Individual Vulnerability and Organizational Context as Risks for Sexual Harassment among Female Graduate Students

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Abstract

Despite a growing body of work on sexual harassment among college students, little work has examined predictors of sexual harassment specifically among graduate students. This study aims to address this gap in the literature by using data from 490 female graduate students at a large, public university. Based on a feminist routine activity theory approach, both individual vulnerability (lesbian, gay, bisexual, queer, or other sexual identity [LGBQ+], international student status, psychological distress, alcohol use) and organizational context (departmental female ratio, male-dominated field, departmental support) are tested as risk factors for sexual harassment. Moreover, we examine risks for sexual harassment by either a peer or a professor before testing models for peer and faculty member harassment separately. Logistic regression analyses demonstrated that both individual vulnerability and organizational context are related to an increased likelihood of sexual harassment among female graduate students, but patterns of findings vary by type of offender. Policy recommendations are offered, including the need for safe spaces on campus for LGBQ+ and international students and the need for clear consequences for offenders of sexual harassment.

Keywords

crime, law, and deviance, sexualities, sex and gender

Introduction

Sexual harassment is a widespread problem in work settings, including academia (Hill and Silva 2005; Lorenz, Kirkner, and Mazar 2019; Rosenthal, Smidt, and Freyd 2016), and causes short- and long-term harm to women's well-being and career prospects. According to the U.S. Equal Employment Opportunity Commission (1997), sexual harassment includes "unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature" that impact work or the work environment. Female graduate students may be at particular risk for sexual harassment, compared with workers in other settings, because their career success is

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highly dependent on university faculty (Cortina et al. 1998; Rosenthal et al. 2016) and because norms of masculine superiority permeate academia (Kantola 2008; Winslow and Davis 2016). Sexual harassment perpetrated against women in graduate school is associated with trauma symptoms, psychological distress, feeling unsafe on campus, and academic disengagement (Hill and Silva 2005; Lorenz et al. 2019; Rosenthal et al. 2016; Tenbrunsel, Rees, and Diekmann 2019). Ultimately, sexual harassment of female graduate students contributes to gender inequality in high-level careers (National Academies of Sciences, Engineering, and Medicine 2018).

In an exploration of U.S. institutions, Lorenz et al. (2019) found that 86 percent of graduate students experienced at least one form of sexual harassment victimization. Research has demonstrated that international and lesbian, gay, bisexual, queer, and other sexual minority (LGBQ+) individuals are at an increased risk for sexual harassment (Villegas 2019; Wood et al. 2018). Other studies demonstrate that organizational factors, including working in a male-dominated field and a lack of supportive relationships (De Coster, Estes, and Mueller 1999; Roscigno 2019), contribute to sexual harassment. Except for sexual identity, very little work has examined these factors as risks for sexual harassment in academic settings specifically. Furthermore, although there is evidence that alcohol use and psychological distress predict sexual assault victimization (Boyle 2015; Culatta et al. 2020; Sutton, Simons, and Tyler 2019), few studies have examined these factors as predictors of sexual harassment. Last, as Lorenz et al. (2019:206) emphasized, most work on sexual harassment in higher education is dated, based outside the United States, and focuses on undergraduate students or specific disciplines.

We address current gaps in the literature by using a feminist routine activity theory (RAT) framework, which suggests individual vulnerability and organizational context as risks for sexual harassment among female graduate students. We also explore how risk factors vary based on the offender—either a graduate student colleague or faculty member. To do so, we use logistic regression analyses with data from 490 female graduate students at a large university in the United States.

Our findings indicate that women from marginalized groups (i.e., international students) are at an increased risk for harassment by a professor. Departmental support is protective of this type of harassment. Sexual harassment by a peer is influenced by factors related to problematic male peer groups, including alcohol use and studying in a male-dominated field, as well as psychological distress. LGBQ+ students are at an increased risk for harassment from both sources. This study is among the first to explore risks for sexual harassment victimization among female graduate students and highlights the importance of considering both personal risks and organizational influences of harassment. These findings demonstrate that faculty target students who appear vulnerable and isolated, while peer victimization is linked to the social context surrounding graduate students' relationships with one another.

The Problem of Sexual Harassment

Sexual harassment is a more pervasive problem for women than men. In 2019, the UC San Diego Center on Gender Equity and Health (2019) found that 81 percent of women, compared with 43 percent of men, had experienced sexual harassment or assault in their lifetime. In this nationally representative sample, women reported particularly high levels of verbal (76 percent) and physically aggressive (58 percent) sexual harassment. Research has also shown that men are more likely to be perpetrators of sexual harassment (Bowes-Sperry and O'Leary-Kelly 2005; Tenbrunsel et al. 2019).

Within academia, female graduate students are more likely to experience sexual harassment from faculty, staff, and graduate student colleagues than male graduate students (Rosenthal et al. 2016). Wood and colleagues (2018), for instance, found that female students had greatly increased odds of experiencing sexual harassment by both faculty/staff (86 percent greater odds) and peers (147 percent greater

odds). Research has also shown that, in academia, men are more likely to be perpetrators of sexual harassment (Hill and Silva 2005; Tenbrunsel et al. 2019). In addition, research demonstrates that, compared with undergraduate women, graduate women are more likely to experience sexual harassment. This greater vulnerability is due, in part, to graduate students' precarious position in the academy (Cantor et al. 2015; Rosenthal et al. 2016; Tenbrunsel et al. 2019). Moreover, various adverse consequences stem from sexual harassment victimization among female graduate students. For example, Rosenthal et al. (2016) demonstrated that women's sexual harassment was associated with trauma symptoms even accounting for other forms of victimization (e.g., sexual assault, dating violence) and was uniquely related to feeling unsafe on campus. Based on this work, the present study focuses on female graduate students.

A Feminist Routine Activity Theory Approach to Sexual Harassment

Routine activity theory (RAT) has often been used as a theoretical guide for understanding sexual misconduct (Clodfelter et al. 2010; Mustaine and Tewksbury 2002; Schwartz et al. 2001). Cohen and Felson (1979) developed RAT, which posits that three factors are necessary for crime to occur. First, a *motivated offender* is someone who might commit an illegal offense, and their motivation is taken as a given in the original conception of RAT (Clarke and Felson 1993). Second, *a suitable target* is a person who could be the victim of a crime due to location or exposure; some work has discussed individual lifestyles as contributing to suitability (Bunch, Clay-Warner, and Lei 2015). Third, *guardianship* includes the presence and willingness of people who can protect a potential target and the ability of targets to use guardians as a form of social control (De Coster et al. 1999:24). When a motivated offender and suitable target are in the same place at the same time without the presence of guardians, a criminal act is more likely to occur.

Feminist routine activity theorists have built on the original theory by focusing on forms of women's victimization rooted in patriarchal norms and by providing explanations for men's motivation to perpetrate sexual violence and harassment (De Coster et al. 1999; Franklin and Menaker 2018; Schwartz et al. 2001). These scholars have discussed, for example, men's misogynistic peer groups and workgroups, rape culture, and power differences that benefit men as underlying causes of men's sexual aggression (De Coster et al. 1999; Mustaine and Tewksbury 2002; Schwartz et al. 2001; Willness, Steel, and Lee 2007). These factors are also considered explanations for high rates of sexual victimization among women.

In academia specifically, research has consistently shown that women are at a greater risk of experiencing harassment partly because academia has historically privileged men (Kantola 2008; Rosenthal et al. 2016; Winslow and Davis 2016; Wood et al. 2018). Moreover, feminist scholars have noted a need to establish variability in victimization risk among high-risk groups, including women and LGBQ+ individuals (Franklin and Menaker 2018; Sutton et al. 2019). In line with these arguments, we focus on women's experiences of sexual harassment within academia and seek to understand the greater risk for harassment among some women.

Feminist and other scholars studying sexual misconduct have also problematized a focus on "target suitability" and "victim lifestyles" as such concepts tend to place responsibility for crime on the victim (Finkelhor and Asdigian 1996; Franklin and Menaker 2018; Sutton et al. 2019). For example, Finkelhor and Asdigian (1996:6) focus instead on "target congruence," which is the "capacity to resist or deter victimization." This approach highlights characteristics that offenders can manipulate to perpetrate violence, placing responsibility on perpetrators and avoiding victim-blaming. We strive to emulate this approach (Chamberlain et al. 2008; Roscigno 2019; Tenbrunsel et al. 2019) and examine sexual identity, international student status, psychological distress, and alcohol use as forms of target congruence or vulnerability.

Guardianship has been less studied among feminist routine activity theorists, but some existing work demonstrates its impact on women's sexual victimization. Measures of guardianship are related to sexual harassment victimization in the workplace (De Coster et al. 1999) and among college students (Clodfelter et al. 2010). Consistent with other scholars (De Coster et al. 1999; Lopez, Hodson, and Roscigno 2009), we consider aspects of organizational context that either promote or help prevent sexual harassment as forms of guardianship. Both gender-based (e.g., a preference for masculinity, presence of women) and interpersonal (e.g., general support) aspects of organizational context have been linked to women's sexual harassment (Lopez et al. 2009; Roscigno 2019; Stainback, Ratliff, and Roscigno 2011; Willness et al. 2007). In the current study, we examine the impact of studying in a male-dominated field, the ratio of female to male faculty and students in the department (i.e., departmental female ratio), and departmental social support as indicators of guardianship.

The current article moves feminist RAT forward in several ways. Much work has focused on sexual violence, but our article focuses on the less investigated and the typically less violent victimization of sexual harassment. When RAT work *has* examined sexual harassment, it is focused on sexual harassment between workplace colleagues or between bosses and employees (De Coster et al. 1999; Lopez et al. 2009) or on sexual assault committed by undergraduate peers (Franklin and Menaker 2018; Mustaine and Tewksbury 2002; Sutton et al. 2019). We examine sexual harassment in an educational environment and focus on relationships that involve a power imbalance (by faculty members) and those that are more power equivalent (by graduate student colleagues). Below, we review evidence suggesting that various risk factors produce sexual harassment among graduate students by increasing target congruence and decreasing guardianship.

Individual Vulnerability and Sexual Harassment

Sexual misconduct scholars have considered the role of *vulnerability* by focusing on sexual identity (McGinley et al. 2016; Sutton et al. 2019; Wood et al. 2018), international status (Forbes-Mewett and McCulloch 2015; Villegas 2019), mental illness (Culatta et al. 2020; Schnittker 2019), and alcohol use (Boyle 2015; Ford 2017; Freels, Richman, and Rospenda 2005) as factors that affect the likelihood of sexual victimization.

In the limited literature on sexual harassment in graduate school, studies consistently find that LGBQ+ individuals (e.g., lesbian, gay, bisexual, queer) are at an increased risk, compared with their straight counterparts, for sexual harassment (Boyle and McKinzie 2018; Hill and Silva 2005 McGinley et al. 2016; Wood et al. 2018). Similarly, sexual minority women experience more sexual violence than other women (Sutton et al. 2019; Walters, Chen, and Breiding 2013). High rates of sexual victimization among LGBQ+ women might represent expressions of homophobia or attempts to sanction women for violating gender norms (Earnshaw et al. 2020; Edwards et al. 2015; Hequembourg and Brailler 2009).

International students are also vulnerable to sexual harassment due to unfamiliarity with cultural norms, small support systems, financial insecurity, and uncertain immigration status (Forbes-Mewett and McCulloch 2015; Villegas 2019). For instance, Villegas (2019) identified immigration status and employment in precarious work as risks for experiencing and tolerating sexual harassment among Mexican migrants. Moreover, support systems may be small or nonexistent for international students, so they may feel like they have no sources of help if they are mistreated (Marginson et al. 2010). Knowledge of isolation can easily be exploited by peers or those in positions of authority. Thus, being isolated and dependent on an employer for residential and financial stability may lead women in graduate school to endure ongoing sexual harassment.

Numerous studies have documented that alcohol use is correlated with undergraduate college students' sexual assault risk (e.g., Boyle 2015; Schnittker 2019; Sutton et al. 2019). Ford (2017) documented that men actively use women's alcohol use to sexually victimize them without using force. Alcohol use also

tends to occur in high-risk environments, increasing exposure to potential offenders (Becker and Tinkler 2021; Boyle 2015; Sutton et al. 2019). Similar target congruence effects may occur in the context of sexual harassment in which women are perceived as more vulnerable and unable to detect risk. In one of the few studies on alcohol use and sexual harassment, Freels et al. (2005) reported a longitudinal association between drinking and sexual harassment for men, but not women, among university employees.

Studies show that psychological distress also uniquely predicts victimization, even controlling for alcohol use. For instance, Schnittker (2019) found that depression predicted women's experiences of rape after accounting for problematic drinking. Scholars have discussed that women with mental health issues might be targeted for sexual violence due to perceived weakness or vulnerability, reduced risk perception, and social isolation (Culatta et al. 2020; Schnittker 2019).

Much of the research on individual vulnerability focuses on sexual assault rather than harassment. However, the evidence summarized here, along with a feminist routine activity theory approach, suggests that international students, LGBQ+ women, and those who experience greater alcohol use and psychological distress may be at increased risk for sexual harassment while in graduate school.

Organizational Context and Sexual Harassment

Compared with the impact of individual characteristics on sexual misconduct, less work has considered guardianship's influence. Still, some empirical research indicates that organizational context significantly impacts sexual harassment in the workplace (Lopez et al. 2009; Willness et al. 2007) and academia (Tenbrunsel et al. 2019). For one, studies have found that working in a male-dominated workgroup or career increases women's risk of sexual harassment, while women are more insulated from harassment when working in fields with more women (De Coster et al.

1999; Fitzgerald et al. 1997; Mueller, De Coster, and Estes 2001; Stainback et al. 2011; Stockdale et al. 2014; Tenbrunsel et al. 2019). Consistent with a feminist RAT perspective, researchers have argued that women are more vulnerable to sexual harassment in male-dominated fields due to gender-role spillover, male dominance, and the sexualization of women (Lopez et al. 2009; Willness et al. 2007). Willness et al. (2007:134), for example, highlighted the influence of norms related to male superiority and masculinity. Others have also documented a preference for maleness in academia (Kantola 2008; Winslow and Davis 2016). Thus, female graduate students may be better protected from unfair treatment, biased gender norms, and sexual harassment in fields or departments with more women available to provide guardianship.

Supportive relationships also serve as a form of guardianship against sexual harassment. Women who have encouraging supervisors or who work in supportive group settings, for instance, are less likely to experience sexual harassment in the workplace (Chamberlain et al. 2008; De Coster et al. 1999; Roscigno 2019). These studies demonstrate that solidarity in academic departments may increase willingness to intervene by both faculty and peers when inappropriate or harassing behavior is perpetrated against a graduate student.

The Moderating Impact of Guardianship on Vulnerability

Generally, researchers taking a RAT approach to sexual misconduct have explored the independent effects of vulnerability and guardianship factors. Some scholars (De Coster et al. 1999; Miethe and Meier 1990) have argued that examining interactions between guardianship and individual vulnerability is the most appropriate approach to testing RAT. As discussed by De Coster et al. (1999:31), given the RAT proposition that guardians and potential victims must both be present for victimization to occur, "different combinations of these components should be associated with different probabilities of victimization." In their study on workplace harassment, only one of 24

interactions was significant—workgroup solidarity had a stronger protective effect on racially/ethnically minoritized women's sexual harassment compared with white women. Given a lack of additional work, more studies are needed before drawing conclusions. To address this gap, we examine each guardianship variable's moderating effect on each of the other independent variables.

The Current Study

This study adds to the growing body of literature on women's sexual harassment during graduate school using data from 490 self-identified female graduate students at a large, public university. We address several important gaps. For one, we build upon the limited research investigating sexual harassment among graduate students, given most research in this area focuses on the experiences of undergraduate women or women in the workforce. We also examine both vulnerability and organizational factors as potential risks for sexual harassment.

Specifically, we expect that women who are perceived to be more vulnerable (Hypothesis 1) and who are receiving their education in a department or field characterized by less guardianship (Hypothesis 2) will report higher levels of sexual harassment. We also examine interactions between vulnerability and guardianship factors, and, consistent with De Coster et al. (1999), we expect that guardianship will be particularly protective for the most vulnerable students (Hypothesis 3). Our hypotheses are in line with previous routine activity theory research linking victim vulnerability and organizational context with victimization generally and harassment specifically (Culatta et al. 2020; De Coster et al. 1999; Tenbrunsel et al. 2019; Wood et al. 2018).

In addition, we parse out risk factors for harassment by faculty versus graduate student offenders. Research has demonstrated that harassment by a peer is more common than harassment by a professor for female undergraduate and graduate students and that graduate students are more likely than undergraduates to be harassed by faculty (Cantor et al. 2015;

Rosenthal et al. 2016; Wood et al. 2018). Some vulnerability factors, like LGBQ+ identity, appear to increase risk for sexual harassment regardless of offender type (Wood et al. 2018). However, it is unclear how the victim-offender relationship shapes the impact of other risks. To establish general risks for sexual harassment within academic environments and relationships, we first examine harassment perpetrated by either a graduate student colleague or a professor. Then, given the importance of power dynamics and peer context in determining sexual harassment risk (e.g., Chamberlain et al. 2008; Roscigno 2019; Schwartz et al. 2001), we examine the salience of the identified risk factors for women's report of sexual harassment separately for peer harassment and professor harassment.

Method

Sample and Procedure

The Registrar at a large, public university provided the researchers with a list of students enrolled in graduate programs. Students were emailed in Fall 2017 and asked to participate in the "Graduate and Professional Student Study" in exchange for a $5 Amazon or Starbucks e-gift card. The full sample consisted of 880 graduate students. Of the full sample, 68.4 percent were female, 37.4 percent identified as part of a racially minoritized group, and the mean age was 28.1. These figures are relatively consistent with graduate student demographics at this institution (~60 percent female, 33 percent racially minoritized, and 67 percent 25-years-old or older; National Center for Education Statistics 2020). Thirteen percent of the sample identified as LGBQ+, which is similar to the rate of self-identified LGBQ+ students in a recent study of over 32,000 graduate and professional students (Cantor et al. 2015).

Given the higher rate of sexual harassment victimization among women, our sample includes only those who identified female as their current sex from a list of options (e.g., male, intersex, trans male, trans female, nonbinary). Participants were able to check all

that applied and write in "something else." For this study, only those who identified as "female" and no additional categories were included. No respondents identified as "trans female" or "intersex."

Of those contacted, 583 self-identified female graduate students began the survey, and 490 provided data on all study variables and were included in the current analysis. Female respondents who had missing data most often did not provide information on sexual harassment ($n = 20$) or sexual harassment and at least one other variable ($n = 53$). Based on analyses of variance (ANOVAs) and Pearson's chi-square tests, those who were not included in our sample ($n = 93$) did not differ significantly from the study sample in terms of race/ethnicity ($\chi^2 = 0.09$, $p = .42$), marital status ($\chi^2 = 0.80$, $p = .21$), LGBQ+ status ($\chi^2 = 0.12$, $p = .44$), age ($F = 0.93$, $p = .34$), or years in their program ($F = 0.49$, $p = .49$).

Measures

Dependent variable: Sexual harassment. Our measure of sexual harassment was drawn from the American Association of University Women's study "Drawing the Line: Sexual Harassment on Campus" (Hill and Silva 2005). Participants were told, "Sexual harassment is unwanted and unwelcome sexual behavior which interferes with your life" (Hill and Silva 2005:6). They were asked whether they had experienced 15 acts "while they were engaged in college-related events and activities as a graduate student," such as a conference or meeting, on campus, during or after school, or at a department-sponsored event (e.g., parties, study groups). Items captured non-verbal, verbal, and physically harassing behaviors such as "made sexual comments, jokes, or gestures," "showed, gave, or left you sexual pictures," "spread sexual rumors about you," or "touched, grabbed, or pinched you in a sexual way." For each item, participants indicated whether (1) no one did this, (2) a professor did this, (3) a graduate student did this, or (4) someone else did this. Thus, they could indicate whether none, one, two, or three of these categories applied to *each* behavior.

Three dichotomous variables were created: (1) peer or professor harassment, (2) peer harassment, and (3) professor harassment. We use dichotomous outcomes because descriptive analyses indicated high skewness values for continuous scales of harassment (ranging from 3.66 to 5.09). This skewness is partly because many participants reported only a few types of harassment from each source. Furthermore, although rates of harassment were substantial in our sample, many indicated that they had not experienced sexual harassment. Thus, we proceeded with dichotomous outcome variables. In addition, we do not include harassment by "someone else" as an outcome given our focus on risks relevant to academic contexts and interactions and a lack of information on the relationship between the respondent and this type of perpetrator.

Responses were coded 1 for *peer or professor harassment* if participants experienced at least one behavior from a professor or a graduate student. This includes those who experienced harassment by a graduate student colleague only, a faculty member only, or both. Participants were coded as 0 for *peer or professor harassment* if they did not experience any of the 15 acts from a professor or graduate student. Responses were coded 1 for *peer harassment* if another graduate student harassed them in one or more ways and 0 if they did not report sexual harassment by a graduate student colleague. Finally, they were coded 1 for *professor harassment* if a professor harassed them in one or more ways and 0 if they did not report any professor harassment. Peer and professor harassment are not mutually exclusive dependent variables—26 (5.3 percent) of all respondents experienced harassment from *both* a graduate student and a professor.

Independent variables

International student. Respondents were asked, "Are you an international student?" Those who responded "yes" are coded 1 and 0 if they selected "no."

LGBQ+. To measure sexual identity, respondents were asked, "Do you think of yourself as . . ." gay/lesbian, bisexual, straight/

heterosexual, asexual, pansexual, demisexual, queer, and/or something not listed. Participants were able to select more than one response if applicable. Respondents who *only* chose "straight/heterosexual" are coded 0 for *LGBQ+*. Everyone else is coded as 1.

Psychological distress. This construct was measured with the depression and anxiety subscales from the Depression, Anxiety, and Stress Scales (DASS-21; Norton 2007). For *depression*, participants responded to seven items such as "I felt I wasn't worth much as a person" or "I felt that I had nothing to look forward to." Second, participants indicated their current level of *anxiety* using seven items such as "I felt scared without any good reason" and "I experienced trembling (e.g., in my hands)." For each subscale, participants were asked to indicate their symptoms in the past week. Items were coded on a scale of 0 = *did not apply to me at all* to 3 = *applied to me very much or most of the time* and were averaged to form a final measure of psychological distress ($\alpha = .90$).

Alcohol use. The Alcohol Use Disorders Identification Test (AUDIT; Babor et al. 2001) was used to measure respondents' engagement in eight drinking-related behaviors in the last year. Items assessed frequency of alcohol use and binge drinking, number of drinks typically consumed, and drinking-related consequences such as failing to do what was normally expected of them or feeling guilt or remorse due to their drinking. Items ranged from 0 to 4 and were averaged to form a scale ($\alpha = .74$).

Departmental female ratio. Respondents were asked to approximate the gender ratio in their program along two dimensions: professors and students. For professors and students, they were presented with separate bipolar scales ranging from All Men (0 percent) to All Women (100 percent). We averaged the two scores to assess the *departmental female ratio.*

Departmental social support. Support within respondents' departments was assessed with

six items. They were asked to rate their department/program from 1 = *far below average* to 5 = *far above average* on student/faculty relations, support from other students, relations with other students, the atmosphere of trust and cooperation, supervision from faculty, and faculty's role in students' professional development (Mallinckrodt and Leong 1992). The six responses were averaged to form a scale of *departmental support* ($\alpha = .86$).

Male-dominated field. Participants indicated their field of study and were subsequently coded as belonging in either a *non-male-dominated field* (0) or a *male-dominated field* (1). This coding scheme was based on Weeden, Thébaud, and Gelbgiser (2017), who used data on all doctorates awarded in the United States to determine gender segregation by field between 2003 and 2014. Based on this work, agriculture/agricultural sciences, business, computer science, engineering/technology, law, and natural sciences were coded as male-dominated fields. Arts, education, humanities, medicine/health sciences, social science, social work, and "other" were coded as non-male-dominated fields.

Control variables. To account for their potential impact on sexual harassment, we also control for several additional variables. First, respondents were asked whether they had a key advisor or mentor in their department or school. Those who answered affirmatively are coded 1 for *advisor*. We control for the number of *years spent in their current graduate degree program*, ranging from 1 year to 7 or more years. Next, we control for *respondents' age.* We also control for *marital status*, with divorced, separated, and never-married individuals coded as 0. Finally, students were asked for their *race* or *ethnicity* and instructed to mark all applicable boxes. Most participants selected one race/ethnicity: American Indian or Alaska Native; Asian; Black or African American; Hispanic, Latina/o, or Spanish; Native Hawaiian or Pacific Islander; white; or some other race/ethnicity. Participants were coded as 1 if they

Table 1. Descriptive Statistics for Study Variables among Female Graduate Students (*n* = 490).

Variable	Mean (standard deviation)/%	Range
Peer or professor harassment	26.1%	0–1
Peer harassment	21.8%	0–1
Professor harassment[a]	9.6%	0–1
Other harassment	25.7%	0–1
International student	15.3%	0–1
LGBQ+	13.3%	0–1
Psychological distress	1.55 (0.51)	1.00–3.71
Alcohol use	0.43 (0.38)	0.00–2.78
Departmental female ratio	0.54 (0.21)	0.01–0.99
Departmental support	3.58 (0.71)	1.33–5.00
Male-dominated field	26.1%	0–1
Advisor	75.1%	0–1
Years in program	2.57 (1.51)	1–7
Age	28.06 (6.90)	18–64
Race (1 = white)	64.7%	0–1
Relationship status (1 = married)	23.9%	0–1

[a]Peer harassment and professor harassment are not mutually exclusive.

identified as white and no other category, and all others were coded as 0.

Analytic Strategy

All descriptive analyses were performed in SPSS, and multivariate analyses were performed in Stata version 16. Each outcome variable was dichotomously coded as 0 = *did not experience this form of harassment* or 1 = *experienced this form of harassment*. Thus, logistic regression analyses were used for each outcome: peer or professor harassment, peer harassment, and professor harassment. We test our models in blocks, first entering only control variables followed by models with both theoretical and control variables. We also explore moderation effects between the three guardianship variables and all other independent variables, including each vulnerability factor (e.g., male-dominated field × LGBQ+) and guardianship variable (e.g., departmental support × departmental female ratio). To create interaction terms, variables were mean-centered, a product term was created between variables, and then the product term was standardized (Aiken and West 1991).

Results

Descriptive Statistics

Over one fourth (26.1 percent) of our female graduate student sample reported sexual harassment within an academic relationship (i.e., by either a professor or peer; see Table 1). When separated by offender, peer harassment was more common than harassment by a professor (21.8 percent vs. 9.6 percent). Among women reporting an incident of harassment by either a faculty member or graduate student colleague (*n* = 128), 20.3 percent were harassed by both. Although not the focus of our study, 25.7 percent also reported harassment by "someone else." International students made up 15.3 percent of the sample, and 13.3 percent of the sample identified at LGBQ+. Of LGBQ+ women, 20 percent identified as gay/lesbian, 40 percent as bisexual, 5.4 percent as asexual, 6.2 percent as demisexual, and 1.5 percent as pansexual. The remaining 26.9 percent of LGBQ+ female students identified as a combination of identities or as "other." On average, women reported relatively low levels of psychological distress (*M* = 1.55, *SD* = 0.51) and alcohol use (*M* =

0.43, $SD = 0.38$) and high levels of departmental support ($M = 3.58, SD = 0.71$). Female students tended to belong to departments with slightly more women than men (average departmental female ratio = 0.54), and 26.1 percent were in a male-dominated field. Most women were white (64.7 percent), and others identified as Asian/Asian American (15.3 percent), Black/African American (9.6 percent), Hispanic (5.7 percent), multiracial (4.1 percent), or "other" (0.6 percent). Additional descriptives are shown in Table 1.

Before performing multivariate analyses, we explored bivariate relations between each outcome and the other variables (see Table 2 for ANOVAs and Pearson's χ^2). Compared with those who did not experience harassment, those who had experienced harassment by either a peer or professor, by a peer, or by professor were more likely to identify as LGBQ+, had less departmental support, had been in their program for longer, and were more likely to identify their race as white. For combined peer/professor harassment and harassment by a peer, those who were harassed reported more psychological distress, greater problems with alcohol use, were more likely to be in a male-dominated field, and were in departments with fewer women than those who were not harassed. These variables were not related to harassment by a professor at the bivariate level.

Regression Analyses: Main Effects

Results of logistic regression analyses are presented in Table 3. Models with only control variables (Models 1A, 2A, 3A) and with both control and theoretical variables (Models 1B, 2B, 3B) are shown for each outcome. Across all models, the −2 log likelihood is lower when including both control and theoretical variables than when including only control variables, indicating better fit. The likelihood ratio (LR) chi-square difference tests are also significant across the model comparisons, peer or professor: $\Delta\chi^2 43.00(7)$, $p < .001$; peer: $\Delta\chi^2 17.65(7)$, $p = .01$; professor: $\Delta\chi^2 56.19(7)$, $p < .001$, demonstrating better fit for the full models. After adding theoretical variables to

each model, the percent correct classification increased, and the McFadden pseudo r^2 increased by .094 for combined peer or professor harassment (Model 1A & 1B), by .057 for peer harassment (Model 2A & 2B), and by .109 for professor harassment (Model 3A & 3B).

In the full model predicting harassment victimization from either a peer or a professor (Model 1B), female students who identified as LGBQ+ were at a 137 percent increased risk of harassment (odds ratio [OR] = 2.37) compared with straight students. Two other individual vulnerability variables, psychological distress (OR = 1.74) and alcohol use (OR = 2.98), were related to harassment by either offender. Among guardianship variables, only male-dominated field was related to our combined peer or professor harassment measure, increasing risk of sexual harassment by 72 percent.

In the models predicting peer harassment and professor harassment separately (Models 2B, 3B), LGBQ+ graduate students were at an increased risk for harassment from both sources. Compared with straight female students, LGBQ+ students were at a 101 percent and 175 percent increased risk of harassment by a peer and a professor, respectively.

Other significant effects differed based on the victim-offender relationship. For peer harassment (Model 2B), alcohol use exerted a significant effect (OR = 3.69). Specifically, more hazardous and harmful alcohol use (i.e., alcohol use that was more frequent and was accompanied by negative consequences more often) increased the risk of peer harassment by 269 percent. Both psychological distress and studying in a male-dominated field increased the likelihood of peer harassment by 112 percent and 99.7 percent, respectively. Alcohol use and psychological distress were not significant predictors of harassment by a professor. However, two variables had an impact on harassment by a professor (Model 3B) but not on peer harassment. International students were at a 154 percent increased risk of harassment by a faculty member compared to other students. Departmental support was protective against professor harassment, reducing the odds of harassment by 44.8 percent.

Table 2. Pearson's Chi-Square Tests and ANOVAs for Study & Control Variables by Type of Harassment Perpetrator (*n* = 490).

Predictor	Peer or professor harassment			Peer harassment			Professor harassment		
	%/mean Not harassed	%/mean Harassed	χ^2/F	%/mean Not harassed	%/mean Harassed	χ^2/F	%/mean Not harassed	%/mean Harassed	χ^2/F
International student	15.2%	15.6%	.014	15.4%	15.0%	.013	14.7%	21.3%	1.43
LGBQ+	10.2%	21.9%	11.16**	11.0%	21.5%	8.06**	12.0%	25.5%	6.80*
Psychological distress	1.48	1.74	24.32**	1.48	1.79	32.08**	1.54	1.67	2.66
Alcohol use	0.38	0.57	23.33**	0.38	0.61	32.75**	0.43	0.45	0.22
Dept female ratio	0.56	0.49	10.75**	0.56	0.49	11.14**	0.55	0.51	1.34
Departmental support	3.66	3.36	17.44**	3.63	3.38	10.90**	3.61	3.26	10.94**
Male-dominated field	21.3%	39.8%	16.90**	21.4%	43.0%	20.18**	25.5%	31.9%	0.90
Advisor	71.8%	84.4%	7.97*	72.6%	84.1%	5.94*	74.3%	83.0%	1.72
Years in program	2.43	2.95	11.19**	2.46	2.95	9.18**	2.51	3.13	7.29**
Age	27.71	28.06	0.51	28.27	27.28	1.73	28.05	28.11	0.14
Race (1 = white)	60.8%	75.8%	9.33*	61.9%	74.8%	6.08**	63.4%	76.6%	3.22*
Relationship status	22.9%	26.6%	0.69	24.0%	23.4%	0.02	23.0%	31.9%	1.85

Note. Pearson chi-square tests (χ^2) are used for categorical variables, and ANOVAs (*F*) are used for continuous variables. ANOVA = analysis of variance.
*$p \leq .05$. **$p \leq .01$.

Table 3. Logistic Regression Analyses for Women's Sexual Harassment by Type of Harassment Perpetrator ($n = 490$).

	Peer or professor harassment		Peer harassment		Professor harassment	
	Model 1A	Model 1B	Model 2A	Model 2B	Model 3A	Model 3B
Theoretical variables						
International student	—	1.433	—	1.242	—	2.545*
LGBQ+	—	2.367**	—	2.019*	—	2.746*
Psychological distress	—	1.744*	—	2.119**	—	1.116
Alcohol use	—	2.977**	—	3.690***	—	1.082
Departmental female ratio	—	0.625	—	0.589	—	0.879
Departmental support	—	0.686	—	0.821	—	0.552*
Male-dominated field	—	1.720*	—	1.997*	—	0.880
Control variables						
Advisor	2.173**	1.492	2.148*	1.410	1.492	1.260
Years in program	1.232**	1.162†	1.267**	1.208*	1.264*	1.193
Age	0.959*	0.977	0.945*	0.967	0.969	0.966
Race (1 = white)	1.942**	2.034*	1.717*	1.631	1.727	2.558*
Relationship status (1 = married)	1.107*	1.479	0.917	1.240	1.389	1.619
Pseudo R^2	.053	.147	.038	.095	.052	.161
Model Fit						
Likelihood ratio (LR) chi-square	29.86 ($df = 5$)	82.86 ($df = 12$)	11.83 ($df = 5$)	29.48 ($df = 12$)	26.52 ($df = 5$)	82.71 ($df = 12$)
−2 log likelihood	−266.494	−239.99	−148.93	−140.11	−243.91	−215.81
Percent correct classification	73.88	77.76	90.41	90.61	78.16	80.00

Note. Odds ratios presented.
†$p \leq .10$. *$p < .05$. **$p \leq .01$.

Moderation Analysis

We ran additional models to test the hypothesis that guardianship would interact with target vulnerability and other forms of guardianship. We entered each of the 15 interaction terms into separate models to reduce multicollinearity. One interaction variable emerged as significant at the $p < .05$ level. The female ratio of a department moderated the impact of identifying as an international student (OR = 1.477, p = .031) on professor harassment. However, given the lack of other significant interactions, a Bonferroni correction was applied to account for the chance of a Type I error. According to the correction, an alpha of .003 should be used to determine the interaction's significance. The significance level did not meet this criterion, indicating the interaction was likely only significant by chance.

Discussion

This study aimed to examine risk factors for sexual harassment among female graduate students enrolled in a variety of fields. We explored the influences of both individual vulnerability (i.e., LGBQ+ identity, international student status, psychological distress, alcohol use) and guardianship (i.e., male-dominated field, departmental female ratio, departmental support). Thus, we add to a small but growing body of literature concerning sexual misconduct experiences in the context of graduate education (e.g., Boyle and McKinzie 2018; Lorenz et al. 2019; Rosenthal et al. 2016). We also move research on feminist RAT forward by focusing on a context characterized by differential (professor/student) and more equivalent (student/student) power relations on a college campus and by focusing on sexual harassment rather than sexual assault.

Overall, our findings are consistent with a feminist RAT perspective, which posits that potential perpetrators will target individuals that they perceive to be vulnerable or unable to resist victimization—and that sense of vulnerability is due, in part, to a lack of guardianship (Finkelhor and Asdigian 1996; Franklin and Menaker 2018). Our study further reinforces the importance of earlier scholars' work, which has focused on the roles of misogyny, power differences, and male peers in women's victimization (De Coster et al. 1999; Mustaine and Tewksbury 2002; Schwartz et al. 2001) and has demonstrated a need to explore variability in victimization among at-risk groups (Franklin and Menaker 2018; Mustaine and Tewksbury 2002; Sutton et al. 2019).

Importantly, this study extends previous work by investigating how risks differ by offender type. In this sample of graduate students, each indicator of vulnerability increased risk for harassment in at least one model. As predicted, guardianship, captured by indicators of organizational context, also served a salient role. Patterns of influence related to vulnerability and organizational context differed depending on whether the offender was a peer or faculty member. Specifically, LGBQ+ status was significant across all models. However, alcohol use, studying in a male-dominated field, and psychological distress increased risk for peer harassment while harassment by a professor was elevated among international students and reduced among those reporting greater departmental support. These findings are explored in detail below.

The Role of Sexual Identity among Female Graduate Students

As mentioned above, a major finding is that LGBQ+ identity was among the strongest predictors of harassment among female graduate students across models, consistent with some previous work (Wood et al. 2018). There are several potential explanations for this finding. For one, it might be that others view LGBQ+ women as lacking support, making them appear more vulnerable to potential harassers. It is also possible that others sexualize LGBQ+ women and view them in stereotypical ways, increasing their likelihood of sexual harassment by both peers and faculty members (Hequembourg and Brailler 2009; Sutton et al. 2019). Sexual harassment of LGBQ+ women may be an expression of hatred and homophobia—a way to sanction women for violating expected norms related to gender and

sexuality (Edwards et al. 2015). LGBQ+ individuals also experience harassment and microaggressions that involve misgendering based on perceived gender expression or identity (Earnshaw et al. 2020). Last, it is essential to acknowledge that racially and ethnically minoritized LGBQ+ women experience harassment related to the inextricably linked influences of sexuality, gender, race, and ethnicity (Earnshaw et al. 2020; Wood et al. 2018).

Alcohol and Male-Dominated Contexts

Various feminist RAT scholars (e.g., Mustaine and Tewksbury 2002; Schwartz et al. 2001) have discussed how misogynistic male peer groups, often in combination with alcohol use, serve to encourage, legitimize, and perpetuate violence against women. Others have demonstrated that both women and men who spend more time with male peers or in environments where drinking is prevalent experience more sexual victimization (Boyle and Walker 2016; Mustaine and Tewksbury 2002; Sutton et al. 2019).

Consistent with these perspectives, sexual harassment by peers was more common among women who engage in heightened alcohol use and who study in male-dominated fields—aspects of vulnerability and guardianship that were not associated with harassment by a professor. These results indicate the potential role of male peer culture in women's risk for sexual harassment by their peers. Consistent with some work on sexual assault, women's peers may actively use substance use as a tool to dominate and victimize them (Becker and Tinkler 2021; Ford 2017) and may feel emboldened to harass women in fields with more men (Stockdale et al. 2014; Tenbrunsel et al. 2019). Moreover, the risks associated with alcohol use may vary across different academic events. For example, graduate students might feel freer to harass women when drinking with peers (i.e., a student mixer) or among people who do not know each other well (i.e., a conference). They may be less likely to harass women when drinking with faculty or when all attendees are well known to one another (i.e., a departmental welcome party). Although we do not have information on the context in which drinking occurred, this is a fruitful direction for future work.

Psychological distress also influenced women's harassment by peers but not by professors. As Schnittker (2019) argued, female graduate students struggling with psychological issues may be viewed as socially isolated and weak by potential perpetrators in their peer groups. As opposed to mentors or other faculty members, peers may have a greater awareness of their graduate student colleagues' mental health issues.

Marginalization and Abuse of Power

According to Rosenthal et al. (2016), graduate students feel less safe on campus when they experience sexual harassment, no matter the offender, but harassment by faculty members is particularly harmful. Although studies, including our own, demonstrate that peer harassment is more common than faculty harassment, only the latter is associated with feelings of institutional betrayal and disengagement from academic activities (Rosenthal et al. 2016). Smith and Freyd (2014) documented that institutional betrayal exacerbates the adverse consequences of unwanted sexual experiences, including greater trauma symptoms and anxiety among those who report both. Thus, the potential for consequences is that much more serious and in need of detection, prevention, and deterrence when a faculty member harasses graduate students.

Results for harassment by a professor indicate that those in a position of power over graduate students are especially likely to target women who are part of marginalized and oppressed groups—in this case, international and LGBQ+ students. This finding aligns with feminist versions of RAT, which hold that perpetrators often attempt to victimize others they have power over or who appear vulnerable (De Coster et al. 1999; Finkelhor and Asdigian 1996; Franklin and Menaker 2018). In addition to the general power

difference that characterizes faculty-graduate student relationships, LGBQ+ and international graduate students are likely perceived as having limited support and resources. For example, international students may be perceived as more vulnerable than other students due to unfamiliarity with cultural norms, small social circles, and financial and residential precarity (Marginson et al. 2010; Villegas 2019). Potential offenders might assume harassment against LGBQ+ and international students will go unnoticed or unreported (Hill and Silva 2005; Marginson et al. 2010; McGinley et al. 2016; Villegas 2019).

In relation to guardianship, and consistent with research on workplace harassment (Chamberlain et al. 2008; Roscigno 2019), departmental support reduced harassment by a faculty member for female graduate students. This finding indicates that cultivating a compassionate and encouraging environment is essential to graduate student well-being, especially in guarding against abusive professors who target or exploit female graduate students. Departments that support graduate students' welfare and success likely send the message that students are to be protected and that harassment from faculty will not be tolerated. In other words, capable guardians within a department can act to curb sexual harassment of female graduate students by those who have power over them (Chamberlain et al. 2008; De Coster et al. 1999).

Limitations and Future Research

This study addresses several critical gaps in existing literature, but there are limitations. First, our data are cross-sectional, and our sample size precludes some important analyses. For example, mental health may be an outcome of harassment, but we cannot investigate this causal ordering. However, Schnittker (2019) reported a reciprocal relationship between experiences of rape and major depression among women, and a feminist RAT approach supports our proposed ordering of variables. Furthermore, some research has shown that, among LGBQ+ individuals, those

who identify as bisexual are at heightened risk for sexual victimization (Boyle and McKinzie 2018; Walters et al. 2013). However, due to our sample size, the number of women identifying as various sexual identities was not numerous enough to examine such differences. The subgroups of those experiencing harassment by a professor were also small. The use of larger samples with greater proportions of harassment victimization across various relationships would allow for more power to detect effects, particularly interactions. Still, over one in four of the women in our sample reported harassment by either a peer or professor, and our sample was large enough to capture significant main effects across all models.

Second, given available data, we were unable to examine certain nuanced aspects of sexual harassment. For instance, we did not capture whether harassment occurred as part of a recurrent pattern of behavior or examine predictors of different forms of harassment (e.g., physical touch, comments, looks). Although participants were asked to indicate sexual harassment that occurred at an academic activity or event, we also do not have information about the specific location where sexual harassment occurred (e.g., on campus, online, at a conference). Relatedly, we have used dichotomously coded outcomes, so predictors of harassment frequency and severity should be addressed in future work. We also do not know whether women perceived harassment to be explicitly related to their race, ethnicity, sexuality, gender expression, disability status, and/or other personal identities and characteristics. An analysis of how varying forms of inequality and oppression intersect to shape women's experiences of harassment is a critical step for future work.

Although we expect that most women in our study were harassed by men, consistent with prior work (Hill and Silva 2005; Tenbrunsel et al. 2019; Wood et al. 2018), we do not know the gender of perpetrators. In addition, we do not have other personal or academic information about individuals who engaged in harassment against the women in our sample. For instance, we do not know how long peer harassers had been in their current

program or whether they were master's, doctoral, or post-doctoral students. As in professor-graduate student relationships, there are likely power differences among graduate students based on longevity and prestige in a particular program. Addressing this represents an interesting point for future work.

This study presents several other avenues for future research. For instance, this work is among the first to explore how risks for sexual harassment among female graduate students vary by relationship to the offender, but more studies are needed to explore this. Moreover, our analyses focused on risks relevant to academic contexts and relationships. In multivariate analysis examining predictors of harassment by "someone else" at academic events (not shown), none of the factors examined here were significant. However, graduate students may experience sexual harassment by non-academic individuals at school-related events or activities, as many women indicated. Although we do not know the source of harassment by "someone else," women might experience sexual harassment by a colleague's partner, event staff, academic staff, or undergraduate students. Thus, future work might address salient risks for harassment by those other than graduate student colleagues and faculty members. Future work might also address risk factors for perpetration, rather than victimization, of sexual harassment. Such investigations could explore motivations for and perceptions of harassing behavior, including perpetrators' understandings of their power within academic relationships.

Future studies may also address variations in exposure to certain risks among female graduate students. Although we did control for time in graduate school, more comprehensive exposure measures might delineate differences related to involvement with male peer groups, close working relationships with faculty members, or attendance at academic events where alcohol use is common. Potential perpetrators may be aware that specific contexts will present them with opportunities to harass and victimize female graduate students, and information on these processes may provide important insights for prevention efforts.

Another direction for future work concerns the interaction between guardianship and victim vulnerability. We attempted to address this, but no meaningful patterns could be discerned based on a lack of significant moderation effects. Future studies with larger samples should address how guardianship and personal characteristics combine to shape women's experiences of harassment, especially given arguments that investigating these relations is needed to fully test routine activity theory (De Coster et al. 1999; Miethe and Meier 1990).

Implications

In addition to suggestions for future research, our findings also have implications for graduate education. For one, culturally sensitive policies, programs, and resources are essential to protect LGBQ+ and international students. Resource centers on campus could provide a sense of solidarity with other students facing similar difficulties. These centers could also provide help with reporting sexual harassment and protection from retaliation. It is vital that graduate students have safe and easily accessible avenues to report instances of harassment in their departments, universities, and fields.

Relatedly, faculty, staff, and graduate students should be educated about general risks for harassment and how unique hardships facing LGBQ+ and international students can increase exploitation and abuse. This type of education might increase the willingness of potential guardians to intervene if someone suspects the occurrence of sexual harassment or to support women once sexual harassment has been reported. It might also increase awareness of potential harm among those inattentive to the power they wield over graduate students. Programs also need clear and immediate consequences for both peers and faculty members who harass female graduate students. This type of behavior should not be ignored, tolerated, or accepted in academia. Our findings indicate that establishing a supportive departmental culture might be one initial step toward addressing this issue. Placing women in positions of power within male-dominated fields might also increase women's

willingness to report when they experience harassment or other forms of sexual victimization, though this is far from a guarantee of justice.

Finally, we found that psychological distress and alcohol use increased the risk of sexual harassment by a peer, and prior research demonstrates that mental health issues are incredibly prevalent and consequential among graduate students (Mackie and Bates 2019). Thus, women would benefit greatly from free and comprehensive counseling to address mental health, substance use issues, and victimization experiences. The availability of such services might be particularly impactful in helping women facing harassment related to their sexuality or international student status.

Conclusion

Our study adds to a growing body of literature on women's experiences of sexual harassment in the collegiate context by using a feminist routine activity theory perspective. This study demonstrates that this perspective applies not only to sexual assault among undergraduate students or workplace harassment but also to sexual harassment that occurs in an educational setting characterized by both power-based and peer relationships. We found that individual vulnerability and organizational context influenced risk for sexual harassment. Our findings indicate that it is crucial that sexual harassment among international students and LGBQ+ women receive special attention and that certain characteristics, like alcohol use and mental health issues, not be used to engage in stigmatizing and victim-blaming about female victims.

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References

Aiken, Leona S. and Stephen G. West. 1991. *Multiple Regression: Testing and Interpreting Interactions*. Thousand Oaks, CA: Sage Publications.

Babor, Thomas F., John C. Higgins-Biddles, John B. Saunders, and Maristela G. Monteiro. 2001. "The Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Care." World Health Organization. Retrieved from (https://apps.who.int/iris/bitstream/handle/10665/67205/WHO_MSD_MSB_01.6a_tha.pdf).

Becker, Sarah and Justine E. Tinkler. 2021. "'This Is My Girl': How Men's Desires Obscure Women's Sexual Aggression Experiences in Public Drinking Settings." *Social Currents* 8:86–101. doi:10.1177/2329496520950807.

Bowes-Sperry, Lynn and Anne M. O'Leary-Kelly. 2005. "To Act or Not to Act: The Dilemma Faced by Sexual Harassment Observers." *Academy of Management Review* 30(2):288–306.

Boyle, Kaitlin M. 2015. "Social Psychological Processes That Facilitate Sexual Assault within the Fraternity Party Subculture." *Sociology Compass* 9(5):386–99.

Boyle, Kaitlin M. and Ashleigh E. McKinzie. 2018. "The Prevalence and Psychological Cost of Interpersonal Violence in Graduate and Law School." *Journal of Interpersonal Violence*. doi: 10.1177/0886260518816329.

Boyle, Kaitlin M. and Lisa Slattery Walker. 2016. "The Neutralization and Denial of Sexual Violence in College Party Subcultures." *Deviant Behavior* 37(12):1392–1410.

Bunch, Jackson, Jody Clay-Warner, and Man-Kit Lei. 2015. "Demographic Characteristics and Victimization Risk Testing the Mediating Effects of Routine Activities." *Crime & Delinquency* 61(9):1181–1205.

Cantor, David, Bonnie Fisher, Susan Helen Chibnall, Reanne Townsend, Hyunshik Lee, Gail

Thomas, Carol Bruce, and Inc Westat. 2015. "Report on the AAU Campus Climate Survey on Sexual Assault and Sexual Misconduct." Rockville, MD: The American Association of Universities.

Chamberlain, Lindsey Joyce, Martha Crowley, Daniel Tope, and Randy Hodson. 2008. "Sexual Harassment in Organizational Context." *Work and Occupations* 35(3):262–95.

Clarke, Ronald Victor Gemuseus and Marcus Felson. 1993. *Routine Activity and Rational Choice*. Vol. 5: Transaction publishers.

Clodfelter, Tammatha A., Michael G. Turner, Jennifer L. Hartman, and Joseph B. Kuhns. 2010. "Sexual Harassment Victimization during Emerging Adulthood: A Test of Routine Activities Theory and a General Theory of Crime." *Crime & Delinquency* 56(3):455–81.

Cohen, Lawrence E. and Marcus Felson. 1979. "Social Change and Crime Rate Trends: A Routine Activity Approach." *American Sociological Review* 44(4):588–608.

Cortina, L. M., Suzanne Swan, Louise F. Fitzgerald, and Craig Waldo. 1998. "Sexual Harassment and Assault: Chilling the Climate for Women in Academia." *Psychology of Women Quarterly* 22(3):419–441.

Culatta, Elizabeth, Jody Clay-Warner, Kaitlin M. Boyle, and Assaf Oshri. 2020. "Sexual Revictimization: A Routine Activity Theory Explanation." *Journal of Interpersonal Violence* 35(15–16):2800–24.

De Coster, Stacy, Sarah Beth Estes, and Charles W. Mueller. 1999. "Routine Activities and Sexual Harassment in the Workplace." *Work and Occupations* 26(1):21–49.

Earnshaw, Valerie A., David D. Menino, Lauren M. Sava, Jeff Perrotti, Tia Navelene Barnes, D. L. Humphrey, and Sari L. Reiner. 2020. "LGBTQ Bullying: A Qualitative Investigation of Student and School Health Professional Perspectives." *Journal of LGBT Youth* 17(3),:280–97.

Edwards, Katie M., Kateryna M. Sylaska, Johanna E. Barry, Mary M. Moynihan, Victoria L. Banyard, Ellen S. Cohn, Wendy A. Walsh, and Sally K. Ward. 2015. "Physical Dating Violence, Sexual Violence, and Unwanted Pursuit Victimization: A Comparison of Incidence Rates among Sexual-minority and Heterosexual College Students." *Journal of Interpersonal Violence* 30(4):580–600.

Finkelhor, David and Nancy L. Asdigian. 1996. "Risk Factors for Youth Victimization: Beyond a Lifestyles/Routine Activities Theory Approach." *Violence and Victims* 11(1):3–19.

Fitzgerald, L. F., F. Drasgow, C. L. Hulin, M. J. Gelfand, and V. J. Magley. 1997. "The Antecedents and Consequences of Sexual Harassment in Organizations: A Test of an Integrated Model." *Journal of Applied Psychology* 82:578–589.

Forbes-Mewett, Helen and Jude McCulloch. 2015. "International Students and Gender-based Violence." *Violence Against Women* 22(3):344–65.

Ford, Jessie V.. 2017. "Sexual Assault on College Hookups: The Role of Alcohol and Acquaintances." *Sociological Forum* 32(2):381–405.

Franklin, Cortney A. and Tasha A. Menaker. 2018. "Feminist Routine Activity Theory and Sexual Assault Victimization: Estimating Risk by Perpetrator Tactic among Sorority Women." *Victims & Offenders* 13(2):158–78.

Freels, Sally A., Judith A. Richman, and Kathleen M. Rospenda. 2005. "Gender Differences in the Causal Direction between Workplace Harassment and Drinking." *Addictive Behaviors* 30(7):1454–58.

Hequembourg, Amy L. and Sara A. Brailler. 2009. "An Exploration of Sexual Minority Stress across the Lines of Gender and Sexual Identity." *Journal of Homosexuality* 56:273–98.

Hill, Catherine and Elena Silva. 2005. *Drawing the Line: Sexual Harassment on Campus*. Washington, DC: AAUW Educational Foundation.

Kantola, J. 2008. "'Why Do All the Women Disappear?' Gendering Processes in a Political Science Department." *Gender, Work & Organization* 15(2):202–25.

Lopez, Steven H., Randy Hodson, and Vincent J. Roscigno. 2009. "Power, Status, and Abuse at Work: General and Sexual Harassment Compared." *The Sociological Quarterly* 50(1): 3–27.

Lorenz, Katherine, Anne Kirkner, and Laurel Mazar. 2019. "Graduate Student Experiences with Sexual Harassment and Academic and Social (Dis)Engagement in Higher Education." *Journal of Women and Gender in Higher Education* 12(2):205–23.

Mackie, Sylvia Anne and Glen William Bates. 2019. "Contribution of the Doctoral Education Environment to PhD Candidates' Mental Health Problems: A Scoping Review." *Higher Education Research & Development* 38(3): 565–78.

Mallinckrodt, Brent and Frederick T. L. Leong. 1992. "International Graduate Students, Stress, and Social Support." *Journal of College Student Development* 33(1):71–78.

Marginson, Simon, Chris Nyland, Erlenawati Sawir, and Helen Forbes-Mewett. 2010. *International Student Security*. Cambridge, England: Cambridge University Press.

McGinley, Meredith, Jennifer M. Wolff, Kathleen M. Rospenda, Li Liu, and Judith A. Richman. 2016. "Risk Factors and Outcomes of Chronic Sexual Harassment during the Transition to College: Examination of a Two-part Growth Mixture Model." *Social Science Research* 60:297–310.

Miethe, Terance D. and Robert F. Meier. 1990. "Opportunity, Choice, and Criminal Victimization: A Test of a Theoretical Model." *Journal of Research in Crime & Delinquency* 27(3):243–66.

Mueller, Charles W., Stacy De Coster, and Sarah Beth Estes. 2001. "Sexual Harassment in the Workplace: Unanticipated Consequences of Modern Social Control in Organizations." *Work and Occupations* 28(4):411–46.

Mustaine, Elizabeth Ehrhardt and Richard Tewksbury. 2002. "Sexual Assault of College Women: A Feminist Interpretation of a Routine Activities Analysis." *Criminal Justice Review* 27(1):89–123.

National Academies of Sciences, Engineering, and Medicine. 2018. *Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*. Washington, DC: The National Academies Press.

National Center for Education Statistics. 2020. College Navigator. Retrieved from (https://nces.ed.gov/collegenavigator/).

Norton, Peter J. 2007. "Depression Anxiety and Stress Scales (DASS-21): Psychometric Analysis across Four Racial Groups." *Anxiety, Stress, & Coping* 20(3):253–65.

Roscigno, Vincent J. 2019. "Discrimination, Sexual Harassment, and the Impact of Workplace Power." *Socius* 5:1–21.

Rosenthal, Marina N., Alec M. Smidt, and Jennifer J. Freyd. 2016. "Still Second Class: Sexual Harassment of Graduate Students." *Psychology of Women Quarterly* 40(3):364–77.

Schnittker, Jason. 2019. "Sexual Violence and Major Depression among Women: Evidence for Reciprocal Relationship." *Social Currents* 6(6):575–89.

Schwartz, Martin D., Walter S. DeKeseredy, David Tait, and Shahid Alvi. 2001. "Male Peer Support and a Feminist Routine Activities Theory: Understanding Sexual Assault on the College Campus." *Justice Quarterly* 18(3):623–49.

Smith, Carly Parnitzke and Jennifer J. Freyd. 2014. "Institutional Betrayal." *American Psychologist* 69(6):575–87.

Stainback, Kevin, Thomas N. Ratliff, and Vincent J. Roscigno. 2011. "The Context of Workplace Sex Discrimination: Sex Composition, Workplace Culture and Relative Power." *Social Forces* 89(4):1165–88.

Stockdale, Margaret S., T. K. Logan, Katherine A. Slitter, and Seth A. Berry. 2014. "Interpersonal Violence Victimization and Sexual Harassment: A Prospective Study of Revictimization." *Sex Roles* 71(1):55–70.

Sutton, Tara E., Leslie Gordon Simons, and Kimberly A. Tyler. 2019. "Hooking-up and Sexual Victimization on Campus: Examining Moderators of Risk." *Journal of Interpersonal Violence*. Published electronically April 11. doi:10.1177/0886260519842178.

Tenbrunsel, Ann E., McKenzie R. Rees, and Kristina A. Diekmann. 2019. "Sexual Harassment in Academia: Ethical Climates and Bounded Ethicality." *Annual Review of Psychology* 70(1): 245–70.

U.S. Equal Employment Opportunity Commission. 1997. "Facts about Sexual Harassment." Retrieved February 25, 2021 (https://www.eeoc.gov/publications/facts-about-sexual-harassment).

UC San Diego Center on Gender Equity and Health. 2019. "Measuring #Metoo: A National Study on Sexual Harassment and Assault." Retrieved February 25, 2021 (http://geh.ucsd.edu/wp-content/uploads/2019/05/2019-metoo-national-sexual-harassment-and-assault-report.pdf).

Villegas, Paloma E. 2019. "'I Made Myself Small Like a Cat and Ran Away': Workplace Sexual Harassment, Precarious Immigration Status and Legal Violence." *Journal of Gender Studies* 28:674–686.

Walters, Mikel L., Jieru Chen, and Matthew J. Breiding. 2013. "The National Intimate Partner & Sexual Violence Survey (NISVS): 2010 Findings on Victimization by Sexual Orientation." Centers for Disease Control and Prevent.

Weeden, Kim A., Sara Thébaud, and Dafna Gelbgiser. 2017. "Degrees of Difference: Gender Segregation of U.S. Doctorates by Field and Program Prestige." *Sociological Science* 4:123–50.

Willness, Chelsea R., Piers Steel, and Kibeom Lee. 2007. "A Meta-analysis of the Antecedents

and Consequences of Workplace Sexual Harassment." *Personnel Psychology* 60(1): 127–62.

Winslow, Sarah and Shannon N. Davis. 2016. "Gender Inequality across the Academic Life Course." *Sociology Compass* 10(5):404–16.

Wood, Leila, Sharon Hoefer, Matt Kammer-Kerwick, José Rubén Parra-Cardona, and Noël Busch-Armendariz. 2018. "Sexual Harassment at Institutions of Higher Education: Prevalence, Risk, and Extent." *Journal of Interpersonal Violence*. doi: 10.1177/0886260518791228.