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Precollege Sexual Violence Perpetration and Associated Risk and Protective Factors Among Male College Freshmen in Georgia

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Abstract

Purpose—Sexual violence (SV) perpetration on college campuses is a serious and prevalent public health issue in the U.S. In response, incoming male freshmen are mandated to receive SV prevention programming. To provide a more effective response, however, we need to understand the SV behaviors of male freshmen *before* they arrive on campus and the associated factors that contribute to risk and that afford protection, areas that have received limited attention.

Methods—Male freshmen (N = 1,133) across 30 selected 4-year colleges and universities throughout the state of Georgia were recruited for a longitudinal study on SV perpetration. Levels of precollege SV as well as a range of covariates were assessed at baseline. Self-reported SV perpetrators were compared with nonperpetrators on demographic and hypothesized covariates deemed either risk or protective; then risk and protective models were analyzed using binary logistic regression.

Results—Weighted analyses revealed that 19.3% self-reported perpetrating SV before college. Before starting college, young men who reported more sexual media consumption, heavy episodic drinking, hypermasculine beliefs, and peers who endorsed SV were more likely to have a history of SV perpetration at college matriculation. Alternatively, men with more knowledge of effective sexual consent and stronger family functioning were less likely to arrive to college with an SV perpetration history.

Conclusions—A significant proportion of incoming male freshmen have perpetrated SV previously. Colleges and universities need to assess incoming freshmen for risk behaviors and

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negative beliefs and to offer both primary and secondary preventions to more effectively reduce further perpetration.

Keywords

Sexual violence; College health; Male health

Sexual violence (SV) encompasses a range of nonconsensual sexual activity, from unwanted sexual contact and verbally coerced sex to attempted rape and rape facilitated by threats, physical force, or incapacitation because of alcohol or drugs [1-3]. SV against college women is a serious and complex public health problem where 6%–18% of college women report severe forms of SV (i.e., forced penetration) each year [4-6]. SV rates are typically higher during the freshman and sophomore years [7], and women state that, in most cases, they knew their attacker [7]. Prevalence estimates of college men's SV perpetration mirror women's victimization rates and range from 10% to 30% by the end of college [1,8-12].

There have been important updates in the U.S. to federal policy to address SV on college campuses, such as the Campus Sexual Violence Elimination (SaVE) Act. The Campus SaVE Act was passed in 2013 and mandated colleges and universities that participate in federal student aid programs to provide campus-wide primary prevention programming for SV [13]. However, these policies do not take into consideration that many college freshmen already may have engaged in SV before matriculation. For these policies and programming to be effective, more tailored prevention efforts, which incorporate assessments of incoming freshmen's precollege SV experiences along with associated risk and protective behaviors and attitudes, are needed.

Several studies have documented the rate of SV perpetration among college male freshmen *before* beginning college [1,8-10,14-17]. Zinzow and Thompson, for instance, reported that, of those male students who had committed sexual assault during college, 33% of the single offenders and 55% of the repeat offenders had committed an assault before college [10]. By expanding this analysis prospectively, Thompson et al. found that 9% of the full sample of male college students committed pre-college SV and subsequently maintained persistently high levels of SV throughout their college years, whereas 12% of the full sample committed precollege SV but showed decreasing patterns of SV [14]. In addition, Swartout et al. [18] found similar trajectories, beginning before and extending through college. Thus, there is evidence to suggest that some of these precollege perpetrators, once they enroll, will continue their trajectory and contribute to the high rates of SV victimization documented. Clearly, effective primary (i.e., before it starts) and secondary (i.e., recently begun) prevention programs are needed to more effectively reduce the rates of victimization and to break the perpetration pattern that may begin in high school [19].

Although these studies have been extremely informative in documenting precollege SV rates, most drew their samples from one university and none assessed a range of *modifiable* behavioral and attitudinal factors that may be categorized as either risk or protective, and that specifically relate to precollege SV perpetration among incoming freshmen. Protective factors, in particular, have not been examined to the same degree as risk factors; thus, the knowledge base in this area is extremely limited and hinders the development of resiliency

approaches [20]. To be effective, prevention programming, both primary and secondary, should target both risk factors for engaging in SV, which are modifiable and empirically or theoretically derived, such as alcohol and drug use [11,21,22], pornography use [23,24], hypermasculinity [15,22,25,26], rape myth acceptance [20,27], and peer norms supportive of SV [11,20,28], and protective factors, such as knowledge of effective consent for sex [12,20,29], negative outcome expectancies for perpetrating rape [12], and family factors [20]. We address some of these limitations in the literature with a sample of male freshmen recruited from 30 U.S. colleges and universities located throughout the state of Georgia; we then assessed their self-reported SV perpetration *before* matriculation, as well as a range of dynamic empirically and theoretically derived factors deemed to either increase risk for or protect against precollege perpetration [20].

Methods

Participants and procedures

We enrolled three cohorts of male college freshmen who were matriculating at 1 of 30 selected 4-year colleges or universities in the state of Georgia. Recruitment for the prospective study occurred during fall 2013, spring 2014, and fall 2014 semesters. Students were recruited using multiple strategies to increase the likelihood of reaching as many members of the targeted population of male freshmen at each of the 30 colleges: Facebook advertisements, campus tabling events, classroom announcements, e-mail blasts to freshmen professors asking them to announce the study, and peer referrals. Students were directed to a Web site that provided information about the study (e.g., “We are interested in finding about your experiences and opinions related to being a new freshman”) and instructions. Interested students completed a brief screening survey, and eligible students (i.e., male, 18–24 years, newly enrolled freshmen at 1 of the 30 universities) were provided with informed consent materials. Students who agreed to participate were asked to provide their institutional e-mail address. Confirmation e-mails were sent, and students who confirmed their institutional e-mail were enrolled in the study and were sent a link to the survey questionnaire. Participants were compensated \$25 for completing the Wave 1 baseline survey and could earn up to \$150 total across assessments. The results presented here are based on baseline survey data. The institutional review board at Georgia State University approved the study protocols.

Measures

SV perpetration was measured using the revised version of the Sexual Experiences Survey for perpetration (SES-R-P) [30], which assesses 7 different SV acts paired with 5 different SV tactics, for a total of 35 items. A sample act measured by this survey is “I had oral sex with someone or had someone perform oral sex on me without their consent by:” and a sample tactic is “Taking advantage when they were too drunk or out of it to stop what was happening”; this sample pairing constitutes rape. Men reported the number of times they engaged in each behavior during the time period between their 14th birthday and starting college. Responses were coded binary (yes/no) to represent that they either did or did not perpetrate precollege SV. Responses were summed across the 35 items and then dichotomized into “no SV” or “one or more acts of SV.”

Sociodemographic characteristics—Age, race/ethnicity, high school grade point average (GPA), previous religious service attendance, whether they participated in collegiate varsity athletics, and whether they were in a fraternity were assessed.

Covariates that contribute to risk

Heavy episodic drinking was assessed using the National Institute on Drug Abuse Modified Alcohol, Smoking, and Substance Involvement Screening Test (NMASSIST) [31]. The participants were asked, “thinking back over the last thirty days before you began college, how many times, if any, have you had five or more alcoholic drinks in one sitting?” Response options ranged from none to nine or more times with higher scores reflective of heavy episodic drinking.

Drug use was assessed using nine items from the NMASSIST that covered a range of drugs, such as marijuana use, amphetamines, cocaine, sedatives, and opioids [31,32]. Participants were asked, “In the 30 days before you began college, on how many days did you use...?” Responses ranged from 1 (never used) to 8 (all 30).

Use of sexual media (i.e., pornography) was assessed with the sex media scale [23]. The participants were asked, “Thinking about an average week during the last 12 months, describe how often you looked at each of the following sexual media:” (1) magazines with sexual content, (2) videos with sexually suggestive content, (3) videos with sexually explicit content, and (4) homemade videos. Response options ranged from 1 (not at all) to 7 (more than 10 times).

Rape myths were measured with the Illinois rape myth acceptance scale [33]. This widely used 22-item measure assesses the extent to which participants endorse beliefs, such as “Rape happens when a man’s sex drive gets out of control.” Response options were 1 (not at all agree) to 7 (very much agree), with higher scores reflective of greater acceptance of rape myths (Cronbach alpha = .94).

Hypermasculinity was assessed with 25 items, such as “Real men don’t give up because of fear” [34]. Response options ranged from 1 (not at all agree) to 7 (very much agree), with higher scores indicating higher levels of hypermasculinity (Cronbach alpha = .83).

Peer support for SV was measured with 10 items that assessed peer support for SV during high school. One example is “To what extent would the friends you had in high school approve of getting a woman drunk in order to have sex with her?” [35]. Response options ranged from 1 (not at all) to 7 (very much) (Cronbach alpha = .79).

Covariates that protect against sexual violence

Knowledge of effective consent for sex was measured with 14 items, such as “If a woman undresses or allows a man to undress her, she is giving consent for sex” [12]. Response options ranged from 1 (strongly disagree) to 7 (strongly agree). Higher scores equated with greater knowledge (Cronbach alpha = .87).

Negative outcome expectancies for rape was measured with 15 items, such as “If I engage in sex without clear consent, I would regret it” [12]. Response options ranged from 1 (strongly disagree) to 7 (strongly agree). Higher scores were reflective of holding more negative outcome expectancies (Cronbach alpha = .93).

Peer social support was assessed with two items [36]. Participants were asked to “Please indicate how often you engaged in each of the following activities before you began college.” Activities were “talking to friends about your problems” and “spending time with your friends.” Response options ranged from never (1) to 7 (daily).

Family functioning was assessed with 12 items, such as “Family members go along with what the family decides to do” [37]. Responses ranged from 1 (strongly disagree) to 7 (strongly agree). Higher scores reflected higher levels of family functioning (Cronbach alpha = .88).

Family connectedness was measured with two items from ADD-Health, such as “How often do you ask your parent(s) for advice?” [36]. Response options ranged from 1 (never) to 7 (always). Higher scores reflected greater family connectedness. The two items were significantly correlated ($r = .33, p < .01$).

Data analysis

All analyses were conducted using IBM SPSS Statistics for Windows, Version 21.0 (Armonk, NY). To adjust the data for nonrepresentativeness, sampling weights were generated and applied to make the results more representative of incoming first-year freshmen males at the colleges and universities studied in regard to race/ethnicity and enrollment. Cross-tabulations and *t*-tests were used to compare precollege perpetrators and nonperpetrators on sociodemographic characteristics and covariates deemed to contribute to or to protect against risk. Weighted multiple logistic regression was used to identify significant covariates while controlling for other model variables and sociodemographic characteristics (i.e., age, race, and high school GPA). Significance levels were unchanged by inclusion of the sociodemographic controls. Both weighted and unweighted estimates are reported for each test in Tables 1 and 2.

Results

Sample characteristics

Participants ($N = 1,144$) were between the ages of 18 and 24 years old ($M = 18.3$). Just over half of the participants were Caucasian, 19.6% were black or African-American (AA), 15.8% were Asian or Pacific Islander, and 7% were Hispanic. The majority lived on campus (74.7%) and were single (64.4%). A small percentage were varsity athletes (11.5%) or members of Greek fraternities (7.7%).

We compared expected frequencies from the population (male enrollment for three semesters from the National Center for Education Statistics) with the observed frequencies in the sample using five racial/ethnic categories: Caucasians, AAs, Asian/Pacific Islanders, Hispanics, and other. The chi-square goodness-of-fit statistic for observed and expected

frequencies was significant ($\chi^2 = 168.08$, $df = 4$, $p < .001$). A comparison of the percentage data suggested that Caucasian, AA, and Hispanic respondents were under-represented in the sample by about the same proportional amount, Asian/Pacific Islanders were proportionately over-represented, and “other” respondents showed appropriate representation. Raw weights for race/ethnicity were developed for the five categories described earlier and calculated as N_j/n_j , where N_j is the total male enrollment for the j th race/ethnicity category, for the 29 colleges for which race/ethnicity data were available (data were missing for one college), and n_j is the number of respondents for the j th race/ethnicity for the 29 colleges. In addition, we calculated sampling rates for 30 colleges as $100 \times n_i/N_i$, with n_i = the number of male respondents at the i th college, and N_i = the total number of male freshmen enrolled at the i th college for the three semesters during which the survey was administered.

Differences between precollege sexual violence perpetrators and nonperpetrators

There were no significant differences in regard to race/ethnicity, age, high school GPA, or previous religious service attendance between men who reported perpetrating SV before college and those who did not (Table 1). Nevertheless, men who perpetrated SV before college were significantly over-represented among varsity athletes and fraternity members. There were significant group differences for each hypothesized covariate with the exceptions of rape myth acceptance and peer social support. Weighted, multiple logistic regression results (Table 2) supported many of these significant bivariate effects, even when adjusting for other model predictors and control variables. In the risk model, higher scores on sexual media consumption, hypermasculinity, peer support for SV, and heavy episodic drinking were associated with an increased likelihood of precollege SV. In the protective model, higher scores on knowledge of effective sexual consent and family functioning were associated with a decreased likelihood of precollege SV. Although the expectation of negative outcomes for SV was a significant protective factor in the unweighted model, this effect became nonsignificant after sampling weights were applied; post hoc sensitivity tests indicated that adjusting this coefficient for college enrollment, but not race/ethnicity, reduced the effect.

Discussion

High rates of campus SV have been attributed to the college experience (1) at the student level in terms of drinking, drug use, increased independence, and less parental oversight; and (2) at the campus level in terms of campus drinking rates, campus alcohol policy, selectivity of the school, percentage of freshmen on campus, and athletic division [38]. In our diverse sample of male freshmen recruited from 30 different U.S. colleges and universities throughout the state of Georgia, however, a significant proportion (19.3%) engaged in SV perpetration *before* college. This high rate is consistent with prevalence rates found in other studies of male college students (i.e., 15%–35%) that examined precollege perpetration, which suggests that these high rates have validity and are cause for concern [1,8,10,14].

In terms of significant precollege covariates that we deemed as risk, in our multivariable model, we found that a greater likelihood of SV perpetration is related to viewing sexual media, having hypermasculine beliefs, participating in heavy episodic drinking, and having

peers who endorse SV. Many of these same factors have been associated with SV perpetrated during college years [20]. What is not clear is whether these modifiable pre-college risk factors remain stable over time among precollege perpetrators once they matriculate or whether they are associated with the different behavioral trajectories of perpetration over time. One study can perhaps shed some light. Data were analyzed from a prospective study of 795 college men. Results showed that several assessed risk factors (e.g., hostile attitudes toward women, rape-supportive beliefs, and perceptions of peer approval of forced sex) were associated with SV perpetration and that, over time, observed significant changes corresponded with SV trajectories [39]. Additional research with diverse samples of college men matching risk factors to trajectories with differing patterns of SV likelihood across time is needed to develop more tailored approaches to SV prevention that can effectively address these patterns [40].

Two protective factors were significant in our final model and may help inform preventive interventions: knowledge of effective consent for sex and family functioning. Social cognitive theory asserts that knowledge can be a strong predictor of behavior. In our study, we found this association to be protective: The results imply that young men who have a greater understanding of the elements of effective consent for sex (e.g., must be fully conscious and must feel free to act) are less likely to commit SV. Knowledge is generally considered a modifiable factor, and there is evidence to show that knowledge of effective sex can be modified with educational programming so that college men will understand whether they have consent for sex [12,29]. Thus, this protective factor should be targeted in primary and secondary prevention efforts aimed at high school and college students.

Family functioning, the other significant protective factor, may be more of a challenge to incorporate in widespread educational prevention efforts targeted to college students. It may be feasible, however, to involve parents in a prevention program for incoming male freshmen before matriculation. In fact, Testa et al. [41] demonstrated effectiveness with a parent-based intervention for female college students in reducing risk for SV victimization. This finding suggests that involving parents could be an effective approach and should be incorporated into prevention efforts for younger male students at the high school and middle school levels. In addition, Foshee et al. [42] demonstrated favorable effects with their intervention, Families for Safe Dates.

Involving parents to help prevent SV perpetration also may be achieved through adolescent health-care providers and clinicians, including pediatricians during clinic visits. Adolescent health-care providers are ideally positioned to educate their male adolescent patients about the elements of informed consent, the use of alcohol, pornography, and beliefs about masculinity in the context of having consensual sex. They also could provide parents with information regarding these associated risk behaviors and risks for perpetration. More research is needed to create brief screening tools and educational materials to determine whether this would be an effective approach. Nonetheless, involving parents, whether through school-, college-, or clinic-based interventions, may be an effective strategy for preventing SV perpetration among male high school and future college students.

Our finding that precollege perpetration is related to both subsequent fraternity and varsity athletic team membership provides additional support for and an explanation of the known relationship between collegiate SV perpetration and membership in these groups [43-45]. Social cognitive theory [46] suggests that it is plausible for precollege perpetrators to model some of the associated risky behaviors and beliefs, potentially via heavy alcohol use, pornography consumption, and hypermasculinity, which might encourage SV toward women among peers. Given the status attributed to fraternity members and collegiate athletes, other male freshmen may learn these behaviors through observation and, ultimately, become part of a peer group who endorses and engages in SV. Future research should assess the temporal order of whether fraternity members or college varsity athletes who engage in precollege SV perpetration exert a negative influence on the behaviors and attitudes of their teammates and other male freshmen. In addition, more work is needed to understand whether primary and secondary SV prevention strategies targeted at fraternities or varsity teams are effective at reducing the incidence of SV.

Limitations

We assessed the prevalence of SV perpetration among male freshmen, as well as a range of covariates retrospectively using precollege reference periods that either contribute to risk for or afford protection against SV. This design allowed us to identify only associations, not causal relationships. Our results are also limited by the self-reported data for SV perpetration and the other risk and protective behaviors and attitudes, which might be subject to social desirability bias; however, social desirability bias would incline male freshmen to under-report their sensitive behaviors. Because of our sampling methodology, although we utilized multiple strategies to enhance our ability to reach members of the male freshmen class at each targeted college, and we applied poststratification weights to adjust for race/ethnicity and sampling rates, this research may also be limited in terms of the ability to generalize our findings to male freshmen in Georgia or to other geographic areas of the U.S. More research is needed that employs random probability techniques across a diverse range of universities to validate these results. Nonetheless, these findings may contribute to the literature by providing an estimate of the prevalence of precollege SV perpetration among a diverse sample of male freshmen recruited from 30 colleges and an evaluation of the associated precollege covariates deemed as risk or protective.

We found a significant percentage of male freshmen in Georgia arrive at college with a history of SV perpetration. The findings of the current and prior research support the need for secondary prevention at the college level and more widespread SV primary prevention programming targeted to adolescents before college. Future research should encompass more complex designs and multilevel modeling techniques to assess the extent to which other factors specific to the college experience or part of the college environment either interrupt (act as protective factors) or contribute (act as risk factors) to this trajectory to inform more effective college-level interventions.

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IMPLICATIONS AND CONTRIBUTION

A substantial subgroup of incoming male freshmen perpetrate precollege sexual violence (SV) and may require more tailored prevention efforts to address SV perpetration during college and the associated factors that may increase risk or afford protection. These results should be used to inform guidelines for adolescent health-care providers, as well as college policies that could result in more effective primary and secondary SV prevention efforts.

Table 1
Comparisons between male freshmen who did versus did not perpetrate precollege SV

Characteristics	Weighted estimates		Unweighted estimates		χ^2	<i>p</i>	χ^2	<i>p</i>
	Sexual violence perpetration n = 214 (19.3%)	No sexual violence perpetration n = 896 (80.7%)	Sexual violence perpetration n = 214 (19.1%)	No sexual violence perpetration n = 907 (80.9%)				
Sociodemographics								
Race/ethnicity, <i>n</i> (%)					2.41	.66	1.63	.803
White	124 (57.9)	486 (54.2)	113 (19.8)	458 (80.2)				
African-American/black	53 (24.8)	231 (25.8)	44 (20.6)	176 (80.0)				
Asian or Pacific Islander	10 (4.7)	58 (6.5)	29 (16.0)	152 (84.0)				
Hispanic/Latino	13 (6.1)	71 (7.9)	14 (17.5)	66 (82.5)				
Other	14 (6.5)	51 (5.7)	14 (20.6)	54 (79.4)				
Campus activities, <i>n</i> (%)								
Varsity athlete	33 (15.4) ^a	77 (8.6)	37 (28.9) ^a	91 (71.1)	9.05	.003	9.01	.003
Fraternity member	25 (11.7) ^a	62 (6.9)	23 (26.4)	64 (73.6)	5.42	.020	3.30	.070
Age, mean (SD)								
Age, mean (SD)	18.41 (.84)	18.35 (.82)	18.38 (.76)	18.32 (.74)	-9.75	.33	-9.96	.340
High school GPA, mean (SD)^a								
High school GPA, mean (SD) ^a	3.40 (.48)	3.43 (.48)	3.41 (.52)	3.50 (.47)	.951	.34	2.47	.015
Religious service attendance, mean (SD)								
Religious service attendance, mean (SD)	23.38 (29.77)	22.72 (29.58)	23.66 (29.78)	22.59 (29.48)	-290	.77	.47	.640
Covariates, mean (SD)^a								
Use of sexual media	2.67 (2.49)	1.85 (2.21)	2.77 (2.66)	1.82 (2.25)	4.68	<.001	5.34	<.001
Alcohol use	4.18 (7.00)	2.28 (4.93)	4.24 (6.94)	2.12 (4.76)	4.66	<.001	5.31	<.001
Drug use	1.21 (2.43)	.32 (1.42)	1.13 (2.36)	.29 (1.26)	7.04	<.001	7.21	<.001
Hypermasculinity	3.53 (.69)	3.14 (.74)	3.54 (.67)	3.10 (.72)	6.92	<.001	8.14	<.001
Rape myth acceptance	3.28 (1.10)	3.22 (1.06)	3.25 (1.04)	3.14 (1.09)	.64	.520	1.43	.154
Peer support for SV	2.75 (1.42)	2.23 (1.16)	2.36 (1.38)	1.67 (.99)	5.51	<.001	8.39	<.001

Table 2

Logistic regression results for risk and protective models for precollege SV

	Weighted estimates			Odds ratio 95% CI		Unweighted estimates	
	<i>B</i>	SE	Adjusted odds ratio	Low	High	<i>B</i>	SE
Risk model (perpetration = 1)							
Use of sexual media	.09**	.04	1.10	1.02	1.17	.10**	.03
Alcohol use	.08**	.03	1.09	1.02	1.16	.08*	.03
Drug use	.16**	.06	1.17	1.04	1.31	.17**	.06
Hypermasculinity	.65***	.14	1.91	1.47	2.48	.70***	.14
Rape myth acceptance	.10	.08	1.11	.95	1.30	.06	.08
Peer support for SV	.28***	.07	1.33	1.16	1.52	.34***	.07
Protective model (perpetration = 0)							
Knowledge of effective consent for sex	.40***	.10	1.49	1.23	1.81	.36***	.11
Negative outcome expectancies for rape	.14	.08	1.15	.98	1.35	.31***	.08
Family functioning	.33***	.09	1.39	1.17	1.66	.30***	.09
Family connectedness	.06	.11	1.06	.86	1.32	.12	.11

All effects adjusted for other model predictors, as well as age, race, and high school GPA.

* *p* .05,

** *p* .01,

*** *p* .001.

CI = confidence interval; SE = standard error; SV = sexual violence.