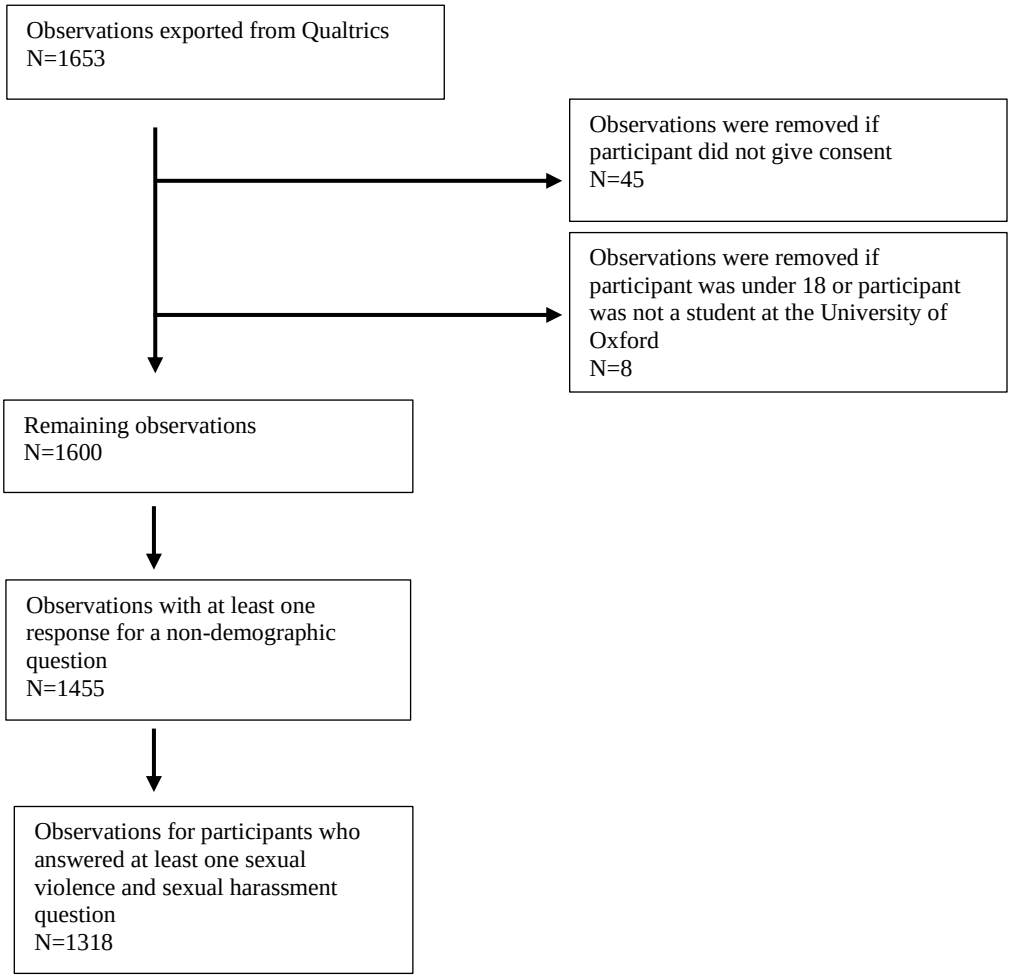
This chapter used data from the cross-sectional OUR SPACE survey. As detailed in Chapter 2, the OUR SPACE survey was administered to all University of Oxford students (n=25, 820) in May 2021. As the University of Oxford academic year consists of three terms (trimesters), the survey was launched during May-July 2021 (the final term) to capture experiences from the entire academic year. Emails were supplemented by additional online

promotional campaigns run through the student government, colleges, and university platforms, to raise awareness of the survey, to educate students on the importance of participating in the study, and to encourage participation in the study. The link to complete the survey was open for two-months after the launch and students received three reminder emails. Those who completed the survey indicated if they wanted to be entered into a lottery to receive a prize (iPads (3) and £50 Amazon vouchers (10)).

4.2.1 Sample

There were 1600 students who responded to the survey (6% of the target population) and 1455 students who answered at least one non-demographic question. Respondents were able to skip any question on the survey, aligning with best practice research ethics for online surveys (Buchanan & Hvizdak, 2009). Allowing participants to skip questions also enhances the integrity of the data because a participant may drop out of the survey if they are required to answer a certain question or alternatively, they might select a random answer for the question they are trying to skip. Aligning with guidance from previous validation studies on measuring SV in HEIs (Cantor et al., 2015; Krebs et al., 2016), this chapter analysed data from participants who answered at least one question on SV and SH (n=1318), which comprised 5.1 % of the student population. Figure 4.1 is a flow diagram that visualises the sample. Ethical approval was obtained from University of Oxford (Ref No: R73805/RE001, see Appendix A).

Figure 4.1: Our Space data flow chart



4.2.2 Measuring sexual violence and harassment

As described in Chapter 2, survey measures were adapted from previously conducted campus climate surveys, specifically the Johns Hopkins University *Health and Safety Study* from 2017, and psychometric questions from the Sexual Experiences Survey (SES) (Koss et al., 2007). The survey questionnaire can be found in Appendix B. The following items from the survey were used to complete the analyses within this chapter:

1. Participant characteristics: Data were collected on participants' gender identity, sexual orientation, and race/ethnicity, living arrangement, and student status.

2. Sexual harassment: Participants indicated if they experienced a series of SH acts in the past year. Participants who identified that they had experienced an act were asked the location of where the most recent incident occurred.
3. Sexual violence: SV was measured using self-reported experiences of (a) attempted SV and (b) completed SV. An adapted version of The Sexual Experiences – Short Form Victimisation (Koss et al., 2007) measured past year experiences of SV. If an incident of SV was experienced respondents were asked where the most recent incident occurred.

4.2.3 Analyses

Descriptive frequencies were calculated to estimate the proportion of the University of Oxford student population to have experienced any act of SV or SH in the reporting period (past year). The past year prevalence for each of the acts of SV and SH was calculated, treating each outcome as a binary variable (Spronk et al., 2019). For total SV, those who reported not experiencing any SV act were coded as 0, while those who reported one or more experiences of SV were coded as 1. The same process was applied for calculating the total SH prevalence. Confidence intervals of prevalence estimates used the Wilson score interval, which is appropriate for small sample sizes (Brown et al., 2001). Occurrences were stratified by sociodemographic groups (e.g., ethnicity, gender identity, and sexual orientation), using cross-tabulations and Chi-square statistics to compare and test for significant differences across subgroups. Then the location where the violence occurred was assessed. Participants were asked about the location of the most recent incident of each type of SV and SH they experienced. Descriptive statistics were used to describe where the acts of SH and SV occurred.

To help mitigate the potential of nonresponse bias, the OUR SPACE survey data was weighted using available information on the entire student population. Weighting is a statistical technique implemented after survey data have been collected to improve the accuracy of

estimates from survey samples that are not representative of the total population (Lavallée & Beaumont, 2015). Weights for the OUR SPACE data were derived from publicly accessible yearly student statistics data published by the University of Oxford. An iterative proportional fitting method (often referred to as raking) was used to apply the weights (Kalton & Flores-Cervantes, 2003). This method for weighting was chosen because it only requires the marginal proportions for each variable (e.g., ethnicity, gender, or student status) at the total population level and does not require proportions for every combination of variables used for weighting (e.g., student status by gender, student status by ethnicity, ethnicity by gender) (Kalton & Flores-Cervantes, 2003). To weight the data, I chose a set of variables where the marginal population proportions at the University of Oxford were known. The December 2020 demographic data was used as it best estimated the total population of the University of Oxford at the time the OUR SPACE survey was disseminated. The following variables were selected: student status (undergraduate student, postgraduate student, visiting student, or continuing education student); ethnicity; fee status (domestic or UK student, EU student, or international non-EU student), and gender/sex. Then the weights were iteratively adjusted for each case until the sample distribution aligned with the population for the chosen variables. Finally, the analyses used on the unweighted data were repeated with the weighted data.

The weighted data helped to understand how the prevalence estimates might look if the sample from the OUR SPACE data was more representative of the total University of Oxford population. However, there was still the potential of response bias related to experiencing or not experiencing SV or SH. Students may have had a difference in propensity to respond to the survey if they had been exposed to SV or SH and therefore it was not possible to know what the prevalence rate was among non-respondents. Estimates were calculated for different scenarios of potential prevalence among the non-respondents. Rosenberg et al. (2019) first developed this

analysis to quantify the impact of nonresponse bias in campus climate surveys. They simulated the impact different scenarios, where the prevalence of SV among nonrespondents differed from responders, would have on the estimated total population prevalence of SV. Using the analysis developed by Rosenberg et al. (2019) as a guide, I first estimated the total population prevalence using the two most extreme scenarios of prevalence among nonrespondents (all nonrespondents did experience SV or SH and all nonrespondents did not experience SV or SH). Then, I estimated the total population prevalence using simulations where the prevalence of SV and SH differed between responders and nonrespondents by +/-5%, +/-10%, and +/-15% (Rosenberg et al., 2019).

All statistical analyses were conducted in R (version 3.5.1) using the survey package (v4.0; Lumley, 2021).

4.3 Results

4.3.1 Sample characteristics

Within the sample of 1318 students, 773 (58.6%) identified as a woman, 470 (35.7%) identified as a man, 58 (4.4%) identified as a transgender woman, a transgender man, or gender non-conforming, non-binary or queer, and 17 (1.3%) preferred not to say. Of the respondents, 781 (59.3%) were undergraduate students, while 509 (38.6%) were post-graduate, and 27 (2.0%) were visiting or continuing education students. Most the sample identified as White (n=1037, 78.7%); 142 (10.8%) identified as Asian or Asian British; 80 (6.1% identified as belonging to mixed or multiple ethnic groups; 26 (2.0%) identified as Black or African or Caribbean or Black British, with 30 (2.3%) belonging to other ethnic groups. Students were also asked about their sexual orientation with 774 (58.7%) identifying as heterosexual, 287 (21.8%) as bisexual, 106 (8.0%) as gay or lesbian, and 72 (5.5%) as a sexual orientation that was not listed. The descriptive statistics are presented in Table 4.1.

As students were asked about experiences they had encountered between May 2020 and May 2021—a period affected by a range of restrictions resulting from the COVID-19 pandemic, it was important to understand where students had resided throughout this atypical academic year. In Michaelmas term (Oct and Nov), 882 (67%) respondents reported being in residence at the University of Oxford (at either college or university accommodation); 284 (22%) reported being in private or other accommodation in Oxford; and 150 (11%) reported residing outside of Oxford. In Hilary Term (Jan and Feb), 399 (30%) respondents reported being in residence at the University of Oxford (at either college or university accommodation); 259 (20%) reported being in private or other accommodation in Oxford; and 657 (50%) reported residing outside Oxford. In Trinity Term (May and June) 819 (62%) respondents reported being in residence at the University of Oxford (college or university accommodation); 288 (22%) reported being in private or other accommodation in Oxford; and 210 (16%) reported residing outside Oxford.

Table 4.1: Sample characteristics

Variable	Unweighted N = 1,318	Weighted N = 1,318
Gender		
A man	470 (36%)	661 (50%)
A woman	773 (59%)	637 (48%)
Transgender or gender-diverse	58 (4.4%)	-
Prefer not to say	17 (1.3%)	20 (1.5%)
Ethnicity		
Asian / Asian British	142 (11%)	268 (20%)
Black / African / Caribbean / Black British	26 (2.0%)	41 (3.1%)
Mixed / Multiple ethnic groups	80 (6.1%)	82 (6.2%)
White	1,037 (79%)	879 (67%)
Any other ethnic group	30 (2.3%)	41 (3.1%)
No answer	3 (0.2%)	6 (0.5%)
Student status		
Continuing education student	18 (1.4%)	51 (3.9%)
Postgraduate student	509 (39%)	597 (45%)
Undergraduate student	781 (59%)	656 (50%)
Visiting student	9 (0.7%)	14 (1.0%)
No answer	1 (<0.1%)	1 (<0.1%)
Sexual orientation		
Bisexual	287 (22%)	234 (18%)
Gay or Lesbian	106 (8.0%)	110 (8.4%)
Heterosexual	774 (59%)	845 (64%)
None of the above	72 (5.5%)	59 (4.5%)
No answer	79 (6.0%)	70 (5.3%)

4.3.2 Sexual violence experienced in past year

Of the 1318 respondents, 270 (20.5%, 95% CI:18.4%–22.7%) experienced at least one act of SV between May 2020 and May 2021. The most common type of SV reported was attempted unwanted sexual touching, followed by unwanted sexual touching, attempted rape, and rape (see Table 4.2). A slightly smaller percentage of respondents experienced SV in the weighted data, with 233 (17.7%, 95% CI: 15.7%–19.8%) respondents who experienced at least one act of SV.

Table 4.2: Types of sexual violence experienced by respondents

Types of sexual violence	Unweighted N = 1,318		Weighted N = 1,318	
	Number of participants	Prevalence (95% CI)	Number of participants	Prevalence (95% CI)
Attempted unwanted sexual touching	205	15.6% (13.7, 17.6)	176	13.4% (11.6–15.3)
Unwanted sexual touching	150	11.4% (9.8, 13.2)	128	9.7%, (8.2–11.4)
Attempted rape	76	5.8% (4.6, 7.2)	62	4.7% (3.7–6.0)
Rape	76	5.8% (4.6, 7.2)	56	4.2% (3.3–5.5)

Women experienced higher rates of each type of SV act when compared to men. The most common act of SV experienced by women was attempted unwanted sexual touching (n=154, 19.9%, 95% CI: 17.3%–22.9%), followed by unwanted sexual touching (n=116, 15.0%, 95% CI: 12.7%–17.7%), attempted rape (n=61, 7.9%, 95% CI: 6.2%–10.0%), and rape (n=62, 8.0%, 95% CI: 6.3%–10.2%). For men respondents, attempted unwanted sexual touching was also the most common act (n=41, 8.7%, 95% CI: 6.5%–11.6%), followed by unwanted sexual touching (n=28, 6.0%, 95% CI: 4.2%–8.5%), and attempted rape or rape (n=15, 3.2%, 95% CI: 1.9%–5.2%). The weighted data again described similar, but slightly smaller rates: 117 (18.4%, 95% CI: 15.6%–21.6%) woman respondents experienced attempted unwanted sexual touching; 89 (14.0%, 95% CI: 11.5%–16.9%) experienced unwanted sexual touching; 44 respondents (6.9%, 95% CI: 5.2%–9.1%) experienced attempted rape and 45 respondents (7.1%, 95% CI: 5.3%–9.3%) experienced rape. For men respondents, 55 (8.3%, 95% CI: 6.4%–10.7%) experienced attempted unwanted sexual touching, 37 (5.6%, 95% CI: 4.1%–7.6%) experienced unwanted sexual touching, 17 (2.6%, 95% CI: 1.6%–4.1%) experienced attempted rape, and 9 (1.4%, 95% CI: 0.7%–2.6%) experienced rape.

SV was experienced at different rates based on participant characteristics (Table 4.3). Significantly more women respondents (n=207, 26.9%, 95% CI: 23.8%–30.0%) experienced

SV when compared to men respondents (n=50, 10.6%, 95% CI: 8.2%–13.8%), $\chi 2(1, N = 1243) = 45.4$, $p < .0001$. This difference was also found in the weighted data, $\chi 2(1, N = 1298) = 50.1$, $p < 0.0001$). There was no significant difference found between men respondents and transgender and gender-diverse respondents (n=10, 17.2%, 95% CI: 9.6%–28.9%), $\chi 2(1, N = 528) = 1.63$, $p = 0.2021$. Non heterosexual respondents were found to experience significantly higher rates of SV (n= 127, 27.3%, 95% CI: 23.5%–31.5%) when compared to heterosexual respondents (n= 128, 16.5%, 95% CI: 14.1%–19.3%), $\chi 2(1, N = 1239) = 20.7$, $p < 0.0001$. However, there was no significant difference in SV found between non-White (n=53, 19.1%, 95% CI: 14.9%–24.1%) and White (n=217, 26.5%, 95% CI: 23.6%–29.6%) respondents in both the unweighted data $\chi 2(1, N = 1315) = 0.4$, $p = 0.5$, and the weighted data, $\chi 2(1, N = 1317) = 1.8$, $p = 0.18$.

Table 4.3: Sexual violence prevalence disaggregated by participant characteristics

Variable	Unweighted N = 270	Weighted N = 233
Gender		
A man	50 (19%)	68 (29%)
A woman	207 (77%)	161 (69%)
Transgender or gender-diverse	10 (3.7%)	-
Prefer not to say	3 (1.1%)	4 (1.7%)
Ethnicity		
Asian / Asian British	24 (8.9%)	39 (17%)
Black / African / Caribbean / Black British	4 (1.5%)	4 (1.7%)
Mixed / Multiple ethnic groups	18 (6.7%)	16 (6.9%)
White	217 (80%)	165 (71%)
Any other ethnic group	7 (2.6%)	10 (4.3%)
Student status		
Continuing education student	3 (1.1%)	9 (3.9%)
Postgraduate student	71 (26%)	73 (31%)
Undergraduate student	194 (72%)	149 (64%)
Visiting student	2 (0.7%)	2 (1.0%)
Sexual orientation		
Bisexual	92 (34%)	234 (18%)
Gay or Lesbian	25 (9.3%)	110 (8.4%)
Heterosexual	128 (47%)	845 (64%)
None of the above	11 (4.1%)	8 (3.2%)
No answer	14 (5.2%)	12 (5.3%)

4.3.3 Sexual harassment experienced in past year

SH was more pervasive than SV: 694 (52.7%, 95% CI: 50.0%–55.3%) respondents experienced at least one act of SH. The most common form of SH was having a sexist remark said about a respondent, followed by an inappropriate comment made about their appearance, crude sexual comments or jokes in their presences, persistent requests to going on dates after saying no, and being stalked (Table 4.4). Within the weighted sample, the prevalence rates for SH were slightly smaller: 622 (47.2%, 95% CI: 44.5%–49.9%) respondents experienced at least one act of SH.

Table 4.4: Types of sexual harassment experienced

Types of sexual harassment	Unweighted N = 1,318		Weighted N = 1,318	
	Number of participants	Prevalence (95% CI)	Number of participants	Prevalence (95% CI)
Sexist remark	478	36.3% (33.7–38.9)	392	29.7% (27.3–32.3)
Inappropriate comments about appearance	475	36.0% (33.5–38.7)	421	31.9% (29.5–34.5)
Crude sexual comments or jokes	306	23.2%, (21.0–25.6)	271	20.6% (18.5–22.8)
Persistent requests to going on dates after saying no	192	14.6% (12.8–16.6)	163	12.4% (10.7–14.3)
Being stalked	188	14.3% (12.5–16.3)	159	12.1% (10.4–13.9)

When disaggregated by gender, having a sexist remark made about them was the most common act for women (n=385, 49.8%, 95% CI: 46.3%–53.3%) and men (n=62, 13.2%, 95% CI: 10.4%–16.6%). For women, 365 (47.2%, 95% CI: 43.7%–50.7%) reported an inappropriate comment made about their appearance, 235 (30.4%, 95% CI: 27.3%–33.7%) reported crude sexual things said to them, 160 (20.7%, 95% CI: 18.0%–23.7%) reported persistent requests to go on dates after saying no, and 150 (19.4%, 95% CI: 16.8%–22.3%) reported having someone stalk them. For men respondents, 86 (18.3%, 95% CI:15.1%–22.1%) reported an inappropriate comment about their appearance, 57 (12.1%, 95% CI: 9.5%–15.4%) reported crude sexual things said to them, 23 (4.9%, 95% CI: 3.3%–7.2%) reported persistent requests to go on dates after saying no, and; 26 (5.5%, 95% CI: 3.8%–8.0%) reported being stalked.

In the weighted data, similar, but slightly smaller, proportions persisted for both men and women: 297 (46.6%, 95% CI: 42.8%–50.5%) women reported having a sexist remark made about them; 292 (45.8%, 95% CI: 42.0%–49.7%) reported an inappropriate comment made about their appearance; 187 (29.4%, 95% CI: 25.6%–33.0%) reported crude sexual things said to them; 131 (20.6%, 95% CI: 17.6%–23.9%) reported persistent requests to go on dates saying no, and 121 (19.0%, 95% CI: 16.1%–22.2%) reported having someone stalk them. For men, 87

(13.2%, 95% CI: 10.8%–16.0%) reported a sexist remark made about them; 121 (18.3%, 95% CI: 15.5%–21.4%) reported an inappropriate comment made about their appearance; 80 (12.1%, 95% CI: 9.8%–14.8%) reported crude sexual things said to them; 29 (4.4%, 95% CI: 3.1%–6.2%) reported persistent requests to go on dates after saying no, and; 35 (5.3%, 95% CI: 3.8%–7.3%) reported being stalked.

SH, like SV, was also experienced differently across different student subgroups (Table 4.5). Women (n=509, 65.8%, 95% CI: 62.4%–69.2%), experienced significantly more SH when compared to men (n=147, 31.3%, 95% CI: 27.3%–35.6%), $\chi 2(1, N = 1243) = 139$, $p < .0001$. This finding held when using the weighted data, $\chi 2(1, N =1298) = 130$, $p <0.0001$. Transgender and gender-diverse respondents (n=31, 53.5%, 95% CI: 40.8%–65.7%) also experienced SH significantly more than men, $\chi 2(1, N = 528) = 10.4$, $p =0.001$. Further, non-heterosexual participants (n=292, 62.8%, 95% CI: 58.3%–67.1%) experienced significantly more SH than heterosexual participants (n=359, 46.4%, 95% CI: 42.9%–49.9%, $\chi 2(1, N = 1301) =30.7$, $p<0.0001$). However, there was no difference in SH experiences between non-White (n=138, 49.6%, 95% CI: 43.8.4%–55.5%), and White participants (n=554, 53.4%, 95% CI: 50.4%–56.4%), in both the unweighted data, $\chi 2(1, N = 1315) = 0.9$, $p = 0.3$, and the weighted data, $\chi 2(1, N = 1317) = 2.5$, $p = 0.11$).

Table 4.5: Sexual harassment prevalence disaggregated by participant characteristics

Variable	Unweighted N = 694	Weighted N = 621
Gender		
A man	147 (21%)	209 (34%)
A woman	509 (73%)	403 (65%)
Transgender or gender-diverse	31 (4.5%)	-
Prefer not to say	7 (1.0%)	10 (1.6%)
Ethnicity		
Asian / Asian British	62 (8.9%)	106 (17%)
Black / African / Caribbean / Black British	14 (2.0%)	21 (3.4%)
Mixed / Multiple ethnic groups	48 (6.9%)	46 (7.4%)
White	554 (80%)	428 (69%)
Any other ethnic group	15 (2.2%)	20 (7.7%)
No answer	1 (0.1%)	0 (0.0%)
Student status		
Continuing education student	5 (0.7%)	15 (2.4%)
Postgraduate student	260 (37%)	273 (44%)
Undergraduate student	422 (61%)	325 (52%)
Visiting student	7 (1.0%)	9 (1.4%)
No answer	0 (0%)	0 (0.0%)
Sexual orientation		
Bisexual	200 (29%)	157 (25%)
Gay or Lesbian	55 (7.9%)	53 (8.5%)
Heterosexual	359 (52%)	346 (56%)
None of the above	37 (5.3%)	28 (4.6%)
No answer	43 (6.2%)	37 (5.9%)

4.3.4 Location of incidents

Respondents were asked follow-up questions for the most recent act of each type of SV and SH reported. There was a total 553 most recent acts of SV and 1934 most recent acts of SH where students were asked follow-up questions. Almost half of the SV acts took place at the University of Oxford and a third took place in Oxford. For SH, half of the acts took place at the University of Oxford and almost a quarter took place in the city of Oxford but not in the university (Table 4.6).

Table 4.6: Location of most recent act of each type of sexual violence and sexual harassment experienced by respondents

Location	Acts of sexual violence N = 553	Acts of sexual harassment N = 1934
At the University of Oxford (including colleges)	243 (44%)	967 (50%)
In Oxford, but not at the University of Oxford	166 (30%)	445 (23%)
Outside of Oxford	100 (18%)	271 (14%)
Online	-	193(10%)
No location reported	44 (8%)	39 (2%)

4.3.5 Nonresponse bias

The prevalence of SV and SH provided in the previous sections relied on the sample of respondents to the OUR SPACE survey (n=1318). However, most of the student population who received the survey chose not to participate (n=24, 502), The generalisability of the prevalence estimates from the OUR SPACE data to the entire student sample were jeopardised by the possibility that survivors of SV and SH were more or less likely to respond to the survey. I conducted a series of simulations to estimate the prevalence of SV and SH among the total population through different assumptions about prevalence in non-respondents. I found that the prevalence of SV and SH among responders was highly sensitive to assumptions about prevalence in nonrespondents (Table 4.7). Under the most extreme scenarios that all nonrespondents experienced no SV and SH and all nonrespondents experienced SV and SH, the prevalence of SV ranged from (0.8%-95.7%) and the prevalence of SH ranged from (2.7%-97.6%). Under these assumptions the total number of people who experienced SV in the total population could theoretically range from 207 to 24,709 and the total number of people who experienced SH in the total population could range from 694 to 25, 196. These are the most extreme simulations but are likely not realistic or plausible (Rosenberg et al., 2019). It is highly likely that some non-responders experienced SV and at the same time it is highly unlikely that

all non-responders experienced SV (Giroux et al., 2020; Jeffrey et al., 2022; Rosenberg et al., 2019).

More reasonable assumptions about the prevalence of SV and SH in non-responders (Cantor et al., 2015; Giroux et al., 2020) narrowed the potential range of simulated prevalence estimates. For example, if nonrespondents had fewer experiences of SV by 5%, 10%, or 15%, the simulated population prevalence would shift to 15.5%, 10.8%, and 6.0%, respectively. Similarly, if the non-responders experienced higher levels of SV by 5%, 10%, or 15%, the simulated population prevalence would shift to 25.0%, 29.7%, and 34.5%, respectively. The range for SV prevalence under these assumptions narrows to 6%-34.5%. If it is assumed that SH among non-responders was 5%, 10%, or 15% less than responders, the simulated population prevalence would shift from 47.8%, 43.0%, and 35.8% respectively. Conversely, if non-responders experienced more SH by 5%, 10%, or 15%, the simulated population prevalence shifted to 57.3%, 65.4%, 66.9%, respectively. Under these more realistic assumptions the range for SH prevalence narrows to 35.8%-66.9%.

Table 4.7: Sexual violence and sexual harassment prevalence predicted across nine scenarios with different assumptions about non-respondents

Statistical properties of the different assumptions made about prevalence in non-respondents[1]				**Total University of Oxford student population**			
Description	*Distribution Properties*	*Mean prevalence (SV)*	*Mean prevalence (SH)*	*Simulated prevalence SV (95% CI)*	*Predicted # of students[2]*	*Simulated prevalence SH (95% CI)*	*Predicted # of students[2]*
No sexual violence or sexual harassment	Uniform, Range: 0-0	0.0%	0.0%	1.0% (0.9, 1.2)	207	2.7% (2.5, 2.9)	694
-15% prevalence	Normal, SD=1	5.5%	37.7%	6.3% (6.0, 6.6)	1618	38.5% (37.9, 39.1)	9931
-10% prevalence	Normal, SD=1	10.5%	42.5%	11.0% (10.3, 11.4)	2843	43.2% (42.6, 43.8)	11156
-5% prevalence	Normal, SD=1	15.5%	47.5%	15.8% (15.3, 16.2)	4068	48.0% (47.3, 48.6)	12381
Complete case[3]	-	-	-	20.5% (18.4-22.7)	5293	52.7% (50.0-55.3)	13607
+5% prevalence	Normal, SD=1	25.5%	57.5%	25.2% (24.7, 25.8)	6518	57.4% (56.8, 58.0)	14831
+10% prevalence	Normal, SD=1	30.5%	62.7%	30.0% (29.4, 30.6)	7743	62.2% (61.6, 62.3)	16057
+15% prevalence	Normal, SD=1	35.5%	67.7%	34.7% (34.2, 35.3)	8968	66.9% (66.4, 67.5)	17282
All sexual violence and sexual harassment	Uniform, Range 1-1	100.0%	100.0%	95.9% (95.7, 96.2)	24772	97.6% (97.4, 97.8)	25196

[1] The number of non-respondents was 24, 502
[2] To arrive at these numbers, the simulated prevalence proportion was applied to the total study population of University of Oxford students in the 2020-2021 academic year (25,820)
[3]Resondents and non-respondents have the same prevalence of SV and SH

4.4 Discussion

In the 2020/ 2021 academic year the University of Oxford's administration team received a total of four sexual misconduct reports (Prosser, 2022) and the university's Sexual Violence and Harassment Support service was contacted by 203 students. The OUR SPACE data, administered in the summer of 2021, found that the scope of the problem of SV and SH at the University of Oxford was greater than what official institutional reports present; 270 respondents reported experiencing an act of SV and 694 respondents reported experiencing an act of SH in the 2020/ 2021. Almost half of all SV and SH acts took place at the University of Oxford.

The SV prevalence estimates from the OUR SPACE Study (26.9% of women and 10.6% of men) were higher than the meta-analysed global prevalence estimates for SV presented in Chapter 3 (18.0% of women and 7.5% of men) and the prevalence estimates of SV among students from the UK's Office for National Statistics' England and Wales Crime Survey (11.6% of women and 4.3% of men) (2021). The SH prevalence estimates from the OUR SPACE study (65.8% of women and 31.3% of men) were also higher than what has been reported on in the literature. In a review of SH prevalence experienced by HEI students Bondestam and Lundqvist (2020) found that on average one in four female students experienced SH but that prevalence rates ranged drastically across included studies. There is less comparable national data on SH to help contextualise the OUR SPACE findings, and with little standardisation across SH measurement tools it is challenging to interpret the OUR SPACE findings in relation to other studies. Still, the pervasiveness of the issue identified within the OUR SPACE survey is consistent with extensive scholarship pointing to the routine and common nature of SH in society (Stanko, 1990) and among HEI students specifically (Marshall et al., 2014; Rosenthal et al., 2016; Sutton et al., 2021).

The findings from the OUR SPACE survey on SV and SH align with existing evidence in so far as they evidence SV and SH to be common occurrences experienced by many students in higher education. However, the findings also indicate the potential that the University of Oxford is a particularly risky setting for SV, even when compared to other universities. More research is needed to unpack this finding. However, existing theoretical understandings of the relationship between power and privilege and SV and SH in HEIs could be useful in exploring this phenomena (Linder, 2018; Wooten, 2015).

In the OUR SPACE study, women were significantly more likely than men to report experiences of SV and SH. Women experienced the most SV and SH with over one in four

women reporting an experience of SV in the past year and over two in three women reporting an experience SH in the past year. This difference between men and women was also found in Chapter 3 where across all included studies in the review women in HEIs reported higher prevalence rates of SV as HEI students when compared to men. Further, outside of the HEI context, women have consistently found to experience the largest burden of SV when compared to men (Brunton-Smith et al., 2022).

Seen through a critical feminist lens, SV and SH are intrinsically linked to power dynamics based on social identities (e.g., gender identity) and systems of oppression (Wooten, 2015). Perpetrators of SV, especially White middle and upper class men, have been shown to target women, and other minoritised people as a sign of domination and control, understanding that there are rarely any consequences for this type of behaviour (Linder, 2018). At the structural level, critical feminist theorists see HEIs are inherently patriarchal institutions that have historically responded to SV and SH by blaming women or by protecting perpetrators, ultimately creating the conditions where SV and SH against women can occur with little consequence to perpetrators (Wooten, 2015).

Critical feminist theory also describes SV as entwined with other forms of oppression and discrimination including heteronormativity, homophobia, and racism, which is useful for understanding why transgender and gender-diverse people and non-heterosexual people, in addition to women, experienced higher rates of SV in the OUR SPACE study (Harris et al., 2017). The OUR SPACE study is the only study in the UK to present prevalence estimates for transgender and gender-diverse people. Consistent with the limited previous work the findings show transgender and gender-diverse respondents experienced more SH than men (Cusano et al., 2021; Hoxmeier, 2016) and non-heterosexual respondents experienced more SV and SH than heterosexual respondents (Mennicke et al., 2021; Santelli et al., 2018). However, there was

no evidence that this difference among men and transgender or gender-diverse people persisted for SV, perhaps because of the small numbers relied upon for this analysis. Further, there was no significant difference found between White and non-White students, contradicting previous estimates from the US. This may have resulted from combining all non-White ethnicities together. For example, Coulter et al. (2017) found that Black undergraduate students experienced significantly higher rates of SV than White students.

While men experienced comparably lower prevalence rates to women and transgender or gender-diverse people, there was still a significant proportion of men who reported experiencing SV and SH (10.6% and 31.3% respectively). This finding contradicts traditional notions of men's SV as "invisible and incomprehensible" (Hlavka, 2017, p. 482). As discussed in Chapter 3, men's experiences of SV may uniquely involve certain stigmas around shame, embarrassment, and disbelief, centered around societal constructions of masculinity, dominance and power (Hlavka, 2017). However, like women and transgender and gender-diverse people, men's experiences of SV cannot be understood uniformly. Men who identify as gay and bisexual have been found to experience SV at higher rates than heterosexual men (Bullock & Beckson, 2011; Donne et al., 2018). Future analyses using the OUR SPACE data could be conducted to understand men's SV in a more nuanced way and to further contribute to the limited existing evidence base on men's SV in HEIs.

I found that the most common act of SV act experienced by respondents was attempted unwanted sexual touching (15.6%) (consistent with what was found in Chapter 3) and that the most common SH acts were sexist remarks (36.3%) and inappropriate comments about someone's appearance (36.0%). A theoretical gap exists in explaining this why certain types of SV acts are more common, yet the implications of this findings is pertinent for prevention and response. SV encapsulates a wide range of acts with varying degrees of potential harms for

survivors, however it is often discussed as one type of experience. Knowing what types of SV and SH are most common is useful for tailoring intervention efforts.

The OUR SPACE findings offer a reflection of SV prevalence at the University of Oxford, through using a validated SV measure, asking about past-year prevalence, and using a total-population sampling approach. The findings have implications for ensuring that prevention and response at the university is inclusive of all gender identities and sexual orientation. However, to better understand how the OUR SPACE prevalence estimates compare to SV in UK HEIs, research of this kind needs to be replicated and repeated with careful considerations of the limitations to these data.

A key limitation to the generalisability of the prevalence estimates in this chapter is the likely presence of response bias—the potential for certain groups of people to be more likely to respond to the survey compared to others, due to the low response rate. It is likely not the case that a random selection of the student population will have responded. For example, participants may have been more likely to respond if they have experienced SH or SV. Alternatively, participants who have experienced SH or SV may have been deterred from responding to prevent re-traumatisation. To help mitigate the issue of response bias I weighted certain survey variables based on known total population characteristics and underwent a complete case analysis to deal with missing responses (Buskirk & Kolenikov, 2015). However, this weighting did not sufficiently address the potential that exposure to SV or SH may influence proclivity to respond.

As a result, a series of simulations were conducted to understand the range of potential prevalence estimates under scenarios where non-respondents had higher or lower rates of SV and SH when compared to respondents. I found that under the most extreme assumptions about non responders (no non-respondents experienced SV and all non-respondents experienced SV)

the response rate could range from 1% to 96% and SH could range from 3% to 98%. This was similar to the range found by Rosenberg et al. (2019) who conducted the same simulations with campus climate surveys and found that under these same circumstances prevalence of SV could range from 5% to 80%. However, it is highly unlikely that all non-respondents would experience SV or that no non-respondents would experience SV. Rosenberg et al. (2019) suggest that more reasonable assumptions about prevalence among non-respondents could be that non responders experienced somewhere between 15% less to 15% more SV than respondents. Under these assumptions the range of SV and SH prevalence using the OUR SPACE data became 6%-34.5% and 35.8%-66.9%, respectively. Existing literature empirically examining the response bias in respondents on campus climate surveys suggests that the difference of prevalence between respondents and non-respondents would be in the -5% to +5% range (Cantor et al., 2015; Giroux et al., 2020). Under these, perhaps most realistic, assumptions the range of prevalence for SV and SH were 15.5%-25.0% and 47.8%-57.3% respectively. However, there is still mixed and inconclusive evidence on the magnitude and direction of the predicted differences in SV and SH experienced between respondents and nonrespondents to campus climate surveys (Rosenberg et al., 2019).

Another limitation to the OUR SPACE survey is that more psychometric testing is needed to understand the reliability and validity of the measure. While the SV measure relies on the previously validated Sexual Experiences survey (Koss & Gidycz, 1985), other scales in the survey were adapted from existing campus climate surveys (Campbell et al., 2017) but have not been validated in the UK context, including the questions on SH.

A further potential limitation of the OUR SPACE survey is that it was administered during the COVID-19 pandemic and therefore the interpretation of prevalence rates must

consider that the living arrangements and social activities of participants during the reporting period would have been impacted by government and university safety regulations.

The OUR SPACE survey has the potential to become a repeated cross-sectional survey given the transparent and reproducible research practices used and the existing partnerships and interest from university administration and student groups. In fact, the research team has received funding to administer the survey again in 2023. Future iterations of the survey must aim to address the limitations discussed in this chapter. For example, efforts need to be made to increase response rates and student engagement. This could look like expanding the length of time the survey is in the field, engaging with colleges to promote the survey, increasing the number of incentives, and shortening the length of the survey. Additionally, a psychometric analysis of the scales used in the survey tool are needed. Prevalence estimates can play an important first step in establishing a larger research agenda across the sector and the subsequent administration of the survey will help to understand the phenomena over time as well as strengthen the reliability and validity of the OUR SPACE survey tool.

4.5 Chapter summary

In this Chapter I used the OUR SPACE data to estimate the prevalence of SV and SH among University of Oxford students. I disaggregated estimates by the type of SV and SH, gender identity, sexual orientation, and ethnicity, testing for significant differences among subgroups. Of note, I found that rates of SV among Oxford students are higher than the synthesised estimates presented in Chapter 3 and higher than rates of SV found among the general UK population. However, the OUR SPACE data is limited by low response rate and the potential of nonresponse bias. The results presented in this Chapter help to contribute to the growing evidence base on SV in HEI settings in the UK. Chapter 5 builds on the findings

presented in this chapter by using the OUR SPACE data to estimate bystander behaviour and attitudes about SV among Oxford students.

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5. Bystander behaviour among University of Oxford students: The relationship between attitudes an action

5.1 Introduction

Previous chapters in this thesis have demonstrated that SV is a pervasive public health problem both globally and in the UK but have yet to explore other elements of the OUR SPACE data that are essential for describing the culture and climate of an environment where SV occurs. Specifically, the OUR SACE survey collected data on participant willingness to engage in bystander behaviours and their attitudes about SV, potential aspects of an HEI environment that could work to promote or mitigate SV (Cantor et al., 2015). An exploration of these concepts and how they relate to each other is essential for informing the ways in which HEIs can respond to the prevalence of SV (described in Chapter 3 and 4).

In response to calls from activists and researchers, HEIs are increasingly implementing SV prevention programs and policies for their students. One popular type of program is bystander intervention, an approach that engages the entire community in prevention and response rather than just those at risk of experiencing SV (Banyard et al., 2004; Humphreys & Towl, 2020; McMahon, 2000; Sweeting et al., 2021). Bystander intervention training is designed to combat problematic beliefs and attitudes about SV and provide students with the necessary skills to effectively intervene to interrupt instances of SV and respond after SV occurs (Banyard et al., 2004; Jouriles et al., 2018; McMahon et al., 2017). In 2016, Public Health England recommended that all UK HEIs implement and evaluate bystander programming as a long term solution to addressing violence against women among university students (Fenton et al., 2016).

A bystander is an individual who witnesses or is aware of a crime occurring and can make the choice to either offer assistance or do nothing (Banyard et al., 2004). As first outlined

in Chapter 1, within routine activities theory's three conditions for crime (a motivated offender, a suitable, and absence of capable guardians), bystanders can be conceived of as "capable guardians," individuals who are a key component of an event without being the perpetrator or the victim (Cohen & Felson, 1979, p. 588). In the HEI context, bystanders can engage in primary, secondary, tertiary, and direct prevention of SV (Powell, 2014). At the primary level bystanders can work to combat the kinds of situations and behaviours that encourage and perpetuate SV, such as confronting a friend who says something sexist or misogynistic (Mainwaring et al., 2022). At the secondary level, bystanders can mitigate the risk of SV occurring in situations by, for example, ensuring that a drunk person has a safe plan to get home, and at the tertiary level bystanders can intervene after an incident has occurred through, for example, supporting a survivor in the reporting process or challenging someone who said they had sex with someone who was too incapacitated to consent (Powell, 2014). Finally, at the direct intervention level bystanders can stop an incident of SV as it is occurring by calling the police or confronting a perpetrator in the act.

The concept of engaging bystanders in crime prevention emerged from work conducted by Latané and Darley (1970's) that explored helping behaviour. Their bystander intervention framework was the first model to outline the necessary conditions that need to be met for a bystander to move from inaction to action. Their framework states that bystanders must: (1) notice the event, (2) understand or interpret the event as a problem, (3) assume responsibility for the event, and (4) have the capacity and skill set to intervene (Latané & Darley, 1970). Bystander intervention programs to reduce SV in higher education are typically aimed at helping students meet one or more of the conditions put forth by Latané and Darley (1970's) to effectively intervene when presented with the opportunity to do so (Mujal et al., 2021).

Bystander intervention programs have been deemed particularly promising in higher education settings where most incidents of SV occur or start occurring in social settings (Fisher, 2000). As described in Chapter 1, reviews by Mujal et al. (2021), Kettrey and Marx (2019), and Jouriles et al. (2018) found that bystander programs have the potential to increase effective bystander behaviour. However, bystander programs are multifaceted which makes it challenging to measure how and why they work or do not work. Their primary purpose is to increase participants' likelihood of intervening but the path to achieving behaviour change is complex with many programs aiming to target attitudes, beliefs, social and cultural norms and peer group relationships (Fenton et al., 2016). Mainwaring et al. (2022) conducted a review on the individual, situational, and contextual variables that facilitate or inhibit bystander behaviour to reduce SV. Across 85 studies they found that females were more likely than males to intervene to prevent SV and that an individual's willingness to intervene to prevent an act of SV was impacted by the extent to which they believed survivors were to blame for SV (Mainwaring et al., 2022). Gendered social bond and male peer support theory, first introduced in Chapter 1, can help explain these findings, by showing how there is a tendency for men to attempt to maintain a social connection through perpetuating traditional misogynistic social norms, including the belief that women are to blame for SV (Godenzi et al., 2001). Further, men in higher education have been found to be more likely to endorse these 'rape myths' when compared to women, which can impact the extent to which men understand SV as a problem and assume responsibility for intervening (Beshers & DiVita, 2021). Exploring the scope of these problematic beliefs about SV is essential to for understanding the environment students are operating within and for contextualising bystander behaviour interventions.

Most research on bystander behaviour for SV prevention in HEIs has been conducted in the US, with only two studies conducted at UK HEIs (Fenton et al., 2016). Hennelly et al. (2019)

administered a survey on bystander behaviour at Oxford Brookes University. Within their sample (n=201), they found that respondents were confident to intervene in incidents of SV and were likely to report incidents of SV. However, Bovill and White (2022) conducted two surveys among first year students at a UK HEI (n=1604) and found that respondents had little to no awareness that sexual and domestic abuse were a problem in their institution.

With mounting pressure to address SV and limited time and resources, HEIs are faced with challenging decisions on how to best prevent and respond to SV among the student population. It is essential to expand the evidence base on bystander interventions in the UK given the priority for widespread implementation of bystander programing (Fenton et al., 2016), and the increasing number of bystander intervention programs being implemented in HEIs (Bennett et al., 2014). A greater understanding of student willingness to engage in bystander behaviour and the contextual factors that influence students' willingness to engage in bystander behaviour must be explored to make intervention training relevant and effective (Jozkowski et al., 2021; McMahon et al., 2017).

In this chapter I aim to contribute to the evidence base on bystander intervention in UK HEIs by reporting on the findings from the first survey at the University of Oxford to measure student willingness to engage in bystander behaviour and to describe how this willingness is impacted by gender identity and attitudes about SV. The first objective is to estimate the extent to which students were willing to engage in bystander behaviour and whether this willingness differed based on participant gender identity. The second objective is to estimate the extent to which respondents endorsed statements that shifted blame for SV from the perpetrator to the survivor and whether these beliefs differed based on participant gender identity. The third objective is to estimate the relationship between attitudes on SV (independent variable) and

participant willingness to engage in bystander behaviour (dependent variable), moderated by gender identity.

5.2 Methods

This chapter used data from the cross-sectional OUR SPACE survey. As detailed in Chapter 2, the OUR SPACE survey was administered to all University of Oxford students in May 2021.

5.2.1 Outcome measures

The analyses in this chapter rely on two main outcome variables: bystander behaviour and attitudes about SV. Bystander behaviour was measured by asking participants the extent to which they were willing to engage in a series of acts. The nine items that measured bystander behaviour were adapted from the 16 item Bystander Attitude Scale, Revised (BAS-R) scale developed by Banyard et al. (2014) and best practice guidance presented by McMahon et al. (2017). The response options for likelihood of engaging in bystander behaviour were: likely; unsure; not likely. The scale used in this study contains statements about behaviors in which students can intervene before, during, or after a sexual assault, including intervening in overt acts of violence such as "Report a friend that committed a rape" as well as more covert acts such as "say something to my friend who is taking a drunk person back to his/her room at a party," and intervening as a bystander to impact a culture that supports SV including speaking up when someone says a sexist joke.

Attitudes about SV were measured by asking participants whether they agreed or disagreed with a series of statements. The five items that measured attitudes about SV and consent were from the Johns Hopkins University's Health and Safety study (Campbell et al., 2017).

The following demographic items used in the analyses and presented in this chapter are gender identity, sexual orientation, and ethnicity.

5.2.2 Statistical analysis

This chapter first summarises the findings of 1268 respondents who responded to every item on the willingness to engage in bystander behaviour scale and the attitudes about SV scale (87.1% of sample).

To achieve objective 1 (estimate participant willingness to engage in bystander behaviour based on gender identity), I calculated descriptive frequencies for respondents self-reported likelihood of engaging in different types of bystander intervention ('likely'; unsure'; 'not likely'). Then, I calculated mean scores (not likely=1; unsure =2; likely =3) for this scale and stratified mean scores by gender identity (McMahon, 2010). This same process was completed for the attitudes about SV scale (objective 2). Descriptive frequencies were calculated for participant agreement with a series of statements about SV ('disagree'; 'unsure'; 'agree'). Then I calculated mean scores (disagree=1; unsure=2; agree=3) across these items and stratified mean scores by gender identity (McMahon, 2010).

To check for significant differences in willingness to engage in bystander behaviour between different gender identities (objective 1), I conducted unpaired T-tests using the mean scores of men and women (McMahon, 2010). I conducted unpaired T-tests to compare the means of distinct and independent samples (Lakens, 2013). I repeated this same analysis to test for gender difference on the endorsement of statements about SV (McMahon, 2010).

Next, to achieve objective 3 (estimate the extent to which gender identity and attitudes impacted participant willingness to engage in bystander behaviour), I conducted a series of analyses. First, a Kendall Rank Correlation Coefficient (Kendall, 1948) was calculated to identify a potential relationship between respondents' attitudes about SV and willingness to

engage in bystander behaviours. Kendall Rank Correlation is a nonparametric measure of the strength and direction of association between two variables and was used (instead of the Pearson r correlation) as the variables in the analyses were not normally distributed (Joshi et al., 2015). Then I conducted a set of linear regression analyses to measure the relationship between attitudes and bystander behaviour. The gender variable was introduced into the model as an interaction term to assess if gender identity moderated this relation. The specifications of the regression models and the selection of gender as an interaction variable were informed by relevant empirical work and theory in the field of bystander prevention (Royston & Sauerbrei, 2008); specifically, the empirical evidence on the different willingness to engage in bystander intervention across gender identities (discussed in the introduction) and a critical feminist theoretical understanding of the relationship between gender and SV in HEI settings (as discussed in Chapter 1) (Wooten & Mitchell, 2016). The gender variable was dummy coded as it is a nominal categorical variable, meaning there is no intrinsic order of the three categories ((1) men; (2) women; (3) transgender and gender-diverse). The reference category was designated to be 'men' to avoid multicollinearity. Therefore, the interpretation of the results for 'women' and transgender and 'other gender identity' are in reference to 'men'. Gender was added as an interaction variable instead of a control variable, given the theoretical and empirical support for understanding the culture and climate of SV in HEI settings through a gendered lens (Frazier et al., 2004; Wooten & Mitchell, 2016). However, while existing literature has explored how beliefs about SV differ based on gender and that bystander behaviour differs based on gender, there is limited evidence on whether the relationship between these two constructs was different across gender identities (McMahon, 2010). Gender, as an interaction or moderating variable, could influence the direction and magnitude of the impact attitudes about SV (independent variable) have on bystander behaviour (dependent variable) (Aguinis et al., 2017;

Frazier et al., 2004). Testing this relationship has the potential to offer theoretical and practical insights into the design of bystander intervention programming (Andersson et al., 2020). To address the possibility of multicollinearity and because of the low correlation between items on the attitudes about SV scale, a second series of separate regression analyses were conducted to determine whether each attitude was related to bystander attitudes (McMahon, 2010).

The above analyses handled missing data by excluding participants who did not provide complete responses to the bystander and attitudes scale. As a result, a participant who answered, some but not all the items on the behaviour or attitudes scale would be excluded. To address this missingness I imputed the missing variables on these scales and conducted the regression analysis again to see if the direction or strength of the relationship found in the previous analysis changed. To impute missing data I employed the multivariate imputation by chained equations approach (Raghunathan et al., 2001) using the mice package in R (v3.13.0; Van Buuren & Groothuis-Oudshoorn, 2011). This approach considers the uncertainty associated with imputed values and as such provides a more robust estimation when compared to simple imputation methods (Azur et al., 2011). I generated 10 complete datasets, ran the regression on each of the datasets and pooled the estimates together using Rubin's rules (1987) to get average regression coefficients with standard errors (Raghunathan et al., 2001). Finally, I compared the results of the pooled regression analysis to the results from the regression analysis that excluded missing variables to check for differences in the direction and significance of effects.

5.3 Results

5.3.1 Sample characteristics

Within the sample of 1268 students, 738 (58.2%) identified as a woman, 454 (35.8%) identified as a man, 57 (4.5%) identified as a transgender woman, a transgender man, or gender non-conforming, non-binary or queer, and 17 (1.3%) preferred not to say. The majority were

undergraduate students (n=762, 60.1%), while 481 (37.9%) were post-graduate, and 15 (1.2%) were visiting or continuing education students. Most of the sample identified as White (n=1007, 79.4%); 132 (10.4%) identified as Asian or Asian British; 77 (6.1%) identified as belonging to mixed or multiple ethnic groups; 21 (1.7%) identified as Black or African or Caribbean or Black British, with 23 (1.8%) belonging to other ethnic groups. The majority of respondents (n= 742, 58.5%) identified as heterosexual, 281 (21.8%) identified as bisexual, 103 (8.1%) identified as gay or lesbian, and 68 (5.4%) identified as a sexual orientation that was not listed (See Table 5.1).

Table 5.1: Demographics

Variable	**N = 1,268**
Gender	
A man	454 (36%)
A woman	738 (58%)
Transgender or gender-diverse	57 (4.5%)
Prefer not to say	19 (1.5%)
Ethnicity	
Asian / Asian British	132 (10%)
Black / African / Caribbean / Black British	21 (1.7%)
Mixed / Multiple ethnic groups	77 (6.1%)
White	1,007 (80%)
Any other ethnic group	29 (1.3%)
No Answer	2 (0.2%)
Student status	
Continuing education student	15 (1.2%)
Postgraduate student	481 (38%)
Undergraduate student	762 (60%)
Visiting student	9 (0.7%)
No Answer	1 (0.1%)
Sexual orientation	
Bisexual	281 (22%)
Gay or Lesbian	103 (8.1%)
Heterosexual	742 (59%)
None of the above	68 (5.4%)
Prefer not to say	72 (5.7%)
Unknown	2 (0.2%)

5.3.2 Willingness to engage in bystander behaviour

The overall mean score for willingness to engage in bystander behaviour was 2.66 (SD = .31). The mean score for each item ranged from 2.39 to 2.90 (Table 5.2). Participants were least willing to "officially report a friend who perpetrated SV to the university or police" and were most willing to "walk a friend home who has had too much to drink" and "express discomfort if someone says rape victims are to blame for being raped". The frequencies for responses to each item disaggregated by gender identity are presented in Table 5.3. Men (M2.60, SD=0.33) were significantly less willing than women (M=2.69, SD=0.30) to engage in bystander behaviour, t(882) = 5.22, p <0.001. Men were less willing than other gender identities (M=2.68, SD= 0.30) to engage in bystander behaviour, but this difference was not significant, t(74) = 1.93, p =0.057.

Table 5.2: Mean scores of items on the likelihood of engaging in bystander behaviour

Item	Mean	SD
Walk a friend who has had too much to drink home from a party, bar, or other social event	2.90	0.38
Express discomfort if someone says rape victims are to blame for being raped	2.90	0.36
Confront a friend who plans to give someone alcohol to get sex	2.86	0.42
Speak up to someone who is making excuses for having sex with someone who is unable to give full consent	2.75	0.49
Try to stop someone who was trying to take a drunk person to another room or trying to get them to do something sexual	2.64	0.56
Talk to the friends of a drunk person to make sure they don't leave them behind at a party, bar, or other social event	2.53	0.65
Speak up against sexist jokes delivered by a friend	2.51	0.67
Do something if I see someone surrounded by a group of people at a party who looks very uncomfortable	2.44	0.62
Officially report a friend who perpetrated sexual violence to the university or to the police	2.39	0.65

Note: Rating of these items were made on a 3-point scale (1 = unlikely, 2= unsure, 3=likely).

Table 5.3: Frequency of willingness to engage in bystander behaviour

Item	Overall N = 1,268	A man N = 454	A woman N = 738	Transgender or gender-diverse N = 57
Walk a friend who has had too much to drink home				
Unlikely	27 (2.1%)	8 (1.8%)	15 (2.0%)	2 (3.5%)
Unsure	95 (7.5%)	36 (7.9%)	56 (7.6%)	2 (3.5%)
Likely	1,146 (90%)	410 (90%)	667 (90%)	53 (93%)
Make sure a drunk person is not left behind at a party or bar				
Unlikely	111 (8.8%)	53 (12%)	45 (6.1%)	9 (16%)
Unsure	370 (29%)	145 (32%)	207 (28%)	16 (28%)
Likely	787 (62%)	256 (56%)	486 (66%)	32 (56%)
Do something if someone is surrounded by a group of people and looks very uncomfortable				
Unlikely	84 (6.6%)	38 (8.4%)	39 (5.3%)	7 (12%)
Unsure	545 (43%)	209 (46%)	301 (41%)	22 (39%)
Likely	639 (50%)	207 (46%)	398 (54%)	28 (49%)
Speak up against sexist jokes delivered by a friend				
Unlikely	128 (10%)	83 (18%)	40 (5.4%)	3 (5.3%)
Unsure	368 (29%)	163 (36%)	183 (25%)	13 (23%)
Likely	772 (61%)	208 (46%)	515 (70%)	41 (72%)
Confront a friend who plans to give someone alcohol to get sex				
Unlikely	35 (2.8%)	15 (3.3%)	18 (2.4%)	1 (1.8%)
Unsure	106 (8.4%)	53 (12%)	47 (6.4%)	3 (5.3%)
Likely	1,127 (89%)	386 (85%)	673 (91%)	53 (93%)
Express discomfort if someone says rape victims are to blame for being raped				
Unlikely	22 (1.7%)	10 (2.2%)	11 (1.5%)	1 (1.8%)
Unsure	92 (7.3%)	44 (9.7%)	43 (5.8%)	3 (5.3%)
Likely	1,154 (91%)	400 (88%)	684 (93%)	53 (93%)
Try to stop someone taking advantage of a drunk person				
Unlikely	53 (4.2%)	24 (5.3%)	26 (3.5%)	2 (3.5%)
Unsure	347 (27%)	138 (30%)	186 (25%)	14 (25%)
Likely	868 (68%)	292 (64%)	526 (71%)	41 (72%)
Speak up when someone says they had sex with someone who was unable to give full consent				
Unlikely	34 (2.7%)	13 (2.9%)	18 (2.4%)	1 (1.8%)
Unsure	247 (19%)	103 (23%)	127 (17%)	12 (21%)
Likely	987 (78%)	338 (74%)	593 (80%)	44 (77%)
Officially report a friend who perpetrated SV to the university or to the police				
Unlikely	114 (9.0%)	41 (9.0%)	66 (8.9%)	5 (8.8%)
Unsure	545 (43%)	194 (43%)	325 (44%)	18 (32%)
Likely	609 (48%)	219 (48%)	347 (47%)	34 (60%)

5.3.3 Attitudes about sexual violence

The overall mean score for all attitudes about SV was 1.18 (*SD* =0.25) and ranged from 1.01 to 1.47, suggesting overall rejection by the sample to place the blame for SV on the survivor or away from the perpetrator (Table 5.4). The most strongly endorsed belief was that SV happens because men get carried away during sexual activity and can't stop themselves. The frequencies for responses to each item disaggregated by gender identity are presented in Table 5.5. Respondent attitudes differed based on gender identity. Men had a higher mean score (M=1.24, SD=0.32) than women (M=1.15, SD=0.22), t(746) = 5.24, p <0.0001, and other gender identities (M=1.12, SD=0.20), t(96)=3.89, p<0.001.

Table 5.4: Mean scores on items assessing attitudes toward sexual violence

Item	Mean	SD
If someone pays for a person's meal or buys a person a drink, they should expect to engage in sexual activity with this person	1.01	0.10
Sexual assault happens to people who put themselves in bad situations and are thus, somewhat responsible for what happens to them	1.10	0.35
When someone is sexually assaulted it is often because of miscommunication or because they did not say "no"	1.19	0.45
A person who is sexually assaulted while they are drunk or high is somewhat responsible for what happens to them	1.13	0.43
Sexual assault happens because men get carried away in sexual situations once they've started engaging in sexual activity	1.47	0.64

Note. Rating of these items were made on a 3-point scale (1 = disagree, 2= unsure, 3=agree).

Table 5.5: Frequency of different attitudes toward sexual violence

Item	Overall N = 1,268	A man N = 454	A woman N = 738	Transgender or gender-diverse N = 57
If someone pays for a person's meal or buys a person a drink, they should expect to engage in sexual activity with this person				
Disagree	1,261 (99%)	449 (99%)	736 (100%)	57 (100%)
Unsure	5 (0.4%)	5 (1.1%)	0 (0%)	0 (0%)
Agree	2 (0.2%)	0 (0%)	2 (0.3%)	0 (0%)
When someone is sexually assaulted it is often because of miscommunication or because they did not say "no"				
Disagree	1,060 (84%)	350 (77%)	643 (87%)	50 (88%)
Unsure	175 (14%)	84 (19%)	82 (11%)	7 (12%)
Agree	33 (2.6%)	20 (4.4%)	13 (1.8%)	0 (0%)
Sexual assault happens to people who put themselves in bad situations and are thus, somewhat responsible for what happens to them				
Disagree	1,165 (92%)	387 (85%)	706 (96%)	54 (95%)
Unsure	82 (6.5%)	53 (12%)	25 (3.4%)	3 (5.3%)
Agree	21 (1.7%)	14 (3.1%)	7 (0.9%)	0 (0%)
Sexual assault happens because men get carried away in sexual situations once they've started engaging in sexual activity				
Disagree	778 (61%)	268 (59%)	458 (62%)	39 (68%)
Unsure	386 (30%)	149 (33%)	216 (29%)	15 (26%)
Agree	104 (8.2%)	37 (8.1%)	64 (8.7%)	3 (5.3%)
A person who is sexually assaulted while they are drunk or high is somewhat responsible for what happens to them				
Disagree	1,145 (90%)	379 (83%)	696 (94%)	53 (93%)
Unsure	78 (6.2%)	42 (9.3%)	30 (4.1%)	4 (7.0%)
Agree	45 (3.5%)	33 (7.3%)	12 (1.6%)	0 (0%)

5.3.4 The relationship between attitudes and bystander behaviour

The correlation between the mean bystander score and the mean attitudes score was small but statistically significant (τ = -0.18, $p < .001$) indicating that an endorsement of statements that blame survivors for SV is associated with reduced willingness to engage in bystander behaviour. Regression analyses further explored this relationship between attitudes (independent variable) and bystander behaviour (dependent variable) using gender identity as the moderator. Overall, the regression analysis indicated that attitudes were significantly related willingness to engage in bystander intervention. For each additional score increase on the attitudes scale, there was a 0.28-point decrease (on a 3-point scale) in bystander behaviour ($p < .001$) (Table 5.6). The relationship between attitudes and willingness to engage in bystander

behaviour was the same for each gender identity meaning that gender identity did not act as a moderator for this relationship.

The pooled coefficients from the imputed datasets found similar results to the complete case analysis; there was no change in significance or direction of regression coefficients between the two analyses (see Table 5.6).

Table 5.6: Linear regression with interaction analysis for bystander behaviour and attitudes on sexual violence with complete case and imputed data

	Dependent variable:	
	Willingness to engage in bystander behaviour	
	Complete case data	Imputed data
Attitudes on sexual violence	-0.278***	-0.263***
	(0.046)	(0.046)
A woman	0.009	0.016
	(0.087)	(0.094)
Other gender identity	0.085	0.113
	(0.244)	(0.236)
Attitudes: A woman	0.057	0.045
	(0.072)	(0.079)
Attitudes: Other gender identity	-0.030	-0.057
	(0.213)	(0.207)
Constant	2.939***	2.939***
	(0.059)	(0.058)
Observations	1,249	1,432
R^2	0.064	0.062
Adjusted R^2	0.060	0.058
F Statistic	16.958*** (df = 5; 1243)	17.883*** (df = 5; 1427)
Note:	*p<0.1; **p<0.05; ***p<0.01	

To determine what attitudes specifically were related to bystander intervention a series of separate linear regressions were conducted for each attitude item (Table 5.7). The five attitude

items and gender were entered as independent variables to determine the impact on Bystander Attitudes. All of the items were significantly associated with willingness to engage in bystander behaviour except the item "sexual violence happens because men get carried away during sexual activity and can't stop themselves". The only item in which gender was identified as a moderator was "if someone pays for a person's meal or buys a person a drink, they should expect to engage in sexual activity with this person." The means that when both men and women agreed with this statement, the women were significantly more likely than men to engage in effective bystander behavior. This could indicate that women are more likely than men to intervene when both hold problematic attitudes about SV. However, tor all other attitudes, gender was not identified as a significant moderator.

Table 5.7: Linear regression with interaction analysis for bystander behaviour and each attitude on sexual violence

	Dependent variable:				
	Willingness to engage in bystander behaviour				
	(1)	(2)	(3)	(4)	(5)
A1	-0.399***				
	(0.139)				
A2		-0.137***			
		(0.027)			
A3			-0.037		
			(0.023)		
A4				-0.188***	
				(0.031)	
A5					-0.107***
					(0.025)
A woman	-0.235	0.018	0.084*	0.038	0.081
	(0.180)	(0.051)	(0.046)	(0.061)	(0.053)
Other gender identity	0.079*	0.127	0.149	-0.125	0.061
	(0.044)	(0.149)	(0.111)	(0.199)	(0.179)
A1:A woman	0.330*				
	(0.177)				
A1:Other gender	----				
A2:A woman		0.056			
		(0.039)			
A2:Other gender		-0.057			
		(0.127)			
A3:A woman			0.010		
			(0.029)		
A3:Other gender			-0.051		
			(0.074)		
A4:A woman				0.036	
				(0.053)	
A4:Other gender				0.175	
				(0.184)	
A5:A woman					0.001
					(0.044)
A5:Other gender					0.004
					(0.162)
Constant	2.999***	2.770***	2.650***	2.816***	2.727***
	(0.142)	(0.037)	(0.037)	(0.040)	(0.034)
Observations	1,249	1,249	1,249	1,249	1,249
R^2	0.029	0.051	0.028	0.059	0.043
Adjusted R^2	0.026	0.047	0.024	0.055	0.040
F Statistic	9.422*** (df = 4;	13.335*** (df = 5; 1243)	7.116*** (df = 5;	15.666*** (df = 5; 1243)	11.277*** (df = 5; 1243)

Note: *p<0.1; **p<0.05; ***p<0.01

A1= If someone pays for a person's meal or buys a person a drink, they should expect to engage in sexual activity with this person; A2= When someone is sexually assaulted it is often because of miscommunication or because they did not say "no"; A3= Sexual assault happens because men get carried away in sexual situations once they've started engaging in sexual activity; A4= Sexual assault happens to people who put themselves in bad situations and are thus, somewhat responsible for what happens to them; A5= A person who is sexually assaulted while they are drunk or high is somewhat responsible for what happens to them

5.4 Discussion

I found that participant attitudes about SV impacted their willingness to engage in bystander behaviour. Specifically, respondents who supported statements that shifted blame for SV to survivors and away from perpetrators were significantly less willing to enact effective bystander behaviours. The strength of this relationship found through regression analyses (small but statistically significant) is consistent with what has been found in previous studies conducted among higher education students in the US (Mainwaring et al., 2022; McMahon, 2010). It was expected that other factors, in addition to attitudes about SV and gender identity, would confound this relationship with willingness to engage in bystander behaviour – including conceiving of the event as a problem and having the capacity and skill set to act effectively (Latané & Darley, 1970). Further, as discussed by Fenton et al. (2016) there are likely several interacting social and cultural norms among students that could impact their intervening behaviour.

Overall, participants indicated a general willingness to engage in bystander behaviour consistent with existing literature (Hoxmeier et al., 2022; McMahon, 2010). However, participant willingness to engage in bystander behaviour varied depending on what the bystander intervention act was. Existing research has explored the types of bystander behaviours students are more likely to engage in. For example, Fischer et al. (2011) found that as the severity of the situation increases, bystanders are more likely to intervene. Similarly, McMahon et al. (2011) found that students were more willing to intervene in more explicit forms of SV rather than more covert forms such as a friend using sexist language. I similarly found the more explicit acts of SV were the ones that students were most likely to engage in (for example, confronting a friend who plans to give someone alcohol for sex, trying to stop someone from taking advantage of a drunk person, or confronting someone who says rape victims are to be

blamed for being rape). However, the act that respondents were least likely to engage in was reporting an incident of SV. Less than half of participants indicated that they would report a friend who perpetrated SV to the university or the police. Hennelly et al. (2019) described why students may be reluctant to report incidents "on other people's behalf" (p.18). In their qualitative data students indicated the importance of respecting what the survivor wants and that it is at the discretion of the survivor to determine whether or not the incident should be reported (Hennelly et al., 2019). They also found that students expressed fear that they would face consequences such as loss of social standing or backlash from others after they reported (Hennelly et al., 2019). This finding could be particularly pertinent among University of Oxford students, where social standing holds considerable capital (Johnson, 1988).

I found that women and gender-diverse respondents were more willing to engage in effective bystander behaviour when compared to men. This finding is consistent with a systematic review of variables influencing bystander intervention for SV which found that across 85 included studies females were more willing to intervene than men (Mainwaring et al., 2022). This gender difference was most pronounced in the behaviour of speaking up against sexist jokes made by friends. Gendered social bond theory offers a potential explanation for this difference, explaining the tendency for men to attempt to maintain a social bond through perpetuating traditional misogynistic social norms (Godenzi et al., 2001).

I also found that men were more likely to endorse statements that shifted blame from SV toward the survivor and away from the perpetrator, when compared to women. The most endorsed statement was "sexual violence happens because men get carried away during sexual activity and cannot stop themselves" which was consistently endorsed across gendered identity. While women were less likely to blame survivors for SV, they were equally likely to endorse statements that absolve men from responsibility. This finding reflects the current climate among

the higher education population, where it is becoming less acceptable to blame survivors for SV, but where there is far more uncertainty on the extent to which perpetrators are accountable (McMahon, 2010).

There are several limitations to this analysis that need to be considered when interpreting the results. First, the data is cross-sectional and therefore it is not possible to establish a causal relationship between participant attitudes and their willingness to engage in bystander behaviour as these variables were measured at the same time point. Second, as discussed in Chapter 4, there is the possibility of nonresponse bias, where participants were more or less likely to respond to these questions and the survey based on certain characteristics. For example, the findings from the OUR SPACE survey could overestimate willingness to engage in bystander behaviour if responding to the survey was correlated to increased willingness to intervene to prevent and respond to SV (Hennelly et al., 2019).

Third, there could be the presence of social desirability bias due to the sensitive nature of the survey topic, SV an SH, and the sensitive nature of potential responses, where survey respondents are asked to reflect on their beliefs and positions in relation to SV and role in preventing and responding to the problem (Krumpal, 2013). Answers to these survey questions could be distorted by social desirability bias whereby survey respondents selected the answers they thought they should say instead of what they actually believe, if what they believe violates existing social norms or is societally unacceptable (Krumpal, 2013). This type of bias is salient to surveys on SV in HEI settings. Students in these settings are intelligent, highly educated, and as a result of student activism are increasingly being exposed to awareness campaigns related to consensual sex, more so than any other generation of higher education student (Humphreys & Towl, 2022). However, the prevalence of SV found in Chapters 3 and 4, show that there is a disconnect between what students might know is the right thing to do or say and what actually

happens among students. This is particularly important in this chapter where students are asked to reflect on situations related to SV such as their beliefs about survivors of SV or their willingness to intervene to prevent SV, where they might know what they should say but perhaps believe something different. Participants ultimately may want to see themselves in a positive light independent of their true attitudes and behaviours (Krumpal, 2013).

Fourth, the items on bystander activity did not measure participant behaviour, only willingness to engage in behavior. It is often not sufficient to measure intent to understand actual behaviour. Whether or not someone decides to engage in bystander behaviour is influenced by a variety of factors, one of them being willingness to intervene (McMahon et al., 2017) but they also need to have the opportunity to intervene and some students may not be exposed to the situations they indicated that they were willing to intervene in (Hoxmeier et al., 2022). Even if students are presented with the opportunity to intervene they need to notice the event and have the capacity and skill set to intervene (Latané & Darley, 1970). Further, a student's decision of whether or not to take action is complicated by contextual and situational factors, including their own alcohol or drug consumption or their relationship with the people involved in the situation (McMahon et al., 2017).

Fifth, due to considerations surrounding survey length I did not employ the full Illinois Rape Myth Acceptance scale to measure attitudes. This measure is validated and could provide a more comprehensive assessment of the extent to which participants endorse statements about SV that blame the survivor or take blame away from the perpetrator.

The findings of this research can help to inform future bystander programming at the University of Oxford. At Oxford, there is room to improve student willingness to engage in bystander behaviour to prevent and respond to SV, specifically among men who were found less likely than women respondents to be willing to intervene. Programming must explicitly

engage men and continue to work to counteract the ways in which gendered-social bonds perpetuate misogynistic attitudes in addition to building empathy and fostering support for survivors of sexual assault (Mujal et al., 2021). For example, less than half of men respondents indicated willingness to speak up against a sexist joke delivered by a friend.

In developing bystander intervention training it is necessary to consider the selection bias of who will attend. Given that the majority of students in the sample did not hold problematic beliefs about SV (a finding that is consistent across other surveys of this kind) (Navarro & Tewksbury, 2017), there is a risk of not reaching students who could benefit from the programming. One strategy to address this would be to make training mandatory for all students by embedding bystander training as a requirement for participating in certain extra-curricular activities. Bystander intervention training has potential to be an effective strategy to reduce SV in higher education contexts but monitoring and evaluation of the attitudes and behaviours are needed to ensure that interventions are contextually relevant and reflect the university climate and culture.

5.5 Chapter summary

In this Chapter I used the OUR SPACE data to: (1) estimate the extent to which students were willing to engage in bystander behaviour and whether this willingness differed based on participant gender identity; (2) estimate the extent to which respondents endorsed statements that shifted blame for SV from the perpetrator to the survivor and whether these beliefs differed based on participant gender identity, and; (3) estimate the relationship between attitudes on SV and participant willingness to engage in bystander behaviour moderated by gender identity. I found gendered differences across the outcome variables, with men being less likely to engage in bystander behaviour to prevent SV and more likely to endorse attitudes that place the blame of SV on victims or survivors. I further found that respondents with attitudes of SV that placed

the blame for SV on survivors were less willing to engage in bystander behaviour to prevent or respond to SV. The results of this chapter contribute to the limited evidence base on bystander intervention in UK HEIs. Given the increasingly widespread adoption of bystander training in UK HEIs as a strategy to involve the entire community, not just survivors and perpetrators, in SV prevention and response, these findings can be used to inform more tailored programming at the University of Oxford and across the sector.

5.6 References

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6. Discussion

This thesis contributes to the quantitative evidence base of sexual violence (SV) research in higher education contexts. I employed an empiricist feminist epistemology that views experiences as the primary source of knowledge (Grasswick, 2011; Hundleby, 2011; Thompson, 1992). This approach was particularly useful for understanding SV in HEI settings, where student surveys on the prevalence and nature of SV have become increasingly popular (and in some cases mandated) and where they are used as tools advocating for change (Krause et al., 2017). As such, through an empiricist feminist epistemology I was able to rely on high quality traditional quantitative survey data methodologies to both rigorously approach my research questions and at the same time achieve feminist research objectives.

In this thesis, I explored the following research questions through two main studies: (1) What is the available evidence on the prevalence of SV in higher education? (2) What is the prevalence, nature, and culture of SV at a large HEI in the United Kingdom?

The first aim of this DPhil project was to gather and synthesise the available evidence on the prevalence of SV at HEIs through achieving the following objectives:

1. Establish an evidence base on the prevalence of SV at HEIs.
2. Formally assess characteristics of studies and identify geographical and demographic gaps in research.
3. Meta-analyse the prevalence estimates from these studies.
4. Provide analyses on the context and nature of SV at HEIs in terms of gender identity, world region, and type of SV experienced.

The second aim of this DPhil project was to collect and analyse original and unique data on SV in the UK context by implementing a pilot survey among University of Oxford students. The objectives were to:

1. Work with stakeholders to adapt, implement, and evaluate a survey targeted at HEI students to understand their experiences with SV.
2. Develop a survey that is inclusive of gender identity, sexual orientation, and ethnicity.
3. Estimate the prevalence of SV.
4. Assess student attitudes toward SV and bystander behaviour.
5. Suggest generalizable recommendations for HEIs on SV interventions.
6. Reflect on the feasibility and practicality of conducting a survey on SV at a UK HEI.

In this chapter, I will summarise the empirical contributions of this thesis. Then, I will reflect on the feasibility of conducting campus climate surveys, the limitations of this work, and directions for future research. Lastly, I will discuss implications of my findings for theory, policy, and practice.

6.1 Overview of main findings

This section aims to provide an overview of the key findings from Chapters 3–5 and describe how the theories presented in Chapter 1 relate to the overarching empirical results from this thesis.

6.1.1 The prevalence of sexual violence and sexual harassment among higher education students

In Chapter 3 and Chapter 4, I found SV to be a pervasive issue, experienced by a substantial proportion of higher education students. In Chapter 3, I presented the results of a systematic review with meta-analyses of studies measuring the prevalence of SV among HEI students. I established the first evidence base of prevalence studies that captured estimates outside of the US. To date, no systematic reviews have applied a comprehensive global search criterion, instead limiting included studies to the US context (Fedina et al., 2018; Stoner & Cramer, 2019). Further, I conducted the first meta-analyses of prevalence data on SV in higher

education contexts (Hernández-Romero et al., 2019). I employed a robust meta-analytic methodology by combining estimates based on type of SV, recall period, gender identity, and global region. The results of the meta-analyses indicated that 17.5% of women and 7.8% of men HEI students have experienced SV. Across all types of SV (rape, attempted rape, coerced sex, and forced sexual touching), the most common act of SV experienced was forced sexual touching, irrespective of gender identity.

In Chapter 4, I used the review to inform the design and implementation of one the first campus climate surveys in the UK and the first at the University of Oxford. Chapter 4 described the development and the dissemination of the Oxford Understanding Relationships, Sex, Power, Abuse, and Consent Experiences (OUR SPACE) survey, which measured the prevalence and nature of SV at the University of Oxford. The OUR SPACE study invited all University of Oxford students to participate, of which 1318 respondents provided answers for questions on SV and on SH. As presented in Chapter 4, 20% of these respondents experienced at least one act of SV in the past year, and women respondents (26.9%), and transgender and gender-diverse respondents (17.2%) experienced more SV when compared to men respondents (10.6%). Further, 52% of respondents experienced at least one act of SH in the past year and, again, women respondents (65.8%) and transgender and gender-diverse respondents (53.5%) experienced more SH when compared to men respondents (31.3%).

As discussed in Chapter 1, sexually violent crime can be conceptualised as a deviant behaviour (Lisak & Miller, 2002) or a conforming one (Godenzi et al., 2001). The evidence for the pervasiveness of the issue of SV presented in Chapter 3 and Chapter 4 could be explained by Khan et al. (2020)'s argument that SV is normalised and so deeply entrenched within the HEI context that it impacts many people rather than a few. A limitation of the empirical work in this thesis is the lack of data on perpetrators, making it difficult to robustly test the concepts

of deviancy or conformity. It can only be predicted that given the substantial proportion of students experiencing SV in higher education, the problem cannot solely be attributed to a rare group of perpetrators. However, combining existing evidence on perpetration in HEIs, which found that 29% of men perpetrated SV as an HEI student (Anderson et al., 2021), with the existing theoretical work on SV as a conforming behaviour (Godenzi et al., 2001; Khan et al., 2020) helps to strengthen this prediction.

6.1.2 Gender identity, sexual orientation, and sexual violence prevalence

The findings from Chapters 3 and 4 showed that women and transgender and gender-diverse people face the largest burden of SV when compared to men. The meta-analyses from Chapter 3 found that women faced higher rates of SV when compared to men. While only a small number of studies reported on SV among transgender and gender-diverse samples, this population experienced the highest rates of SV (18.1%). I found that this often-understudied population is at increased risk for experiencing SV, which is consistent with research outside of the higher education context (Stotzer, 2009). Chapter 4 additionally found that non-heterosexual individuals were at a heightened risk. Critical feminist theory can be used to understand these results (Wooten, 2015). Seen through a critical feminist lens, HEIs are inherently patriarchal institutions that have historically responded to SV by blaming women or by protecting perpetrators (Wooten, 2015). Critical feminist theory also describes SV as entwined with other forms of oppression and discrimination including heteronormativity, homophobia, and racism, which is useful for understanding why the results in this thesis found that transgender and gender-diverse people and non-heterosexual people, in addition to women, experienced high rates of SV (Harris et al., 2017).

Even though Chapters 3 and 4 found that women and transgender and gender-diverse people faced the largest burden of SV, there is still a proportion of men experiencing SV. The

limited existing theoretical framing of men's experiences of SV claims that cisgender men or men who are not heterosexual are at a greater risk for experiencing SV when compared to cisgender and heterosexual men due to discrimination faced by these groups (Hoxmeier et al., 2022). However, more theoretical work is needed to explain the presence of SV among cis gendered, heterosexual men.

6.1.3 Type of sexual violence experienced

An important contribution of this prevalence research was conceptually mapping and grouping similar types of SV (presented in Chapter 3). This was important due to the variety of ways SV was described and defined across the literature and the inconsistencies in how studies use and report on SV prevalence statistics.

In Chapters 3 and 4, forced sexual touching was found to be the most common form of SV, followed by coercive sex, attempted rape, and rape. A theoretical gap exists in explaining this phenomenon, yet the implications of this findings is pertinent for prevention and response. SV encapsulates a wide range of acts with varying degrees of potential harms for survivors; however, it is often discussed as one type of experience. One potential explanation for this finding could be understood through the results found in Chapter 5, which show that despite students in higher education being very aware that 'rape' is wrong there is potential confusion around what constitutes consent and how to obtain it. This confusion could lead to the frequency of events such as forced sexual touching but would not lead to events such as forced penetration.

6.1.4 Setting of sexual violence

Although there remains limited evidence from the South-East Asian and Eastern Mediterranean regions, especially for men, I identified consistent prevalence estimates across WHO regions. Women consistently reported higher rates of SV victimisation for each region and were most at risk in the African Region. The analysis further contributed to the literature

by meta-analysing men's experiences with SV. While significantly less prevalent when compared to women and gender-diverse samples, I found that a substantial proportion of men have experienced SV in higher education (7.8%). Regional estimates for men were limited due to a lack of studies in three of the six WHO regions, including the African Region, which reported the highest rates of SV among women. The Western Pacific Region had the highest estimates for men's SV, however there were only five studies included in the analysis. More research is needed outside of the Americas to better understand how men's SV manifests itself globally. Specifically, the review demonstrated that there was a dearth of research from the UK context.

The SV prevalence estimates from the OUR SPACE study were higher than the meta-analysed prevalence estimates for SV presented in Chapter 3 and the prevalence estimates of SV found across UK national surveys of the general population, including the Natsal-3 survey, the Crime Survey for England and Wales, the Scottish Crime and Justice Survey, and the European Union Violence Against Women Survey (Brunton-Smith et al., 2022). The University of Oxford could be a particularly risky place for SV, and more research is needed to further substantiate this finding and describe the contextual factors related to SV in this setting.

6.1.5 Campus climate

Previous chapters in the thesis demonstrated that SV is a pervasive public health problem both globally and in the UK but did not explore elements of the contextual environment where SV is occurring with the intention of informing prevention and response efforts. With mounting pressure to address SV and limited time and resources, HEIs are faced with complex and challenging decisions on how to best prevent and respond to SV among the student population. A greater understanding of bystander behaviour is required to inform effective policy and programming interventions that address SV.

Chapter 5 builds on the prevalence results presented in Chapter 3 and Chapter 4 by describing some of the contextual and environmental factors in HEIs that may contribute to SV. In Chapter 1, I introduced Routine Activities Theory, an integrated socio-ecological theory that describes the three conditions for a crime to occur: "a motivated offender, a suitable target, and an absence of capable guardians" (Cohen & Felson, 1979, p. 588). In Chapter 5, I explored bystander intervention as a type of violence prevention that moves beyond victims (suitable targets) and perpetrators (motivated offenders) and instead focuses on the roles and responsibilities communities play in perpetuating instances of SV (Jewkes et al., 2015). Bystander intervention involves 'capable guardians': students attending HEIs who are willing and equipped to prevent and respond to instances of SV. I used the OUR SPACE data to conduct an analysis on bystander behaviour and attitudes toward SV. This was the first study of its kind in the UK context.

I analysed respondent attitudes to see if they impacted students' willingness to engage in bystander behaviour and assessed for differences across gender (Jozkowski et al., 2021; McMahon et al., 2017). I found that respondents' attitudes about SV impacted their bystander behaviour. Specifically, respondents who supported statements that shifted blame for SV to survivors and away from perpetrators were significantly less willing to be effective bystanders. The size and strength of this relationship (small but statistically significant) was consistent with what has been found in previous studies conducted among higher education students in the US (Mainwaring et al., 2022; McMahon, 2010). It was also expected based on previously established theory. Latané and Darley (1970)'s framework for bystander behaviour outlined in Chapter 1 states four conditions that influence willingness to engage in bystander behaviour. While attitudes about SV played an important role in bystander behaviour, it was understandably not the only factor; there are other factors which influence bystander behaviour,

including assuming responsibility for the event and having the capacity and skill set to act effectively (Latané & Darley, 1970).

The moderation analysis found that the relationship between attitudes and beliefs did not change based on participant gender identity. However, I found that willingness to engage in bystander behaviour and attitudes about SV varied across gender identity. I found that women and gender-diverse respondents were more willing to engage in effective bystander behaviour when compared to men. Further, I found that men reported more endorsement of statements that shifted blame from SV toward the survivor and away from the perpetrator when compared to women and gender-diverse respondents. Gendered social bond theory, first introduced in Chapter 1, can help explain these findings by showing how there is a tendency for men to attempt to maintain a social connection through perpetuating traditional misogynistic social norms, including the belief that women are to blame for SV (Godenzi et al., 2001). Given the gendered differences in both attitudes about SV and willingness to intervene to prevent SV, this chapter recommended that programming must explicitly engage men and continue to work to counteract the ways in which gendered-social bonds perpetuate misogynistic attitudes in addition to building empathy and fostering support for survivors of sexual assault (Mujal et al., 2021).

6.1.6 Summary of findings

Overall, the results presented in this thesis align with the theories presented in Chapter 1. I found that SV is highly pervasive in higher education settings, aligning with existing theoretical framing of SV in HEIs as a conforming behaviour (Godenzi et al., 2001; Khan et al., 2020). I also found that women and transgender and gender-diverse people were at a significantly greater risk of experiencing SV when compared to men, aligning with critical feminist theory (Harris et al., 2017). Lastly, I found that attitudes about SV significantly

impacted willingness to engage in bystander behaviour, which is important for informing response initiatives given the important role bystanders play in socio-ecological criminal theories (Cohen & Felson, 1979). However, this thesis did not empirically contribute to theoretical understandings of why SV occurs among this population or why the University of Oxford might be a particularly risking setting for SV (Gialopsos, 2017). There is existing research on risk and protective factors for SV among this population (Bhochhibhoya et al., 2019; Kefale et al., 2021; Steele et al., 2020); however, there is scant evidence from the UK and Oxford contexts (Hales & Gannon, 2021). Future iterations of the OUR SPACE survey could be designed to measure risk and protective factors and more rigorously test theories on why SV occurs at such high rates among this population.

6.2 Conflicts of interest and reflexivity

There are no conflicts of interest to declare regarding the studies reported on in this document. While I am a University of Oxford student, I do not belong to student groups or advocacy groups focused on preventing and responding to SV experienced by higher education students. For both the systematic review with meta-analyses and the OUR SPACE study a protocol was written, peer-reviewed, and published prior to data-analysis.

Given the sensitive and complex nature of SV experienced by higher education students, it is essential that I reflect on and communicate the background I bring to this research. As a university student myself, I have an interest in the well-being of my fellow students, and as a woman—knowing that the burden of SV is disproportionally felt by my gender identity—I feel a sense of responsibility to survivors of SV to navigate this research appropriately and respectfully. Having been a student in higher education both in Canada and in the UK for almost nine years, I have an acute understanding of the types of environments and situations students are living in and engaging with. However, I acknowledge that there may be contextual nuances

that I am missing, as I did not attend an undergraduate programme at the University of Oxford or in the UK. In developing and designing the OUR SPACE survey, I worked collaboratively with a diverse range of stakeholders (student groups, university administration, Universities UK, etc.) to ensure that the survey tool was relevant to students in the UK.

In collecting and analysing the data, I made a particular effort to consider the needs and experiences of gender-nonbinary and transgender people and racial and ethnic minorities. These under-served populations have historically been excluded from research, and specifically research on SV. As a White cis woman I acknowledge the bias I bring to these studies and have tried to challenge the norms that underpin existing knowledge and understanding of the 'ideal victim'.

When conducting this research, I have been made more aware of the absence of these groups as stakeholders in measuring, preventing, and responding to SV. This is reflected in the small number of studies included in the systematic review that collect and report on race-disaggregated data of transgender and gender-diverse people and the limited number of studies being published from low-and middle-income countries. This was also reflected during stakeholder engagement meetings for the OUR SPACE survey, where most of the decision makers were White men.

6.3 Implications for institutions implementing campus climate surveys

An objective of thesis was to assess the feasibility and practicality of implementing a campus climate survey at a UK HEI. This section outlines three key considerations with regards to conducting a survey on SV prevalence in this context.

6.3.1 Institutional buy-in and stake holder engagement

An integral aspect of conducting SV research among higher education students involved establishing strong connections and relationships with relevant stakeholders. The first step was

getting approval from the Pro Vice-Chancellor of Equity and Diversity at the University of Oxford and assembling the OUR SPACE research team which consisted of researchers in the Department of Social Policy of Intervention as well as the head of the Sexual Violence and Harassment Support Service at Oxford and the Deputy Academic Registrar at Oxford. It was also essential to establish strong relationships with student groups, present to relevant University committees, and conduct individual meetings with senior leadership at the university to receive approval. The communication and dissemination of the survey required considerable support and effort from internal communications staff at the university, which included regular meetings with the Head of Student Communications.

While the OUR SPACE survey was successfully launched, the research team encountered significant political sensitivities in disseminating and communicating the results. Some members of the university were concerned about reputational issues or the implications of the results for funding. These challenges potentially threaten the ability of internal researchers – as suggested by Universities UK (2016), to carry out such surveys.

Additionally, there was a lack of participation and support from the colleges at the University of Oxford. The disaggregated nature of the university's collegiate system meant that while the survey, for the most part, had support from the central university, it received mixed reactions from individual colleges. Engaging colleges proactively could be a useful mechanism for increasing the sample size in future iterations of the OUR SPACE survey given the active role colleges at the University of Oxford play in the day-to-day lives of students. However, this process would be time consuming, complex, and could potentially result in not being able to administer a survey at all.

Ultimately, the success of any campus climate survey is dependent on the engagement of key stakeholders and obtaining institutional buy-in (DeGue, 2014; McMahon et al., 2018),

and this held true in the University of Oxford context. However, researchers and staff leading campus climate surveys must approach this process with great care. There are costs for undertaking this research which are exacerbated for more junior researchers and staff, many of whom might be on insecure contracts and whose employment could be threatened by upsetting individuals in important positions of power.

Despite these political challenges, the strong stakeholder relationships established at the inception of the OUR SPACE research project meant that the findings from the survey were presented to senior administration and leadership at the University of Oxford, including the Pro Vice-Chancellor for Education, and are currently being used to inform the response to sexual misconduct at the university.

6.3.2 Resources

Delivering a survey to a university population is a massive undertaking when done properly and requires funding and resources. The OUR SPACE study required technical and administrative support to ensure data security and to set up single sign-on authentication. Single sign-on authentication was employed to ensure that respondents were University of Oxford students and that respondents were only able to answer the survey once. However, setting up single sign-on authentication and embedding it within Qualtrics survey platform was a highly technical and timely endeavor that required substantial IT support from my department. Accessing student emails and gaining approval to administer the survey direct to every student was another technical and administrative consideration. To execute the communications plan I worked with university registrars to secure an up-to-date list of currently registered students and with communications staff who had the infrastructure and technology to send emails of this nature in a secure way.

If future iterations of the OUR SPACE survey were to be administered, the university would need to consider the cost, time, and personnel required to set up and administer the survey. Further, as the OUR SPACE study was done for my DPhil research, I conducted the data cleaning and data analyses in addition to preparing internal presentations and reports. If the survey were to be run again, the research team and the university would need to consider hiring research assistants or staff to undertake this process. While I received a small amount funding through the University of Oxford's van Houten fund (£7,900) to conduct this research, the university did not provide any additional funding. This limited the scope and reach that the survey was able to have. Similar surveys conducted in American HEIs received substantial funding from their institutions to administer campus climate surveys, with many of these universities paying external consultants to conduct the research (Cantor et al., 2019). For example, the Westat survey, administered at 33 US universities, including Harvard, Princeton, and Yale, costs US$85,000 for schools to participate (New, 2016).

6.3.3 Recruitment and response rates

As discussed throughout this thesis, response rates are linked to the methodological quality of campus climate survey data. Surveys with low response rates could be particularly prone to response bias, which limits the generalisability of findings. Within the OUR SPACE survey development process the research team employed several best practice strategies for enhancing participant recruitment, including keeping the survey short, offering incentives, branding the survey inclusively, and sending to students individually (Krebs et al., 2016). However, given that the survey response rate was not as high as other US-based campus climate surveys, in this section I aim to situate this result within larger contextual and situational factors regarding campus climate surveys.

First, survey response rates are declining across HEIs in general (Nair et al., 2008; Porter et al., 2004). One possible explanation for this declining participation is an increase in the amount students are being surveyed, causing survey fatigue. Survey fatigue can happen when students receive requests to participate in multiple surveys and do not have the capacity to complete them all, contributing to lower response rates (Porter et al., 2004). This could especially be the case when students receive multiple survey requests in a similar time frame (Porter et al., 2004). However, a review conducted by Fass-Holmes (2022), found little evidence that survey fatigue contributed to low participation in surveys among HEI students. Fass-Holmes (2022) suggests that responding to declining participation rates needs to go beyond addressing survey fatigue and presents the following possibilities, concluding that more research is needed to explore their efficacy: (1) accept students' survey response rates even if they are low (Fosnacht et al., 2017); (2) implement scheduling policies to ensure that surveys are delivered to students at optimal times, and; (3) include survey participation as mandatory components of courses or degree programs. More research innovation in the UK is needed to explore ways to address nonresponse bias in campus climate surveys.

As campus climate surveys include highly sensitive questions, participant recruitment strategies should look different than other student surveys. When designing the recruitment strategy for the OUR SPACE survey, I considered the potential that the survey could re-traumatise students impacted by SV. For example, when considering how many survey reminder emails to send out to students who had yet to complete the survey, I was conflicted between wanting to increase the response rate and at the same time respect students who may have intentionally chosen not to respond to the survey and would be potentially harmed by receiving the invitation several times. When students are repeatedly asked about traumatic events, they can experience undue stress. For example, through their We Speak survey on

attitudes of sexual misconduct, Princeton University found that students were less willing to complete subsequent surveys on the same topic due to the stress caused by the responding to sensitive topics (2017). In future iterations of the OUR SPACE survey, one potential strategy to mitigate potential harm could be giving students an opportunity to quickly and confidentially indicate that they do not want to be contacted for reminders.

6.4 Limitations and directions for future research

The limitations specific to the analyses conducted in this thesis are discussed in Chapters 3–5. This section highlights overarching limitations to this thesis and outlines directions for future research.

6.4.1 Generalisability and quality of campus climate survey data

A strength to this dissertation is that both studies (the systematic review with meta-analyses and the OUR SPACE survey) rely on self-report survey data to understand the issue of SV experienced by HEI students. SV, both in general and in the HEI environment, is often unacknowledged or hidden. Survivors underreport SV to official bodies, and when they do report there is evidence that such instances have been insufficiently dealt with (Wooten, 2015). Survey data plays a crucial role in discerning a more accurate prevalence rate and allowing student voices to shape the communities in which they live and study and informing the prevention and response practices delivered by their institutions (Godenzi et al., 2001). However, there are limitations to survey data on SV that must be considered when interpreting the findings in this dissertation.

The prevalence estimates presented in Chapter 3 and Chapter 4 could be limited by nonresponse bias. Nonresponse bias emerges as a result of missingness related to the intended sample (when survey respondents have different characteristics than survey nonrespondents) (Lavallée & Beaumont, 2015). SV surveys at HEIs may be particularly prone to this bias. In the

systematic review presented in Chapter 3, many included studies had low sample sizes, low response rates, and poor sampling strategies, which limits the potential accuracy of the findings (Berg, 2010; Brunton-Smith et al., 2022).

Building on the findings in the systematic review, the OUR SPACE study was designed and analysed to reduce nonresponse bias. A total population sampling approach was used to avoid the response biases inherent in convenience sampling, but despite using several standard tactics to incentivise participation in the population, the response rate was low (6%), lower than response rates obtained with similar surveys at many US institutions. As a result, there is a potential for response bias in the OUR SPACE findings, limiting the validity (and, in particular, the generalisability) of the prevalence estimates. This was mitigated by weighting the data using total demographic statistics shared by the University of Oxford and by conducting a complete case analysis for the key outcome variables of interest.

However, there are certain types of nonresponse biases that were not accounted for. There was the possibility that individuals exposed to SV had a differential response rate when compared to individuals with no exposure to SV or that the propensity to respond was also correlated with the risk of experiencing SV (Brunton-Smith et al., 2022). This type of bias could be particularly prevalent in studies with small sample sizes and low response rates. Fosnacht et al. (2017), however, counter the assumption that low response rates are inherently unreliable and found that the size of the sampling frame should be an indicator for the ideal response rate; surveys with smaller sampling frames should seek a higher response rate while surveys with large sampling frames can generate reliable results with a much lower response rate. Jeffrey et al. (2022) substantiated Fosnacht et al.'s finding by comparing SV prevalence rates from campus climate surveys with high and low response rates. Jeffrey et al. (2022) found that when total population sampling was used low response rates did not bias the findings. In addition,

Rosenthal and Freyd (2018) found no evidence for bias in survey completion toward those who have experienced SV. Their research conducted with higher education students compared a self-selection sample with a sample that minimised self-selection, finding that survivors did not seem to be biased to respond or not respond (Bovill & White, 2022).

Still, declining survey participation threatens the efficacy of campus climate surveys, and despite the few studies exploring nonresponse bias mentioned above this important consideration has largely been left out of the literature; as a result, there is scant evidence on how to account for or mitigate this potential bias in the analysis stage. Future research on prevalence of SV in the UK higher education context could benefit from designing studies to enhance the rigour and reliability of prevalence estimates.

6.4.2 Perpetration

The empirical analyses in this thesis focused on survivors of SV rather than perpetrators. Chapter 3, for example, estimated the prevalence of experiencing SV but did not estimate the prevalence of perpetrators. This was justified due to an existing review covering literature from 2000–2017 that estimated that 29.3% of men in higher education have perpetrated SV (Anderson et al., 2021). The estimates provided from the OUR SPACE survey in Chapter 4 also focused on victimisation due to considerations of data practicality and validity. While Chapter 5 extends beyond victimisation to provide insight into the attitudes and behaviours of higher education students, there is not an explicit empirical contribution to our understanding of perpetration.

Taking a ‘victim-oriented’ approach is critical as it considers acts of SV beyond what perpetrators might consider SV (Walby et al., 2017). For example, a perpetrator may not have intended to cause harm and therefore not categorise their actions as forceful or unwanted on a data collection tool. This approach is important for understanding public health priorities; by

defining and understanding violence from the perspective of survivors, researchers can better estimate the true pervasiveness of the problem from the lens of those most impacted.

A 'victim-oriented' approach, that focuses explicitly on women, can also lead to policy that designs tailored support services and intervention strategies for survivors (Goodman & Epstein, 2005). However, it is essential that efforts to estimate the burden of SV from the perspectives of survivors does not lead to prevention and response programming that places the onus on survivors to reduce the problem through, for example, self-protection. Instead, it is important to engage potential perpetrators in prevention activities (O'Leary & Slep, 2012). Perpetration prevention is critical, and to create effective prevention programming research is also needed on the perspectives of perpetrators (Jouriles et al., 2018; McMahon et al., 2017). Ultimately, this research is essential for designing the content embedded within interventions but is not an accurate method to understand or estimate the true burden of SV experienced by survivors (Bufacchi, 2009). It would be valuable for future iterations of the OUR SPACE survey to continue to measure and report on risk and protective factors for perpetration to better inform prevention and response initiatives.

6.4.3 Gender-based violence more broadly

The scope of this thesis was on SV, a type of gender-based violence (GBV). However, there are other forms of violence women face that extend beyond SV. Bull et al. (2022), in reflecting on the current state of research in UK HEIs, argued a need to cover the spectrum of GBV experienced by higher education students in both data collection and prevention and response programming, highlighting that only focusing on SV is 'a problematic trend' in the field. There is currently no consensus on what campus climate surveys should measure. Having broader questionnaires could make surveys too long, potentially threatening response rates, but

surveys with a narrower scope potentially miss important aspects of the problem that need to be documented.

By limiting the focus of this thesis to SV, I am not able to fully capture the range of gendered violence that occurs in higher education—potentially crucial data for contextualising acts of SV. To address this issue, future iterations of data collection within the OUR SPACE study could look to Scotland's Equally Safe in Higher Education project as an example (McCarry et al., 2021). This group trialled a campus climate survey across four universities. The respondents included 2000 students and 1100 staff who responded to questions about campus safety, including questions on emotional abuse, physical violence, stalking, sexual harassment, and SV (McCarry et al., 2021).

However, there are trade-offs to consider when widening the scope of campus climate surveys to GBV. As discussed throughout this thesis, declining response rates are a threat to the quality of these types of surveys among HEI students, and adding to their length is likely not going to help this issue. In an investigation of the validity of campus climate surveys, Li et al. (2022) argue that a lengthy survey may be particularly vulnerable to invalid responses because of survey fatigue that could result in careless or random responses toward the middle and end of the survey. Therefore, researchers are faced with a challenging dilemma on how to comprehensively collect rigorous data using validated scales (which are often time consuming) while also ensuring that the time burden on students is not overly onerous as to ensure the validity and reliability of the data. In designing the OUR SPACE survey, I followed best practice guidance to keep the survey to 15–20 minutes in length (Krebs et al., 2016). To stick to this length means that either the scope of the survey or the quality of questions is going to suffer. Future work on campus climate surveys in the UK could pilot strategies to test the optimal length of surveys for students to enhance the scope and quality of data in the field.

6.4.4 Qualitative research

The studies in this dissertation rely on quantitative data with the focus of contributing and advancing the quantitative evidence base on the prevalence and nature of SV in higher education contexts. This type of data is critical for understanding and monitoring the pervasiveness of the issue. However, quantitative data is limited in its ability to fully capture individual experience or the nuance of the phenomenon. Qualitative data is needed to better understand the underlying contextual details captured in quantitative data. For example, student feedback to the OUR SPACE survey commonly noted that it would have been helpful to include open response questions so respondents could, in their own words, express their lived experiences and not be constrained by pre-existing responses. To add nuance to the data, when possible, prevalence estimates were disaggregated by gender identity and type of SV experienced, but this does not adequately give a survivor the opportunity to share their story and perspective in their own words, a central component to high quality research on this topic. It became clear that respondents were lacking an opportunity to disclose and report their experiences in a safe and confidential way. While a qualitative component was beyond the scope of this thesis, I have developed a qualitative arm to the OUR SPACE study and have assembled a research team who are conducting qualitative interviews with students on the topic of SV at the University of Oxford.

6.5 Implications for policy and practice

This findings from this dissertation have implications for policy and practice. First, the results of this research could be used to equip SV prevention advocacy groups with the data they need to justify their work. Currently, there is little data from outside of the US context on this issue, and no high-quality data from the UK or the University of Oxford that attempts to establish the prevalence of SV and SH. With limited resources HEIs are forced to make difficult

decisions on how to allocate staff and funding. The results of this thesis research make it more evident than it already was that SV among higher education students is a prevalent and complex public health issue that requires the attention and efforts of HEIs. Therefore, there is a potential that advocates within the University of Oxford could use this thesis to further justify the need for increased funding and resources to prevent and respond to SV.

Second, the data in this thesis can be used to inform and improve existing support services for survivors of SV at the University of Oxford but also more broadly in the UK. I found that women and sexual and gender minorities faced the largest burden of SV. While a culture of SV can be perpetuated through hostile gender norms and beliefs that place the blame SV on women (and away from men), a heteronormative approach to prevention and response excludes a significant proportion of survivors. These findings have the potential to impact the way practitioners and researchers understand the problem of SV at UK HEIs, inform the development of evidence-based programming to address the issue of SV, and evaluate the effectiveness of pre-existing supports on campus.

Third, these data can be used by policy makers at organizations such as Universities UK that work within government to establish guidance and best practice for designing measurement tools and for preventing and responding to SV across the sector. As mentioned previously, with constrained resources individual institutions are often faced with difficult decisions on how to dedicate time and funding. Universities UK, an already established advocate of student safety and well-being, could be well-positioned to advocate for funding to go to UK institutions to address SV and to coordinate the development and uptake of prevention and response policies across multiple universities.

Fourth, the tools and methodology used in this research can be used across the UK. This research project is a collaboration with the University of Oxford and implements a new

methodology for tracking SV in the UK context. The tool used to measure SV in this context could be adapted and used by other UK universities to evaluate SV at their own institutions. Comparable data across UK institutions will enable policy makers and Universities UK to make evidence-informed decisions about funding for SV prevention and response and contribute to the investigation of cultures around systemic gender inequality within UK HEIs.

6.6 Conclusion

Enrollment in higher education marks a time when many young people will first move away from their home, families, support networks, and familiar settings. At the University of Oxford specifically, the collegiate environment is intended to create a 'a home away from home' for incoming students. The University of Oxford purports that colleges provide "a safe and supportive environment" for students to live, study, socialise, and participate in extracurricular activities (University of Oxford, 2022). While university and college life bring many opportunities for learning, personal development, and career progression, young people are also exposed to safety risks in these environments which threaten their health and well-being. I found that SV is one such safety risk.

SV among HEI students is increasingly garnering attention as a public health priority globally and in the UK. With its demonstrated impacts on health and educational outcomes and mounting evidence pointing to the pervasiveness of the issue, HEIs continue to seek ways to intervene and respond. While there has been substantial progress made to address SV in these settings (Humphreys & Towl, 2022), there is also continued resistance among institutions to (1) acknowledge SV as an issue, (2) allocate resources to trauma informed prevention and response, and (3) adapt or implement policies and procedures to better support survivors.

Research on SV in HEIs has the potential to inform the ways institutions resource prevention and response and to help overcome this continued resistance to addressing SV. In

this thesis, I contributed to the growing empirical evidence on the pervasiveness of SV among HEI students with the intention of drawing attention to the scale of the problem and informing prevention and response efforts. I showed that the University of Oxford is not immune to the issue of SV (substantiating what student activists at the institution have been claiming for decades) and, in fact, I found that the University of Oxford may be a particularly risky HEI for SV.

Effective research in this area requires support and resources from the sector and individual institutions. In this thesis, I demonstrated the feasibility and barriers to measuring the prevalence, nature, and culture of SV at a UK HEI, where evidence on the issue of SV in HEI is in its infancy and where there are considerable sensitivities and tensions among a diverse group of stakeholders within HEIs on how to approach the problem.

Across the UK HEI sector, the small community of researchers working to measure SV in their institutions have faced considerable institutional resistance (Bull et al., 2022). In administering and reporting on the OUR SPACE survey I faced similar obstacles. For senior administrators in HEIs concerned with institutional reputation, findings from surveys on SV could pose a serious risk. This risk makes navigating the complexities of conducting academic research on this topic challenging. It also limits the ability of junior academics and students to conduct this type of research by threatening their well-being, and educational and career opportunities.

However, there is also great opportunity embedded within these types of surveys for institutions to take proactive ownership and action over an issue that is increasingly consuming the time of university administrators. In fact, there may come a time in the future where failure to conduct and report on institutional campus climate surveys in the UK poses more of an institutional risk than the results of the surveys themselves.

For now, in the face of this continued resistance, considerable progress has been made across the sector as result of the demanding work of individuals, departments and divisions, advocacy groups, and even certain institutions who have committed to responding transparently and responsibly to the growing concerns about the pervasiveness and impact of SV among students. Their goal is for all institutions to have evidenced-based policies and programmes that focus on universal, mandatory, and high-quality, training for students; inclusive and well-resourced support services and referral mechanisms for survivors; trauma informed reporting pathways; rigorous and repeated data collection on the prevalence and culture of SV; and the monitoring and evaluation of support services. This thesis contributed a small but important piece of evidence to advancing this goal.

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Appendix A: Ethical approval letter for OUR SPACE study

SOCIAL SCIENCES & HUMANITIES INTERDIVISIONAL RESEARCH ETHICS COMMITTEE

Research Services, University of Oxford, Wellington Square, Oxford OX1 2JD
Tel: +44(0)1865 616576 Fax: +44(0)1865 280467
ethics@socsci.ox.ac.uk



28 January 2021

Bridget Steele
Department of Social Policy and Intervention

Dear Bridget

Research Ethics Approval (CUREC 2)
Ref No: R73805/RE001
Title: Sexual Violence at The University of Oxford: Prevalence and Nature

The above application has been considered on behalf of the Social Sciences and Humanities Interdivisional Research Ethics Committee (IDREC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to the IDREC, the proposed research has been judged as meeting appropriate ethical standards, and accordingly approval has been granted.

Should there be any subsequent changes to the project that raise ethical issues not covered in the original application you should submit details to the IDREC for consideration:

https://researchsupport.admin.ox.ac.uk/governance/ethics/apply/sshidrec#collapse394916

Please note that your study may be selected for review by the SSH IDREC during an annual audit. You may also be required to submit a brief annual progress report on each anniversary of study approval, until the study is completed.

Yours sincerely,

Jennifer Blaikie
Research Ethics Manager

cc: Dr David Humphreys
Olivia Thornton

Appendix B: OUR SPACE survey questions

OUR SPACE

Start of Block: Consent information

OUR SPACE Participant Information Sheet
Central University Research Ethics Committee (CUREC 2) Approval Reference: R73805/RE001

1. Why is this research being conducted? OUR SPACE (Oxford Understanding Relationships, Sex, Power, Abuse, and Consent Experiences) is a research study focused on attitudes and experiences regarding sexual harassment and violence at the University of Oxford. The OUR SPACE survey is a collaboration between researchers at the Department of Social Policy and Intervention, at the University of Oxford and the University of Oxford's Student Welfare and Support Services. Findings will be used to assist the university in further fostering a non-discriminatory environment and improving support services available for students. **2. Why have I been invited to take part?** Every student enrolled at the University of Oxford is invited to take part. **3. Do I have to take part?** No. Your participation is voluntary. You can stop taking the survey at any point. If you decide to opt out of the survey before the survey is complete, your partial responses will be sent to the research team. **4. Are there any potential risks in taking part?** Your responses are anonymous and confidential. As the survey focuses on issues of sexual harassment and violence, some of the questions will be sexually explicit in nature and may make you feel uncomfortable or upset. If this happens, you can take a break or stop taking the survey entirely. A list of resources for support services will be available on every page of the survey. **5. Are there any benefits in taking part?** By completing this survey you will have the opportunity to further the safety and wellness of students at the University of Oxford. **6. What happens to my responses?** If you agree to take part in the survey, your survey responses (data) will be sent to the research team to be used for research purposes. Your data will be downloaded from the Qualtrics platform, encrypted, and stored confidentially in password-protected Excel files on University of Oxford servers within the university network. IP addresses will not be stored. Your responses will not be connected to your name or email address. Only the research team and a responsible member of the University of Oxford (for monitoring and/ or audit of the research) will have access to your data. Your anonymised data will only be used for the purposes of this study and will be stored for three years after publication of the research. **7. Will the research be published?** The research will be published in a Doctoral thesis, in academic publications, and through a report available to the university of Oxford community. **8. Who do I contact if I have a concern about the study or I wish to complain?** If you have a concern about any aspect of this study, please contact the Department of Social Policy and Intervention's Departmental Research Ethics Committee Chair; Email: ethics@spi.ox.ac.uk. Your concern will be acknowledged within 10 working days. **9. Is my data protected?** The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the study. The university will process your personal data for the purpose of the research outlined above. Research is a task that is performed in the public interest. Click here for further information about your rights with respect to your personal data.
Further Information and Contact Details: If you would like to discuss the research agenda or the survey with someone beforehand (or if you have questions afterwards), please contact: Department of Social Policy and Intervention, ourspace@spi.ox.ac.uk, +44 (0)1865 270325

If you have read the information above and agree to participate with the understanding that the data (including any personal data) you submit will be processed accordingly, please check the relevant box below to get started. If you do not consent to participating in this survey, you will not be able to answer any survey responses.

- Yes, I agree to take part (1)
- No, I do not want to take part (2)

Please note that you may only participate in this survey if you are 18 years of age or over AND if you are a student at the University of Oxford.

- I certify that I am 18 years of age or over AND that I am a student at the University of Oxford (1)
- I am not 18 years of age or older OR I am not a student at the University of Oxford (2)

End of Block: Consent information

Start of Block: Respondent characteristics

The following demographic questions are asked to provide context to the responses for other questions asked in the survey. These questions will also help the researchers establish a representative sample of students for data analysis. These questions are not used to personally identify any student or respondent.



Which of the following best describes your current affiliation with the University of Oxford?

- Full-time undergraduate student (1)
- Full-time postgraduate student (2)
- Visiting student (3)
- Continuing education student (4)
- Part-time undergraduate student (5)
- Part-time postgraduate student (6)

Is this your first year attending the University of Oxford?

- Yes (1)
- No (2)

Which college are you currently affiliated with?

- Balliol College (1)
- Blackfriars College (2)
- Brasenose College (3)
- Campion Hall (4)
- Christ Church (5)
- Corpus Christi College (6)
- Exeter College (7)
- Green Templeton College (8)
- Harris Manchester College (9)
- Hertford College (10)
- Jesus College (11)
- Keble College (12)
- Kellogg College (13)
- Lady Margaret Hall (14)
- Linacre College (15)
- Lincoln College (16)
- Magdalen College (17)
- Mansfield College (18)
- Merton College (19)
- New College (20)
- Nuffield College (21)
- Oriel College (22)
- Pembroke College (23)
- Reuben College (24)
- The Queen's College (25)
- Regent's Park College (26)
- St Anne's College (27)
- St Antony's College (28)
- St Benet's Hall (29)
- St Catherine's College (30)
- St Edmund Hall (31)
- St Hilda's College (32)
- St Hugh's College (33)
- St John's College (34)
- St Peter's College (35)
- St Stephen's House (36)
- Somerville College (37)

- Trinity College (38)
- University College (39)
- Wadham College (40)
- Wolfson College (41)
- Worcester College (42)
- Wycliffe Hall (43)
- No college affiliation (44)
- Affiliated with multiple colleges (45)
- Other, not listed above (46)

What is your ethnic group?

- Arab (1)
- Asian / Asian British (2)
- Black / African / Caribbean / Black British (3)
- Mixed / Multiple ethnic groups (4)
- White (5)
- Any other ethnic group (6)

At the University of Oxford, are you classified as a:

- UK or domestic student (40)
- EU student (41)
- International student (non- EU student) (42)
- Unsure (43)

Did you attend:

- A state school in the UK (1)
- An independent school in the UK (2)
- Other (3)

What is the highest level of education your mother or maternal guardian has attained? If you have more than one mother or maternal guardian please refer to the one with the highest level of education.

- Less than high school or secondary school (1)
- High school or secondary school graduate (2)
- Vocational or technical training (3)
- Undergraduate or Bachelor's degree (4)
- Post-graduate degree (e.g., master's, doctorate) or professional degree (e.g., medicine, law, dentistry) (5)
- Unsure (8)
- Does not apply to me (9)

What is the highest level of education your father or paternal guardian has attained? If you have more than one father or paternal guardian please refer to the one with the highest level of education.

- Less than high school or secondary school (1)
- High school or secondary school graduate (2)
- Vocational or technical training (3)
- Undergraduate or Bachelor's degree (4)
- Post-graduate degree (e.g master's, doctorate) or professional degree (e.g., medicine, law, dentistry) (5)
- Unsure (8)
- Does not apply to me (9)

Do you identify as:

- A woman (1)
- A man (2)
- A transgender man (3)
- A transgender woman (4)
- Gender non-conforming, gender nonbinary, or gender queer (5)
- None of the above (6)
- Prefer not to say (7)

What is your sexual orientation?

- Gay or Lesbian (1)
- Heterosexual (2)
- Bisexual (3)
- None of the above (4)
- Prefer not to say (5)

Are you an individual living with a disability?

- Yes (1)
- No (2)

What year were you born?

Where did you live during Michaelmas term of this past academic year?

- University accommodation (1)
- College accommodation (2)
- Private accommodation, in the city of Oxford (3)
- With family in Oxford (4)
- Outside of Oxford (5)
- I did not have a place to live (6)

Where did you live during Hilary Term of this past academic year?

- University accommodation (1)
- College accommodation (2)
- Private accommodation, in the city of Oxford (3)
- With family in Oxford (4)
- Outside of Oxford (5)
- I did not have a place to live (6)

Where are you living now, during Trinity Term?

- University accommodation (1)
- College accommodation (2)
- Private accommodation, in the city of Oxford (3)
- With family in Oxford (4)
- Outside of Oxford (5)
- I do not have a place to live (6)

End of Block: Respondent characteristics

Start of Block: University climate

The following questions are related to the culture of the University of Oxford and ask about your opinions and your experiences as a student. Some of these questions refer to sexual violence and may be upsetting to you. Please note that all responses are ANONYMOUS and CONFIDENTIAL and you can stop taking the survey at any time. Should you need them, support resources available to you are listed on every page of the survey.

Please note:

Sexual violence is any sexual act, whether the act is physical or psychological in nature, that is committed, threatened or attempted against a person without that person's consent. Sexual violence includes: unwanted touching, sexual harassment, sexual assault, or rape.

Consent means an active, direct, voluntary and conscious choice and agreement to engage in sexual activity.

Page Break

How often do you:

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)
Hear University of Oxford students make jokes about sexual violence (in-person)? (1)	○	○	○	○
See University of Oxford students joke about sexual violence via electronic communication (Facebook, Whatsapp, Snapchat, Instagram etc.)? (2)	○	○	○	○
Hear University of Oxford students describe other students in sexually explicit, graphic, or degrading ways (in-person)? (3)	○	○	○	○
See University of Oxford students that describe other students in sexually explicit, graphic, or degrading ways via electronic communications (Facebook, Whatsapp, Snapchat, Instagram etc.)? (4)	○	○	○	○

Do you agree or disagree with the following statements?

	Disagree (1)	Undecided (2)	Agree (3)
It is important to get consent before sexual activity (1)	○	○	○
It is necessary to get consent before sexual activity if you are in a relationship with that person (2)	○	○	○
If someone pays for a person's meal or buys a person a drink, they should expect to engage in sexual activity with this person (3)	○	○	○
When someone is sexually assaulted it is often because of miscommunication or because they did not say "no" (4)	○	○	○
Sexual violence happens because men get carried away in sexual situations once they've started engaging in sexual activity (5)	○	○	○
Sexual violence happens to people who put themselves in bad situations and are thus, somewhat responsible for what happens to them (6)	○	○	○
A person who is sexually assaulted while they are drunk or high is somewhat responsible for what happens to them (7)	○	○	○

Do you think your **peers** at the University of Oxford agree or disagree with the following statements?

	Disagree (1)	Undecided (2)	Agree (3)
It is important to get consent before sexual activity (1)	○	○	○
It is necessary to get consent before sexual activity if you are in a relationship with that person (2)	○	○	○
If someone pays for a person's meal or buys a person a drink, they should expect to engage in sexual activity with this person (3)	○	○	○
When someone is sexually assaulted it is often because of miscommunication or because they did not say "no" (4)	○	○	○
Sexual assault happens because men get carried away in sexual situations once they've started engaging in sexual activity (5)	○	○	○
Sexual assault happens to people who put themselves in bad situations and are thus, somewhat responsible for what happens to them (6)	○	○	○
A person who is sexually assaulted while they are drunk or high is somewhat responsible for what happens to them (7)	○	○	○

If a fellow student at the University of Oxford disclosed to you that they experienced sexual harassment, sexual assault, or rape, do you feel confident in your ability to refer them to University of Oxford support services?

- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)

Have you received compensation (e.g., financial, material, other) for a sexual act since being a student at the University of Oxford?

- ○ Yes, once (1)
- ○ Yes, more than once (2)
- ○ Never (3)

Who compensated you for this sexual act? Select all that apply.

- [ ] A current romantic partner (1)
- [ ] An ex-romantic partner (2)
- [ ] A University of Oxford student (3)
- [ ] A friend or acquaintance not associated with the University of Oxford (4)
- [ ] College or University of Oxford staff (5)
- [ ] A professor, tutor, lecturer, instructor, or supervisor (6)
- [ ] A sports coach (7)
- [ ] A boss (8)
- [ ] A family member (9)
- [ ] A stranger (10)
- [ ] None of the above (11)

This question is asking about bystander behaviour. Please read each of the following behaviors and indicate if you are confident in your ability to do them. Please also indicate if you are likely to engage in each of the behaviours.

	I am confident I could...			I am likely to…		
	Confident (1)	Unsure (2)	Not confident (3)	Likely (1)	Unsure (2)	Not likely (3)

Walk a friend who has had too much to drink home from a party, bar, or other social event (1)

Talk to the friends of a drunk person to make sure they don't leave them behind at a party, bar, or other social event (2)

Do something if I see someone surrounded by a group of people at a party who looks very uncomfortable (3)

Speak up against sexist jokes delivered by a friend (4)

Confront a friend who plans to give someone alcohol to get sex (5)

Express discomfort if someone says rape victims are to blame for being raped (6)

Try to stop someone who was trying to take a drunk person to another room or trying to get them to do something sexual (7)

Speak up to someone who is making excuses for having sex with someone who is unable to give full consent (8)	○	○	○	○	○	○
Officially report a friend who perpetrated sexual violence to the university or to the police (9)	○	○	○	○	○	○

End of Block: University climate

Start of Block: Sexual harassment victimisation

The next set of questions asks about sexual harassment you may have experienced while being a student at the University of Oxford. These questions may be upsetting to you. Again, this survey is completely CONFIDENTIAL and VOLUNTARY and you can stop taking the survey at any time.
Should you need them, support resources available to you are listed on every page of the survey.

Please indicate if you have experienced any of the following in the past year either in person or online (select all that apply).

- [ ] Someone made a sexist remark or sexist joke about me in my presence (131)
- [ ] Someone made an inappropriate comment about my body, appearance, or attractiveness, in my presence (132)
- [ ] Someone said crude or gross sexual things to me or about me (134) T
- [ ] Someone tried to talk about sex with me when I didn't want to (135)
- [ ] Someone has repeatedly asked me to go on dates or spend time with them even after I said no (137)
- [ ] Someone seemed to bribe me with some sort of reward if I agreed to engage in a romantic or sexual relationship with them (138)
- [ ] Someone stalked, followed, or repeatedly contacted me when I did not want them to (139)
- [ ] None of the above (140)

How frequently has this act occurred?

	Once in the past year (1)	2 or 3 times in the past year (2)	4 or 5 times in the past year (3)	More than 5 times in the past year (4)
Someone made a sexist remark or sexist joke about me in my presence (1)	○	○	○	○
Someone made an inappropriate comment about my body, appearance, or attractiveness, in my presence (2)	○	○	○	○
Someone said crude or gross sexual things to me or about me (3)	○	○	○	○
Someone tried to talk about sex with me when I didn't want to (4)	○	○	○	○
Someone has repeatedly asked me to go on dates or spend time with them even after I said no (5)	○	○	○	○
Someone seemed to bribe me with some sort of reward if I agreed to engage in a romantic or sexual relationship with them (6)	○	○	○	○
Someone stalked, followed, or repeatedly contacted me when I did not want them to (7)	○	○	○	○

Where did the act happen? If the same act has occurred more than once please refer to the most recent act.

At the University of Oxford (1)
In the city of Oxford but outside of the university (2)
Outside of Oxford (3)
Online (4)

Who perpetrated the act? If the same act has occurred more than once please refer to the most recent act.
Current romantic partner (1)
Ex-romantic partner (2)
Another student at the University of Oxford (3)
A friend or acquaintance not associated with the University of Oxford (4)
A member of college or university staff (5)
A professor, lecturer, tutor, instructor, or college advisor (6)
A sports coach (7)
An employer (8)
A family member (9)
A supervisor (10)
A stranger (11)
Other (12)

End of Block: Sexual harassment victimisation

Start of Block: Sexual harassment perpetration

Previously, you were asked about others' behaviors done to or towards you. Now you are being asked about activities you engaged in while you have been a student at the University of Oxford. Please remember that your responses are ANONYMOUS and CONFIDENTIAL.

Please indicate if you have done any of the following in the past year either in person or online (select all that apply).

- [ ] I made a sexist remark or sexist joke about someone in their presence (359)
- [ ] I made an inappropriate comment about someone's body, appearance, or attractiveness, in their presence (360)
- [ ] I said crude or gross sexual things to another person (362)
- [ ] I tried to talk about sex with someone who didn't want to (363)
- [ ] I repeatedly asked someone to go on dates or spend time with me even after they said no (365)
- [ ] I offered someone a reward if they agreed to engage in a romantic or sexual relationship with me (366)
- [ ] I stalked, followed, or repeatedly contacted someone when I was given verbal and/or non-verbal cues that this person did not want this attention (367)
- [ ] None of the above (368)

How frequently have you done the following?

	1 time in the past year (1)	2 or 3 times in the past year (2)	4 or 5 times in the past year (3)	More than 5 times in the past year (4)
I made a sexist remark or sexist joke about someone in their presence (1)	○	○	○	○
I made an inappropriate comment about someone's body, appearance, or attractiveness, in their presence (2)	○	○	○	○
I said crude or gross sexual things to another person (3)	○	○	○	○
I tried to talk about sex with someone who didn't want to (4)	○	○	○	○
I repeatedly asked someone to go on dates or spend time with me even after they said no (5)	○	○	○	○
I offered someone a reward if they agreed to engage in a romantic or sexual relationship with me (6)	○	○	○	○
I stalked, followed, or repeatedly contacted someone when I was given verbal and/or non-verbal cues that this person did not want this attention (7)	○	○	○	○

Where did the act happen? If the same act has occurred more than once please refer to the most recent act.

At the University of Oxford (1)
In the city of Oxford but outside of the university (2)
Outside of Oxford (3)
Online (4)

Who did you do the above act to? If the same act has occurred more than once please refer to the most recent act.
Current romantic partner (1)
Ex-romantic partner (2)
Another student at the University of Oxford (3)
A friend or acquaintance not associated with the University of Oxford (4)
A member of college or university staff (5)
A professor, lecturer, tutor, instructor, or college advisor (6)
A sports coach (7)
An employer (8)
A family member (9)
A supervisor (10)
A stranger (11)
Other (12)

End of Block: Sexual harassment perpetration

Start of Block: Sexual violence victimisation

The next set of questions refers to sexual situations you may have experienced while being a student at the University of Oxford. Again, this survey is completely CONFIDENTIAL and VOLUNTARY. Some of the questions in this survey use explicit language, including anatomical names of body parts and specific sexual behaviors. This survey also asks about sexual violence, which may be upsetting to you. Should you need them, support resources available to you are listed on every page of the survey.

Have you experienced any of the following in the past year? Please select the box next to acts that you have experienced in the past year.

- [ ] Someone TRIED to fondle, kiss, or rub up against the private areas of my body or TRIED to remove some of my clothes even though I didn't want that (162)
- [ ] Someone fondled, kissed, or rubbed up against the private areas of my body or removed some of my clothes even though I didn't want that (163)
- [ ] Someone TRIED to sexually penetrate me (someone tried to put a penis or insert fingers or objects into my vagina or anus) even though I didn't want that (164)
- [ ] Someone sexually penetrated me (someone put a penis or inserted fingers or objects into my vagina or anus) even though I didn't want that (165)
- [ ] Someone TRIED to perform oral sex on me or make me perform oral sex even though I didn't want that (168)
- [ ] Someone performed oral sex on me or made me perform oral sex even though I didn't want that (169)
- [ ] I have not experienced any of the above acts (170)

In the past year, have you suspected that someone has had sexual contact with you when you were unable to provide consent or stop what was happening because you were passed out, drugged, drunk, incapacitated, or asleep? This question asks about events that you think (but are not certain) happened.

- Yes (17)
- No (18)
- I don't want to answer this question (19)

How often did you experience this act in the last year?

	1 time in the past year (1)	2 or 3 times in the past year (2)	4 or 5 times in the past year (3)	More than 5 times in the past year (4)
Someone TRIED to fondle, kiss, or rub up against the private areas of my body or TRIED to remove some of my clothes even though I didn't want that (1)				
Someone fondled, kissed, or rubbed up against the private areas of my body or removed some of my clothes even though I didn't want that (2)				
Someone TRIED to sexually penetrate me (someone tried to put a penis or insert fingers or objects into my vagina or anus) even though I didn't want that (3)				
Someone sexually penetrated me (someone put a penis or inserted fingers or objects into my vagina or anus) even though I didn't want that (4)				
Someone TRIED to perform oral sex on me or make me perform oral sex even though I didn't want that (5)				
Someone performed oral sex on me or made me perform oral sex even though I didn't want that (6)				
I suspected that someone has had sexual contact with me when I was unable to provide consent or stop what was happening because I was passed out, drugged, drunk, incapacitated, or asleep (7)				

Please refer to the most recent act you experienced. Was the person (people) who committed the act affiliated with the University of Oxford?
Yes (1)
No (2)
Unsure (3)

Please refer to the most recent act you experienced. What was the gender identity of the person or people who committed the act?
A woman (19)
A man (20)
Transgender man (21)
Transgender woman (22)
Gender non-conforming, gender nonbinary, or gender queer (23)
None of the above (24)
Unsure (25)

Please refer to the most recent act you experienced. Who perpetrated the act?
Current romantic partner (1)
Ex-romantic partner (2)
Another student at the University of Oxford (3)
A friend or acquaintance not associated with the University of Oxford (4)
A member of college or university staff (5)
A professor, lecturer, tutor, instructor, or college advisor (6)
A sports coach (7)
An employer (8)
A family member (9)
A supervisor (10)
A stranger (11)
Other (12)

Please refer to the most recent act you experienced. Where did the act occur?
At my college accommodation (1)
At someone else's college accommodation (2)
At my University of Oxford accommodation (3)
At someone else's University of Oxford accommodation (4)
In private accommodation in Oxford (5)
In a public setting in Oxford (6)
In a social setting at Oxford (7)
Outside of Oxford (8)

Please refer to the most recent act you experienced. During the act, were you unable to provide consent or stop what was happening because you were passed out, drugged, drunk, incapacitated, or asleep?
Yes (1)
No (2)
Unsure (3)

Please refer to the most recent act you experienced. Did you seek support from the University of Oxford? Please select the person or service that you contacted first.
Sexual Harassment and Violence Support Service (365)
Independent Sexual Violence Advisor (366)
College welfare dean (367)
Academic tutor, professor, or supervisor (368)
Student welfare representatives (369)
Other (370)
I did not seek support from the University of Oxford (371)
I do not want to answer this question (372)

Please refer to the most recent act you experienced. How would you rate the support you received?

- Excellent (20)
- Adequate (23)
- Poor (22)

End of Block: Sexual violence victimisation

Start of Block: Sexual violence perpetration

Earlier in the survey, you were asked about others' behaviors done to or towards you. Now you are being asked about activities you engaged in while you have been a student at the University of Oxford. Please remember that your responses are ANONYMOUS and CONFIDENTIAL.

Have you done any of the following to another person over the age of 18 in the past year? Please select the box next to acts that you have done in the past year.

- [ ] I TRIED to fondle, kiss, or rub up against the private areas of someone's body or remove someone's clothes even though they gave verbal or physical cues that they didn't want that (349)
- [ ] I fondled, kissed, or rubbed up against the private areas of someone's body or removed someone's clothes even though they gave verbal or physical cues that they didn't want that (350)
- [ ] I TRIED to sexually penetrate someone (put my penis or insert my fingers or objects into someone's vagina or anus) even though they gave verbal or physical cues that they didn't want that (351)
- [ ] I sexually penetrated someone (I put a penis or inserted fingers or objects into someone else's vagina or anus) even though they gave verbal or physical cues that they didn't want that (352)
- [ ] I TRIED to perform oral sex on someone or made someone perform oral sex to me even though they gave verbal or physical cues that they didn't want that (355)
- [ ] I performed oral sex on someone or made someone perform oral sex to me even though they gave verbal or physical cues that they didn't want that (356)
- [ ] I have not done any of the above acts (357)

In the past year, have you had sexual contact with someone who was passed out, drugged, too drunk to know what was happening, incapacitated, or asleep? This question includes events that you think (but are not certain) happened.

- Yes (15)
- No (16)
- I don't want to answer this question (17)

The following questions ask you to refer to the act or acts that you stated you perpetrated in the above two questions.

In the past year, how often have you done the below act?

	1 time in the past year (1)	2 or 3 times in the past year (2)	4 or 5 times in the past year (3)	More than 5 times in the past year (4)
I TRIED to fondle, kiss, or rub up against the private areas of someone's body or remove someone's clothes even though they gave verbal or physical cues that they didn't want that (1)				
I fondled, kissed, or rubbed up against the private areas of someone's body or removed someone's clothes even though they gave verbal or physical cues that they didn't want that (2)				
I TRIED to sexually penetrate someone (put my penis or insert my fingers or objects into someone's vagina or anus) even though they gave verbal or physical cues that they didn't want that (3)				
I sexually penetrated someone (I put a penis or inserted fingers or objects into someone else's vagina or anus) even though they gave verbal or physical cues that they didn't want that (4)				
I TRIED to perform oral sex on someone or made someone perform oral sex to me even though they gave verbal or physical cues that they didn't want that (5)				
I performed oral sex on someone or made someone perform oral sex to me even though they gave verbal or physical cues that they didn't want that (6)				

I have had sexual contact with someone you was passed out, drugged, too drunk to know what was happening, incapacitated, or asleep (7)	

Was the person (people) you did this to affiliated with the University of Oxford? If you perpetrated the same act more than once please refer to the most recent incident.
Yes (1)
No (2)
Unsure (3)

What was/ is your relationship with this person? If you perpetrated the same act more than once please refer to the person in the most recent incident.
Current romantic partner (1)
Ex-romantic partner (2)
Another student at the University of Oxford (3)
A friend or acquaintance not associated with the University of Oxford (4)
A member of college or university staff (5)
A professor, lecturer, tutor, instructor, or college advisor (6)
A sports coach (7)
An employer (8)
A family member (9)
A supervisor (10)
A stranger (11)
Other (12)

Please indicate the gender identity of this person. If you perpetrated the same act more than once please refer to the person in the most recent incident.
A woman (38)
A man (39)
Transgender man (40)
Transgender woman (41)
Gender non-conforming, gender nonbinary, or gender queer (42)
None of the above (43)
Unsure (44)

Where did this incident take place? If you perpetrated the same act more than once please refer to the person in the most recent incident.
At my college accommodation (1)
At someone else's college accommodation (2)
At my University of Oxford accommodation (3)
At someone else's University of Oxford accommodation (4)
In private accommodation in Oxford (5)
In a public setting in Oxford (6)
In a social setting at Oxford (7)
Outside of Oxford (8)

During the incident was this person passed out, drugged, drunk, incapacitated, or asleep? If you perpetrated the same act more than once please refer to the person in the most recent incident.
Yes (1)
No (2)
Unsure (3)

Was this incident reported to the police or to The University of Oxford by anyone? If you perpetrated the same act more than once please refer to the person in the most recent incident.
Yes (1)
No (2)
Unsure (3)

End of Block: Sexual violence perpetration

Start of Block: Conclusion

Thank you for taking this survey. The next two questions ask you to reflect on the experience of answering the questions. Did you find it distressing or traumatising to answer the questions on this survey?

- Yes (1)
- Somewhat (2)
- No (3)

Do you have any regrets from participating in this survey?

- Yes (1)
- No (2)

Thank you for taking this survey. Your responses will contribute to a greater understanding of the culture at the University of Oxford and will subsequently guide sexual violence prevention efforts and programming.

The following section offers you the opportunity to be entered into a draw to win incentives or to participate in future related research. These questions are not mandatory and the information you provide in these questions

will not be linked to your survey responses.

Please remember the following supports are available to you should you need them:
If you would like support related to sexual harassment, sexual violence, or relationship violence, below are some suggestions of services you could contact: University of Oxford's Sexual Harassment and Violence Support Service at supportservice@admin.ox.ac.uk Oxford University's Independent Sexual Violence Advisor at oxforduniisva@osarcc.org.uk Oxfordshire Sexual Abuse and Rape Crisis Centre at 0800 783 6294 Rape Crisis England and Wales National Helpline at 0808 802 9999 University of Oxford's Counselling Service at counselling@admin.ox.ac.uk

End of Block: Conclusion

Start of Block: Follow up questions

Would you like to enter a raffle for the chance to win a prize? You could win one of three iPads or one of ten £50 Amazon vouchers. The contact information you provide to receive your prize, in the event that you are a winner, is not linked to your survey responses.

- Yes (1)
- No (2)

Are you willing to be contacted in the future to receive information on how to participate in related research projects on sexual harassment and sexual violence? Your response to this question is not linked to your survey responses.

- Yes (1)
- No (2)

End of Block: Follow up questions

Appendix C: Systematic review with meta-analyses protocol

NIHR | National Institute for Health Research

PROSPERO
International prospective register of systematic reviews

Global prevalence and nature of sexual violence at higher education institutions

Bridget Steele, David Humphreys, Elizabeth Nye, Mackenzie Martin

Citation

Bridget Steele, David Humphreys, Elizabeth Nye, Mackenzie Martin. Global prevalence and nature of sexual violence at higher education institutions. PROSPERO 2020 CRD42020171142 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020171142

Review question

What is the global prevalence and severity of sexual violence perpetration and victimisation among students at higher

education institutions (HEIs)?

Specifically:

• What is the prevalence of sexual violence victimisation for HEI students (disaggregated by gender identity and sexual orientation)?

• What is the prevalence of sexual violence perpetration of HEI students (disaggregated by gender identity and sexual orientation)?

• What is the prevalence rate of sexual violence disaggregated by geographic location?

• What is the level of severity of the sexual violence experienced and perpetrated by HEI students (disaggregated by gender identity and sexual orientation)?

Searches

The review team will:

(1) Search the following electronic bibliographic databases: EBSCO combined search (CINAH, ERIC, MEDLINE), PsycINFO, EMBASE, PsycARTICLES, ERIC, Sociological Abstracts, Applied Social Sciences Index and Abstracts, Cochrane Database of Systematic Reviews, Global Health, Social Science Premium Collection, ProQuest Dissertation and Theses, the Cochrane Library, British Nursing Index, Health Management Information Consortium, ScienceDirect, NHS Library for Health Specialist Libraries, Wiley InterScience, International Bibliography of the Social Sciences, Web of Science, ADOLEC, Global Health, African Healthline, Latin American and Caribbean Health Sciences Literature, Index Medicus of the Eastern Mediterranean Region, Index Medicus of the South?East Asian Region, Western Pacific Region Index Medicus, MedCarib, Popline, Panteleimion, Wanfang, China National Knowledge Infrastructure, Russian e?library, and Russian Alliance of Public Health Libraries;

(2) Hand search the articles collected from a systematic review of prevalence of sexual violence in the United States conducted by Fedina, Holmes, & Backes (2018) and a systematic review of campus climate surveys conducted by Krause et al., (2018);

(3) Review studies published in any language with assistance of translators;

(4) Place no limit on either the date of publication or the geographic region of the research;

(5) Use data provided in academic and grey literature publications, including peer-reviewed articles, unpublished manuscripts, theses/dissertations, and surveys conducted at HEIs;

(6) Contact authors of published or ongoing studies to gather information on other relevant studies;

(7) Search the citations of included studies to find other relevant studies and search for studies that have referenced included studies; and

(8) Hand search reference lists of included studies.

Types of study to be included

Included: Any study that quantitatively measures prevalence of sexual violence perpetration or victimization at HEIs using a cross-sectional survey methodology with a "probabilistic random sample" (Munn et al., 2015, p.148). Prospective studies that explore risk and protective factors for sexual violence, and studies that explore the impacts of sexual violence will be included if they also indicate prevalence. Only one prevalence estimate will be extracted from prospective studies.

Excluded: Qualitative studies; studies measuring the effectiveness of prevention and response interventions or programmes; studies measuring incidence rates.

Condition or domain being studied

This review will examine the global prevalence of sexual violence occurring among individuals while they are attending higher education institutions (HEIs). Sexual violence can occur between intimate partners, and it can occur between peers. Sexual violence can also be perpetrated by those in power at HEIs (ie. professors, teaching assistants, staff, coaches, administration etc.). For the purposes of this review sexual violence refers to all non-consensual or unwanted sexual acts. For the purposes of this study 'sexual violence' will include 'attempted rape,' 'rape,' 'sexual assault,' 'sexual aggression,' 'sexual coercion,' and 'sexual harassment,' as these are the terms frequently used in the literature.

Participants/population

Inclusion: students attending a four-year higher education or post-secondary degree at the time of the data collection in the original study.

Exclusion: high-school students or young adults not attending a HEI, and educators or administration and staff employed by HEIs.

Intervention(s), exposure(s)

Inclusion: The exposure is an act of sexual violence. This act of sexual violence must be recorded as occurring while the individual is attending a HEI (not before) and may be experienced on or off HEI property. Any definition of sexual violence given by an author will be included.

Exclusion: Studies that combine the prevalence of sexual violence with other forms of gender-based violence or intimate partner violence.

Comparator(s)/control

Not applicable.

Main outcome(s)

The prevalence of sexual violence perpetration and victimization. Sexual violence will be defined broadly for the purposes of this review and include any unwanted sexual act or contact including: 'attempted rape,' 'rape,' 'sexual assault,' 'sexual aggression,' 'sexual coercion,' and 'sexual harassment'.

* Measures of effect

The main outcome will be reported as a percentage or proportion of the study sample as this review is focused on prevalence.

Additional outcome(s)

Where possible, the following information will be extracted from the study:

• Sample size used in the study

• Age of participants (age, undergraduate vs. graduate students, year within degree programme)

• Race/ethnicity of participants

• Gender identity and sexual orientation of participants

• Location of study (country)

• Severity of sexual violence

• Frequency of victimisation or perpetration

• Relationship to perpetrator or victim

* Measures of effect

The effect measures for these additional outcomes will be binary or discrete variables.

Data extraction (selection and coding)

BS will conduct the electronic search and download the retrieved articles into the bibliographic software (EndNote X9). Duplicates will be eliminated. Then, BS will provide training to MM, EN, and DH on the inclusion and exclusion criteria and data extraction processes for this review. Inter-rater reliability will be established at the title and abstract screening stage, the full text screening stage, and the data extraction state. At each stage, MM will double-code a random 10% of the articles (Lombard, Snyder-Duch, & Bracken, 2002). If an 80% interrater reliability target is not met, BS and MM will discuss and resolve discrepancies with EN and DH, make necessary modifications to the coding criteria, and code again with a new random set of articles. Finally, BS will hand search relevant reference lists, conduct citation searching, and contact authors for additional articles.

Data will be extracted by BS, MM, EN, and DH and entered into a database. The following information will be extracted when possible:

1. Prevalence estimates of sexual violence perpetration or victimization by any individual attending an HEI

2. Demographic information; when possible, age?range, race, gender identity, sexual orientation

3. Relationship between perpetrator and victim

4. Information on potential bias and methodological variation. For example, covariates geographic location (national and regional level), severity of sexual violence, the definition of sexual violence used, whether or not a “gold-standard” measure of sexual violence was used, and the time frame in which the violence occurred

Risk of bias (quality) assessment

The Joanna Briggs Institute’s Checklist for Prevalence Studies will be used to critically appraise the studies included in this review and conduct a risk of bias assessment. This checklist is highly relevant to this study given that the main outcome of this study is to establish the prevalence of sexual violence at HEIs. The results of this critical appraisal and risk of bias assessment will identify the quality of studies used in the review to contextualize the body of literature available on this topic as well as the results of the meta-analyses.

Strategy for data synthesis

The prevalence data collected will be analysed utilising a random effects meta-analysis in R software to determine prevalence estimates of sexual violence for all Global Burden of Disease regions (disaggregated by gender, sexual orientation, and severity of sexual violence, if data is provided). A model will be developed

using covariates to control for differences in study definitions of sexual violence and regional estimates will be weighted appropriately to produce a regression function that can act as a global and regional estimate for both perpetration and victimization. The meta-analysis will compute effect sizes and variances, and assess for heterogeneity using dichotomous data that indicates the presence or absence of a specific act of sexual violence within a certain time period. An additional analysis will be conducted to assess the prevalence of victims who have experienced repeated sexual violence and perpetrators who have committed repeated acts of sexual violence.

It is anticipated that data harmonizing will be necessary. Studies may report on sexual violence over different time periods (i.e. last three months, last academic year, or last calendar year) and at different times in an individual's academic career (i.e. first year students or upper year students). Studies may also use different terminology for denoting an act of sexual violence, however, it is expected that the majority of studies will use a version of the Sexual Experiences Survey, developed by Koss and Gidycz (1985). Discussions with the review team will determine if and how data harmonization will occur for the specific studies included in the review.

Analysis of subgroups or subsets

When possible (given the data provided) prevalence of perpetration and victimisation will be disaggregated by gender identity and sexual orientation, as well the severity of sexual violence experienced. Many studies measure sexual violence on a spectrum of the severity of sexual violence. In cases of perpetration, the victimization prevalence data will be disaggregated by those who indicated if the perpetrator's status is either a student or authority figure at the institution. Additional meta-analyses will be completed to establish prevalence by geographic region.

Contact details for further information

Bridget Steele
bridget.steele@spi.ox.ac.uk

Organisational affiliation of the review

University of Oxford

Review team members and their organisational affiliations

Ms Bridget Steele. University of Oxford
Dr David Humphreys. University of Oxford
Dr Elizabeth Nye. University of Oxford
Ms Mackenzie Martin. University of Oxford

Type and method of review

Epidemiologic, Meta-analysis, Methodology, Systematic review

Anticipated or actual start date

01 June 2020

Anticipated completion date

01 June 2021

Funding sources/sponsors

Bridget Steele receives funding from The Social Sciences and Humanities Research Council (Canada).

Conflicts of interest

Language

English

Country

England

Stage of review

Review Ongoing

Subject index terms status
Subject indexing assigned by CRD

Subject index terms
Humans; Prevalence; Sex Offenses; Universities

Date of registration in PROSPERO
09 June 2020

Date of first submission
12 May 2020

Stage of review at time of this submission
The review has not started

Stage	Started	Completed
Preliminary searches	No	No
Piloting of the study selection process	No	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.

The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions
09 June 2020

PROSPERO
This information has been provided by the named contact for this review. CRD has accepted this information in good faith and registered the review in PROSPERO. The registrant confirms that the information supplied for this submission is accurate and complete. CRD bears no responsibility or liability for the content of this registration record, any associated files or external websites.

Appendix D: Ethical approval for systematic review with meta-analyses

Department of Social Policy and Intervention
University of Oxford

Barnett House, 32 Wellington Square,
Oxford, OX1 2ER, United Kingdom
www.spi.ox.ac.uk

Bridget Steele
Department of Social Policy and Intervention
University of Oxford

SPI_DREC_20_032

18th June 2020

Dear Bridget,

Global Prevalence of Sexual Violence Perpetration and Victimisation at Higher Education Institutions: A systematic-review with meta-analyses.

Your application for research ethics approval in connection with your research project has been considered by the Departmental Research Ethics Committee (DREC) in accordance with the procedures laid down by the University for Ethical Approval.

I am pleased to inform you that, on the basis of the information provided, the proposed research has been judged as meeting appropriate ethical standards and DREC approval has been granted.

If any revisions to your research methodology are made subsequent to this approval, these must be detailed in writing and submitted to DREC immediately.

Yours sincerely,

Dr Jamie M. Lachman
Chair of DREC

Point of contact: ethics@spi.ox.ac.uk | +44 (0) 1865 280734
General enquiries: tel. +44 (0) 1865 270325

Appendix E: Prisma checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	3.0
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	NA
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	3.1
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	1.2 and 3.1
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	3.2.1
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	3.2.2
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	3.2.2
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	3.2.3
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	3.2.5
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g., for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	3.2.5
	10b	List and define all other variables for which data were sought (e.g., participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	3.2.5
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	3.2.4
Effect measures	12	Specify for each outcome the effect measure(s) (e.g., risk ratio, mean difference) used in the synthesis or presentation of results.	3.2.5
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g., tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	3.2.5
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	3.2.5
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	3.2.5
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	3.2.5
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g., subgroup analysis, meta-regression).	3.2.5
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	3.2.5
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	NA
Certainty	15	Describe any methods used to assess certainty (or confidence) in the body of	3.2.5

Section and Topic	Item #	Checklist item	Location where item is reported
assessment		evidence for an outcome.	
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	3.3.1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	3.3.1
Study characteristics	17	Cite each included study and present its characteristics.	Appendix
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	3.3.2
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g., confidence/credible interval), ideally using structured tables or plots.	3.3.3
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	3.3.3
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g., confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	3.3.3
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	3.3.2
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	NA
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	NA
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	3.3.3
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	3.4
	23b	Discuss any limitations of the evidence included in the review.	3.4
	23c	Discuss any limitations of the review processes used.	3.4
	23d	Discuss implications of the results for practice, policy, and future research.	3.4
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Appendix
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Appendix
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	3.2.2 and 3.2.3
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	NA
Competing interests	26	Declare any competing interests of review authors.	NA
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	NA

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

For more information, visit: http://www.prisma-statement.org/

Appendix F: References for included studies

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Appendix G: Detailed description of included studies

Author	Date	Title	Country	Construct	Tool used	Recall period
Adejimi	2016	Experiences and Disclosures of Sexual Assault Among Nigerian Undergraduates in a Tertiary Institution	Nigeria	Sexual assault	NR	Past year (12 months)
Adhia	2022	Prevalence and Formal Reporting of Sexual Violence among Undergraduate Student-Athletes: A Multi-State Study.	United States	Sexual violence among athletes	Measure adapted from American College Health Association, 2021 and Centers for Disease Control and Prevention, 2007	Entire time in higher education
Adinew	2017	Sexual violence against female university students in Ethiopia.	Ethiopia	Sexual violence	WHO multi country study on women's health and life events (adapted)	Past academic year
Ajayi	2021	Prevalence and correlates of sexual violence among adolescent girls and young women: findings from a cross-sectional study in a South African university	South Africa	Sexual violence	Made up question	Past year
Ameral	2020	An Analysis of Help-Seeking Patterns Among College Student Victims of Sexual Assault, Dating Violence, and Stalking	United States	Sexual assault	Six questions modified from a University of New Hampshire survey (Banyard, Plante, & Moynihan, 2004)	Past 2 months
Amos	2008	The link between recent sexual abuse and drug use among African American male college students: it's not just a female problem in and around campus.	United States	Sexual abuse on campus	NR	Past academic year
Andar	2014	The prevalence of college sexual assault among women in the digital media era: An online investigation of potential impacts from social networking, pornography, cyberbullying and sexting	United States	Sexual assault	College Sexual Assault Survey	Entire time in higher education
Anderson	2018	The psychometric properties of the Sexual Experiences Survey-Short Form Victimization (SES-SFV) and characteristics of sexual victimization experiences in college men.	United States	Sexual victimisation	Sexual Experiences Survey	Past year (12 months)
Anthony	2012	Assessing the impact of gender-neutral language on disclosure of sexual violence.	United States	Sexual violence	Sexual Experiences Survey	Past year (12 months)
Atkinson	2020	"An amplified space": A feminist poststructuralist analysis of sexual violence at university.	United Kingdom	Sexual violence	AAU Campus Climate Survey (Cantor et al., 2015)	Entire time in higher education

Author	Date	Title	Country	Construct	Tool used	Recall period
Backhaus	2019	Sexual assault, sense of belonging, depression and suicidality among LGBQ and heterosexual college students	United States	Sexual assault	NR	Past year (12 months)
Banyard	2017	Academic Correlates of Unwanted Sexual Contact, Intercourse, Stalking, and Intimate Partner Violence: An Understudied but Important Consequence for College Students.	United States	Unwanted sexual contact and unwanted sexual intercourse	NR	Past 6 months
Banyard	2007	Unwanted sexual contact on campus: a comparison of women's and men's experiences.	United States	Unwanted sexual contact	Ward, Chapman, Cohn, White, & Williams, 1991	Past 6 months
Banyard	2020	Academic Correlates of Unwanted Sexual Contact, Intercourse, Stalking, and Intimate Partner Violence: An Understudied but Important Consequence for College Students	United States	Unwanted contact and unwanted intercourse	Banyard et al., 2007; Ward et al., 1991	Past academic year
Barrick	2012	Factors associated with incidents of sexual assault among undergraduate women at historically Black colleges and universities.	United States	Sexual assault	NR	Entire time in higher education
Bell	2015	The relationship between the effects of rape, Posttraumatic Stress Disorder, complex trauma, and post-attack victim-perpetrator interaction in female college students	United States	Rape	NR	Entire time in higher education
Beres	2020	Sexual assault experiences of university students and disclosure to health professionals and others	New Zealand	Sexual assault	Administrator-Researcher Campus Climate Consortium tool	Entire time in higher education
Bergeron	2016	Violences Sexuelles en milieu universitarie au Quebec	Canada, Quebec	Sexual Violence	Sexual Experiences Questionnaire (translated in French)	Entire time in higher education
Bird	2016	The role of social drinking factors in the relationship between incapacitated sexual assault and drinking before sexual activity.	United States	Sexual assault	Sexual Experience Survey	Entire time in higher education
Blanco	2021	Sexual Victimization and Mental Health in Female University Students	Spain	Sexual violence	Sexual Experiences Survey	Past year
Bryant	2000	Child sexual abuse and its relationship to perceived vulnerability, powerlessness, self -efficacy, and sexual assault	United States	Sexual violence	Sexual Experiences Survey	Past 3 months
Cantor	2015	Report on the AAU campus climate survey on sexual assault and sexual misconduct.	United States	Sexual violence	NR	Entire time in higher education
Cass	2007	Routine activities and sexual assault: an analysis of individual- and school-level factors	United States	Sexual assault	NR	Entire time in higher education
Castaño-Castrillón	2010	Acoso Sexual en la Comunidad Estudiantil de la Universidad de Manizales (Colombia) 2008. Estudio de corte trasversal	Colombia	Sexual assault	NR	Entire time in higher education

Author	Date	Title	Country	Construct	Tool used	Recall period
Chang Wang	2015	Sexual violence experienced by male and female Chinese college students in Guangzhou.	China	Sexual violence	NR	Past year (12 months)
Chen	2021	Association between sexual abuse victimization during the life course and suicidal behaviors in male and female college students in China: Timing, duration, types and patterns	China	Sexual abuse	Sexual assault scale (Chen et al., 2006)	Entire time in higher education
Chen	1996	Risk factors of sexual abuse among college students in Taiwan.	Taiwan	Sexual abuse	NR	Entire time in higher education
Choi	2018	An Emerging Risk Factor of Sexual Abuse: The Use of Smartphone Dating Applications.	China	Sexual violence	Conflict Tactics Scale	Past year (12 months)
Copenhaver	1991	Sexual Victimization among Sorority Women: Exploring the Link between Sexual Violence and Institutional Practices	United States	Sexual violence	Sexual Experiences Survey	Entire time in higher education
Coulter	2017	Prevalence of Past-Year Sexual Assault Victimization among Undergraduate Students: Exploring Differences by and Intersections of Gender Identity, Sexual Identity, and Race/ Ethnicity	United States	Sexual assault	NR	Past year (12 months)
Coulter	2020	College Sexual Assault and Campus Climate for Sexual- and Gender-Minority Undergraduate Students	United States	Sexual assault	NR	Past year (12 months)
Curtis	2011	Sexual assault on a college campus: The influences of alcohol consumption, alcohol expectancies, risky behaviors, and sorority membership	United States	Sexual violence	Sexual Experiences Survey	Past year (12 months)
Cusano	2021	Sexual violence prevalence and disclosure patterns among college undergraduates: exploring types of sexual violence and incident-specific characteristics	United States	Sexual violence	Campus Sexual Assault (CSA) study	Entire time in higher education
Daigle	2019	Violent and sexual victimization among American and Canadian college students: Who is more at risk and are the risk factors invariant?	United States	Sexual violence victimisation	NR	Past year (12 months)
Daigle	2008	The Violent and Sexual Victimization of College Women: Is Repeat Victimization a Problem?	United States	Sexual violence	Sexual Experiences Survey	Past academic year
Dasgupta	2020	Survey of 500 Women Finds 1 in 10 Had Been Sexually Assaulted in Higher Education Institutions	India		Survey by the wire	Entire time in higher education
DeKeseredy	2019	Polyvictimization and the Continuum of Sexual Abuse at a College Campus: Does Negative Peer Support Increase the Likelihood of Multiple Victimizations?	United States	Sexua assault	Sexual Experiences Survey	Entire time in higher education
DeKeseredy	1993	Sexual Assault and Stranger Aggression on a Canadian University Campus	Canada	Sexual assault	Sexual Experiences Survey	Past year (12 months)
Dion	2021	Sexual Violence at University: Are Indigenous Students More at Risk?	Canada	Unwanted sexual behaviour	SES	

Author	Date	Title	Country	Construct	Tool used	Recall period
Echeverrìa	2017	Acoso y Hostigamiento Sexua en Estudiantes Universitarios: un acercamiento quantitativo	Mexico	Sexual Violence	Ad-hoc survey	Entire time in higher education
Edwards	2015	Physical dating violence, sexual violence, and unwanted pursuit victimization: a comparison of incidence rates among sexual-minority and heterosexual college students.	United States	Sexual assault	NR	Past 6 months
Eisenberg	2017	Sexual Assault, Sexual Orientation, and Reporting Among College Students.	United States	Sexual assault	NR	Past year (12 months)
Fielding-Miller	2019	Epidemiology of Campus Sexual Assault Among University Women in Eswatini.	Eswatini or Swaziland	Completed sexual assault	Sexual Experiences Survey	Past year (12 months)
Finkelson	1995	College date rape: incidence and reporting.	United States	Date rape	NR	Entire time in higher education
Finley	1993	Rape on the Campus: The Prevalence of Sexual Assault while Enrolled in College	United States	Sexual violence perpetration	Sexual Experiences Survey	Entire time in higher education
Fisher	2003	Reporting sexual victimization to the police and others. Results from a national-level study of college women.	United States	Sexual violence victimisation	NR	Past academic year
Fisher	1999	The extent and nature of the sexual victimization of college women: A nationallevel analysis	United States			
Flack	2015	Some types of hookups may be riskier than others for campus sexual assault.	United States	Sexual assault	Sexual Experiences Survey	Entire time in higher education
Flack	2015	Sexual Assault Victimization Among Female Undergraduates During Study Abroad.	United States	Sexual violence	Sexual Experiences Survey	Past 6 months
Flack	2007	Risk Factors and Consequences of Unwanted Sex among University Students: Hooked up, Alcohol, and Stress Response	United States	Unwanted sex	NR	Entire time in higher education
Ford	2016	Sexual assault victimization among straight, gay/lesbian, and bisexual college students.	United States	Sexual assault	NR	Entire time in higher education
Forke	2018	Relationship violence among female and male college undergraduate students	United States	Sexual violence	NR	Entire time in higher education
Fuentes-Pumarola	2021	Alcohol use and sexual violence among nursing students in Catalonia, Spain: A multicentre cross-sectional study	Spain	Sexual Violence	SES	Entire time in higher education
Gartner	2019	From Gender Microaggressions to Sexual Assault: Measure Development and Preliminary Trends among Undergraduate Women	United States	Sexual assault	Sexual Experiences Survey	Past year (12 months)
Gross	2006	An examination of sexual violence against college women	United States	Unwanted sex	Washington State University Sexual Assault Task Force	Entire time in higher education

Author	Date	Title	Country	Construct	Tool used	Recall period
Haughey	2018	Investigating the prevalence of non-consensual sexual experiences in a Northern Ireland university student population	Northern Ireland	Attempted penetrative assault	NR	Entire time in higher education
Herbenick	2019	The alcohol contexts of consent, wanted sex, sexual pleasure, and sexual assault: Results from a probability survey of undergraduate students.	United States	Non-consensual sex	Items modified from The National Women's Study and National College Women Sexual Victimization study	Entire time in higher education
Herres	2021	A Socioecological Model of Risk Associated With Campus Sexual Assault in a Representative Sample of Liberal Arts College Students	United States	Campus sexual violence	SES	Entire time in higher education
Hines	2012	Gender differences in sexual assault victimization among college students.	United States	Sexual assault	University of New Hampshire (Banyard, Moynihan, & Plante, 2007).	Past academic year
Holland	2020	Correlates of college women's intentions to use formal campus supports for sexual assault.	United States	Sexual assault	SES	Entire time in higher education
Holloway	2018	Alcohol-related rape among university students.	Wales	Alcohol-involved rape	Core Institute national survey questionnaire (Core Institute, 2012)	Past academic year
Hossain	2014	Are Female College Students Who are Diagnosed with Depression at Greater Risk of Experiencing Sexual Violence on College Campus?	United States	Sexual violence	NR	Past academic year
Howard	2008	Prevalence and psychosocial correlates of alcohol-related sexual assault among university students.	United States	Alcohol-involved sexual assault	NR	Past 3 months
Hoxmeier	2016	Sexual Assault and Relationship Abuse Victimization of Transgender Undergraduate Students in a National Sample	United States	Sexual violence	NR	Past year (12 months)
Iliyasu	2011	Prevalence and Correlates of Gender-based Violence among Female University Students in Northern Nigeria	Nigeria	Sexual violence	Adapted from National Population Commission (NPC) [Nigeria] and ORC Macro. 2009. Nigeria Demographic and Health Survey: Preliminary report 2008. Calverton,	Entire time in higher education
Johns	2001	Alcohol and sexual aggression on campus	United States	Sexual assault	Sexual Experience Survey	Entire time in higher education
Johnson	2016	Sexual orientation and sexual assault victimization among US college students	United States	Sexually abusive relationships	NR	Past year (12 months)

Author	Date	Title	Country	Construct	Tool used	Recall period
Jordan-Simmons	2001	Sexual violence on campus: The relationship between sorority membership, fraternity contact, and alcohol consumption	United States	Sexual violence	Sexual Experiences Survey	Entire time in higher education
Jouriles	2020	Prevalence of Sexual Victimization Among Female and Male College Students: A Methodological Note With Data	United States	Sexual violence	Conflict Tactics Scale	Past 3 months
Kammer-Kerwick	2019	Sexual Violence Among Gender and Sexual Minority College Students: The Risk and Extent of Victimization and Related Health and Educational Outcomes	United States	Sexual violence	Sexual Experiences Survey	Entire time in higher education
Kilpatrick	2007	Drug-facilitated, incapacitated, and forcible rape: A national study	United States	Rape	NR	Past year (12 months)
Kimble	2008	Risk of Unwanted Sex for College Women: Evidence for a Red Zone	United States	Unwanted sex	Sexual Experiences Survey	Past year (12 months)
Kirkner	2020	Campus Sexual Violence Victims with Disabilities: Disclosure and Help Seeking	United States	Sexual violence	Campus Sexual Violence Study (Krebs et al., 2007) and come from the White House Task Force toolkit (2014)	Entire time in higher education
Krebs	2009	College women's experiences with physically forced, alcohol- or other drug-enabled, and drug-facilitated sexual assault before and since entering college.	United States	Sexual assault	NR	Past year (12 months)
Krebs	2011	The Sexual Assault of Undergraduate Women at Historically Black Colleges and Universities (HBCUs).	United States	Sexual assault	NR	Entire time in higher education
Kullima	2010	Sexual assault against female Nigerian students.	Nigeria	Sexual assault	NR	Entire time in higher education
Leone	2016	Victimization and Suicidality among Female College Students	United States	Sexual violence	NR	Past year (12 months)
Lindquist	2013	The Context and Consequences of Sexual Assault Among Undergraduate Women at Historically Black Colleges and Universities (HBCUs).	United States	Sexual assault	HBCU-CSA study	Entire time in higher education
Lott	1982	Sexual Assault and Harassment: A Campus Community Case Study	United States	Sexual assault	NR	Entire time in higher education
Luetke	2020	High Prevalence of Sexual Assault Victimization Experiences Among University Fraternity Men.	United States	Sexual violence	NR	Since entering college
Lydston	2016	Gender differences in sexual violence victimization and acknowledgement on a college campus	United States	Sexual violence	San Diego State University Sexual Experiences Scale	Entire time in higher education

Author	Date	Title	Country	Construct	Tool used	Recall period
Magrin	2019	Emotional, physical and sexual violence against female students undergoing medical, dental and psychology courses in South Brazil	Brazil	Sexual violence	Trombetta T. Características do assédio moral a alunos-tra-balhadores nos seus locais de trabalho. 2005.	Past year (12 months)
Maletsky	2019	Gender Role Strain, Hookup Culture, and Sexual Violence	United States	Sexual violence	Massachusetts Institute of Technology (MIT) climate study of sexual assault (2014) and White House Task Force toolkit (2014)	Entire time in higher education
Marcantonio	2021	Associations of Alcohol Consumption, Sexual Assault History, Severity, and Revictimization With College Women's Bystander Behaviors in Alcohol-involved Settings	United States	Sexual assault	Sexual Experiences Survey	Entire time in higher education
Marsil	2016	An examination of the disparity between self-identified versus legally identified rape victimization: A pilot study	United States	Rape	Sexual Experiences Survey	Entire time in higher education
Martin	2005	The relationship between sexual abuse and drug use: a view of African-American college students in Texas.	United States	Sexual violence	NR	Past year (12 months)
McDougall	2019	The Relationship Between Non-Consensual Sex and Risk of Depression in Female Undergraduates at Universities in Maritime Canada.	Canada	Non-consensual sex	NR	Entire time in higher education
McMahon	2018	Not Just an Undergraduate Issue: Campus Climate and Sexual Violence Among Graduate Students.	United States	Sexual violence	White House Task Force	Entire time in higher education
Mellins	2017	Sexual assault incidents among college undergraduates: Prevalence and factors associated with risk.	United States	Sexual assault	Sexual Experiences Survey	Entire time in higher education
Mellins	2018	Sexual Assault Among Undergraduates: Prevalence, Ethnography, and Recommendations for Multilevel Prevention	United States	Sexual assault	Sexual Experiences Survey	Entire time in higher education
Mennicke	2021	Who do They Tell? College Students' Formal and Informal Disclosure of Sexual Violence, Sexual Harassment, Stalking, and Dating Violence by Gender, Sexual Identity, and Race	United States	Sexual violence	Items were modified from the American Association of Universities (AAU) survey (Cantor et al., 2015).	Past academic year
Mezie-Okoye	2014	Sexual violence among female undergraduates in a tertiary institution in Port Harcourt: prevalence, pattern, determinants and health consequences.	Nigeria	Sexual violence	NR	Entire time in higher education

Author	Date	Title	Country	Construct	Tool used	Recall period
Miller	1987	Coercive Sex on the University Campus	United States	Sexual coercion	Sexual Experiences Survey	Entire time in higher education
Minow	2009	Sorority participation and sexual assault risk.	United States	Sexual violence	Adaptation of 1997 National Victimization of College Women Study (NVCWS; Fisher et al., 1997) and the 1982 Sexual Experiences Survey (SES) developed by Koss (1987).	Entire time in higher education
Moeller	1996	The prevalence of sexual assault among sorority women at California State University, Long Beach	United States	Sexual assault	Sexual Experiences Survey	Entire time in higher education
Mohler-Kuo	2004	Correlates of rape while intoxicated in a national sample of college women.	United States	Rape	NR	Past academic year
Moreno-Cubillos	2013	Prevalencia de Violencia y Discriminacion contra la mujer en la Facultad de Ciencias para la Salud, Universidad de Caldas, Colombia, 2010-2011	Colombia	Rape	Ad-hoc survey	Entire time in higher education
Nasta, Aarti	2005	Sexual victimization: incidence, knowledge and resource use among a population of college women.	United States	Sexual violence	Sexual Experiences Survey	Past academic year
Navarro	2016	Investigating students' experiences with sexual victimization at a rural institution.	United States	Sexual violence victimisation	Fisher et al. (1999) and White House (2014)	Past year (12 months)
Neilson	2018	The Use of Drinking and Sexual Assault Protective Behavioral Strategies: Associations With Sexual Victimization and Revictimization Among College Women.	United States	Sexual assault	Sexual Experiences Survey	Entire time in higher education
Newton-Taylor	1998	Prevalence and factors associated with physical and sexual assault of female university students in Ontario.	Canada	Sexual assault	NR	Past year (12 months)
Palmer	2010	Coercive Sexual Experiences, Protective Behavioral Strategies, Alcohol Expectancies and Consumption among Male and Female College Students	United States	Unwanted sexual contact	Sexual Experiences Survey	Past year (12 months)
Palmer	2016	Measuring Self-Reported Sexual Victimization Experiences at One University: A Comparison of Methods	United States	Sexual assault	NCHA and PDSV	Past year (12 months)
Parr	2020	Sexual Assault and Co-Occurrence of Mental Health Outcomes Among Cisgender Female, Cisgender Male, and Gender Minority U.S. College Students.	United States	Sexual assault	NR	Past year (12 months)
Patton	1995	Sexual coercion in dating situations among university students: Preliminary Australian data.	Australia	Unwillingness to participate in sex	Sexual Experiences Survey	Entire time in higher education

Author	Date	Title	Country	Construct	Tool used	Recall period
Phipps	2012	Violence against women students in the UK: time to take action	United Kingdom	Unwanted sex	NR	Entire time in higher education
Ray	2018	Risk Factors for Forced, Incapacitated, and Coercive Sexual Victimization Among Sexual Minority and Heterosexual Male and Female College Students.	United States	Sexual violence victimisation	Sexual Experiences Survey	Past year (12 months)
Richardson	2015	Sexual violence and help-seeking among LGBQ and heterosexual college students.	United States	Sexual violence victimisation	University of New Hampshire (Banyard, Moynihan, & Plante, 2007).	Past 3 months
Roberts	2022	Gendered landscapes of safety: How women construct and navigate the urban landscape to avoid sexual violence	United Kingdom	Sexual violence	Based off of National Student Union Hidden Marks survey	Entire time in higher education
Rogers	2017	Nonchildhood Sexual Abuse in Mexican American and Mexican College Students.	Mexico	Sexual abuse	Sexual Experiences Survey	Past year (12 months)
Russell	2018	Sorority Women and Sexual Assault: A Feminist Routine Activities Framework	United States	Sexual assault (attempted or completed)	NR	Entire time in higher education
Saldarriaga	2020	Sexual violence victimization among undergraduates at a Chilean university.	Chile	Sexual violence	SAV-S (Krahé and Berger 2013)	Past year (12 months)
Santelli	2018	Does sex education before college protect students from sexual assault in college?.	United States	Penetrative sexual assault	Sexual Experiences Survey	Entire time in higher education
Scholl	2021	Physical and sexual violence on college campuses: considerations for international students	United States	Sexual violence	Sexual violence was assessed using questions from the White House Task Force to Protect Students from Sexual Assault	Past year
Scholl	2019	Physical and sexual violence on college campuses: considerations for international students.	United States	Sexual violence	White House Task Force	Entire time in higher education
Schuster	2016	Prevalence of Sexual Aggression Victimization and Perpetration in a Sample of Female and Male College Students in Turkey.	Turkey	Sexual aggression	The Sexual Aggression and Victimization Scale (SAV-S; Krahé & Berger, 2013)	Past year (12 months)
Seabrook	2019	Sexual Assault Victimization and Perceptions of University Climate Among Bisexual Women	United States	Sexual violence victimisation	White House Task Force	Entire time in higher education
Silbert	2018	Negative Outcomes Associated with Childhood Sexual Abuse	United States	Sexual violence	Sexual Experiences Survey	Entire time in higher education
Sivertsen	2019	Sexual harassment and assault among university students in Norway: a cross-sectional prevalence study.	Norway	Rape	Norway the SHoT study (Students' Health and Wellbeing Study)	Past year (12 months)

Author	Date	Title	Country	Construct	Tool used	Recall period
Sriwongtong	2019	Sexual abuse of female collegiate athletes compared to non-athletes	United States	Sexual assault	Campus Climate Survey (validated, CDC, 2014-2015)	Entire time in higher education
Steele	2021	Sexual violence among students attending a higher education institution in the UK (OUR SPACE): a cross-sectional survey	UK	Sexual violence	Sexual Experiences Survey	Past year
Stephens	2016	Relationship of sexual violence and high-risk behaviors among male and female U.S. college students	United States	Sexual violence	NR	Past year (12 months)
Stepleton	2019	Prior Sexual Victimization and Disclosure of Campus Sexual Violence among College Students	United States	Sexual violence	White House Task Force	Entire time in higher education
Stoner	2019	Sexual violence victimization, mental health, and university-based health service use among college females.	United States	Rape	Sexual Experiences Survey	Past year (12 months)
Tora	2013	Assessment of Sexual Violence against Female Students in Wolaita Sodo University, Southern Ethiopia	Ethiopia	Rape	NR	Past year (12 months)
Vanderwoerd	2017	Sexual Violence on Religious Campuses	Canada	Unwanted sex	Sexual Experiences Survey	Past year (12 months)
Walsh	2010	Disclosure and service use on a college campus after an unwanted sexual experience.	United states	Unwanted sex contact and sex intercourse	NR	Past academic year
Wang	2015	Sexual violence experienced by male and female Chinese college students in Guangzhou	China	Sexual violence perpetration and victimisation	NR	Past year (12 months)
Ward	1991	Acquaintance Rape and the College Social Scene	United States	Unwanted sex	NR	Past semester
White	2017	Comparison of Intimate Partner Violence and Sexual Assault Among Black and White College Women at Predominantly White Institutions (PWIS)	United States	sexual assault	National Intimate Partner and Sexual Violence Survey	Past academic year
Wigderson	2015	Feminine Ideology and Sexual Assault: Are More Traditional College Women at Greater Risk?	United States	Rape	Sexual Experiences Survey	Entire time in higher education
Wiscombe	2012	An Exploratory Analysis of Sexual Violence and Rape Myth Acceptance at a Small Liberal Arts University	United States	Sexual violence	Sexual Experiences Survey	Entire time in higher education
Zamudio-Sanchez	2017	Violencia de género sobre estudiantes universitarios(as)	Mexico	Sexual Violence	Ad-hoc survey	Entire time in higher education
Zotareli	2012	Gender and sexual violence among students at a Brazilian University.	Brazil	Sexual violence	Conflict Tactics Scale	Entire time in higher education

Appendix H: Risk of Bias in included studies

Author	Date	Appropriate sample frame	Appropriate sampling method	Adequate sample size	Details on subjects & setting	Analysis had sufficient coverage of sample	Valid methods for identifying the construct	Standard & reliable measurement	Appropriate statistical analysis	Adequate response rate	Score (/9)
Adejimi	2016	1	1	1	1	1	NR	1	1	NR	7
Adhia	2022	1	1	1	1	1	1	0	1	0	7
Adinew	2017	1	0	1	1	0	1	1	1	1	7
Ajayi	2021	1	1	1	1	1	0	0	1	1	7
Ameral	2020	1	1	1	1	1	1	0	1	0	7
Amos	2008	1	1	0	1	1	NR	1	1	NR	6
Andar	2014	1	1	0	1	1	0	1	1	NR	6
Anderson	2018	1	1	1	1	1	1	1	1	NR	8
Anthony	2012	1	0	0	1	1	1	1	1	NR	6
Atkinson	2020	1	0	0	1	0	1	1	0	NR	4
Backhaus	2019	1	1	1	1	1	0	1	1	NR	7
Banyard	2017	1	1	1	1	1	0	1	1	NR	7
Banyard	2007	1	1	0	1	1	0	1	1	0	6
Banyard	2020	1	0	1	0	1	1	0	1	0	5
Barrick	2012	1	1	1	1	1	NR	1	1	0	7
Bell	2015	1	1	1	1	1	NR	1	1	0	7
Beres	2020	1	NR	1	NR	1	1	1	NR	0	5
Bergeron	2016	1	1	1	1	1	1	1	1	9	9
Bird	2016	1	0	1	1	0	1	1	1	NR	6
Blanco	2021	1	1	1	1	1	1	1	1	1	9
Bryant	2000	1	0	1	1	0	1	1	1	1	7
Cantor	2015	1	1	1	1	1	NR	1	1	0	7
Cass	2007	1	NR	1	1	NR	NR	1	1	NR	5

Author	Date	Appropriate sample frame	Appropriate sampling method	Adequate sample size	Details on subjects & setting	Analysis had sufficient coverage of sample	Valid methods for identifying the construct	Standard & reliable measurement	Appropriate statistical analysis	Adequate response rate	Score (/9)
Castaño-Castrillón	2010	1	0	0	1	1	0	1	1	NR	5
Chang Wang	2015	1	0	1	1	0	NR	1	1	1	6
Chen	1996	1	NR	1	1	NR	NR	1	1	NR	5
Chen	2021	1	1	1	1	1	1	1	1	NR	8
Choi	2018	1	0	0	1	0	1	1	1	NR	5
Copenhaver	1991	1	0	0	1	1	1	1	1	0	6
Coulter	2017	1	0	1	1	1	NR	1	1	NR	6
Coulter	2020	1	0	1	1	1	0	0	1	NR	5
Curtis	2011	1	0	1	1	0	1	1	1	NR	6
Cusano	2021	1	1	1	1	1	1	1	1	0	8
Daigle	2019	1	1	1	1	1	0	1	1	NR	7
Daigle	2008	1	1	1	1	1	1	1	1	NR	8
Dasgupta	2020	1	NR	1	0	NR	NR	NR	NR	NR	2
DeKeseredy	2019	1	0	1	1	0	1	1	1	NR	6
DeKeseredy	1993	1	1	0	1	0	1	1	1	NR	6
Dion	2021	1	1	1	0	1	1	1	1	NR	7
Echeverrìa	2017	1	0	1	1	1	0	1	1	NR	6
Edwards	2015	1	1	1	1	1	NR	1	1	0	7
Eisenberg	2017	1	0	1	1	1	NR	1	1	0	6
Fielding-Miller	2019	1	0	0	1	1	1	1	1	0	6
Finkelson	1995	1	0	0	1	1	NR	1	1	1	6
Finley	1993	1	1	0	1	0	1	1	1	1	7
Fisher	2003	1	0	1	1	1	NR	1	1	1	7
Fisher*	1999	1	0	1	1	1	NR	1	1	1	7
Flack	2015	1	1	0	1	1	1	1	1	1	8

Author	Date	Appropriate sample frame	Appropriate sampling method	Adequate sample size	Details on subjects & setting	Analysis had sufficient coverage of sample	Valid methods for identifying the construct	Standard & reliable measurement	Appropriate statistical analysis	Adequate response rate	Score (/9)
Flack	2015	1	1	0	1	1	1	1	1	1	8
Flack	2007	1	1	0	1	1	NR	1	1	1	7
Ford	2016	1	0	1	1	0	NR	1	1	NR	5
Forke	2018	1	0	1	1	1	NR	1	1	1	7
Fuentes-Pumarola	2021	1	0	1	1	1	1	1	0	NR	6
Gartner	2019	1	0	0	1	1	1	1	1	NR	6
Gross	2006	1	0	1	1	0	1	1	1	NR	6
Haughey	2018	1	1	1	1	1	NR	1	1	NR	7
Herbenick	2019	1	1	1	1	1	1	1	1	0	8
Herres	2021	1	1	1	0	1	1	1	0	0	6
Hines	2012	1	1	1	1	1	1	1	1	0	8
Holland	2020	1	1	1	1	1	1	1	1	1	9
Holloway	2018	1	1	1	1	1	1	1	1	0	8
Hossain	2014	1	1	1	1	1	NR	1	1	NR	7
Howard	2008	1	0	0	1	0	NR	1	1	0	4
Hoxmeier	2016	1	1	1	1	1	NR	1	1	NR	7
Iliyasu	2011	1	0	0	1	1	1	1	1	1	7
Johns	2001	1	1	1	1	1	1	1	1	0	8
Johnson	2016	1	0	0	1	1	0	1	1	NR	5
Jordan-Simmons	2001	1	0	0	1	0	1	1	1	NR	5
Jouriles	2020	1	0	1	1	1	1	1	1	0	7
Kammer-Kerwick	2019	1	1	1	1	1	1	1	1	0	8
Kilpatrick	2007	1	1	1	1	1	NR	1	1	NR	7
Kimble	2008	1	0	0	1	1	1	1	1	1	7
Kirkner	2020	1	1	1	1	1	1	1	1	0	8

Author	Date	Appropriate sample frame	Appropriate sampling method	Adequate sample size	Details on subjects & setting	Analysis had sufficient coverage of sample	Valid methods for identifying the construct	Standard & reliable measurement	Appropriate statistical analysis	Adequate response rate	Score (/9)
Krebs	2009	1	1	1	1	1	NR	1	1	0	7
Krebs	2011	1	1	1	1	1	NR	1	1	0	7
Kullima	2010	1	0	0	1	1	NR	1	1	1	6
Leone	2016	1	NR	0	1	NR	NR	1	1	NR	4
Lindquist*	2013	1	1	1	1	1	NR	1	1	0	7
Lott	1982	1	NR	1	1	NR	NR	1	1	0	5
Luetke	2020	1	1	0	1	1	NR	1	1	NR	6
Lydston	2016	1	1	1	1	1	1	1	1	0	8
Magrin	2019	1	0	0	1	0	0	1	1	NR	4
Maletsky	2019	1	1	1	1	1	1	1	1	NR	8
Marcantonio	2021	1	0	0	1	1	1	1	0	NR	5
Marsil	2016	1	0	1	1	0	1	1	1	NR	6
Martin	2005	1	0	0	1	1	0	1	1	NR	5
McDougall	2019	1	1	1	1	1	NR	1	1	0	7
McMahon	2018	1	1	1	1	1	1	1	1	NR	8
Mellins	2017	1	0	1	1	NR	1	1	1	1	7
Mellins*	2018	1	0	1	1	NR	1	1	1	1	7
Mennicke	2021	1	1	1	1	1	1	1	1	0	8
Mezie-Okoye	2014	1	0	0	1	0	NR	1	1	1	5
Miller	1987	1	0	0	1	1	1	1	1	NR	6
Minow	2009	1	0	1	1	0	1	1	1	1	7
Moeller	1996	1	0	0	1	0	1	1	1	NR	5
Mohler-Kuo	2004	1	1	1	1	1	NR	1	1	1	8
Moreno-Cubillos	2013	1	0	0	1	1	0	1	1	NR	5
Nasta, Aarti	2005	1	0	0	1	0	1	1	1	NR	5

Author	Date	Appropriate sample frame	Appropriate sampling method	Adequate sample size	Details on subjects & setting	Analysis had sufficient coverage of sample	Valid methods for identifying the construct	Standard & reliable measurement	Appropriate statistical analysis	Adequate response rate	Score (/9)
Navarro	2016	1	1	0	1	1	1	1	1	0	7
Neilson	2018	1	0	1	1	0	1	1	1	NR	6
Newton-Taylor	1998	1	0	1	1	1	NR	1	1	1	7
Palmer	2010	1	1	0	1	1	1	1	1	1	8
Palmer	2016	1	0	0	1	1	1	1	1	1	7
Parr	2020	1	NR	1	1	NR	NR	1	1	NR	5
Patton	1995	1	0	0	1	0	1	1	1	NR	5
Phipps	2012	1	0	1	1	0	NR	1	1	NR	5
Ray	2018	1	0	1	1	0	1	1	1	1	7
Richardson	2015	1	1	1	1	1	1	1	1	1	9
Roberts	2022	1	1	1	0	0	1	0	0	0	4
Rogers	2017	1	0	0	1	0	1	1	1	NR	5
Russell	2018	1	NR	1	1	NR	NR	1	1	0	5
Saldarriaga	2020	1	1	1	1	NR	1	1	1	NR	7
Santelli	2018	1	0	1	1	1	1	1	1	1	8
Scholl	2019	1	1	1	1	1	1	1	1	NR	8
Scholl	2021	1	NR	0	0	0	1	1	0	NR	3
Schuster	2016	1	1	1	1	1	1	1	1	NR	8
Seabrook	2019	1	1	1	1	1	1	1	1	0	8
Silbert	2018	1	0	0	1	0	1	1	1	NR	5
Sivertsen	2019	1	1	1	1	1	1	1	1	0	8
Sriwongtong	2019	1	0	0	1	NR	1	1	1	NR	5
Steele	2021	1	1	0	1	1	1	1	1	1	8
Stephens	2016	1	0	1	1	1	NR	1	1	NR	6
Stepleton	2019	1	1	1	1	1	1	1	1	0	8

Author	Date	Appropriate sample frame	Appropriate sampling method	Adequate sample size	Details on subjects & setting	Analysis had sufficient coverage of sample	Valid methods for identifying the construct	Standard & reliable measurement	Appropriate statistical analysis	Adequate response rate	Score (/9)
Stoner	2019	1	0	0	1	0	1	1	1	NR	5
Tora	2013	1	0	0	1	1	NR	1	1	1	6
Vanderwoerd	2017	1	1	0	1	1	1	1	1	0	7
Walsh	2010	1	0	1	1	1	NR	1	1	1	7
Wang	2015	1	0	1	1	0	NR	1	1	1	6
Ward	1991	1	0	1	1	1	NR	1	1	NR	6
White	2017	1	0	1	1	1	1	1	1	NR	7
Wigderson	2015	1	0	0	1	0	1	1	1	NR	5
Wiscombe	2012	1	0	0	1	0	1	1	1	NR	5
Zamudio-Sanchez	2017	1	1	0	1	1	0	1	1	NR	6
Zotareli	2012	1	1	1	1	1	1	1	1	0	8