

# SEXUAL ASSAULT PERPETRATION AND REPERPETRATION: From Adolescence to Young Adulthood<sup>1</sup>

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[White, J.W.](#), [Smith, P.H.](#) (2004). Sexual Assault Perpetration and Re-perpetration: From Adolescence to Young Adulthood. *Criminal Justice and Behavior*, 31(2): 182-202

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## **Abstract:**

Three incoming freshmen classes of men provided data in a 5-year longitudinal study of the relationship between childhood victimization experiences and sexually coercive behaviors during adolescence and 4 years of college. A key finding of this study was that men who were physically punished, sexually abused, or who witnessed domestic violence in childhood were at greater risk for sexual perpetration in high school. Furthermore, men who perpetrated in high school were at greater risk for sexual perpetration in college; and after controlling for perpetration in high school, those who were abused or witnessed violence in childhood were not at greater risk for college perpetration. The findings have a number of implications for research and practice: We need to identify high-risk populations and direct more targeted interventions toward them. These groups include those who witness or experience abuse as a child and young men who perpetrate violence in adolescence, regardless of childhood abuse experiences.

Keywords: sexual assault; domestic violence; perpetration; longitudinal

## **Article:**

It is a well-established finding that aggressive behavior at a younger age is one of the best predictors of later aggressive behavior (Huesmann & Eron, 1992; Moffitt & Caspi, 1999; Olweus, 1993). Most research on the stability of aggression has focused on acts of physical aggression directed toward peers during childhood as predictors of later involvement with the criminal justice system. Most work on sexual assault recidivism has been done with court-adjudicated offenders (Hanson & Harris, 2000). Little is known about the stability of sexual aggression among adolescents and young adults not involved with the criminal justice system. Work by Malamuth and colleagues (Malamuth, Linz, Heavey, Barnes, & Acker, 1995) presents one notable exception. He and his colleagues provided evidence that sexually aggressive men multiply offend and that earlier offending predicts continued conflict with women as much as 10 years later.

In the mid-1980s, the phenomenon of acquaintance or date rape began to receive attention. The research suggests that as many as 85% of all rapes were committed by men known to the victims, that many of these rapes occurred in a dating context, and that they were unlikely to be reported (Koss, 1992). In a national survey of date and acquaintance sexual assault, Koss, Gidycz, and Wisniewski (1987) found that 24.4% of college men admitted that since the age of 14 they had been sexually aggressive toward a woman. Approximately 7.8% admitted to engaging in behaviors that legally constitute rape or attempted rape, and the remaining 16.7% admitted to other forms of sexually coercive actions. Similar rates of perpetration have been reported in other college samples (Calhoun, Bernat, Clum, & Frame, 1997), a community college sample (Lowdermilk, Holland, Cameron, & White, 1998), and among Canadians (DeKeseredy, 1997). In addition, Malamuth (1988) reported that approximately 35% of male undergraduate students stated they would commit rape if they were sure they would not get caught.

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<sup>1</sup> **AUTHOR NOTE:** Funding for this study was provided by National Institute of Mental Health (R01MH45083), and the National Institute for Justice (98WTVX0010). All correspondence related to this article should be directed to Jacquelyn W. White, Ph.D., Department of Psychology, P. O. Box 26170, University of North Carolina at Greensboro, Greensboro, NC 27402-6170; e-mail: [jackie\\_white@uncg.edu](mailto:jackie_white@uncg.edu).

White and Kowalski (1998) argued that violence against women is determined by multiple factors at various levels of the social ecology, including the sociocultural, social network, dyadic, situational, and intrapersonal. Characteristics of one's culture, including values regarding women, men, and violence, along with experiences within the family and peer group, help shape a young man's personality, attitudes, and values, and increase the risk for violence given certain dyadic and situational factors. The current study focused on the social network level, that is, primarily experiences within the family. We argued that one determinant of violence against women could be found in childhood experiences.

Witnessing or experiencing family violence as a child has been associated with delinquency and youth violence (Widom, 2001), as well as various forms of violence toward women. Roughly one third of individuals who witness or experience violence as children become violent as adults (Kaufman & Zigler, 1987). Many households in which violence occurs are characterized by patriarchal family structures where traditional gender roles are encouraged. Men raised in these households are more likely to become violent as adults than men reared in less traditional households (for incest see Greenspun, 1994; for dating violence see Gwartney-Gibbs, Stockard, & Bohmer, 1987; Riggs & O'Leary, 1989; for sexual aggression see Fagot, Loeber, & Reid, 1988; Friedrich, Beilke, & Urquiza, 1988; Koss & Dinero, 1988; Malamuth et al., 1995; for domestic violence see Hotaling & Sugarman, 1986; Kalmuss, 1984, Straus, Gelles, & Steinmetz, 1980). Malamuth and colleagues (Malamuth et al., 1995; Malamuth, Sockloskie, Koss, & Tanaka, 1991) showed that men who experienced family violence (a measure that combined witnessing domestic violence and experiencing parental physical punishment) and/or child sexual abuse were more likely to be coercive toward women (sexually and physically). They also found that coercion of women was associated with delinquency and sexual promiscuity.

Thus, one purpose of the current study was to examine men's sexually coercive behaviors longitudinally from adolescence through 4 years of college. Sexual coercion was defined as behaviors ranging from unwanted kissing and touching to rape. We were interested in whether the incidence of sexual coercion increases, decreases, or remains steady across time. We were also interested in patterns of re-perpetration across time; that is, are the same men likely to be repeat offenders? A second purpose was to examine the time course of sexually coercive behaviors as a function of childhood experiences with sexual abuse, parental physical punishment, and witnessing of domestic violence. Based on past research on the impact of childhood victimization, we expected men with a history of childhood victimization to be more likely to sexually offend than men without a history (Edleson, 1999). Furthermore, we were interested in whether the type of childhood victimization, parental physical punishment, sexual abuse, or witnessing of domestic violence would have a differential impact on sexual offending in adolescence and during the collegiate years.

## METHOD

### PARTICIPANTS

Three incoming freshmen classes of men (1990, 1991, 1992) at a medium-sized state-supported university in the southeastern region of the United States were invited to participate in a 5-year longitudinal study of social experiences [N = 835; 572 (68.5%) White, 215 (25.7%) African American; 48 (5.7%) Other]. Of the total number of incoming men, 543 (65%) completed the first survey. Yearly retention averaged 71%, with a resultant 22% of the original sample completing all five phases of the study (n = 184). Of this final group, approximately 84.8% were White (n = 156); 9.7% were African American (n = 18); and 5.6% belonged to other ethnic groups (n = 10; the substantial attrition of African Americans did not occur until after the 4th administration). Only men ages 18 to 20 years at the beginning of the study participated. The university is located in a semiurban environment within the 80th largest city in the nation. A profile of students attending this institution indicated that their socioeconomic background and demographic characteristics were representative of students attending state-supported universities nationwide (Carnegie Foundation, 1987). The majority of students came from middle-class backgrounds.

### PROCEDURE

Before the initial survey was administered, the purpose and methods were explained, and each participant signed a consent form. For the purpose of follow-up, students completed contact sheets that requested the name,

address, and telephone number of a person who would be most likely to know their whereabouts during the next year. To ensure confidentiality and permit the matching of surveys across time, we assigned each survey instrument and contact sheet a randomly determined code number. Only code numbers appeared on survey instruments and answer sheets. Lists of codes and corresponding names were kept in a locked safe to protect the identity of participants. Access to this information was limited to the coinvestigators and the data manager. To further ensure confidentiality of the data, we obtained a federal Certificate of Confidentiality from the National Institute of Mental Health.

Toward the end of each spring semester, participants were contacted and asked to complete a follow-up survey. Students who participated in the follow-up survey received \$15 when they completed it.

## MATERIALS

The surveys were designed to assess various predictors, correlates, and consequences of involvement with interpersonal violence during childhood, adolescence (retrospective data), and throughout the college years (longitudinal data). Only the first survey included measures of experiences with childhood sexual abuse, parental punishment, and witnessing of domestic violence prior to the age of 14 years old. Sexual assault perpetration from age 14 to college entry was also assessed on the first survey. Subsequent surveys included measures of sexual assault perpetration during each year of college (i.e., since the previous survey). Operational definitions of each measure are provided below.

*Childhood victimization.* Three forms of childhood victimization were assessed. Each form was based on measures used by Koss et al. (1987). Four items assessed childhood sexual victimization and referred to any form of sexual act perpetrated by an adult or any coercive sexual act perpetrated by a similarly aged peer on the respondent before the age of 14 years, whether actual contact occurred (Wyatt, 1985). Cronbach's alpha for the present sample was .696. A respondent was categorized as a childhood sexual abuse victim if (a) he experienced any kind of sexual act (contact or noncontact) perpetrated by an adult, regardless of the inducement strategy used or (b) a similarly aged peer used a coercive tactic; a coercive tactic was defined as promising love or security, threatening to hurt or punish, or actually using physical force. A tactic was noncoercive only if the respondent reported that he participated because it felt good or out of curiosity. A respondent was categorized as having no coercive childhood experiences if he reported none or if he reported exposure or fondling with a similarly aged peer or similarly aged relative because it felt good or out of curiosity.

The measures of witnessing domestic violence and experiencing parental physical punishment were designed to capture children's recurrent experiences. Research suggests it is the cumulative effects that produce the most negative outcomes, rather than a single occurrence, or even a few occurrences, throughout childhood (Repetti, Taylor, & Seeman, 2001; Turner & Finkelhor, 1996). Parental physical punishment was measured by asking respondents how often, in an average month, their parents/guardians used "physical blows," such as hitting, kicking, throwing someone down, against them. Those who indicated that this occurred at least once in an average month were categorized as having been physically abused as a child. Witnessing domestic violence was assessed by asking respondents how often, during an average month, their parents/guardians delivered physical blows to one another. Those who indicated that this occurred at least once in an average month were classified as having witnessed domestic violence.

*Adolescent perpetration.* During the first survey, respondents were asked to indicate how many times since the age of 14 years they had committed each of the several sexual behaviors directed toward a woman, using the Sexual Experience Survey (SES) (Koss et al., 1987); Cronbach's alpha for the present sample was .93. Responses were used to place respondents into one of six categories of sexual experience based on the most extreme experience reported: (a) no sexual experiences, (b) only consensual sexual experiences, (c) unwanted contact (i.e., forced fondling, kissing, but no attempted intercourse), (d) verbal coercion (verbally pressured sexual intercourse, excluding the threat of force), (e) attempted rape (using force or threat of force, however, intercourse did not occur), or (f) rape (completed intercourse or oral or anal sex using force or threat of force). For all analyses, only men who had no sexual experiences or only consensual experiences were categorized as

nonperpetrators. To determine the total number of sexually aggressive behaviors reported, a continuous sexual aggression score was computed for each respondent by adding together the number of times they reported engaging in each sexually coercive behavior. These behaviors may have been directed toward the same or different targets and occurred during the same or different incidents. Malamuth (1986) and White, Humphrey, and Donat (1996) have used this continuous measure and found a correspondence between severity of the assault and frequency of coercive behaviors. This addresses the potential criticism of equating low-level items and high-level items.

*Undergraduate perpetration.* On each follow-up survey, the respondents were asked to indicate the number of times they committed each sexual behavior during the past year. Again, the SES (Koss et al., 1987) was used; however, at this time men were asked to indicate how many times during the past year, instead of since the age of 14, they had each sexual experience. Categorization as nonperpetrator or perpetrator was the same as described above. Similarly, a continuous sexual assault score was computed for each of the collegiate years. Cronbach's alphas for the current sample for the 4 years were .89, .95, .97, and .82.

## OVERVIEW OF ANALYSES

Initial chi-square analyses indicated no statistically significant differences as a function of cohort or race in the frequency of childhood victimization or perpetration experiences reported. In addition, the risk analyses and survival analyses described below initially included race as a variable; in no case was race significant. Therefore, all analyses reported were collapsed across the three classes of students and across race. Analyses also indicated no significant differences between the percentage of men who did and did not complete the study as a function of any form of childhood abuse. Rates of adolescent and college perpetration did not differ for men who completed all five surveys and those who completed only one, two, three, or four surveys. Age and socioeconomic status were not treated as covariates because all participants were the same age when they entered the study and there was inadequate variance in socioeconomic status.

Several sets of analyses were performed. The first examined the percentages of men reporting childhood sexual victimization, parental physical punishment, and witnessing domestic violence. In addition, the percentage of men reporting no sexual perpetration, as well as each type of sexual perpetration during adolescence and during each year of college was determined, along with the mean number of sexually coercive acts committed. Following these analyses, chi-square analyses were used to determine the possible relationships between childhood victimization and adolescent perpetration. In addition, the relative risk of adolescent and 1st-year collegiate perpetration given earlier experiences was computed, as was the relative risk of re-perpetrating in 1 year given perpetration the previous year. Relative risk reveals the proportion of men at risk for perpetrating given an earlier experience (the risk factor) in comparison to someone without the earlier risk factor (the ratio of the proportions of cases having a positive outcome in the two groups; Medical University of South Carolina, 2002). We also computed the attributable risk percentage to identify the proportion of adolescent perpetrators that was associated with the various forms of childhood victimization, as well as the proportion of college sexual assault perpetration associated with perpetration in adolescence (Rothman, 1986). Attributable risk conveys a sense of how much sexual assault could be prevented by reducing prior experiences.

Finally, survival analyses were conducted to examine the time course of collegiate perpetration as a function of any childhood victimization (sexual and/or physical and/or witnessing) and adolescent perpetration. Survival analysis aids in determining the likelihood of perpetration during a specified time interval, given that it has not yet occurred. To ensure accurate estimation, the analysis requires identification of censored cases, defined as cases lost prior to the final assessment phase (i.e., participants who drop out of the study before its completion) and cases of no victimization by the end of the study. The sample was dichotomized into perpetrator or nonperpetrator for each nonoverlapping time period (adolescence and each year of college). Life tables were computed to determine the probability of perpetration during each specified time interval; these probabilities are called hazard rates. Standard errors of each hazard rate were used to assess whether hazard rates were different from one another (i.e., nonoverlapping). Because there was no a priori knowledge of what these hazard functions should look like, nonparametric methods of estimating them were used. The Wilcoxon (Gehan)

statistic was used to evaluate differences in survival experience as a function of childhood experiences (SPSS, 1998).

## RESULTS

### FREQUENCY OF CHILDHOOD VICTIMIZATION

For the men who initially completed all the questions about childhood victimization, 70.4% ( $n = 447$ ) reported no childhood sexual experiences. Based on the most severe experience reported, men were assigned to one of several mutually exclusive categories: 20.2% ( $n = 128$ ) reported noncoercive sexual contact with a similar-aged peer or similar-aged relative, and 9.5% of the men were classified as childhood sexual abuse victims ( $n = 60$ ); 1.1% reported that the most severe form of coercive sexual experience involved a similar-aged peer or relative (0.5% involved exposure and/or fondling,  $n = 3$ ; 0.6% involved attempted and/or completed sexual intercourse,  $n = 4$ ); and 8.4% experienced some sexual contact with an adult (5.4% experienced only exposure and/or fondling by an adult,  $n = 34$ ; and 3% experienced attempted and/or completed sexual intercourse by an adult,  $n = 19$ ). This variable was dichotomized as ever-never for the purposes of data analyses. Men who reported no sexual experiences or only consensual experiences were designated to the never group, whereas men who reported any type of sexual coercion experiences were assigned to the ever group.

Altogether 30.7% ( $n = 250$ ) of the men reported experiencing either parental physical punishment or witnessing domestic violence in a typical month growing up; 5.5% witnessed domestic violence and experienced physical punishment ( $n = 45$ ), whereas 2.2% reported only witnessing domestic violence ( $n = 18$ ), and 23% reported experiencing parental punishment but not witnessing domestic violence ( $n = 187$ ).

### FREQUENCY OF SEXUAL PERPETRATION DURING ADOLESCENCE AND ACROSS THE 4 COLLEGIATE YEARS

Based on responses to the SES (Koss et al., 1987) the incidence of each form of sexual assault was determined for adolescence and each collegiate year. A man was classified according to the most severe behavior he reported committing. Table 1 reports the number and percentage of men falling into each of six mutually exclusive categories, as well as the number and percentage of men in each category by the end of the 4th year. Evidence of a decline in perpetration across time is clear. Table 2 shows the number and percentage of men reporting each specific behavior regardless of the category to which they were assigned. The 10 behaviors were summed for each respondent (see Table 3). Men who were in the rape category consistently reported significantly more sexually coercive behaviors than did men assigned to the other categories. For men in the rape category, the means ranged from 4.9 ( $SD = 2.6$ ) to 8.5 ( $SD = 4.2$ ) across assessment periods, whereas the means ranged from 1 ( $SD = .21$ ) to 2.2 ( $SD = 1.3$ ) for men assigned to categories other than rape (with the exception of men in the verbal coercion category in Year 3). This pattern was apparent in adolescence,  $F(3, 181) = 84.1, p < .001$ , as well as during each year of college (analysis could not be completed for Year 4 because of the small sample size). The most frequently endorsed items on the SES by men in the rape category were use of drugs or alcohol to obtain sexual intercourse, and arguments and pressure for sexual contact and sexual intercourse.

By the end of the 4th year of college 34.5% ( $n = 95$ ) of the men who participated in all phases of the study had reported at least one perpetration experience. These patterns of results hold for the men who participated in the survey but dropped out at sometime during the project, as well as for those who participated in the entire project. Overall, 31.2% ( $n = 265$ ) of men had committed at least one act of some form of sexual coercion, ranging from unwanted kissing and touching to rape, by the time they withdrew from the study. Thus, it does not appear that those men who did not complete the project biased the patterns of results.

**TABLE 1: Percentage (and Number) of Men Reporting Most Serious Type of Sexual Assault in Adolescence and Across 4 Years of College**

	Adolescence	Year 1	Year 2	Year 3	Year 4	Total <sup>a</sup>
No sexual experiences	27.0 (230)	34.5 (223)	33.1 (151)	31.3 (94)	31.0 (45)	17.1 (146)/15.2 (22)
Consensual experiences	50.6 (431)	52.1 (337)	54.8 (250)	56.3 (169)	61.4 (89)	51.7 (440)/50.3 (73)
Unwanted contact	10.7 (91)	5.7 (37)	5.5 (2.5)	5.7 (17)	4.8 (7)	12.4 (105)/14.5 (21)
Verbal coercion	5.4 (46)	3.7 (24)	2.9 (13)	1.7 (5)	1.4 (2)	7.9 (67)/6.2 (9)
Attempted rape	1.1 (9)	.90 (6)	1.1 (5)	1.0 (3)	.7 (1)	2.2 (19)/4.1 (6)
Rape	5.2 (44)	3.1 (20)	2.6 (12)	4.0 (12)	.7 (1)	8.7 (74)/9.7 (14)
Sample size	851	647	456	300	145	851/145

a. First set of numbers includes percentage (and number) of all men, regardless of how long they were in the study. Second number includes just men who completed all surveys.

**TABLE 2: Percentage (and Number) of Men Committing Each Sexually Aggressive Act by Year**

	Adolescence			
	Year 1	Year 2	Year 3	Year 4
Verbal pressure for unwanted contact	11.5 (74)	10.7 (49)	10.4 (31)	7.6 (11)
Use of authority for unwanted contact	2.2 (14)	1.5 (7)	2.7 (8)	0.0 (0)
Use of threat or force for unwanted contact	2.0 (13)	1.5 (7)	3.0 (9)	0.7 (1)
Use of threat or force for attempted intercourse	2.0 (13)	1.8 (8)	2.7 (8)	0.7 (1)
Use of drug or alcohol for attempted intercourse	3.4 (22)	3.7 (17)	3.3 (10)	1.4 (2)
Verbal pressure for intercourse	8.7 (74)	4.6 (21)	4.7 (14)	2.1 (3)
Use of authority for intercourse	2.2 (19)	1.1 (5)	2.3 (7)	0.0 (0)
Use of alcohol or drugs for intercourse	3.8 (32)	2.0 (9)	4.0 (12)	0.7 (10)
Use of threat or force for intercourse	2.0 (17)	1.5 (7)	2.7 (8)	0.7 (1)
Use of threat or force for other sex acts	1.1 (7)	1.5 (7)	2.7 (8)	0.7 (1)
Sample size	645	456	299	145
	851			

**TABLE 3: Mean Number (and Standard Deviation) of Coercive Acts Reported by Sexual Coercion Category in Adolescence and Across 4 Years of College**

	Adolescence	Year 1	Year 2	Year 3	Year 4
Unwanted contact	1.0 (.21) <sup>a</sup>	1.1 (.33) <sup>a</sup>	1.0 (.28) <sup>a</sup>	1.9 (2.3) <sup>a,b</sup>	1.0
Verbal coercion	1.9 (.71) <sup>a,b</sup>	1.8 (1.0) <sup>a,b</sup>	1.8 (1.3) <sup>a,b</sup>	6.0 (5.8) <sup>a,b,c</sup>	2.0
Attempted rape	1.6 (.73) <sup>a,b</sup>	2.0 (1.5) <sup>a,b</sup>	2.2 (1.3) <sup>a,b</sup>	2.0 (1.7) <sup>a,b</sup>	2.0
Rape	4.9 (2.6) <sup>c</sup>	5.3 (2.3) <sup>c</sup>	6.1 (2.8) <sup>c</sup>	8.5 (4.2) <sup>c</sup>	8.0
Sample size	185	82	47	28	11

Note. Common superscripts within columns indicate nonsignificant difference based on the Games Howell post hoc test,  $p < .01$ . Sample sizes were too small for analysis of Year 4; standard deviations = 0.

*Relative risk analyses.* Chi-square analyses and relative risk determined the relationship between the various childhood victimization experiences assessed and the likelihood of adolescent sexual perpetration. Table 4 gives the number and percentage of men in each sexual assault category during adolescence for each type of childhood victimization experience. Results revealed significant relationships between each type of childhood victimization and adolescent sexual assault, collapsing across type of sexual assault. For childhood sexual assault,  $\chi^2(1) = 4.8, p < .03$  relative risk (RR) = 1.6, confidence interval (CI) = 1.1, 2.5; for witnessing domestic violence,  $\chi^2(1) = 31.5, p < .001$ , RR = 2.5, CI = 1.9, 3.4; for experiencing parental physical punishment,  $\chi^2(1) = 23.6, p < .001$ , RR = 1.9, CI = 1.5, 2.4. Overall, there was a twofold increase in the likelihood of adolescent sexual perpetration, given any type of childhood victimization (sexual, physical, or witnessing), RR = 2.0, CI = 1.5, 2.5;  $\chi^2(1) = 28.2, p < .001$ .

We also calculated the attributable risk percentage to identify the proportion of adolescent sexual assault perpetration that is attributable to each form of childhood victimization. This is essentially an estimate of the reduction in the percentage of cases of adolescent sexual assault that could be eliminated if childhood

victimization were eliminated. The attributable risk percentage is calculated by subtracting the incidence of cases among the unexposed from the incidence in the population and dividing this total by the incidence in the population. The calculations suggested that 5.7% of reported adolescent perpetration could be accounted for by childhood sexual abuse; the comparable figure for witnessing domestic violence was 8.7% and 19.9% for parental physical punishment. When we collapsed across all forms of childhood victimization, the attributable risk was 23%. This number increased if we looked at the attributable risk for only attempted or completed rapes during adolescence given any form of childhood victimization (37.1%).

Further chi-square and relative risk analyses showed significant relationships between perpetration during 1 year and the subsequent year. Adolescent perpetration was associated with a RR of 4.1 for perpetration in the 1st year of college,  $\chi^2(1) = 64.3, p < .001$ . Subsequent RRs were 5.5, 3.3, and 10.9 for years 1 to 2, 2 to 3, and 3 to 4, respectively; corresponding  $\chi^2(1)$ 's = 55.0, 14.8, 24.9, all  $p < .001$ . The cal-

**TABLE 4: Percentage (and Number) of Men in Each Sexual Assault Category During Adolescence by Type of Childhood Victimization Experiences<sup>a</sup>**

	No Sexual Experiences	Consensual Sex	Unwanted Contact	Verbal Coercion	Attempted Rape	Rape	Sample Size
No childhood sexual abuse	28.0 (161)	53.7 (309)	9.4 (54)	4.0 (23)	1.2 (7)	3.7 (21)	575
Childhood sexual abuse	30.0 (18)	40.0 (24)	10.0 (6)	6.7 (4)	0.0	13.3 (8)	60
No witnessed or experienced	29.8 (168)	53.0 (299)	9.2 (52)	3.9 (22)	1.1 (6)	3.0 (17)	564
Only witnessed	16.7 (3)	44.4 (8)	22.2 (4)	0	0	16.7 (3)	18
Only physical	20.3 (38)	51.3 (96)	11.8 (22)	11.2 (21)	1.6 (3)	3.7 (7)	187
Witnessed & physical	15.6 (7)	28.9 (13)	11.1 (5)	6.7(3)	0.0	37.8 (17)	45

a. Percentages add to 100% within rows.

culuation of attributable risk indicated that 24% of the cases of sexual assault perpetration in college could be attributed to adolescent sexual assault perpetration.

*Survival analyses.* The initial analysis showed that adolescence was associated with the greatest risk of first perpetration (hazard rate, HR = .28), with the risk of first perpetration declining substantially thereafter (respective HRs = .10, .07, .09 for Years 1, 2, and 3). Examination of the standard error of the HRs indicated that the HR during adolescence was significantly greater than the HRs for subsequent years, which were not different from one another. Conditioning the hazard analysis on a history of any childhood victimization revealed that childhood victimization significantly increased the risk of perpetration, but only during adolescence (HR = .45 for childhood victims and .21 for childhood nonvictims). However, the rates for first perpetration were not different in the collegiate years (respective HRs = .07, .08, .12 for victims in Years 1, 2, and 3; .10, .07, .08 for nonvictims).

A subsequent survival analysis examined hazard functions for groups defined by the interaction of prior history of childhood victimization and adolescent perpetration. This analysis revealed that in the absence of adolescent perpetration, childhood victimization did not elevate the risk of assault during the 1st year of college or subsequently relative to men with no childhood or adolescent experiences ( $p = .45$ ). However, adolescent perpetration did elevate significantly the risk of re-perpetrating during the 1st year of college but not in subsequent years. Those who had experienced any form of childhood victimization and adolescent perpetration showed a higher risk of re-perpetration in the 1st year of college (HRs = 1.4, 1.3, 2.0 for Years 1, 2, and 3) than those who perpetrated in adolescence but did not experience childhood victimization (HRs = .87, .74, 2.0 for Years 1, 2, and 3).

Additional analyses also revealed adolescent perpetration to substantially increase the likelihood of collegiate sexual victimization (RR = 2.7). A multinomial logistic regression analysis that considered the effects of any type of childhood victimization, adolescent perpetration, and their interaction on the odds of perpetration in the 1st year of college revealed only a significant effect for adolescent perpetration, Wald  $\chi^2(1) = 25.3, p < .001$ . Neither childhood victimization nor its interaction with adolescent perpetration increased the risk of 1st-year collegiate perpetration beyond that accounted for by adolescent perpetration experiences. When these analyses were repeated examining the perpetration of attempted and completed rape specifically, the results were more dramatic. An adolescent experience that met the legal definition of rape or attempted rape increased the likelihood of rape or attempted rape again during the 1st year of college by a factor of 11.2. When adolescent rape/attempted rape and childhood victimization were considered together in a multinomial logistic regression, only adolescent rape/attempted rape was significant, Wald  $\chi^2(1) = 15.9, p < .0001$ .

## DISCUSSION

The current study contributes significantly to a developmental picture of sexual assault. The results suggest two important factors regarding the perpetration of sexual assault. First, young men's experiences with various forms of childhood victimization are associated with an increased risk of sexual assault perpetration during adolescence. Each of the three forms of childhood victimization investigated in the current study doubled the relative risk of some form of adolescent perpetration. Although childhood victimization is just one of many variables hypothesized to contribute to violence against women, the results suggest that eliminating this experience would contribute to reducing adolescent sexual coercion, by as much as 23%. The results simultaneously indicate that although childhood victimization is an important factor, it is clearly not the only one associated with sexual coercion. An important research question regards identifying childhood precursors of adolescent sexual perpetration among young men who did not experience sexual abuse or parental physical punishment or witness domestic violence.

Second, adolescent perpetration is an important precursor of collegiate victimization. The survival analyses suggest that adolescence is the time during which young men are most likely to first begin sexual offending. Young men who experienced childhood victimization but did not perpetrate sexual assault during adolescence were not at greater risk for collegiate perpetration than young men with no childhood victimization experiences.

In contrast, young men who first perpetrated during adolescence were far more likely to reoffend during the 1<sup>st</sup> year of college. Results suggest that prior experiences increase the risk of further perpetration. However, preventing adolescent perpetration would reduce collegiate victimization by about 25%. Thus, paralleling our conclusions regarding the relationship between childhood victimization and adolescent perpetration, we can conclude that although adolescent perpetration is an important factor, it is clearly not the only one associated with collegiate sexual coercion. An important research question regards identifying adolescent precursors of collegiate sexual perpetration among young men who did perpetrate during adolescence.

In sum, the current results suggest that childhood victimization and adolescent perpetration are precursors of collegiate sexual coercion, with the effects of childhood victimization working indirectly through its effect on adolescent behavior. It is also clear that sexually coercive behavior is stable and tends to persist across time. The results further indicate that a subset of men is responsible for a large number of women's victimization experiences.

The findings have a number of implications for research and practice. We need to continue to examine other variables in the social ecology of young men to fully understand sexual coercion, as suggested by White and Kowalski (1998). High-risk populations need to be identified and more targeted interventions directed toward them. These groups include (a) those who witness or experience abuse as a child and (b) young men who perpetrate violence in adolescence, regardless of childhood abuse experiences. There is clearly a need to develop prevention strategies for collegians, as well as younger men. Research is needed to establish differences in risk and protective factors for men who first offend in adolescence or first offend in college. In addition, we should point out that although the number of perpetrators decreases across time, the number of assaults per perpetrator increases with each year of college. Thus, a small number of men persist in sexual assault perpetration and may be a distinct group in need of special intervention efforts.

Because of the power of early developmental experiences, the effectiveness of one-shot or short-term educational-only approaches for preventing sexual assault in high-risk populations is not clear. The limited evaluation literature to date suggests that the interventions currently being implemented to prevent sexual assault are, by and large, school-based educational programs targeted at the general population and designed to change norms and attitudes regarding the use of violence in relationships. Although these studies indicate that these interventions do result in some changes in attitudes and beliefs, at least in the short term, only one study has reported short-term changes in victimization and/or perpetration and even these changes were not sustained (Foshee et al., 2000; Lonsway, 1996).

Our study highlights the importance of early detection of, and intervention with, children who have witnessed domestic violence or who have been victimized by child sexual abuse or parental physical punishment as strategies for the primary prevention of adolescent/ college sexual assault. We suggest that clinicians who work with children and adolescents in health care settings and those who work with youth and families in community agencies integrate screening and intervention programs into their practices. These interventions should incorporate issues related to gender-based violence perpetration and victimization to further our ability to prevent revictimization and perpetration of violence against women in young adulthood. Furthermore, we need additional research to identify the factors that mediate the relationship between childhood experiences with different types of violence and later adolescent perpetration.

Although the current study sheds light on developmental patterns in intimate partner violence, some limitations should be noted. In particular, our sample, and hence our findings, are limited to young men who attended college. Second, our estimates regarding childhood victimization and adolescent and collegiate perpetration rely on self-report data. Third, at the time the study was initiated we used the best measures available. It would be ideal to replicate the study with more contemporary and sensitive measures. In addition, our assessment of victimization in childhood and perpetration in adolescence were retrospective and assessed concurrently; therefore, although we suggest a causal link, such a conclusion should be considered tentative. Finally, our prospective analyses were limited by the fact that many students withdrew from college, and hence, from our

study. However, 76% of the men provided usable data through the 1 st year of college, and 54% through the 2nd year, when the majority of new assaults were most likely to occur. In addition, analyses indicated few important differences between those who remained and those who dropped out of the study.

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