

Dangerous Colleges: Associations Between School-Level Factors and the Risk of Sexual Victimization of Female Students

Stephen Cranney, PhD

Abstract

College characteristics that may be associated with sexual victimization have become a salient topic in popular and scholarly discourse. However, very little research has formally tested these relationships. Utilizing the Online College Social Life Survey, a dataset that includes 22 schools and approximately 16,000 women respondents, a logit analysis is used to measure relationships between risk of different types of sexual victimization (namely, attempted physically forced intercourse, drug- and alcohol-facilitated sexual assault, physically forced intercourse, and unwanted sex because of verbal pressure) and student body size, school-level sex ratio, school selectivity, the type of school (public or private), and the percentage of students involved in Greek organizations on campus, all while controlling for individual-level characteristics and clustering standard errors at the school level. Each additional thousand students enrolled increases the odds of a physically forced rape by 2.47 times. The odds ratio for being a private institution ranges from .65 to .7, whereas percentage Greek shows opposing associations with individual-level Greek membership for physically forced rape. All other variables are statistically insignificant. These results suggest that institution-level factors play some role in the risk of sexual victimization; future research should expand on these findings.

Introduction

THERE IS LARGE AND GROWING literature on sexual victimization in higher educational contexts in the United States. However, school-level factors have been relatively underinvestigated, despite the fact that research in this area is potentially useful for sex crime prevention. Such investigations have been limited by the datasets available. The Online College Social Life Survey (OCSLS) was conducted from 2005 to 2011, and is one of the most comprehensive datasets on self-reported sexual victimization in a higher education context. Some limited research on school-level associations has been conducted using older datasets, but many theoretically relevant, potential school-level associations remain uninvestigated. Here the OCSLS is used to update and expand the literature on school-level associations, specifically focusing on four different characteristics: size of the school (as measured by enrollment numbers), the presence and importance of Greek organizations on campus, the school-level sex ratio, and the selectivity of the school.

Literature Review

In general, the associations between sexual victimization and victim and college characteristics have been examined

through the lens of lifestyle/routine activity theory (e.g., Schwartz and Pitts 1995; Mustaine and Tewksbury 2002; Cass 2007). Lifestyle/routine activities theory assumes a certain level of perpetrating potential in the population, with the relevant variation in offending largely attributable to variations in opportunity for victimization, which is itself largely determined by ecological factors. In their original formulation of the theory, Cohen and Felson (1979) specifically identified likely offenders, suitable targets, and the absence of capable guardians against crime as the three key components that merge to contribute to criminal activity. In some iterations, higher educational institutions in the United States present all three. Given the disconcertingly high rates of college-aged men who say that they would rape a woman if they knew they would get away with it and no one would find out (Malamuth 1981; Edwards et al. 2014), it is clear that colleges have a large population of potential offenders who would be willing to commit sexual assault in certain circumstances. Suitable targets include individuals who present little risk for the perpetrators. For example, the general finding that freshman women are disproportionately targeted for victimization supports the notion that more vulnerable populations are at a higher risk for victimization (Cranney 2014). Finally, although nearly every university

has some protocol in place for handling and investigating sexual assault claims, variation in school-specific policies and desire to investigate sex crimes may also contribute to deterrence (or lack thereof) in a higher educational setting, as perpetrators may perceive a greater risk for being prosecuted at some schools than others.

The specific variables addressed here may be logically related to victimization via lifestyle/routine-activities mechanisms. In their study drawing from officially reported statistics from 530 two- and four-year colleges for the 1991–1992 academic year, Fernandez and Lizotte (1995, 92) attributed their finding of a positive relationship between size of the student body and rape (as well as assault, robbery, burglary, auto theft, and larceny) to the fact that “large institutions could provide more targets for attack and more anonymity for prospective offenders” (90); this kind of theoretical reasoning is more relevant to stranger rape, which is a minority of sexual assaults (Wolitzky-Taylor et al. 2011), but could make up a disproportionate number of officially reported assaults.

However, there still remain other lifestyle/routine-activities rationales for why acquaintance rape may be more common at larger schools. One approach to campus sex crime research emphasizes locales and contexts that are particularly dangerous such as certain types of fraternities and bars (Armstrong et al. 2006, 485). Larger campuses may be able to support more such locales, whereas a community college that can support only one near-campus bar or a few fraternities may have less of a chance of having a particularly dangerous locale near or on campus. However, this pattern was not confirmed by Cass (2007), who used self-reported victimization data collected from 11 randomly selected colleges and 3036 students and did not find a statistically significant relationship between campus size and risk of self-reported sexual victimization.

Campus-level sex ratios may operate by increasing or decreasing the number of likely offenders. Given the aforementioned number of men who exhibit some rape proclivity, it is not unreasonable to see a reduction in men relative to women as a reduction in potential rapists and, therefore, a decreased risk of sexual victimization overall.

Greek organizations, with their emphasis on alcohol (Krebs et al. 2009) and parties (Armstrong et al. 2006)—both risk factors for sexual victimization that contribute to opportunity for sexual assault—may be substitutions that lead to heightened risk for sexual assault within the larger institutions in which they are embedded. Additionally, there is evidence that some fraternities contribute to a rape culture (Sanday 2007), potentially increasing the number of potential offenders. Here individual-level Greek membership is controlled for as well as the proportion of the student body that is in a fraternity or sorority. It is important that the role of Greek organizations on both the school and personal level is addressed distinctly. Some have suggested that parties associated with the Greek recruitment system are potentially sexually dangerous (Gross et al. 2006; Flack et al. 2008), and attendance at many fraternity functions is not limited to sorority members, suggesting that any additional sexual victimization risks posed by the presence of Greek system may affect both sorority and nonsorority members.

School selectivity may operate on risk of sexual victimization in a number of ways. First, selectivity may be associated with the proportion of students who have the time

and resources to spend time at potentially dangerous locales such as bars and parties. Second, although classically applied to urban and inner-city areas (Shaw and McKay 1969), social disorganization theory may also have applicability to the campus context (e.g., see Barton 2010). Highly selective schools with more resources may be able to better support on-campus social capital through aid programs, advising, and school-supported student groups. Such policies and groups geared specifically toward sex crime prevention may be particularly germane. As previously noted, variations in victimization rates may reflect the degree to which the perpetrators see little risk in committing their crime, which in turn may reflect institutional norms, regulations, and values regarding the handling of sexual victimization. More selective institutions may have differing norms regarding the handling of sexual assault cases, and they may have more resources for on-campus prevention measures. Finally, perpetrators may see the students at more select institutions as less vulnerable in general, regardless of what their actual socioeconomic background is. Consequently, it is possible that individual-level social background has a different relationship to risk of sexual victimization than school selectivity, even though the two are strongly correlated. Here social background is captured on the individual level by the maternal education variable.

Finally, Fernandez and Lizotte (1995, 92) found that the private schools in their sample had lower rates of sexual victimization. However, why exactly this was not discussed, and it is unclear why this might be so. No other study has tested this relationship, and it is included here in Model 5 of Tables 3–6 of the regression analyses.

It is worth mentioning what school-level characteristics of interest are not addressed here. Some of the variation in sexual victimization across campuses may be because of differences in the choice of procedures used to prevent and investigate rape cases. This represents the third component in Cohen and Felson’s (1979) original formulation of lifestyle/routine-activities theory, or the presence or absence of “capable guardians against crime.” To help form an evidence-based system of best practices, research on the efficacy of rape prevention policies is sorely needed, and there are a wide variety to choose from (Day 1995). However, there are fairly significant data barriers to such research. Differences in school policies or school environments are often nuanced and are difficult to operationalize. Furthermore, some institution-level prevention variables that are easy to measure, such as mandatory rape awareness programs or reporting campus statistics on sexual crime, are now mandated by law per the recently passed Campus Sexual Violence Elimination Act, removing any variation that could be utilized to measure the effects of these policies. (Earlier work on mandatory rape prevention programs before they became required suggest that they are not associated with reduced prevalence of sexual crime—Fisher et al. 2000, 689). Other variables tested, such as the presence of police escort services (Cass 2007), have often been focused on preventing stranger rape, and so it is unsurprising that the studies found no relationship when the vast majority of sexual assaults are by an acquaintance.

Ultimately, a robust analysis would require carefully constructed indices asked in a large number of schools. Additionally, to really parse out causal relations a longitudinal component would be required, and so consistent

measures would have to be asked across many schools and years. In short, it is highly unlikely that the dataset necessary to conduct analyses of the effects of different sex crime prevention policies will be forthcoming in the near future.

Methods and Data

The OCSLS was administered online to a sample of students from 22 colleges from 2005 to 2011. Most of the respondents were recruited from classes; while alternatives for extra credit were offered, the response rate in classes was more than 99%. The classes involved were primarily sociology courses, but only 11% of the respondents were themselves sociology majors (Armstrong et al. 2012, 439). The school-level variables used here, while not included in the original dataset, were later collected by Adkins et al. (2015) for a later article. Although both males and females were surveyed, here the focus is on female victimization, and only female respondents are used ($N = \sim 16,000$).

In the OCSLS, sexual victimization was divided into four categories: drug- and alcohol-facilitated sexual assault (“Since you started college, has someone had sexual intercourse with you that you did not want when you were drunk, passed out, asleep, drugged, or otherwise incapacitated?”), physically forced intercourse (“Since you started college, have you had sexual intercourse that was physically forced on you?”), attempted physically forced intercourse (“Since you started college, has someone tried to physically force you to have sexual intercourse, but you got out of the situation without having intercourse?”), and unwanted sex due to verbal pressure (“Since you started college, have you had sexual intercourse that you did not want because someone verbally pressured you?”). While these questions are unique, and are not derived from preexisting measures, they conceptually map onto more commonly used indicators for sexual assault (Cranney 2014), and should suffice for the comparative purposes here.

Four types of sexual victimization (which are not necessarily mutually exclusive) are dichotomously considered. A logit analysis with odds ratios is performed. To adjust for the multilevel nature of this analysis, standard errors are clustered by school. Individual-level variables are included in each model, but do not substantively affect the outcome when they are omitted. Because the question is cumulative (“since you started college ...”) students with more seniority will be more likely to have been victimized simply because they have been exposed to risk for longer. Therefore, year in school is controlled for as a continual variable, with a truncated ceiling at value five (seniors with more than four years of college). Graduate students were also surveyed, but are not included in these analyses as their undergraduate institution is unknown. Age is controlled for, as it has been shown to be negatively related to the risk of sexual victimization (Fisher et al. 1998, 674). Controls also include maternal education (as an indicator of socioeconomic background) and sorority membership. Institutionally, importance of Greek organizations on campus is measured by the percentage of the student body that is involved in Greek life as indicated by the Common Data Set initiative. The sex ratio is calculated from the U.S. Department of Education figures, and is the average for the years from 2005 to 2011 (Adkins et al. 2015). If some years were unavailable, the average of the available years was used. School selectivity is measured by

TABLE 1. PERCENTAGES VICTIMIZED BY SCHOOL

<i>School</i>	<i>Sample size</i>	<i>Physically forced rape (%)</i>	<i>Attempted rape (%)</i>	<i>DFSA (%)</i>	<i>Verbal pressure (%)</i>
1	798	6	10	5	14
2	756	6	15	8	6
3	1054	8	15	9	9
4	656	10	15	8	9
5	372	6	10	7	7
6	74	5	14	9	14
7	2366	7	15	10	9
8	2230	7	11	7	10
9	951	10	13	10	17
10	783	4	9	6	8
11	1785	7	11	8	8
12	116	4	5	4	4
13	1426	6	11	7	7
14	832	6	10	6	7
15	77	10	8	9	9
16	151	7	12	6	9
17	757	6	14	6	7
18	315	4	12	5	6
19	405	6	13	9	5
20	119	8	13	5	5
21	324	10	16	10	15
22	108	7	14	6	12
Combined average	1331	7	12	8	9

DFSA, drug and alcohol-facilitated sexual assault.

using the Princeton Review selectivity scores, which range from 60 to 99. The schools used show significant variation in all dimensions (Tables 1 and 2), which reflects the underlying heterogeneity of the school selection, which included small community colleges as well as elite, ivy-league institutions.

Analyses

Different types of sexual victimization have different correlates with institutional variables, but nearly all types of sexual victimization have similar relationships with individual-level variables. Year in school is positively associated with all types of sexual victimization. Maternal education and being in a sorority are associated with risk of sexual victimization in all forms of rape and attempted rape (Tables 2–4). In a result that challenges the findings of the prior literature (Fisher et al. 1998, 674), age is consistently positively associated with risk of physically forced intercourse when year in school is controlled for (Table 4), but the size of this effect is small, and is not consistently significant for any other type of sexual victimization.

Institutionally, despite the theoretical cases made above, these analyses do not suggest that sex ratios or school selectivity is associated with risk of sexual victimization of any type. Although individually it is clear across the tables that sorority membership increases the risk of victimization, on the institutional level the relationship between percentages of the school that are members of either fraternities or sororities and sexual victimization is *negatively* significant, but only in cases of physically forced intercourse (Table 4—but not DFSA, attempted physically forced rape, or verbal pressure), with an odds ratio of .99 for percentage Greek.

TABLE 2. SCHOOL-LEVEL CHARACTERISTICS BY SCHOOL

<i>School</i>	<i>Enrollment (k)</i>	<i>Sex ratio</i>	<i>Type</i>	<i>Selectivity</i>	<i>% Greek</i>	<i>Average age</i>	<i>Average maternal education</i>	<i>Average year in school</i>
1	0.37	0.93	Private	99	13.00	20.07	3.92	2.90
2	0.58	1.03	Public	88	17.00	19.74	3.49	2.23
3	0.57	1.11	Public	84	10.52	20.70	3.41	2.92
4	0.48	0.97	Public	92	2.48	20.51	3.06	2.83
5	0.37	1.26	Private	78	0.90	19.29	3.68	1.97
6	0.32	1.22	Public	72	0.00	21.74	3.41	2.75
7	0.47	1.19	Public	83	10.65	19.52	3.19	2.01
8	0.52	0.99	Public	86	4.50	19.18	3.45	1.69
9	0.62	0.88	Public	84	5.00	20.16	3.29	2.45
10	0.23	1.27	Private	96	33.78	19.74	4.21	2.37
11	0.49	—	Public	60	0.00	21.45	3.03	2.29
12	0.37	1.06	Private	99	6.93	20.24	4.32	2.86
13	0.49	1.12	Public	76	3.22	20.07	2.99	2.44
14	0.31	1.86	Public	73	0.00	20.16	3.11	2.43
15	0.37	1.36	Public	72	10.14	19.95	3.26	2.04
16	0.39	1.37	Private	90	6.86	20.25	3.89	2.52
17	0.22	1.08	Public	92	4.00	20.06	2.60	2.56
18	0.50	1.07	Private	99	28.47	19.17	3.99	1.90
19	0.42	1.06	Public	91	5.50	19.65	3.38	2.37
20	0.57	0.93	Public	60	7.13	20.19	2.86	2.49
21	0.53	1.10	Public	80	6.04	21.02	3.08	2.73
22	0.22	1.36	Private	81	0.00	20.27	3.48	2.36
Combined average	0.46	1.13		82.55	7.71	20.04	3.32	2.31

Selectivity measured by the Princeton Review selectivity score: 60–99, 99=highest selectivity.

Maternal education: 1=less than high school, 2=high school graduate only, 3=some college, 4=bachelor's degree, 5=graduate degree.

School size appears to be strongly related to risk of physically forced intercourse (Table 4) and DFSA (Table 5). Once school type is controlled for, however, the relationship between size and DFSA becomes null (Table 5, Model 5), and the size of the odds ratio for physically forced intercourse, while retaining significance, is significantly reduced (Table 4, Model 5) to 2.47. Being a private school is consistently significant across all victimization types except unwanted sex through verbal pressure (Table 6), with odds ratios ranging from .65 to .7.

Overall, unwanted sex due to verbal pressure does not show many of the same associations shown in the other tables

(Table 6), perhaps suggesting that fundamentally different mechanisms are involved, which may be unsurprising as “unwanted sex due to verbal pressure” may have a range of manifestations, some of which may not be illegal, potentially making it categorically different from the three other victimization categories.

Discussion

In accordance with the predictions of lifestyle/routine-activities theory, institution-level variables, and not just individual-level characteristics, were shown to be associated

TABLE 3. ATTEMPTED RAPE AND SCHOOL-LEVEL CHARACTERISTICS (LOGIT REGRESSION, ODDS RATIOS)

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Year in school	1.27*** (0.06)	1.21*** (0.05)	1.27*** (0.05)	1.27*** (0.06)	1.28*** (0.05)
In sorority/fraternity	1.54*** (0.08)	1.54*** (0.08)	1.56*** (0.09)	1.58*** (0.09)	1.59*** (0.09)
Age	0.95 ⁺ (0.03)	0.98 (0.03)	0.94* (0.03)	0.94 ⁺ (0.03)	0.94* (0.03)
Maternal education	1.07** (0.03)	1.07* (0.03)	1.08** (0.03)	1.08** (0.03)	1.10*** (0.02)
Enrollment (in thousands)	2.36 ⁺ (1.20)	2.74 (2.03)	2.24 ⁺ (1.07)	2.17 ⁺ (0.96)	1.17 (0.36)
Sex ratio		1.19 (0.34)			
Selectivity			1.00 (0.00)		
% Greek				0.99 (0.00)	
Private school					0.65*** (0.07)
Constant	0.12*** (0.07)	0.05*** (0.04)	0.17*** (0.08)	0.14*** (0.08)	0.18** (0.10)
Observations	15,804	14,204	15,804	15,804	15,804
BIC	11,750.18	10,699.28	11,758.67	11,756.15	11,731.51
Log-likelihood	−5846.09	−5316.17	−5845.49	−5844.24	−5831.92

Exponentiated coefficients; standard errors in parentheses.

Selectivity measured by the Princeton Review selectivity score: 60–99, 99=highest selectivity.

Maternal education: 1=less than high school, 2=high school graduate only, 3=some college, 4=bachelor's degree, 5=graduate degree.

⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

BIC, Bayesian Information Criterion.

TABLE 4. PHYSICALLY FORCED RAPE AND SCHOOL-LEVEL CHARACTERISTICS (LOGIT REGRESSION, ODDS RATIOS)

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Year in school	1.29*** (0.05)	1.26*** (0.06)	1.30*** (0.05)	1.30*** (0.05)	1.30*** (0.05)
In sorority/fraternity	1.40*** (0.11)	1.39*** (0.12)	1.42*** (0.12)	1.48*** (0.11)	1.44*** (0.12)
Age	1.06** (0.02)	1.09** (0.03)	1.06* (0.03)	1.06* (0.03)	1.06* (0.02)
Maternal education	1.09** (0.03)	1.09** (0.03)	1.09** (0.03)	1.10*** (0.03)	1.11*** (0.03)
Enrollment (in thousands)	4.31** (1.95)	4.47* (2.60)	4.11** (1.89)	3.80*** (1.28)	2.47* (0.98)
Sex ratio		1.05 (0.23)			
Selectivity			1.00 (0.00)		
% Greek				0.99** (0.00)	
Private school					0.70*** (0.07)
Constant	0.00*** (0.00)	0.00*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Observations	15,966	14,353	15,966	15,966	15,966
BIC	7829.04	7053.55	7837.98	7830.21	7828.78
Log-likelihood	-3885.49	-3493.28	-3885.12	-3881.23	-3880.52

Exponentiated coefficients; standard errors in parentheses.

Selectivity measured by the Princeton Review selectivity score: 60–99, 99=highest selectivity.

Maternal education: 1=less than high school, 2=high school graduate only, 3=some college, 4=bachelor's degree, 5=graduate degree.

* $p < .05$, ** $p < .01$, *** $p < .001$.

with the risk of sexual victimization; however, some of the specific predictions have not been confirmed by this analysis.

As previously noted, prior evidence that the size of the school was related to risk of sexual victimization was derived from officially reported statistics (Fernandez and Lizotte 1995, 92). The fact that such a relationship did not appear in a study that used self-report data (Cass 2007) made the existence of this relationship questionable. Although it is not consistent across victimization types, and though some of the “big school” effect appears to be attributable to the private/public distinction (the public schools in this sample are larger), the consistent and substantively large relationship between physically forced intercourse and the size of the school is evidence for the reality of the hypothesized relationship. Prior justifications that revolve around strategies used in stranger assaults are unsatisfactory here; when the same analyses are conducted while only considering acquaintance rape, the numbers do not significantly change (results available upon request).

Furthermore, even though the dangerous locales theoretical explanation is not completely disconfirmed, the lack of a relationship between DFSA and campus size suggests that, if it is responsible, it is more complicated than there simply being more bars on campus, and that the locale-specific risk is somehow particular to physically forced assault.

The other consistent finding was that public schools appear to be more dangerous places than private schools. However, as previously noted, it is not clear why the public/private distinction is so strong, although, unless sexual perpetrators are disproportionately drawn toward certain school types, it is probably operating via increased exposure to risk for the victims and/or opportunity for the perpetrators.

The counterintuitive results for the percentage Greek suggest that the Greek system may have opposing individual-level and institution-level influences. Students from elite ivy-league schools do not have any lower risk of sexual victimization than community college students. However, as previously suggested, socioeconomic background, as measured by maternal

TABLE 5. DRUG- AND ALCOHOL-FACILITATED SEXUAL ASSAULT AND SCHOOL-LEVEL CHARACTERISTICS (LOGIT REGRESSION, ODDS RATIOS)

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Year in school	1.31*** (0.06)	1.29*** (0.08)	1.33*** (0.07)	1.32*** (0.06)	1.33*** (0.06)
In sorority/fraternity	1.45*** (0.12)	1.49*** (0.13)	1.48*** (0.13)	1.47*** (0.12)	1.49*** (0.13)
Age	1.03 (0.03)	1.06 (0.04)	1.02 (0.03)	1.03 (0.03)	1.03 (0.03)
Maternal education	1.12*** (0.02)	1.12*** (0.03)	1.12*** (0.02)	1.12*** (0.02)	1.15*** (0.02)
Enrollment (in thousands)	3.33*** (0.98)	4.96** (2.78)	3.01*** (0.70)	3.13*** (0.79)	1.66 (0.52)
Sex ratio		1.51 (0.49)			
Selectivity			0.99 (0.00)		
% Greek				0.99 (0.00)	
Private school					0.65** (0.11)
Constant	0.01*** (0.00)	0.00*** (0.00)	0.02*** (0.01)	0.01*** (0.00)	0.01*** (0.01)
Observations	15,904	14,290	15,904	15,904	15,904
BIC	8521.24	7669.16	8527.61	8529.44	8512.98
Log-likelihood	-4231.59	-3801.09	-4229.95	-4230.86	-4222.63

Exponentiated coefficients; standard errors in parentheses.

Selectivity measured by the Princeton Review selectivity score: 60–99, 99=highest selectivity.

Maternal education: 1=less than high school, 2=high school graduate only, 3=some college, 4=bachelor's degree, 5=graduate degree.

** $p < .01$, *** $p < .001$.

TABLE 6. VERBAL PRESSURE AND SCHOOL-LEVEL CHARACTERISTICS (LOGIT REGRESSION, ODDS RATIOS)

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Year in school	1.30*** (0.05)	1.24*** (0.05)	1.28*** (0.05)	1.31*** (0.05)	1.30*** (0.05)
In sorority/fraternity	1.16 (0.12)	1.11 (0.11)	1.13 (0.11)	1.18 ⁺ (0.11)	1.15 (0.11)
Age	1.02 (0.03)	1.07** (0.03)	1.04 (0.03)	1.02 (0.03)	1.03 (0.03)
Maternal education	1.07* (0.03)	1.06 ⁺ (0.03)	1.06* (0.03)	1.07* (0.03)	1.06 ⁺ (0.03)
Enrollment (in thousands)	2.96 (2.19)	1.87 (1.27)	3.32 (2.53)	2.82 (2.13)	3.71 (3.06)
Sex ratio		0.61 (0.21)			
Selectivity			1.01 (0.00)		
% Greek				1.00 (0.01)	
Private school					1.14 (0.20)
Constant	0.02*** (0.01)	0.02*** (0.01)	0.01*** (0.01)	0.02*** (0.01)	0.01*** (0.01)
Observations	15,943	14,333	15,943	15,943	15,943
BIC	9657.13	8765.52	9661.96	9665.51	9664.77
Log-likelihood	-4799.54	-4349.26	-4797.11	-4798.89	-4798.52

Exponentiated coefficients; standard errors in parentheses.

Selectivity measured by the Princeton Review selectivity score: 60–99, 99=highest selectivity.

Maternal education: 1=less than high school, 2=high school graduate only, 3=some college, 4=bachelor's degree, 5=graduate degree.

⁺ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

education, is strongly significant across all sexual victimization types, suggesting that on the individual-level more economically privileged students are at a higher risk of sexual victimization. Again, the most likely explanation for this result is a lifestyle/routine-activities explanation: wealthier students have the time and resources to attend parties, patronize bars, and be involved in social events in general.

Conclusions, Limitations, and Directions for Future Research

This study has found that structure matters, as larger, public universities appear to be more dangerous places in terms of sexual victimization than smaller, private institutions. It is possible that relationships between some of the null, school-level variables and risk of sexual victimization do exist, but that the analyses are underpowered because of the number of schools used. This is particularly true for the sex ratio measure, which, although the best available given extant data, may have lost some of its predictive power in the process of aggregating the available data points into a single, multiyear average. Until larger-scale, standardized, cross-school surveys become a reality, lack of power will be a limitation in research on institutional correlates of sexual victimization risk. Even though sex crime-related statistics are reported publicly thanks to the Clery Act, the quality of their collection is inconsistent across colleges (Shafer 2007). Given the low prevalence of rape that is reported (Fisher et al. 2000, 23), their validity for providing estimates is doubtful (although the data may not be completely worthless for research purposes). Consequently, future robust investigations into school-level associations require data that 1) include enough schools for there to be sufficient power to capture school-level effects, 2) record sexual victimization through self-report, 3) include enough students to have sufficient power to analyze school-level variables, and 4) employ the same valid and reliable measurements of key concepts across schools. Such a dataset is difficult to come by. A recent recommendation from the White House Task Force to Protect Students from Sexual Assault to require universities to conduct campus climate surveys (2014, 2)

may portend such a gold-standard sexual victimization dataset in the future, but in the meantime multischool datasets that meet the above standards are few and far between.

Given these data constraints, researchers are currently limited to testing the type of large-scale, structural correlates tested in this and other studies, but the approach taken here is perhaps the best possible until better data become available. One possible route for future research in the absence of the gold-standard sexual victimization survey would be a more precise analysis of the equivalency between officially reported rape statistics and self-reported numbers. Although the vast majority of cases of sexual victimization are not officially reported, the relationship between the two estimates (self-report and official statistics) may vary in some systematic way that can be taken into account that can render Clery data useful for the investigation of school-level associations with sexual victimization risk. This would be a valuable contribution to college sex crime research in general, as it would allow for analyses involving hundreds of schools, not the handful that has characterized the literature up to this point.

Author Disclosure Statement

No competing financial interests exist.

References

- Adkins T, England P, Risman BJ, Ford J. (2015). Student bodies does the sex ratio matter for hooking up and having sex at college? *Soc Curr.* 2, 144–162.
- Armstrong EA, England P, Fogarty AC. (2012). Accounting for women's orgasm and sexual enjoyment in college hookups and relationships. *Am Sociol Rev.* 77, 435–462.
- Armstrong EA, Hamilton L, Sweeney B. (2006). Sexual assault on campus: A multilevel, integrative approach to party rape. *Soc Probl.* 53, 483–499.
- Barton MS, Jensen BL, Kaufman JM. (2010). Social disorganization theory and the college campus. *J Criminal Justice.* 38, 254–256.
- Cass AI. (2007). Routine activities and sexual assault: An analysis of individual and school-level factors. *Violence Victims.* 22, 350–366.
- Cohen LE, Felson M. (1979). Social change and crime rate trends: A routine activity approach. *Am Soc Rev.* 4, 588–608.

- Cranney S. (2014). The relationship between sexual victimization and year in school in US colleges: Investigating the parameters of the red zone. *J Interpers Violence*. 30, 3133–3145.
- Day K. (1995). Assault prevention as social control: Women and sexual assault prevention on urban college campuses. *J Env Psychol*. 15, 261–281.
- Edwards SR, Bradshaw KA, Hinsz VB. (2014). Denying rape but endorsing forceful intercourse: Exploring differences among responders. *Violence Gender*. 1, 188–193.
- Fernandez A, Lizotte AL. (1995). An analysis of the relationship between campus crime and community crime: Reciprocal effects? In BS Fisher, JJ Sloan, eds. *Campus Crime: Legal, Social, and Policy Perspectives*. (Charles C. Thomas, Springfield, IL), pp. 79–103.
- Fisher BS, Cullen FT, Turner MG. (2000). The sexual victimization of college women. Research Report. U.S. Department of Justice, Washington, DC.
- Fisher BS, Sloan JJ, Cullen FT, Lu C. (1998). Crime in the ivory tower: The level and sources of student victimization. *Criminology*. 36, 671–710.
- Flack WF, Caron ML, Leinen SJ, et al. (2008). “The red zone”: Temporal risk for unwanted sex among college students. *J Interpers Violence*. 23, 1177–1196.
- Gross AM, Winslett A, Roberts M, Gohm CL. (2006). An examination of sexual violence against college women. *Violence Against Women*. 12, 288–300.
- Krebs CP, Lindquist CH, Warner TD, et al. (2009). College women’s experiences with physically forced, alcohol- or other drug-enabled, and drug-facilitated sexual assault before and since entering college. *J Am Coll Health*. 57, 639–647.
- Malamuth NM. (1981). Rape proclivity among males. *J Soc Iss*. 37, 138–157.
- Mustaine EE, Tewksbury R. (2002). Sexual assault of college women: A feminist interpretation of a routine activities analysis. *Criminal Justice Rev*. 27, 89–123.
- Sanday P. (2007). *Fraternity Gang Rape: Sex, Brotherhood, and Privilege on Campus*. (NYU Press, New York, NY.)
- Schwartz MD, Pitts VL. (1995). Exploring a feminist routine activities approach to explaining sexual assault. *Justice Q*. 12, 9–31.
- Shafer LJ. (2007). Women, gender, and safety on campus: Reporting is not enough. In BS Fisher, JJ Sloan, eds. *Campus Crime: Legal, Social, and Policy Perspectives*. (Charles C. Thomas, Springfield, IL), pp. 87–102.
- Shaw CR, McKay HD. (1969). *Juvenile Delinquency and Urban Areas*. (The University of Chicago Press, Chicago, IL.)
- White House. (2014). Not Alone: The First Report of the White House Task Force to Protect Students from Sexual Assault. Washington, DC. www.whitehouse.gov/sites/default/files/docs/report_0.pdf
- Wolitzky-Taylor KB, Resnick HS, Amstadter AB, et al. (2011). Reporting rape in a national sample of college women. *J Am Coll Health*. 59, 582–587.

Address correspondence to:
Stephen Cranney, PhD
Sociology Department
Baylor University
One Bear Place #97326
Waco, TX 76798-7326

E-mail: cranney.stephen@gmail.com