

# The Scope of Rape: Incidence and Prevalence of Sexual Aggression and Victimization in a National Sample of Higher Education Students

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Because of inadequacies in the methods used to measure sexual assault, national crime statistics, criminal victimization studies, convictions, or incarceration rates fail to reflect the true scope of rape. Studies that have avoided the limitations of these methods have revealed very high rates of overt rape and lesser degrees of sexual aggression. The goal of the present study was to extend previous work to a national basis. The Sexual Experiences Survey was administered to a national sample of 6,159 women and men enrolled in 32 institutions representative of the diversity of higher education settings across the United States. Women's reports of experiencing and men's reports of perpetrating rape, attempted rape, sexual coercion, and sexual contact were obtained, including both the rates of prevalence since age 14 and of incidence during the previous year. The findings support published assertions of high rates of rape and other forms of sexual aggression among large normal populations. Although the results are limited in generalizability to postsecondary students, this group represents 26% of all persons aged 18-24 in the United States.

The Federal Bureau of Investigation (FBI) defines rape as "carnal knowledge of a female forcibly and against her consent" and reports that 87,340 such offenses occurred in 1985 (FBI, 1986). However, these figures greatly underestimate the true scope of rape because they are based only on instances reported to police. Government estimates suggest that for every rape reported, 3-10 rapes are committed but not reported (Law Enforcement Assistance Administration [LEAA], 1975). Likewise, it is difficult to obtain realistic estimates of the number of men who perpetrate rape because only a fraction of reported rapes eventually result in conviction (Clark & Lewis, 1977). Victimization studies, such as the annual National Crime Survey (NCS), are the major avenue through which the full extent of the crime is estimated (e.g., Bureau of Justice Statistics [BJS], 1984). In these studies, the residents of a standard sampling area are asked to indicate those crimes of which they or anyone else in their household have been victims during the previous 6 months. These rates are then compared with official crime statistics for the area and the rate of unreported crime is esti-

mated. The authors of the NCS have observed on the basis of their research that "rape is clearly an infrequent crime" (Kalish, 1974, p. 12) and that it is "the rarest of NCS measured violent offenses" (BJS, 1984, p. 5).

The NCS (e.g., BJS, 1984) includes items such as, "Were you knifed, shot at, or attacked with some other weapon by anyone at all during the last six months?" The screen question to alert the interviewer to a possible rape is "Did someone try to attack you in some other way?" Affirmative responses are followed by questioning that uses the word "rape" repeatedly. Several features of this approach may lead to underreporting of rape, including the use of a screen question that requires the subject to infer the focus of inquiry, the use of questions about rape that are embedded in a context of violent crime, and the assumption that the word rape is used by victims of sexual assault to conceptualize their experiences.

When viewed from the vantage point of mental health research, criminal victimization data are also limited. Studies such as the NCS (e.g., BJS, 1984) adopt a typological approach to rape: a woman is either a rape victim during the past 6 months or she is not a victim. In clinical research, finer gradations of victimization and a longer time frame would be useful (e.g., Koss & Oros, 1982; Weis & Borges, 1973). Prevalence data that reflect the cumulative number of women who have been sexually victimized within a specified time period are more appropriate in mental health research because the aftereffects of sexual assault remain for a considerable period.

Recently, several estimates of the prevalence of sexual victimization have been reported. Kilpatrick and colleagues (Kilpatrick, Best, Veronen, Amick, Villepontoux, & Ruff, 1985; Kilpatrick, Veronen, & Best, 1984) conducted a criminal victimization survey via telephone of 2,004 randomly selected female residents of Charleston County, South Carolina. In their sample, 14.5% of the women disclosed one or more attempted or completed sexual assault experiences, including 5% who had

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been victims of rape and 4% who had been victims of attempted rape. Of the women who had been raped, only 29% reported their assault to police. Russell (1984) found that 24% of a probability sample of 930 adult women in San Francisco described in a personal interview experiences that involved "forced intercourse or intercourse obtained by physical threat(s) or intercourse completed when the woman was drugged, unconscious, asleep, or otherwise totally helpless and unable to consent" (p. 35). Only 9.5% of these women reported their experience to the police.

Many studies of the prevalence of rape and lesser forms of sexual aggression have involved college students. There are scientific and pragmatic reasons to study this group. They are a high risk group for rape because they are in the same age range as the bulk of rape victims and offenders. The victimization rate for women peaks in the 16–19-year-old age group, and the second highest rate occurs in the 20–24-year-old age group. The victimization rates for these groups are approximately 4 times higher than the mean for all women (BJS, 1984). Also, 45% of all alleged rapists who are arrested are individuals under age 25 (FBI, 1986). Approximately 26% of all persons aged 18–24 are attending school (U.S. Bureau of the Census, 1980).

Kanin and his associates (Kanin, 1957; Kanin & Parcell, 1977; Kirkpatrick & Kanin, 1957) found that 20%–25% of college women reported forceful attempts at sexual intercourse by their dates in which the woman ended up screaming, fighting, crying, or pleading, and 26% of college men reported a forceful attempt to obtain sexual intercourse that caused observable distress in the woman. Rapaport and Burkhart (1984) reported that 15% of a sample of college men acknowledged that they had obtained sexual intercourse against their dates' will. Koss and colleagues (Koss, 1985; Koss, Leonard, Beezley, & Oros, 1985; Koss & Oros, 1982) administered the self-report Sexual Experiences Survey to a sample of 2,016 female and 1,846 male midwestern university students. They found that 13% of female college students revealed a victimization experience that involved sexual intercourse against their consent obtained through the use of actual force or the threat of harm, and 4.6% of male college students admitted perpetrating an act of sexual aggression that met legal definitions of rape.

To extend previous research to a national basis, the present study of students enrolled in higher education was undertaken. Although the rape laws in many states are sex neutral, women victims and male perpetrators were focused on in the present study because women represent virtually 100% of reported rape victims (LEAA, 1975). Furthermore, the FBI definition of rape that is used in victimization studies such as the NCS limits the crime of rape to female victims (BJS, 1984).

## Method

The study involved administration of a self-report questionnaire to a national sample of 6,159 students enrolled in 32 institutions of higher education across the United States.

### Sampling Plan

The sampling goal of the project was to represent the higher education student population in the United States in all its diversity—men, women, technical schools, community colleges, Ivy League schools,

state universities, and so forth. No sample design was expected to result in a purely random or representative sample, however, because the subject matter is sufficiently controversial that some schools targeted by a systematic sampling plan were expected to refuse to participate.

*Initial decisions.* Several initial decisions were made that governed subsequent decisions. First, the commitment to replicability and representativeness meant using as a sample frame all of the institutions of academic postsecondary education in the United States. Second, it was concluded that administration of the instrument had to be conducted by self-report and not in private interview. Serious problems with sample attrition and selective participation have been encountered in studies that have used a two-stage sample process where a mass screening is followed by a private interview (Ageton, 1983; Koss, Leonard, Beezley, & Oros, 1985). Third, administration of the questionnaire was to be conducted on-site and not by mail because the latter may have produced a strong self-selectivity bias. On-site administration in classrooms was considered to produce a more reliable representation of those asked to complete the questionnaire. These requirements dictated that the sample be selected in stages. The first stage was the selection of institutions and the second stage was the selection of classes within institutions.

*Selection of institutions.* The United States Department of Education maintains records of the enrollment characteristics from the 3,269 institutions of higher education in the United States (Office of Civil Rights, 1980). The Office of Civil Rights provided a copy of their information for 1980 (the latest available) on data tape to the survey consultants, Clark/Jones, Incorporated of Columbus, Ohio. On the basis of these data, institutions across the nation were sorted by location into the ten Department of Education regions of the United States (i.e., Alaska, Hawaii, New England, Midwest, Great Lakes, Plains States, Southeast, Southwest, Rocky Mountain, and West). Within each region, institutions were placed into homogeneous clusters according to five criteria: (a) location inside or outside of a standard metropolitan statistical area (SMSA) of certain sizes (i.e., SMSA greater than 1,000,000 people; SMSA less than 1,000,000 people; outside an SMSA); (b) enrollment above or below the national mean percentage enrollment of minority students; (c) control of the institution by private secular, private religious, or public authority; (d) type of institution, including university, other 4-year college, 2-year junior college, and technical/vocational; and (e) total enrollment within three levels (i.e., 1,000–2,499 students; 2,500–9,999 students; more than 10,000 students).

Two sampling rules were developed to select the schools to be recruited into the sample. First, the largest institution in each region was always included. Without this rule, it would have been possible to omit the "Big Ten" or other major schools from the sample entirely. Second, every *x*th cluster was sampled according to the proportion of total enrollment accounted for by the region. Replacements were sought from among other schools in the homogeneous cluster if the original target proved uncooperative. Several exceptions to the sampling rules were made for the sake of reasonableness and cost constraint. The following types of schools were eliminated from the sample: military schools, schools with enrollments of less than 1,000 students, schools not in the contiguous United States, and graduate schools with no undergraduate affiliation. The descriptive characteristics of the institutions of higher education in the United States, the number of institutions of each type that were proposed for the national sample, and the number of institutions of each type that participated in the survey are summarized in Table 1.

*Institutional recruitment.* The process of obtaining institutional cooperation began by identifying the responsible individual in the central administration. Due to the nature of institutional decision making and to the controversial subject matter of the study, the amount of time required to obtain a sample was extensive; some schools required 15 months to arrive at a final decision. During that period, 93 schools were contacted and 32 participants were obtained. Nineteen of the institu-

Table 1  
*Descriptive Characteristics of Higher Education Institutions*

Sample parameter	Institutions		
	N	In sample plan	In actual sample
Location			
Not in SMSA	643	11	10
SMSA < 1,000,000	706	13	8
SMSA > 1,000,000	649	11	14
Region			
New England	140	3	2
Mideast	374	6	5
Great Lakes	334	5	7
Plains	172	3	3
Southeast	442	8	7
Southwest	183	5	4
Rocky Mountain	60	1	1
West	259	4	3
Minority tally			
Below mean	1451	25	23
Above mean	547	10	9
Governance			
Public	1307	23	23
Private	392	7	7
Religious	299	5	2
Type			
University	156	7	16
Other 4-year	1013	15	11
2-year	829	13	5
Size			
1,000-2,499	843	14	6
2,500-9,999	820	14	10
>9,999	335	7	16

Note. SMSA = standard metropolitan statistical area.

tions were first choices; the remaining 13 were solicited from among 60 replacements. Actual institutional participants cannot be listed because they were guaranteed anonymity. However, the characteristics of institutional participants summarized in Table 1 indicate that they reasonably approximated the sampling plan.

It might be argued that the resulting sample would be biased toward schools with a liberal administration. However, some schools with the most liberal reputations in the nation refused. The rationales given for nonparticipation by the 60 administrations that refused included religious objections (11); concerns about subject anonymity (2); concerns about sensationalization of the results (3); human subject concerns or human subject's disapproval (10); lack of interest (8); lack of administrative time (6); no research allowed in classes (6); doing their own survey (3); and no reasons (11).

Inevitably, the final sample was the result of an interplay of scientific selection and head-to-head negotiation but was within the limits of substitution rules requiring replacement within homogeneous clusters. The final sample of institutions was as replicable and representative a sample of postsecondary institutions as it was possible to obtain within time and budgetary limitations and given the nature of the inquiry. Although sampling error cannot be measured precisely with a sample of this type, representativeness can be tested by reference to other data sources. These data will be presented in a later section.

*Selection of classes.* A random selection process was used to choose target classes and alternates in the case of schedule conflicts or refusals. The only limitations on class selection were that classes under 30 students and large lecture sections were eliminated to ensure that one experimenter's time on campus was used efficiently while avoiding classes

that were too large for one person to handle. The actual number of classes visited was a mean of 7 at smaller and medium-sized schools and a mean of 12 at major universities. Because their presence could be coercive on students, instructors were absent during the administration.

*Administration procedures.* The questionnaire was administered in classroom settings by 1 of 8 postmaster's level psychologists, including 2 men and 6 women who used a prepared script and were trained by the first author in standard procedures to handle potential untoward effects of participation. The questionnaire was completely anonymous and was accompanied by a cover sheet that contained all the elements of informed consent. Students who did not wish to participate were asked to remain in their seats and do other work. This insured that persons who objected to participation would not be stigmatized. Only 91 persons (1.5%) indicated that they did not wish to participate. Students were debriefed by the experimenter according to a prepared script and received a printed statement that explained the purpose of the study and indicated where the experimenter would be available on campus for private conferences. The phone numbers of local agencies that had agreed to offer services to participants were also provided. The college counseling center of every campus visited was informed of the project and was invited to name a sexual assault specialist whose name would be listed on the debriefing sheet and to send observers to the questionnaire administrations.

### Subjects

The final sample consisted of 6,159 persons, including 3,187 women and 2,972 men. The 3,187 women were characterized as follows: their mean age was 21.4 years; 85% were single, 11% married, and 4% divorced; 86% were White, 7% Black, 3% Hispanic, 3% Asian, and 1% Native American; and 39% were Catholic, 38% Protestant, 4% Jewish, and 20% other or none. The 2,972 men were characterized as follows: their mean age was 21.0 years; 91% were single, 9% married, and 1% divorced; 86% were White, 6% Black, 3% Hispanic, 4% Asian, and 1% Native American; and 40% were Catholic, 34% Protestant, 5% Jewish, and 22% other or none.

*Comparisons with national enrollment data.* Because of the assumptions on which the sampling plan was based and the institutional hesitancy to participate, the sample was not absolutely representative. However, within the limitations of our assumptions, it was a close approximation of the higher education enrollment. A comparison of the characteristics of the present sample with the characteristics of the entire U.S. higher education enrollment is presented in Table 2. (No tests of significance were performed because even minute differences would be statistically significant given the large population size.)

Four variables were examined to determine the extent to which this sample was representative of U.S. higher education enrollment: institution location and region and subject ethnicity and income. Institution region was the only variable on which significant discrepancy was noted. The present sample overrepresented the proportion of students who were enrolled at institutions in the Northeast and Southwest and underrepresented students who were enrolled at institutions in the West. These discrepancies reflected irremediable difficulties in obtaining institutional access on the west coast. After 15 months, only 3 institutions had agreed to allow data collection. Therefore, it was decided to proceed without full representation from western schools.

The regional disproportion is unimportant in many respects because, without extensive sampling in the West, the individual participants in the sample were still reflective of national enrollment in ethnicity and family income. Nevertheless, for purposes of calculating prevalence data, weighting factors were used. The sample was weighted using the proportions of higher education enrollment in each of the federal regions. These data are found at the bottom of Table 2. Whereas 12.7% of the present sample were attending institutions in the Northeast, only

Table 2  
Comparison of Sample and National Student Characteristics

Sample parameter	Present sample <sup>a</sup>	U.S. higher education enrollment <sup>b</sup>
Location		
Not in SMSA	31.0	32.0
SMSA < 1,000,000	25.0	21.0
SMSA > 1,000,000	44.0	47.0
Ethnicity		
White	86.0	82.4
Black	6.4	9.6
Hispanic	3.3	4.4
Asian	3.3	2.7
Native American	0.6	0.7
Income (yearly)		
\$0-\$15,000	13.4	16.7
\$15,000-\$25,000	17.2	16.2
\$25,000-\$35,000	22.5	19.8
>\$35,000	45.7	46.3
Region (no. institutions)		
New England	6.2	7.7
Mideast	15.6	19.4
Great Lakes	21.9	15.9
Plains	9.4	10.2
Southeast	21.9	22.7
Southwest	12.5	7.5
Rocky Mountain	3.1	2.8
West	9.4	12.1
Region (% enrollment)		
New England	12.7	6.3
Mideast	12.4	18.0
Great Lakes	17.6	18.3
Plains	9.4	7.4
Southeast	16.8	18.8
Southwest	20.6	9.8
Rocky Mountain	4.4	4.0
West	6.0	18.3

Note. All results, except where noted, are reported in percentages. SMSA = standard metropolitan statistical area.

<sup>a</sup> Data collected from study survey for period from 1984-1985. <sup>b</sup> Data for location and region reported in Office of Civil Rights (1980); data for ethnicity (1982) and income (1983) reported in U.S. Department of Commerce (1986).

6.3% of the national enrollment was represented by that region. Hence, responses from students at these institutions were weighted to be equivalent to 6.3% of the present sample. Likewise, responses of the 20.6% of the sample that came from the Southeast were weighted to be equivalent to 9.8% of the sample. Finally, responses of the 6.0% of the subjects who were attending schools in the West were weighted to be equivalent to 18.3% of the present sample.

### Measurement of Sexual Aggression or Victimization

**Survey instrument.** All data were obtained via a self-report questionnaire titled, "National Survey of Inter-Gender Relationships." (This title was selected to be neutral and to avoid the word "sex" so that participants would not prejudge the content.) The questionnaire consisted of approximately 330 questions divided into seven sections. The data set is too extensive to be summarized in a single paper; therefore, only data on demography, incidence, and prevalence of sexual aggression and victimization after the age of 14 are reported here.

The data on the incidence and prevalence of sexual aggression were

obtained through the use of the 10-item Sexual Experiences Survey (SES; Koss & Gidycz, 1985; Koss & Oros, 1982). This survey is a self-report instrument designed to reflect various degrees of sexual aggression and victimization. During actual administration, separate wordings were used for women and for men. However, for purposes of demonstration, the female wording is presented in the following sample item and the male wording is indicated in brackets: "Have you ever had [engaged in] sexual intercourse when you [the woman] didn't want to because a man [you] used some degree of physical force (twisting your [her] arm, holding you [her] down, etc.) to make you [her]?" The text of all 10 items (female wording) can be found in Table 3, which is discussed further in the results section.

**Reliability and validity studies.** Internal consistency reliabilities of .74 (for women) and .89 (for men) have been reported for the SES, and the test-retest agreement rate between administrations 1 week apart was 93% (Koss & Gidycz, 1985). However, many investigators have questioned the validity of self-reported sexual behavior. The accuracy and truthfulness of self-reports on the SES have been investigated (Koss & Gidycz, 1985). The Pearson correlation between a woman's level of victimization based on self-report and her level of victimization based on responses related to an interviewer several months later was .73 ( $p < .001$ ). More important, only 3% of the women (2 out of 68) who reported experiences that met legal definitions of rape were judged to have misinterpreted questions or to have given answers that appeared to be false. The Pearson correlation between a man's level of aggression as described on self-report and as given in the presence of an interviewer was .61 ( $p < .001$ ).

A further validity study was conducted in conjunction with the present project. Male students were selected as subjects because previous work had raised more questions about the validity of their responses than about women's responses. The SES items were administered both by self-report and by a one-to-one interview on the same occasion and in one setting. The interviewer was a fully trained, licensed, and experienced male PhD clinical psychologist. Subjects were 15 male volunteers, identified by first name only, recruited through newspaper advertisements on the campus of a major university. All subjects were juniors or seniors (psychology majors were eliminated from consideration to reduce the possibility that the interviewer would know any of the subjects) and were paid \$10 for participation. Their demographic characteristics were as follows: mean age was 21.3 years; 100% were single; 87% were White and 13% minority; 27% were Catholic, 27% Protestant, 27% none or other, and 20% Jewish; and 40% had family incomes greater than \$35,000. These demographic characteristics closely paralleled those of the men in the national sample.

Participants gave their self-reports first and were then interviewed individually. The intent was to match the participants' verbal responses with their self-reports on the SES. The results indicated that 14 of the participants (93%) gave the same responses to SES items on self-report and in interview. The one inconsistency involved an individual who admitted a behavior on self-report that he later denied to the interviewer. On average, subjects rated their honesty at 95% and indicated that the reason for lack of full honesty was time pressure for getting through the questionnaire.

**Scoring procedure.** Because some individuals had experienced several different forms of sexual aggression or victimization, summing the percentage of persons who reported each individual act would have given an inflated estimate of the total number of sexually aggressive or victimized persons. Therefore, respondents were classified according to the most severe sexual aggression or victimization they reported, including no sexual aggression or victimization, sexual contact, sexual coercion, attempted rape, and rape. The groups labeled "rape" (yes responses to Items 8, 9, or 10 and any lower numbered items) and "attempted rape" (yes responses to Items 4 or 5 but not to any higher numbered items) included individuals whose experiences met legal



definitions of these crimes. The legal definition of rape in Ohio (as in many states) is "vaginal intercourse between male and female, and anal intercourse, fellatio, and cunnilingus between persons regardless of sex. Penetration, however slight, is sufficient to complete vaginal or anal intercourse . . . No person shall engage in sexual conduct with another person . . . when any of the following apply: (1) the offender purposely compels the other person to submit by force or threat of force, (2) for the purpose of preventing resistance the offender substantially impairs the other person's judgment or control by administering any drug or intoxicant to the other person" (Ohio Revised Code, 1980).

The group labeled "sexual coercion" (yes responses to Items 6 or 7 but not to any higher numbered items) included subjects who engaged in or experienced sexual intercourse subsequent to the use of menacing verbal pressure or the misuse of authority. No threats of force or direct physical force were used. The group labeled "sexual contact" (yes responses to Items 1, 2, or 3 but not to any higher numbered items) consisted of individuals who had engaged in or experienced sexual behavior such as fondling or kissing that did not involve attempted penetration subsequent to the use of menacing verbal pressure, misuse of authority, threats of harm, or actual physical force.

## Results

### *The Prevalence of Sexual Aggression or Victimization*

The unweighted response frequencies for each item of the SES are presented in Table 3. The frequencies of victimization ranged from 44% of women who reported unwanted sexual contact subsequent to coercion to 2% of women who reported unwanted sexual intercourse subsequent to misuse of his authority. The frequency with which men reported having perpetrated each form of sexual aggression ranged from 19% of men who indicated that they had obtained sexual contact through the use of coercion to 1% of men who indicated that they had obtained oral or anal penetration through the use of force. Those respondents who had engaged in or experienced sexually aggressive acts indicated that each act had occurred a mean of 2.0–3.2 times since age 14. The unweighted item response frequencies and the means and standard deviations for the number of times that a behavior was reported are contained in Table 3.

As mentioned previously, respondents were classified according to the highest degree of sexual victimization or aggression they reported, using the designated scoring procedures. Using weighted data to correct for regional disproportions, we found that 46.3% of women respondents revealed no experiences whatsoever with sexual victimization whereas 53.7% of women respondents revealed some form of sexual victimization. The most serious sexual victimization ever experienced was sexual contact for 14.4% of the women; sexual coercion for 11.9%; attempted rape for 12.1%; and rape for 15.4%. Weighted male data indicated that 74.8% of men had engaged in no form of sexual aggression, whereas 25.1% of men revealed involvement in some form of sexual aggression. The most extreme level of sexual aggression ever perpetrated was sexual contact for 10.2% of the men, sexual coercion for 7.2%; attempted rape for 3.3%; and rape for 4.4%. The weighted and unweighted prevalence rates for sexual aggression and victimization are found in Table 4. Examination of these figures reveals that the effect of weighting was minimal and tended to reduce slightly the prevalence of the most serious acts of sexual aggression.

The relation of prevalence rates to the institutional param-

eters used to design the sample was examined via chi-square analysis and analysis of variance (ANOVA). Due to the large sample size, differences with no real practical significance could reach statistical significance. Therefore, effect sizes were calculated using Cohen's (1977) method ( $w$  for chi-squares and  $f$  for  $F$  ratios) to gauge the importance of any significant differences. Cohen's guidelines for interpretation of effect sizes state that a  $w$  or  $f$  of .10 indicates a small effect, a  $w$  of .30 or an  $f$  of .25 indicates a medium effect, and a  $w$  of .50 and an  $f$  of .40 indicates a large effect. The prevalence of sexual victimization did not differ according to the size of the city where the institution of higher education was located,  $\chi^2(8, N = 2,728) = 5.55, p < .697, w = .05$ ; the size of the institution,  $\chi^2(8, N = 2,728) = 6.35, p < .608, w = .05$ ; the type of institution,  $\chi^2(8, N = 3,086) = 10.37, p < .240, w = .05$ ; or whether the minority enrollment of the institution was above or below the national mean,  $\chi^2(4, N = 2,728) = 4.03, p < .401, w = .04$ . However, rates of sexual victimization did vary by region,  $\chi^2(28, N = 3,086) = 63.00, p < .001, w = .14$ ; and by the governance of the institution,  $\chi^2(8, N = 3,086) = 22.93, p < .003, w = .09$ . The rate at which women reported having been raped was twice as high in private colleges (14%) and major universities (17%) as it was at religiously affiliated institutions (7%). Victimization rates were also slightly higher in the Great Lakes and Plains States than in other regions.

The prevalence of sexual aggression also did not differ according to city size,  $\chi^2(8, N = 2,641) = 6.41, p < .600, w = .05$ ; institution size,  $\chi^2(8, N = 2,641) = 3.76, p < .878, w = .04$ ; minority enrollment,  $\chi^2(4, N = 2,641) = 4.84, p < .303, w = .04$ ; governance,  $\chi^2(8, N = 2,875) = 13.66, p < .091, w = .07$ ; and type of institution,  $\chi^2(8, N = 2,875) = 3.99, p < .858, w = .04$ . However, the percent of men who admitted perpetrating sexual aggression did vary according to the region of the country in which they attended school,  $\chi^2(28, N = 2,875) = 56.25, p < .001, w = .14$ . Men admitted rape twice as often in the Southeast (6%) as in the Plains States (3%) and three times as often as in the West (2%).

Finally, the relation between prevalence rates and individual demographic variables, including income, religion, and ethnicity, was also studied. The rate at which women reported experiences of sexual victimization did not vary according to subject's family income,  $F(4, 3010) = .31, p < .871, f = .06$ ; or religion,  $\chi^2(16, N = 3,077) = 17.86, p < .332, w = .08$ . However, the prevalence rates of victimization did vary according to ethnicity,  $\chi^2(16, N = 3,075) = 37.05, p < .002, w = .11$ . For example, rape was reported by 16% of White women ( $N = 2,655$ ), 10% of Black women ( $N = 215$ ), 12% of Hispanic women ( $N = 106$ ), 7% of Asian women ( $N = 79$ ), and 40% of Native American women ( $N = 20$ ).

The number of men who admitted acts of sexual aggression did not vary according to subject's religion,  $\chi^2(16, N = 2,856) = 20.98, p < .179, w = .09$ ; or family income,  $F(3, 2821) = .08, p < .987$ . However, the number of men who reported acts of sexual aggression did differ by ethnic group,  $\chi^2(16, N = 2,861) = 55.55, p < .000, w = .14$ . For example, rape was reported by 4% of White men ( $N = 2,484$ ), 10% of Black men ( $N = 162$ ), 7% of Hispanic men ( $N = 93$ ), 2% of Asian men ( $N = 106$ ), and 0% of Native American men ( $N = 16$ ).

Table 3  
*Frequencies and Prevalence of Individual Sexual Experiences Since Age 14*

Sexual behavior	Women (N = 3,187)			Men (N = 2,972)		
	%	M	SD	%	M	SD
1. Have you given in to sex play (fondling, kissing, or petting, but not intercourse) when you didn't want to because you were overwhelmed by a man's continual arguments and pressure?	44	3.2	1.5	19	2.9	1.5
2. Have you had sex play (fondling, kissing, or petting, but not intercourse) when you didn't want to because a man used his position of authority (boss, teacher, camp counselor, supervisor) to make you?	5	2.7	1.7	1	2.5	1.5
3. Have you had sex play (fondling, kissing, or petting, but not intercourse) when you didn't want to because a man threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	13	2.1	1.5	2	2.3	1.5
4. Have you had a man attempt sexual intercourse (get on top of you, attempt to insert his penis) when you didn't want to by threatening or using some degree of force (twisting your arm, holding you down, etc.), but intercourse <i>did not</i> occur?	15	2.0	1.4	2	2.0	1.2
5. Have you had a man attempt sexual intercourse (get on top of you, attempt to insert his penis) when you didn't want to by giving you alcohol or drugs, but intercourse <i>did not</i> occur?	12	2.0	1.4	5	2.2	1.4
6. Have you given in to sexual intercourse when you didn't want to because you were overwhelmed by a man's continual arguments and pressure?	25	2.9	1.6	10	2.4	1.4
7. Have you had sexual intercourse when you didn't want to because a man used his position of authority (boss, teacher, camp counselor, supervisor) to make you?	2	2.5	1.7	1	2.0	1.4
8. Have you had sexual intercourse when you didn't want to because a man gave you alcohol or drugs?	8	2.2	1.5	4	2.5	1.5
9. Have you had sexual intercourse when you didn't want to because a man threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	9	2.2	1.5	1	2.3	1.5
10. Have you had sex acts (anal or oral intercourse or penetration by objects other than the penis) when you didn't want to because a man threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	6	2.2	1.6	1	2.5	1.5

Note. Sexual intercourse was defined as penetration of a woman's vagina, no matter how slight, by a man's penis. Ejaculation was not required.

### *The Incidence of Sexual Aggression or Victimization*

Incidence rates indicate how many new episodes occurred during a specified time period. In this study, respondents were asked to indicate how many times during the previous year (to improve recall, the question referred to the previous academic year from September to September, time boundaries that are meaningful to students) they had engaged in or experienced each item in the SES. Even when consideration was limited to the previous year, some subjects reported multiple episodes of sexual aggression or victimization. Therefore, the incidence of sexual aggression or victimization was calculated two ways. First, the number of people who reported one or more episodes during the year was determined. Second, the total number of sexually aggressive incidents that were reported by women and by men was calculated. For example, the responses to the three items that operationalize rape for the 12-month period preceding the survey indicated that intercourse by physical force was

experienced by 63 women who reported 98 incidents; intercourse by intentional intoxication was experienced by 91 women who reported 159 incidents; and forcible oral or anal penetration was experienced by 53 women who reported 96 incidents. The responses to these individual items were totaled to obtain an incidence rate for rape of 353 rapes involving 207 different women during a 12-month period in a population of 3,187 women. Figures for the other levels of sexual victimization were 533 attempted rapes (323 victims), 837 episodes of sexual coercion (366 victims), and 2,024 episodes of unwanted sexual contact (886 victims). The incidence data for the individual items used to calculate these rates are found in Table 5.

Incidence rates for the sexual aggression admitted by men were also calculated. For example, the responses to the three items that operationalize rape for the 12-month period preceding the survey indicated that nonconsensual intercourse was obtained through force by 20 men who revealed 36 incidents, non-consensual intercourse was obtained through intentional intox-

Table 4  
*Weighted and Unweighted Prevalence Rate Percentages for Sexual Aggression and Victimization Since Age 14*

Aggression or victimization level	Women (N = 3,187)		Men (N = 2,972)	
	Weighted	Unweighted	Weighted	Unweighted
No sexual aggression or victimization	46.3	45.6	74.8	75.6
Sexual contact	14.4	14.9	10.2	9.8
Sexual coercion	11.9	11.6	7.2	6.9
Attempted rape	12.1	12.1	3.3	3.2
Rape	15.4	15.8	4.4	4.6

ication by 57 men who reported 103 incidents, and nonconsensual forcible oral or anal penetration of a woman was obtained by 19 men who reported 48 incidents. Totaled responses to these individual items for the 12 months preceding the survey yielded 187 rapes perpetrated by 96 different men. Incidence rates during the 12-month period for the other levels of sexual aggression were 167 attempted rapes (105 perpetrators), 854 episodes of unwanted sexual contact (374 perpetrators), and 311 episodes of sexual coercion (167 perpetrators). The incidence data for the individual items that were used to calculate these rates are presented in Table 5.

From the present data, victimization rates can be calculated. The number of women (who reported a sexual experience during the previous year that met legal definitions of rape and attempted rape) divided by 2 (to obtain a 6-month basis) and set to a base of 1,000 (instead of the 3,187 women actually surveyed) yields a victimization rate of 83 per 1,000 women for the present population during a 6-month period. However, the FBI definition of rape (i.e., forcible actual or attempted vaginal intercourse with a woman against consent by force or threat of force) on which the NCS is based is narrower than the state laws (i.e., oral, anal, vaginal intercourse, or penetration by objects against consent through threat, force, or intentional incapacitation of the victim via drugs) on which the present study was based (BJS, 1984). Therefore, the victimization rate was also calculated in conformance with the FBI definition. Elimination

of all incidents except those that involved actual or attempted vaginal sexual intercourse through force or threat of harm resulted in a victimization rate of 38 per 1,000 women during a 6-month period.

Perpetration rates were also determined using the male data. When all unwanted oral, anal, and vaginal intercourse attempts and completions were included in the calculations, a perpetration rate of 34 per 1,000 men was obtained. Use of the FBI definition resulted in a perpetration rate of 9 per 1,000 men during a 6-month period.

## Discussion

In the present study, behaviorally specific items regarding rape and lesser forms of sexual aggression or victimization were presented in a noncrime context to an approximately representative national sample of higher education students. The results indicated that, since the age of 14, 27.5% of college women reported experiencing and 7.7% of college men reported perpetrating an act that met legal definitions of rape, which includes attempts. Because virtually none of these victims or perpetrators had been involved in the criminal justice system, their experiences would not be reflected in official crime statistics such as the *Uniform Crime Reports* (e.g., FBI, 1986).

A victimization rate for women of 38 per 1,000 was calculated, which represented the number of women per thousand who experienced a rape (that met the FBI definition) during the previous 6 months. A corresponding perpetration rate of 9 per 1,000 men was also reported, which represented the number of men per thousand who admitted an act during the previous 6 months that met the FBI definition of rape. This rape victimization rate is 10–15 times greater than rates that are based on the NCS (BJS, 1984), which are 3.9 per 1,000 16–19-year-old women and 2.5 per 1,000 20–24-year-old women. Even men's rates of admitting to raping are 2–3 times greater than NCS estimates of the risk of rape for women between the ages of 16–24. At least among students in higher education, it must be concluded that official surveys such as the NCS fail to describe the full extent of sexual victimization.

Of course, NCS rates are based on representative samples of all persons in the U.S. in the 16–24-year-old group, whereas the present sample represented only the 26% of persons aged 18–

Table 5  
*One-Year Incidence Frequencies of Sexual Experiences*

Sexual experience	Women (N = 3,187)		Men (N = 2,972)	
	n	Incidents	n	Incidents
1. Sexual contact by verbal coercion	725	1716	321	732
2. Sexual contact by misuse of authority	50	97	23	55
3. Sexual contact by threat or force	111	211	30	67
4. Attempted intercourse by force	180	297	33	52
5. Attempted intercourse by alcohol or drugs	143	236	72	115
6. Intercourse by verbal coercion	353	816	156	291
7. Intercourse by misuse of authority	13	21	11	20
8. Intercourse by alcohol or drugs	91	159	57	103
9. Intercourse by threat or force	63	98	20	36
10. Oral or anal penetration by threat or force	53	96	19	48



24 who attended higher education. Using other available data for guidance, one can speculate how the victimization rates among postsecondary students might compare with rates among nonstudents in the same age group. Persons over age 25 with at least some college training have a rape incidence of .7 per 1,000 compared with .4 per 1,000 for persons with some high school and .5 per 1,000 for persons with elementary education only (BJS, 1984). Crime rates by education are not calculated for persons under age 25. However, these data do not suggest a direct relation between educational attainment and rape victimization rates. On the other hand, rape victimization rates are clearly related to family income. The victimization rate is 3 per 1,000 for yearly incomes less than \$3,000, 2 per 1,000 for yearly incomes of \$3,000–\$7,499, 1 per 1,000 for yearly incomes \$10,000–\$14,999, and .4–.5 per 1,000 for yearly incomes of \$15,000 or more (BJS, 1984). The mean family income of the students in the national sample was in the \$25,000–\$35,000 range. Thus, nonstudents who are likely to come from poorer families than students enrolled in higher education might show even higher incidence rates than those found in the present sample. Only when empirical data become available on young persons not attending school, however, can the victimization rates reported in the NCS for persons aged 18–24 be fully critiqued.

The findings of the present study demonstrate that men do not admit enough sexual aggression to account for the number of victimizations reported by women. Specifically, 54% of college women claimed to be sexually victimized, but only 25% of college men admitted any degree of sexually aggressive behavior. The number of times that men admitted to perpetrating each aggressive act was virtually identical to the number of times women reported experiencing each act. Thus, the results of the present study failed to support notions that a few extremely sexually active men could account for the victimization of a sizable number of women. Clearly, some of the victimizations reported by college women occurred in earlier years and were not perpetrated by the men who were surveyed. In addition, some recent victimizations may have involved community members who were not attending higher education institutions. Future research must determine whether these explanations can account for the sizable difference in rates.

The data on validity reported in the present study suggest that those sexual experiences that are revealed are true, but it is possible that additional relevant sexual experiences are not being reported by men. This is not to imply that intentional withholding is taking place but rather to suggest that men may be perceiving and conceptualizing potentially relevant sexual experiences in a way that is not elicited by the present wording of the SES. Scully and Marolla (1982) studied incarcerated rapists who denied that the incident for which they were convicted was a rape. Many of these men, although they used physical force and injured their victims, saw their behavior as congruent with consensual sexual activity. It may be that some men fail to perceive accurately the degree of force and coerciveness that was involved in a particular sexual encounter or to interpret correctly a women's nonconsent and resistance. A promising line for future research would be to compare violence and resistance attributions among sexually aggressive and sexually nonaggressive men. If differences were found, the line of inquiry would lead to a new foci for rape prevention programs.

The results of the present study also have implications for clinical treatment and research. The extent of sexual victimization reported in the national survey suggests that clinicians should consider including questions about unwanted sexual activity in routine intake interviews of women clients and that they should more frequently consider sexual victimization among the possible etiological factors that could be linked to presenting symptoms. Of course, the present sample consisted of students and many psychotherapy seekers are adults. However, the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1980) discussion of post-traumatic stress disorder, which victims of rape may experience, specifically states, "It is not unusual for the symptoms to emerge after a latency period of months or years following the trauma" (p. 237).

For researchers these results, along with the work of others, begin to describe the full extent of rape and to suggest how the total number of rapes are partitioned into those reported to police (5%), those acknowledged as rape by the victim (27%), and those for which victim assistance services are sought (5%) versus those that are never revealed to anyone (42%). Much of the existing rape research is based on samples of acknowledged rape victims recruited through newspaper advertisements, reported rape victims obtained from police and court records, or victims who have sought services at emergency rooms and rape crisis centers. It must be recognized that victims recruited in these ways represent only a portion of the total group of victims. Hidden victims (Koss, 1985) who do not report rape, seek services, or even identify themselves as rape victims should also receive attention in future rape research.

Statistically significant regional and ethnic differences in the prevalence of sexual aggression or victimization were found. Unfortunately, the meaning of these results could not be fully interpreted on the basis of data analyzed in the present study because ethnicity and region were confounded (i.e., minority students were not distributed randomly across the regions of the country). However, effect sizes calculated on the variables of region and ethnicity indicated that their true impact on prevalence rates was small. In the future, the effect of ethnicity will have to be analyzed while controlling for region, and vice versa. Then other data available on the subjects, including personality characteristics, values, beliefs, and current behavior, can be analyzed to account for any remaining differences. Overall, prevalence rates for sexual victimization or aggression were robust and did not vary extensively from large to small schools, across types of institutions, or among urban areas, medium-sized cities, and rural areas. The ubiquity of sexual aggression and victimization supports Johnson's (1980) observation that, "It is difficult to believe that such widespread violence is the responsibility of a small lunatic fringe of psychopathic men. That sexual violence is so pervasive supports the view that the locus of violence against women rests squarely in the middle of what our culture defines as 'normal' interaction between men and women" (p. 146). Recently, the editors of the *Morbidity and Mortality Weekly Report*, issued by the Centers for Disease Control in Atlanta, noted that there is an "increasing awareness in the public health community that violence is a serious public health problem and that nonfatal interpersonal violence has far-reaching consequences in terms of morbidity and quality of



life" (Centers for Disease Control, 1985, pp. 739). Future research must devote attention to the preconditions that foster sexual violence.

Within the rape epidemiology literature are studies that have differed in methodology and have reported varying prevalence rates for attempted and completed rape, including Russell's (1984) 44% rate, which was based on a sample of 930 adult women residents of San Francisco who were interviewed in their homes; Kilpatrick et al.'s (1985) 14.5% rate, which was based on a random digit dialing telephone survey of 2,004 adult women residents of Charleston County, South Carolina; and the 27.5% rate reported in the present study, which was based on the self-reports of a national sample of students in higher education. Each data collection method has advantages and disadvantages and cannot be fully evaluated without reference to the special requirements of the topic of inquiry, the target population, and practical and financial limitations. Future epidemiological research must determine how much variation in rates is due to the method of data collection or the screening question format and how much variation is due to sample differences. Currently, the most important conclusion suggested by this entire line of research is that rape is much more prevalent than previously believed.

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