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in A Navy Recruit Sample***

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# Premilitary Adult Sexual Assault Victimization and Perpetration in a Navy Recruit Sample

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Female ( $n = 5,226$ ) and male ( $n = 5,969$ ) U.S. Navy recruits completed a survey assessing their premilitary histories of adult sexual assault (SA), defined as attempted or completed rape since the age of 14. The survey was completed under anonymous or identified conditions. Overall, 39% of women reported premilitary SA victimization and 13% of men admitted premilitary SA perpetration. As predicted, rates were significantly higher in the anonymous than in the identified condition. For the sample of women as a whole, marital status, ethnicity, and family income were associated with SA victimization; for men, only marital status was associated with SA perpetration. Compared to previous college samples, Navy recruits were more likely to have previous SA experience. Given the negative consequences associated with SA victimization and perpetration, the present study reinforces the desirability of developing additional treatment, education, and prevention programs to reduce the occurrence of SA among military recruits.

**Keywords:** *sexual assault; victim; perpetrator; military*

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Female receipt and male perpetration of sexual aggression have pervasive individual and societal consequences. Women who have experienced sexual assault (SA) are at increased risk for a variety of psychological and physical health problems and revictimization (Elliot, Mok, & Briere, 2004; Green et al., 2005; Maker, Kemmelmeier, & Peterson, 2001; Masho & Ahmed, 2007; Stein & Barrett-Connor, 2000; Stephenson, Pena-Shaff, & Quirk, 2006; Ullman & Brecklin, 2003; for a review, see Neumann, Houskamp, Pollock, & Briere, 1996). Men who have perpetrated SA are more likely than those who have not to perpetrate future SA and to engage in other forms of violent behavior (Lisak & Miller, 2002; Prentky, Lee, Knight, & Cerce, 1997). SA thus increases social costs through increased demands on law enforcement, the courts, and medical and mental health professionals and may cost employers through diminished productivity and increased absenteeism.

These costs are substantial because SA, defined here as attempted or completed rape after the age of 14, is quite prevalent among young U.S. adults. In a seminal study of a national sample of 6,159 college students, 28% of women reported SA victimization and 8% of men admitted perpetrating SA (Koss, Gidycz, & Wisniewski, 1987). Subsequent studies using the same measure (Sexual Experiences Survey [SES]; Koss & Gidycz, 1985) to assess SA among traditional college samples have found comparable rates for both victimization among women (Abbey, Ross, McDuffie, & McAuslan, 1996; Kahn, Jackson, Kully, Badger, & Halvorsen, 2003; McMullin & White, 2006; Ryan, 1998) and perpetration by men (Abbey & McAuslan, 2004; Abbey, McAuslan, Zawacki, Clinton, & Buck, 2001; Lisak & Miller, 2002; Loh, Gidycz, Lobo, & Luthra, 2005; Ouimette & Riggs, 1998; Ryan, 1998). However, a comparable study of 3,776 U.S. Navy recruits at Recruit Training Command (RTC) Orlando found that 46% of women reported being the victim of premilitary SA and 15% of men admitted perpetrating premilitary SA (Merrill et al., 1998). This suggests that SA rates may be higher among young Americans entering the Navy than among their college peers. This possibility has implications for the military performance of male and female sailors and for the "readiness" of the Navy as a whole.

The purpose of the present study is to replicate previously reported rates of premilitary SA among male and female U.S. Navy recruits using a larger sample and including recruits who entered the Navy over a longer period of time (1 year compared to 4 months in the previous study; Merrill et al., 1998). We also investigated whether rates of self-reported SA varied depending on whether respondents completed the survey under anonymous

conditions (as in the previous study) versus identified conditions. We expected that men and women would be less likely to report SA when their responses were identifiable (Olson, Stander, & Merrill, 2004). Finally, because SA rates may vary by demographic characteristics (Koss et al., 1987), we examined the relationship between SA and age, ethnicity, education, marital status, family income, and geographic region.

## Method

### Participants

Incoming Navy recruits (5,226 women, 5,969 men) at the RTC at Great Lakes, Illinois, voluntarily completed self-report measures under anonymous or identified conditions. Participation rates were higher in the anonymous condition (98% for women, 99% for men) than in the identified condition (93% for women, 94% for men). Because of missing data on the SA measure, the final sample consisted of 10,337 respondents (4,910 women, 5,427 men). Sample size variations because of missing demographic data are reflected in the *n* values associated with specific analyses.

Participants ranged in age from 17 to 35 years ( $M = 19.76$ ,  $SD = 2.61$ ). Most participants (87%) had completed high school or the equivalent, with 8% reporting some college. The majority (63%) was White, with 18% African American, 11% Hispanic, 4% Asian American, 2% Native American, and 2% Other. Geographically, 37% were from the South, 26% from the West, 21% from the Midwest, and 16% from the Northeast. The majority was single (89%); the remaining participants were married (6%), cohabiting (3%), or divorced, separated, or widowed (2%). In terms of income in the family of origin, 35% reported incomes of less than \$25,000, 38% reported incomes between \$25,000 and \$50,000, and 27% reported incomes of more than \$50,000 per year. Table 1 provides descriptive information on demographic characteristics as a function of sex and identified or anonymous condition.

### Materials

Demographic variables were assessed using a self-report measure. The state in which respondents resided was classified into one of four geographic regions using U.S. census classifications (U.S. Census Bureau, 1984). We used the SES to assess SA history (Koss & Gidycz, 1985; Koss & Oros,

**Table 1**  
**Demographic Characteristics by Respondent Gender**  
**and Identified and Anonymous Conditions**

Characteristic	Male				Female			
	ID		Anon		ID		Anon	
<i>n</i>	2,670		2,757		2,438		2,472	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age (years)	19.7	2.5	19.9	2.6	19.7	2.6	19.7	2.7
	%		%		%		%	
Education								
Less than high school	5		6		4		4	
High school or equivalent	88		85		88		86	
Some college	7		9		8		10	
Ethnicity								
White	65		65		57		61	
African American	15		14		24		21	
Hispanic	12		12		11		10	
Asian American	5		5		4		3	
Native American	2		2		2		2	
Other	1		2		2		2	
Yearly income (family of origin)								
<\$25,000	32		31		40		37	
\$25,000 to \$50,000	37		38		38		39	
>\$50,000	31		32		22		24	
Geographical region								
South	38		34		38		38	
West	27		29		23		24	
Midwest	20		22		23		21	
Northeast	15		15		16		17	
Marital status								
Single	91		89		89		87	
Married	5		7		6		6	
Cohabiting	3		3		3		4	
Divorced, separated, or widowed	1		1		2		3	

Note: ID = identified; anon = anonymous.

1982). The SES completed by women asked about SA victimization, whereas the SES completed by men asked about SA perpetration. The male and female forms of the SES were otherwise identical. Three SES items

assessed rape experiences, two assessed attempted rape, and five assessed lesser forms of unwanted or coercive sexual activity. Respondents were asked to report only experiences that had occurred since the age of 14. An individual was considered to have experienced or perpetrated SA if she or he reported attempted rape or rape (nonconsensual attempted or actual penetration obtained by physical force, by threat of bodily harm, or by rendering the victim incapable of giving consent by virtue of her intoxication). The no-assault group included those reporting no unwanted sexual activity and those reporting unwanted sexual activity that did not meet the threshold for rape or attempted rape.

## Procedure

The information gathered was part of an extensive survey offered to Navy recruits during their first week at RTC between June 1996 and June 1997. Nonmilitary personnel of the same sex as participants administered the survey in a classroom to single-sex groups of recruits. Participation was voluntary. Before agreeing to participate, recruits were provided a description of the study, a Privacy Act statement, and an informed consent form describing their rights as participants, including the right to "leave blank any section or questions" and to "stop at any time before completing the survey." Groups of respondents were randomly assigned to complete the survey under identified or anonymous conditions. The only difference was that those in the identified condition were asked to provide their names and other identifying information for tracking in a longitudinal study, whereas those in the anonymous condition were not.

## Results

To reduce the risk of Type I error, all statistical tests were evaluated using a significance level of .01; effects with a *p* value between .05 and .01 are considered to approach significance. Logistic regression analyses were used to examine demographic differences in the likelihood of SA victimization (for females) and SA perpetration (for males). Results are presented in terms of odds ratios (ORs) and associated 99% confidence intervals (CIs). For categorical demographic variables, the most frequently occurring category (e.g., White for ethnicity) was used as the category to which all other groups were compared. ORs indicate the magnitude by which SA is more likely (ORs greater than 1.0) or less likely (ORs less than 1.0) for

members of a given group, relative to the comparison group. CIs that do not include the value of 1.0 indicate that the likelihood of SA for the focal group and the comparison group differs significantly ( $p < .01$ ).

## Female Sexual Victimization

Overall, 39% of female respondents reported sexual victimization. Rates were significantly higher in the anonymous (41%) than in the identified (37%) condition,  $\chi^2(1, N = 4,910) = 9.09, p < .01, OR = 1.19, CI_{99\%} = 1.03, 1.39$ . Within the anonymous condition, 29% of women reported they had been raped, and 12% reported attempted (but not completed) rape. Within the identified condition, these figures were 25% and 11%, respectively. Among women who reported SA, 29% and 30% in the anonymous and identified conditions, respectively, reported exclusively the receipt of force or threat of force; 26% in each condition reported exclusively the use of alcohol or drugs; and 45% and 44%, respectively, reported both the receipt of force and the use of alcohol or drugs. Anonymous and identified conditions did not differ in terms of the means by which SA was perpetrated,  $\chi^2(2, N = 1,898) = 0.65, ns$ .

Analyses of the association between demographic characteristics and rates of SA were conducted separately for women in the anonymous and identified conditions and for the sample as a whole. As can be seen in Table 2, only marital status was significantly associated with SA victimization in both the anonymous and identified conditions and in the combined sample. Rates of SA were higher among cohabiting women than among single women in the identified condition and in the sample as a whole but not in the anonymous condition. Ethnicity was significantly predictive of sexual victimization in the anonymous condition and the sample as a whole and approached significance in the identified condition (see Table 2). Rates of sexual victimization were significantly higher among White women than among Asian, Hispanic, or African American women. Finally, the association between family income and likelihood of SA victimization was significant for the sample as a whole but not for either the identified or the anonymous condition individually (although it approached significance for the anonymous condition). Women in the highest income group were more likely to report SA than those in the moderate income group. There was no significant association between the likelihood of SA victimization and either education level or geographic region (see Table 2). Similarly, age was not related to SA victimization in either the identified or the anonymous condition ( $r$  values = .03).

**Table 2**  
**Female Sexual Assault (SA) Rates as a Function of Demographic**  
**Characteristic and Identified and Anonymous Conditions**

Characteristic	Percentage SA		ID		Anon		Total	
	ID	Anon	OR	CI <sub>99%</sub>	OR	CI <sub>99%</sub>	OR	CI <sub>99%</sub>
Education								
High school or equivalent <sup>a</sup>	37	40		$\chi^2(2, N = 2,429) = 0.02$		$\chi^2(2, N = 2,467) = 2.23$		$\chi^2(2, N = 4,896) = 1.21$
Less than high school	36	40	0.98	0.56, 1.75	1.00	0.59, 1.72	1.00	0.68, 1.48
Some college	36	45	0.98	0.66, 1.46	1.23	0.86, 1.75	1.12	0.86, 1.46
Ethnicity				$\chi^2(5, N = 2,396) = 14.72^*$		$\chi^2(5, N = 2,413) = 54.62^{***}$		$\chi^2(5, N = 4,809) = 61.90^{***}$
White <sup>a</sup>	39	46						
African American	33	32	0.78	0.59, 1.02	<b>0.56</b>	0.42, 0.74	<b>0.66</b>	0.54, 0.80
Hispanic	32	32	0.73	0.50, 1.05	<b>0.56</b>	0.38, 0.81	<b>0.63</b>	0.49, 0.82
Asian American	30	21	0.68	0.37, 1.27	<b>0.32</b>	0.15, 0.66	<b>0.47</b>	0.30, 0.76
Native American	49	49	1.52	0.76, 3.06	1.14	0.57, 2.28	1.31	0.80, 2.14
Other	41	45	1.11	0.51, 2.43	0.97	0.46, 2.02	1.04	0.60, 1.77
Yearly family income				$\chi^2(2, N = 2,383) = 4.98$		$\chi^2(2, N = 2,403) = 7.65^*$		$\chi^2(2, N = 4,786) = 12.78^{**}$
\$25,000 to \$50,000 <sup>a</sup>	35	38						
<\$25,000	36	40	1.05	0.82, 1.34	1.10	0.86, 1.41	1.07	0.90, 1.28
>\$50,000	41	45	1.28	0.96, 1.70	<b>1.34</b>	1.02, 1.77	<b>1.31</b>	1.08, 1.60

*(continued)*



Table 2 (continued)

Characteristic	Percentage SA		ID		Anon		Total	
	ID	Anon	OR	CI <sub>.99%</sub>	OR	CI <sub>.99%</sub>	OR	CI <sub>.99%</sub>
Geographical region			$\chi^2(3, N = 2,179) = 1.18$		$\chi^2(3, N = 2,069) = 2.53$		$\chi^2(3, N = 4,248) = 1.81$	
South <sup>a</sup>	38.1	40.6						
West	38.6	41.4	1.02	0.76, 1.38	1.03	0.76, 1.39	1.03	0.83, 1.27
Midwest	36.3	44.0	0.93	0.68, 1.26	1.15	0.84, 1.57	1.03	0.83, 1.28
Northeast	35.7	38.6	0.90	0.64, 1.26	0.92	0.65, 1.29	0.91	0.72, 1.16
Marital status			$\chi^2(3, N = 2,421) = 17.76^{***}$		$\chi^2(3, N = 2,464) = 12.35^{**}$		$\chi^2(3, N = 4,885) = 26.48^{***}$	
Single <sup>a</sup>	35.7	39.6						
Married	35.7	46.8	1.00	0.63, 1.59	1.35	0.88, 2.06	1.18	0.86, 1.61
Cohabiting	58.5	51.5	<b>2.54</b>	1.41, 4.59	1.62	0.96, 2.72	<b>1.99</b>	1.35, 2.94
Other <sup>b</sup>	42.3	53.2	1.32	0.64, 2.75	1.74	0.89, 3.38	1.55	0.95, 2.52

Note: ID = identified; anon = anonymous; OR = odds ratio; CI = confidence interval. ORs in bold are statistically significant ( $p < .01$ ).

a. Reference category to which all other categories are compared.

b. Other marital status includes divorced, separated, and widowed.

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

## Male Sexual Aggression

Overall, 13% of male respondents reported perpetrating SA. Rates of self-reported sexual aggression were significantly higher in the anonymous (15%) than in the identified (12%) condition,  $\chi^2(1, N = 5,427) = 7.59, p < .01$ , OR = 1.25, CI<sub>95%</sub> = 1.01, 1.53. Within the anonymous condition, 12% of men reported perpetrating completed rape and 3% reported perpetrating attempted rape; within the identified condition, rates were 10% and 2%, respectively. Among men who reported committing SA, 18% and 21% in the anonymous and identified conditions, respectively, reported exclusively using force or the threat of force; 39% and 46%, respectively, reported exclusively using alcohol or drugs; and 43% and 32%, respectively, reported using both force and alcohol or drugs to perpetrate the SA. Anonymous and identified conditions did not differ in the means by which SA was perpetrated, although the comparison approached significance,  $\chi^2(3, N = 731) = 8.90, p = .01$ .

Analyses of the association between demographic characteristics and rates of SA perpetration were conducted separately for the anonymous and identified conditions and for the sample as a whole. As shown in Table 3, for men there was no demographic characteristic that significantly predicted SA across both the anonymous and identified samples. Marital status was the only significant predictor of SA perpetration in the sample as a whole. Although no specific comparison of single men to other marital status groups was individually significant, the pattern of ORs suggests that married men were the least likely to report SA perpetration, and cohabiting men were the most likely to report perpetration. None of the categorical demographic factors that we examined were significantly associated with the likelihood of reporting SA perpetration in the identified condition. In the anonymous condition, education was the only significant predictor, with more highly educated men being more likely to report perpetration (see Table 3). Finally, respondent age was not associated with SA perpetration ( $r$  values = .00 and .04 for the identified and anonymous conditions, respectively).

## Discussion

The present study provides additional data on rates of premilitary SA experiences among female and male U.S. Navy recruits. Considering only the results for the anonymous condition (which is comparable to the conditions under which previous surveys have been conducted), we found that 41% of

**Table 3**  
**Male Sexual Assault (SA) Rates as a Function of Demographic**  
**Characteristics and Identified or Anonymous Condition**

Characteristic	Percentage SA		ID		Anon		Total	
	ID	Anon	OR	CI <sub>99%</sub>	OR	CI <sub>99%</sub>	OR	CI <sub>99%</sub>
Education				$\chi^2(2, N = 2,668)$ = 0.21		$\chi^2(2, N = 2,747)$ = 9.49**		$\chi^2(2, N = 5,415)$ = 6.94*
High school or equivalent <sup>a</sup>	12.0	14.3						
Less than high school	12.9	11.1	1.08	0.54, 2.15	0.75	0.38, 1.48	0.89	0.55, 1.45
Some college	13.0	21.1	1.09	0.61, 1.93	<b>1.61</b>	1.05, 2.47	<b>1.41</b>	1.00, 1.98
Ethnicity				$\chi^2(5, N = 2,631)$ = 7.95		$\chi^2(5, N = 2,696)$ = 11.36*		$\chi^2(5, N = 5,327)$ = 15.18*
White <sup>a</sup>	11.2	13.2						
African American	16.2	18.0	<b>1.52</b>	1.02, 2.28	1.44	0.98, 2.13	<b>1.48</b>	1.11, 1.95
Hispanic	12.3	19.1	1.11	0.68, 1.80	<b>1.55</b>	1.03, 2.34	1.34	0.98, 1.83
Asian American	13.6	13.1	1.25	0.63, 2.47	0.99	0.51, 1.91	1.10	0.69, 1.77
Native American	11.8	14.3	1.05	0.34, 3.28	1.09	0.35, 3.45	1.06	0.47, 2.38
Other	7.5	17.2	0.64	0.14, 3.04	1.36	0.55, 3.40	1.10	0.50, 2.39
Yearly family income				$\chi^2(2, N = 2,619)$ = 6.32*		$\chi^2(2, N = 2,687)$ = 5.02		$\chi^2(2, N = 5,306)$ = 7.40*
\$25,000 to \$50,000 <sup>a</sup>	12.6	13.2						
<\$25,000	10.1	15.1	0.78	0.53, 1.15	1.17	0.83, 1.66	0.98	0.76, 1.26
>\$50,000	14.1	16.9	1.14	0.80, 1.64	1.34	0.96, 1.87	1.24	0.97, 1.59

(continued)

**Table 3 (continued)**

Characteristic	Percentage SA		ID		Anon		Total	
	ID	Anon	OR	CI <sub>.99%</sub>	OR	CI <sub>.99%</sub>	OR	CI <sub>.99%</sub>
Geographical region			$\chi^2(3, N = 2,359)$ = 10.75*		$\chi^2(3, N = 2,399)$ = 1.84		$\chi^2(3, N = 4,758)$ = 6.90	
South <sup>a</sup>	14.6	14.6	0.81	0.54, 1.20	1.03	0.71, 1.50	0.92	0.70, 1.21
West	12.1	15.0	<b>0.57</b>	0.35, 0.93	1.00	0.66, 1.50	0.79	0.58, 1.07
Midwest	8.9	14.6	0.69	0.41, 1.14	0.81	0.50, 1.31	0.75	0.53, 1.06
Northeast	10.5	12.1	$\chi^2(3, N = 2,666)$ = 10.42*		$\chi^2(3, N = 2,743)$ = 7.29		$\chi^2(3, N = 5,409)$ = 12.78**	
Marital status								
Single <sup>a</sup>	12.4	14.4						
Married	4.9	12.7	<b>0.36</b>	0.13, 0.99	0.86	0.48, 1.57	0.66	0.40, 1.09
Cohabiting	16.2	20.6	1.36	0.60, 3.12	1.54	0.80, 3.00	1.48	0.89, 2.49
Other <sup>b</sup>	14.8	27.8	1.22	0.30, 4.99	2.28	0.87, 6.03	1.84	0.84, 4.05

Note: ID = identified; anon = anonymous; OR = odds ratio; CI = confidence interval. ORs in bold are statistically significant ( $p < .01$ ).

a. Reference category to which all other categories are compared.

b. Other marital status includes divorced, separated, and widowed.

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

women reported premilitary SA, defined as unwanted intercourse or attempted intercourse occurring after the age of 14. Although this rate is lower than the 46% of females who reported SA in a previous study of Navy recruits (Merrill et al., 1998), it remains substantially higher than the 28% of female college students who reported rape or attempted rape since age 14 (Koss et al., 1987). Similarly, considering only completed rape, the rates reported by women in the present study (29% in the anonymous condition) are substantially higher than those observed in national samples of college students (15%) (Brener, McMahon, Warren, & Douglas, 1999; Koss et al., 1987). A similar pattern was observed for male SA perpetration. The 15% rate of male SA in the anonymous condition of the present study is equal to the rate obtained in a previous study of Navy recruits (Merrill et al., 1998), and both are higher than the 6% to 9% rates obtained among samples of traditional college students (Abbey et al., 2001; Abbey & McAuslan, 2004; Koss et al., 1987; Lisak & Miller, 2002; Ouimette & Riggs, 1998). Combined, the present results suggest that both female SA victimization and male SA perpetration are more common among young adults entering the Navy than among their college student peers.

All of these estimates of SA rates are based on responses to self-report measures. The accuracy of self-reports may be reduced by memory failures or distortions and by the tendency to describe oneself in a favorable light. By administering the survey under two conditions, we were able to directly examine the influence of social desirability biases on self-reported rates of SA. Based on the assumption that individuals would be less inclined to report negative experiences or behaviors when they were identifiable than when they were anonymous, we expected to observe lower rates of SA in the identified than in the anonymous condition (Olson et al., 2004). This expectation was confirmed, although the effect was small. For both men and women, estimated rates of SA based on anonymous reports were approximately 20% higher than those based on identified reports. Assuming that individuals were reluctant to provide negative reports about themselves even when anonymity was assured, actual rates of SA are likely to be higher than those reported here. However, the alternative of relying on official crime reports to estimate SA prevalence suffers from other disadvantages, notably the fact that only a small minority of SAs are reported (Lisak & Miller, 2002). Nonetheless, in research using self-report measures, it is not possible to determine the extent to which observed differences in reported rates of SA represent differences in experiences or in willingness to report on those experiences. Thus, it is possible that the observed difference in SA rates between college students and Navy recruits reflects greater under-reporting of SA by college students than by recruits.

Comparability of the present results to those of previous studies was enhanced by using the same definition and measure of SA used by Koss et al. (1987) and other researchers (Abbey et al., 1996; Abbey et al., 2001; Abbey & McAuslan, 2004; Lisak & Miller, 2002; Ouimette & Riggs, 1998). Thus, methodological factors are unlikely to account for the observed difference in SA rates between Navy recruits and college students. It remains possible, however, that differences in SA prevalence between college students and recruits reflected group differences in other characteristics such as demographics. Since the advent of the all-volunteer force, fluctuating differences in the demographics of military recruits by comparison with the college-bound have been documented, particularly in terms of socioeconomic level and race (Bachman, 2000; Kleykamp, 2006).

For demographic differences to account for the observed differences in SA rates between recruits and college students, demographic variables must be associated with SA rates. In the present study, although there were some associations between demographic variables and the likelihood of SA, these effects were uniformly small. For men, being married was associated with lower likelihood of SA perpetration in the sample as a whole, but not when each survey condition was individually examined. None of the other demographic variables predicted men's SA perpetration in the sample as a whole or across both the identified and anonymous samples. This is consistent with the results of the previous study of premilitary SA among Navy recruits (Merrill et al., 1998) in which SA rates did not significantly vary by family income, education level, geographic region, or ethnicity. Research on college student samples has also found no association between family income and men's likelihood of SA perpetration (Koss et al., 1987). However, unlike the present study, in Koss et al.'s (1987) college student sample, SA perpetration was significantly related to geographic region. Previous evidence regarding ethnic differences in college men's likelihood of SA perpetration in college samples has been mixed (Koss et al., 1987; Lisak & Miller, 2002).

For women, family income, marital status, and ethnicity were significantly associated with SA victimization when considering the total sample. With respect to family income, women from families with higher incomes were significantly more likely to report SA than were women from families with moderate incomes. In previous studies of recruits (Merrill et al., 1998) and college students (Brener et al., 1999; Koss et al., 1987), socioeconomic status was not significantly related to the likelihood of women's SA victimization. In contrast, the results of the annual National Crime Victimization Survey (NCVS) consistently indicate that SA is more prevalent among

individuals of lower socioeconomic status (Bureau of Justice Statistics, 1999, 2004). It is possible that these differences result from differing distributions of socioeconomic status within the different types of samples. For example, because college samples have a higher socioeconomic status, on average, than do recruit samples, a restricted range of socioeconomic status may account for the lack of socioeconomic status effects in college samples. Similarly, the NCVS is likely to include individuals with a broader range of family incomes than the recruit sample; thus, it may be that socioeconomic status is negatively related to the likelihood of SA victimization across the entire range of incomes but positively related to SA victimization within the smaller range represented by recruits. In any case, it should be born in mind that the magnitude of the association between socioeconomic status and SA victimization in the present study was small and that the effect was significant only when the data for anonymous and identified conditions were pooled.

With respect to marital status, women who were cohabiting were approximately twice as likely as single women to report SA victimization. Previous studies of SA rates have failed to examine marital status in relation to SA victimization (Brenner et al., 1999; Koss et al., 1987). Although the NCVS does include marital status, it does not include cohabiting as a category, precluding direct comparisons to the present results. Of interest, there is evidence that cohabiting women are at increased risk of intimate partner violence (Brownridge & Halli, 1999). Given that men who perpetrate one form of violence are at increased risk of perpetrating other forms as well (Lisak & Miller, 2002), this association merits further exploration.

Finally, women's ethnicity was associated with their likelihood of SA victimization, with women who identified as African American, Hispanic, or Asian American reporting lower SA rates than women who identified as White. Koss et al. (1987) and Merrill et al. (1998) also found significant associations between ethnicity and SA among women, with a pattern of results similar to that found here. However, other studies have found higher rates of rape among African American respondents than among women of other races (Scott, Lefley, & Hicks, 1993; Urquiza & Goodlin-Jones, 1994), and still others have failed to find associations between SA victimization and women's race/ethnicity (Brenner et al., 1999; Lisak & Miller, 2002). In interpreting these conflicting results, it is important to bear in mind that racial classifications represent vast oversimplifications. Indeed, it is possible that differences *within* any given racial classification are larger than differences *between* racial groups. In fact, significant differences in the likelihood of SA have been documented across subgroups of Native

Americans (Yuan, Koss, Polacca, & Goldman, 2006). Future studies of SA might benefit from further exploring the dynamics of cultural and ethnic differences that exist within racial groups. Understanding these patterns may be helpful in identifying important public health risks for sexual aggression.

The relatively high rates of premilitary SA reported by female and male Navy recruits are matters of concern with respect to their potential impact on military adjustment and performance. For women, previous studies have indicated that SA may have a significant long-term impact on attrition, job performance, and use of general medical and psychological health care services (Koss & Heslet, 1992; Koss, Koss, & Woodruff, 1991; Koss, Woodruff, & Koss, 1990; Stander, Merrill, Thomsen, Crouch, & Milner, 2007; Ullman & Brecklin, 2003). In addition, women who have experienced SA are at increased risk for subsequent SA victimization (Neumann et al., 1996). Educational interventions may be helpful in reducing the likelihood of SA victimization among women. For men in nonmilitary samples, a history of sexual aggression has been shown to predict future aggression (Lisak & Miller, 2002; Prentky et al., 1997). Thus, without intervention, perpetrators of sexual aggression are at a high risk of re-perpetrating SA and committing other violent behaviors (Malamuth, Heavey, & Linz, 1993). The relatively high rate of male perpetration of SA found among incoming recruits indicates a need for early interventions to aid in preventing future aggression. Because only about 5% to 16% of rapes are reported to police (Koss et al., 1987; Lisak & Miller, 2002; Pithers, 1993), early identification and treatment of sexually aggressive men may be the most practical approach to reducing recidivism.

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# REPORT DOCUMENTATION PAGE

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**14. ABSTRACT (maximum 200 words)** Female ( $n = 5,226$ ) and male ( $n = 5,969$ ) U.S. Navy recruits completed a survey assessing their premilitary histories of adult sexual assault, defined as attempted or completed rape since the age of 14. The survey was completed under anonymous or identified conditions. Overall, 38.7% of women reported premilitary sexual assault victimization and 13.5% of men admitted premilitary sexual assault perpetration. Rates were significantly higher in the anonymous than in the identified condition. For men, no demographic factors were associated with sexual assault perpetration. For women, marital status and ethnicity were associated with sexual assault victimization. Navy recruits were more likely to have previous sexual assault experience than their college student counterparts. Given the negative consequences associated with victimization and perpetration of sexual assault, the present study reinforces the view that it may be advantageous to develop additional sexual assault treatment, education, and prevention programs for military recruits.

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