

The Role of Geographic Location on College Campus Sexual Victimization Rates in the U.S.: A New Methodological Approach

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Though colleges and universities throughout the United States have been progressively focusing on sexual victimization and emphasizing training sessions for faculty, staff, and students, the underlying determinants of sexual victimization on university campuses remains uncertain. One understudied potential variable is the geographic location of a college campus. This paper presents a data collection and analysis framework that explores the relationship between whether a college campus is located in an urban versus rural location and the campus's rate of sexual victimization. The paper begins with a literature review on variables affecting rates of college sexual victimization. We then operationalize the independent variable of urban versus rural campus location, and offer a methodological approach to determining how this variable relates to sexual victimization rates. This, in turn, has a range of policy implications, including how institutions of higher education should proceed to implement sexual victimization trainings and other related programs.

Introduction

Colleges and universities throughout the United States have been increasingly stressing sexual victimization trainings and information sessions for faculty, staff, and students as a means to increase campus safety and compliance with Title IX requirements (Bidwell, 2015). This is important since approximately 1 in 4 women and 1 in 17 men will be sexually assaulted while in college (Fisher, Cullen, & Turner, 2000; Krebs, Lindquist, Warner, Fisher, & Martin, 2007). Nevertheless, the key underlying determinants of sexual victimization among university students remain uncertain. Prior research has examined the influence of factors such as living arrangements, membership in Greek organizations, age, and gender. However, the factor of whether a college campus is located in an urban versus rural location remains understudied. This variable merits further examination due to the

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fact that, in the general population, sexual victimization rates vary greatly by geographic location (Duhart, 2000; Ruback & Menard, 2001). For instance, one study found that, in 1998, urban areas had a rape and sexual assault rate of 1.8 per 1,000 individuals in the population, compared to suburban and rural areas, which had a rate of 1.4 and 1.3 per 1,000 individuals in the population, respectively (Duhart, 2000).

Universities in urban settings may face socioeconomic and cultural forces that are substantially different from universities in suburban or rural locales. These forces may, in turn, result in different rates of sexual victimization. Our article begins with a literature review of research on sexual victimization rates on college campuses. We then outline a methodological framework for studying the relationship between whether a college campus is located in an urban versus rural location and the campus's rate of sexual victimization. A better understanding of this potential relationship will aid colleges and universities in tailoring their efforts to deal with sexual victimization issues and to educate and protect all members of the campus community. Our work concludes with a discussion of policy implications and avenues for future research.

Literature Review

The phrase 'sexual victimization' encompasses an array of forms of sexual violence (e.g., harassment) (Hamby, Finkelhor, Ormrod, & Turner, 2005). Perilloux, Duntley, and Buss (2014, p. 82) defined sexual victimization as "being a nonconsensual (unwilling) participant in [any] sexual activity with another person" and claimed that this "can be committed by a wide range of people, including strangers, acquaintances, current or ex-romantic partners, dates, fellow employees, neighbors, fellow students, and others." There is significant debate about what particular actions fall under the terms 'sexual violence,' 'sexual assault,' and 'sexual victimization,' e.g. assault, verbal harassment, stalking, and sexual exploitation (Kilpatrick, 2004). There is also debate regarding the use of gender-neutral versus gender-specific definitions of acts of sexual violence. For instance, some parties point to statistics that yield much higher sexual victimization rates among women than men as demonstrating that men and women do not have an equal propensity to perpetrate or experience sexual violence. This debate extends beyond traditional heteronormative violence, as researchers have recently started paying greater attention to intimate partner violence among gay couples (DeKeseredy & Schwartz, 2011).

Narrow definitions of sexual violence, such as those that exclude psychological or verbal abuse, result in false negatives about the number of instances of sexual victimization. Conversely, broad definitions may trivialize extreme forms of physical abuse by grouping them under the same umbrella as 'softer' forms of abuse (DeKeseredy & Schwartz, 2011). Comprehensively, the University of the Pacific (2015, para. 2) delineated the nine major sexual victimization acts as "sexual misconduct, rape, sexual touching, sexual harassment, stalking, physical assault/battery, dating/relationship/domestic violence, theft, and threat of harm." Additionally, the criminal classification of sexual assault now represents a broad spectrum of sexually violating acts (Koss & Achilles, 2008). Many factors complicate the empirical estimation of the prevalence of sexual victimization, such as low rates of incident reporting and survey methodology issues. Early research that relied on the legal definition of rape to guide victimization surveys drastically underestimated actual sexual victimization rates (Campbell & Townsend, 2011). Research has shown that one underlying reason for the underreporting of rape, in particular, is that many survivors do not label their victimization as rape if the offender was known to the victim (Koss, 1985; Koss, Gidycz, & Wisniewski, 1987).

The definition of sexual violence used in research has become less narrow over the years. Despite this, sexual victimization remains drastically underreported today (Marchetti, 2012; Tjaden & Thoennes, 2006). In fact, sexual assault is the most underreported violent crime in the U.S. (Fisher, Daigle, Cullen, & Turner, 2003). Prior studies have found drastic underreporting by collegiate victims, with approximately 90% or more survivors not reporting their victimization through official avenues (e.g. law enforcement, university officials, etc.) (Bohmer & Parrot, 1993; Fisher et al., 2000; Koss et al., 1987).

This occurs due to feelings of distrust towards law enforcement officials, or a fear of not being believed (Bohmer & Parrot, 1993; Fisher et al., 2000; Warshaw, 1988). Additionally, survivors may want to avoid 're-living' their experience by having to discuss it in detail during an adjudication process, especially when the criminal justice officials to whom they are reporting are not properly trained with how to best handle sexual assault victims (Campbell, Sefl, Barnes, Ahrens, Wasco, & Zaragoza-Diesfeld, 1999). Thus, population studies that allow survivors to self-report their experiences outside of the criminal justice system may reveal more accurate figures (Center for Sex Offender Management, 2015).

The wording of sexual victimization survey questions can greatly influence participant responses (Aguilar, Mahapatra, Busch-Armendariz, & Dinitto 2015; Kolivas & Gross, 2007; Koss, 1993; Koss et al., 2007). Behaviorally-specific questions that cover the broad spectrum of sexual violating acts and survivors' understanding of these acts have become a best practice for garnering a more accurate measure of sexual victimization rates. For instance, a question regarding whether they have ever had sex when they were too intoxicated to provide consent may facilitate a higher level of self-reporting than would a question that requires the respondent to identify as being sexually victimized (Koss, 1985; Koss et al., 1987; Koss & Achilles, 2008; Krebs, 2014). Consensus is also building around the use of self-administered survey instruments to ask individuals about their sexual victimization experiences (Krebs, 2014). In fact, in recent years, self-reported 'campus climate surveys' or similar instruments have emerged as a best practice toward identifying university-related sexual victimization problems (Cantalupo, 2014; White House Task Force, 2014).

Several studies have analyzed potential explanatory variables for varied sexual victimization rates across college campuses. One of the most common variables considered in this regard is the influence of involvement in Greek life on college campuses (Mohler-Kuo, Dowdall, Koss & Wechslet, 2004). Researchers have focused upon the way that fraternity membership can facilitate sexual objectification and abusive attitudes toward women that is fostered by a narrow conception of masculinity (Franklin, Bouffard, & Pratt, 2012; Schwartz & DeKeseredy, 1997). Several studies have highlighted the way in which the fraternity culture on college campuses can support male sexual aggressors searching for situations to victimize women (e.g., Armstrong, Hamilton, & Sweeney, 2006; Boswell & Spade, 1996; Franklin et al., 2012; Martin & Hummer, 1989).

Other prior research on sexual victimization in college communities has generally focused on variables relating to survivor and perpetrator characteristics. One of the most common variables considered is gender (Jordon, Combs, & Smith 2014; Turchik & Hassija, 2014), with most research focusing on female victims and male perpetrators. Studies have also revealed that college freshmen and sophomores are at a greater risk of victimization than upper-class students (Gross, Winslett, Roberts, & Gohm 2006). On-campus versus off-campus living arrangement has also been recognized as a key variable in these sexual victimization studies, especially considering the different services that may be available to students that live on-campus as compared to those that live in the surrounding community (Hamby, 2014). Part-time versus full-time enrollment status has also been studied (Fernandez & Lizotte, 1995). Enrollment status may be an important variable due to the fact that full-time students are more immersed in the campus atmosphere and more active in social events. Finally, differences in sexual victimization rates have been found across different academic programs, although causal explanations are not well developed for this variable (Roska & Levey, 2010).

The variable of whether the college is located in a rural or an urban setting has generally been overlooked in these prior studies (Vanderwoerd, 2009), despite the fact that geographic location has been shown to correlate with other key differences in the campus culture of a university or college (Bègin-Caouette, 2013). In studying how internationalization inputs and outputs differ in rural, suburban, and urban vocational institutions in Quebec, Bègin-Caouette (2013) discovered that urban and suburban institutions tend to operate in similar ways, while rural institutions tend to operate uniquely in terms of

these internalization inputs and outputs. Further, one study on rates of sexual assault that examined the variable of college location using 1995–2013 National Crime Victimization Survey data found “there was no significant variation in rape and sexual assault rates across urban, suburban, and rural areas” for females (Sinozich & Langton, 2014, p. 10), resulting in the overall mixed message about the campus location variable.

Despite this, research on sexual victimization rates in the general population have found significant differences in the rate of sexual victimization in urban versus rural areas. For instance, Cole and Smith (2008) found that the violent crime rate in large cities was 29 per 1,000 individuals in the population, compared to 20 per 1,000 individuals in the population in rural areas. Boyle, Georgiades, Cullen, and Racine (2009) also found urban residence to be indicative of much higher rates of violence. However, in contrast, Ruback and Menard (2001) analyzed Uniform Crime Report data (i.e., officially reported data gathered by the FBI), as well as data from rape crisis centers in Pennsylvania, to find that rural counties had higher sexual victimization rates than urban counties. Nevertheless, while prior research on sexual victimization in different geographic areas has been mixed, a majority of studies have concluded that related crimes occur more frequently in urban areas as compared to rural ones.

This paper contributes to the literature on the underlying variables that affect college sexual victimization rates by presenting a methodological approach to examine the often-overlooked variable of rural versus urban campus location, which has yet to be sufficiently investigated. Campuses in urban settings may differ from campuses in rural settings in key ways that affect their rates of sexual victimization. Therefore, this study proposes an observational analysis of cross-sectional data in order to examine the presence and extent of the potential relationship between a college’s urban versus rural location and their rate of sexual victimization. The following sections of this paper review the selected variables, sampling plan, and data collection techniques to be used in our proposed methodology.

Discussion of Variables

The independent variable (IV) for this study is whether a college or university is located in an urban or rural location. We operationalize this variable according to the U.S. Census Bureau’s (2015) urban/rural classification system, wherein areas containing less than 10,000 people are considered non-urban. Under this framework, any higher population is considered urban (e.g., urban clusters contain 10,000 to 49,999 people, and urban cores contain 50,000 or more people), setting a distinct numeric boundary for the urban/rural divide.

Next, the dependent variable (DV) is the rate of sexual victimization within a college community. This DV is operationalized based on the Koss et al. (1987) Sexual Experiences Survey (SES).¹ The SES is a measurement tool that has been used in several prior studies (e.g., Gidycz, Van Wynsberghe, & Edwards, 2008; Humphrey & White, 2000; Jordon et al., 2014; Thompson & Kingree, 2010), and gathers high reliability metrics when deployed on university students (Koss et al., 1987). This 10-question scale uses behaviorally specific questions, which is regarded as a best practice (Koss, 1985; Koss et al., 1987; Koss & Achilles, 2008; Krebs, 2014) to assess sexual victimization based on rape (both attempted and completed), unsolicited sexual contact, and sexual coercion. Developed from the initial survey by Koss and Oros (1982), the 1987 SES employs no (0) / yes (1) responses, which are summed to determine whether the respondent has been sexually victimized. The questions are carefully worded in order to try to mitigate the effects of victim blaming and differences in understandings of what constitutes sexual victimization (Koss et al., 1987).

Based on the number of variables that emerged in the literature review, we recommend that age, gender, race, income, relationship status, employment status, living arrangement, academic program,

¹ Though there are other relevant scales, such as Struckman-Johnson, Struckman-Johnson, and Anderson’s (2003) Sexual Coercion Tactics Scale, the SES is more widely accepted and used in prior studies.

Greek membership, college standing, and enrollment status be used as control variables. While extensive, the inclusion of these eleven control variables increases the internal validity of the research design by accounting for alternative factors that may influence sexual victimization rates. Operationalized definitions for these control variables are provided in Table 1.

Variable Name	Definition (Author, year)	Measurement
Age	“Length of time in completed years that a person has lived” (U.S. Census Bureau, 2013a, para. 1)	Under 18 (if selected, ends questionnaire for respondent), 18–20, 21–24, 25–34, 35–44, 45–54, 55–64, and 65 or over
Gender	“A person’s biological sex” (U.S. Census Bureau, 2013a, para. 2)	Male (0) or Female (1)
Race	Self-identification of an individual’s racial category (U.S. Census Bureau, 2013c)	White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, or other
Income	Income received in U.S. dollars during the preceding calendar year before payments (U.S. Census Bureau, 2013b)	Under \$2,500, \$2,500–\$4,999, \$5,000–\$7,499, \$7,500–\$9,999, \$10,000–\$12,499 . . . \$95,000–\$97,499, \$97,500–\$99,999, \$100,000 or more
Relationship Status	Self-identified relationship status as of survey administration date (U.S. Census Bureau, 2008)	Legally married, Widowed, Separated, Divorced, Never married but have partner/significant other, Never married with no partner/significant other
Employment Status	Standing with regard to being a paid employee as of the survey administration date (U.S. Census Bureau, 2014)	Employed - working 40+ hours/week, Employed - working 1–39 hours/week, Not employed - looking for work, Not employed - not looking for work, Retired, Disabled - not able to work
Living Arrangement	Student housing situation as of the survey administration date (Muslim, Karim, & Abdullah, 2012)	Off-campus (apartment, house, fraternity/sorority house, or other) (0) or On-campus (university residence halls or student housing apartments) (1)
Academic Program	A disciplinary field of study with specific course requirements (Roska & Levey, 2010)	Author-developed categories based on the academic program listings from included institutions (e.g., accounting–urban/regional planning)
Greek Membership	A student that has been initiated into a sorority or fraternity and participates in their activities (Pike, 2003)	No – not a member (0) or Yes – a member (1)
College Standing	Student pursuing an undergraduate (i.e., bachelor’s) or a graduate degree (i.e., master’s or doctoral) (Manese, Sedlacek, & Leong, 1988)	Undergraduate (with a contingency asking number of credits completed: 0–30, 31–60, 61–90, 91–120) or Graduate (with a contingency asking what type: master’s or doctorate)
Enrollment Status	Number of credit hours a student is enrolled in during the semester of the survey administration (MacCann, Fogarty, & Roberts, 2012)	Full-time (12+ credits for undergrad students, 9+ credits for grad students) or Part-time (< 12 credits for undergrad students, < 9 credits for grad students)

Table 1. Control Variable Definitions and Measurements in Sexual Victimization Study

Methodological Approaches to Studying Campus Sexual Victimization Rates

With the primary variables of interest established, we next discuss methodological approaches to studying the potential correlation between campus location and sexual victimization rates. The establishment of our proposed research design, sampling technique, and data collection procedure sets the stage for the execution of a study on the relationship between campus location and sexual victimization rates.

Research Design

When approaching a study of this nature, there are several research designs that may be useful. A non-experimental cross-sectional research design is recommended for this study, as it will allow researchers to compare different campuses at a single point in time in terms of their rates of sexual victimization. Cross-sectional designs involve the collection and analysis of data from one specific point in time, thus giving the researcher a ‘snapshot’ of the population at the point of time when the data is collected. A cross-sectional design is less costly and time-intensive than a longitudinal study, and also avoids threats to internal validity such as maturation and testing effects. The design will look at urban and non-urban university students with one observation, and is non-experimental; the researchers will not introduce treatments or external variables. This is appropriate since it is not possible to manipulate the IV, nor conduct experiments as sexual victimization would harm subjects. The cross-sectional approach would focus on one-time student responses regarding the DV, IV, and control variables (Levin, 2006). Though causality cannot be conclusively tested in cross-sectional designs, the inclusion of several control variables allows researchers to better interpret the correlation between the IV and the DV.

Sample

The authors recommend using a multistage cluster sampling method to determine the pool of survey respondents. First, a database identifying all four-year U.S. colleges as rural or urban will be developed. From this database, two random samples containing an equal number of schools will be selected from among the urban colleges and the rural colleges.

Next, a list of academic programs² at each university selected will be assembled using data from the university’s website. In this first stage, the researchers will order (stratify) the academic programs by size (i.e., number of degree-seeking students in each program), largest to smallest at each university, which can usually be gathered from the Registrar’s Office or Institutional Researcher. Next, the researchers will employ a systematic sample to select each program to include.

Once the academic programs have been selected, the researchers would email each selected academic program’s chair at each of the universities (which can be derived from each program’s website), introducing the study and its importance in a cover letter and then request the name and email address for each student within the respective program. The researchers would then alphabetically order the students based on last name, within each program at each university separately. The researchers would employ a systematic sample per program to determine the final list of students to be included in the study. The systematic sample would ensure an equal representation of students per program by including last names ranging across the spectrum of possible last names. Cluster sampling from academic programs is recommended because it may be easier to obtain a list of students in each academic program than it would be to obtain a list of all students enrolled in the

² Academic programs as clusters work better than dorms, student organizations, etc. due to the wider inclusion of students of all ages, standings, and living situations. For the purposes of this research, students with undeclared majors ought to be disregarded.

university. An equal number of students will then be selected from each list to be survey respondents. The survey responses of each group will be the basis for the research analysis.

Data Collection

Given the sensitive nature of collecting sexual victimization data, the choice of method for data collection procedures is of paramount importance. In addition to determining the most methodologically sound data collection measures for such a study, a number of other factors must be taken into consideration. For example, questions must be worded to gather reliable data while also not re-victimizing the respondent.

Researchers could survey respondents via focus group or one-on-one interviews, but we believe this would take great skill to balance gathering information from the participants while also being sympathetic when victims inform the interviewer about their victimization experience(s). Focus group interviews could also reduce the likelihood of victims being honest as they may be embarrassed to do so in front of other participants. This data collection method would also provide practical difficulties, as it would take a great deal of time and resources to interview a large enough sample of participants.

Therefore, we posit that survey research is the superior data collection method since it allows researchers to gather data from a large sample of participants in a timely and affordable manner. According to Krebs (2014), self-administered survey research is becoming an accepted best practice for asking participants about their sexual victimization experiences.

Under this proposed methodology, we recommend an emailed SurveyMonkey questionnaire as the mode of observation. This recommended data collection technique is appropriate due to the advantages of accessibility, low cost, and rapid turnaround (Creswell, 2003). The email survey technique offers increased access to students of all ages, races, and geographic dispersion. Other advantages include greater anonymity³ and a reduction in biasing error (Andrews, Nonnecke, & Preece, 2003). Further, respondents have the time to consider answers, as opposed to the immediate response required in interviews (Frankfort-Nachmias & Nachmias, 2008). The SurveyMonkey questionnaire will consist of: 1) the SES; 2) a question asking which university the student attends (to verify urban or rural location); and 3) questions on each of the control variables. All questions will be closed-ended, and all responses will be anonymous.

We recommend that the questionnaire be administered at the end of the spring semester due to the fact that more students may be regularly checking their university email accounts due to upcoming finals and graduation. Additionally, administering the survey earlier in the year would also exclude any victimization that occurs later on in new students' first year.

We believe the data collection period should last three weeks, which is comparable to prior sexual victimization surveys (e.g., HEDS Consortium, 2015). Cobanoglu, Warde, and Moreo (2001) found 5.97 days to be the mean response time for email questionnaires, and extending this by about 15 days would allow adequate time for lagging responses. Since the SES has been vetted in prior research (e.g., Thompson & Kingree, 2010), and the other variables are measured in ways similar to U.S. Census Bureau and prior studies, there would be no need to pilot the questionnaire.

However, there are some limitations to our proposed methodology that bear mention. First, the email questionnaire requires simple questions and allows no opportunity for probing (Frankfort-Nachmias & Nachmias, 2008). The researchers have no control concerning who completes the questionnaire (Seale, 2012), and often a low response rate is garnered through email surveys (Kaplowitz, Hadlock, & Levine, 2004). To address this latter issue, researchers should send two

³ This anonymity is even more important in sexual victimization research because it is such a sensitive topic that is drastically underreported by victims.

reminder emails encouraging participation. The first should be sent out one week after the original email, and the second should be sent out a week before the questionnaire closes.

Reliability errors may also exist, which may reduce the generalizability of the study results (Frankfort-Nachmias & Nachmias, 2008). It is also important to recognize that many of the challenges faced by this study are common issues encountered in survey research. Despite these shortcomings, this research design still offers a robust method to better understand sexual victimization at an urban university compared to a rural university. The cluster sampling technique works well with the already organized academic programs, and the email questionnaire offers the crucial advantages of accessibility and anonymity. A study of this nature is essential, as colleges need to know if variables such as geographic location have an influence on their sexual victimization rates so that they can use this information to make their campus environment safer for students.

Conclusion

It is evident that, despite the increasing attention being paid to campus sexual victimization, there are still major gaps in the existing research on the underlying causes of sexual victimization. One under-researched variable is the location of a university in a rural setting versus an urban setting. This article has proposed a new methodological approach which can be used to fill this noteworthy research gap.

While policy solutions aimed at addressing sexual victimization continue to arise at the institutional, state, and federal levels, more research on the underlying causes of sexual victimization remains necessary. Subsequent policy discourse and actions may be better equipped to address the breadth of issues and concerns that surround collegiate sexual victimization. Research results regarding the variable of a rural versus urban setting will help college administrators tailor their efforts to reduce sexual victimization to the particular context of their college community. For instance, the content of trainings or the regulation of Greek life activities may need to be differentiated based on the college campus setting.

Clearly, there are major implications for research of this nature (e.g., additional trainings, increased police patrols, etc.), and our methodological considerations have organized an approach to dissect the correlational relationship between a school's location and their campus sexual victimization rates. Findings from related future research can help to construct new, innovative approaches to combating sexual violence at colleges and universities across the country. If studies utilizing the methodological approach recommended here unveil differences between urban and rural universities' sexual victimization rates, policymakers at all levels can then shift their policy focus to include other relevant variables. With the overarching goal of reducing campus sexual victimization rates, it is vital that researchers examine the wide range of possible variables that may affect sexual victimization rates.

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