

# Reports of Rape Reperpetration by Newly Enlisted Male Navy Personnel

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This study examined the frequency and characteristics of repeated attempted and completed rape (ACR) incidents reported by newly enlisted male navy personnel ( $N = 1,146$ ) who participated in a longitudinal study during the transition from civilian to military life. Overall, 13% ( $n = 144$ ) reported engaging in sexual behavior that approximates legal definitions of ACR since the age of 14. Among those men, most (71%) reperpetrated ACR incidents ( $M = 6.36$ ,  $SD = 9.55$ ). Demographic variables were unrelated to perpetration history. Regardless of time period, respondents reported perpetrating primarily completed rather than attempted rape, perpetrating multiple ACR incidents rather than a single incident, using substances to incapacitate victims more frequently than force, and knowing their victim rather than targeting a stranger in completed rape incidents.

**Keywords:** sexual assault; longitudinal study; perpetrator

Despite the devastating personal and adverse societal impact of sexual violence, sexual assault, including attempted and completed rape, remains the most underreported violent crime in the United States (Kilpatrick, Edmunds, & Seymour, 1992). Extensive national research on victimization rates suggests that as many as one of six women in the United States has experienced an attempted or completed rape (ACR; Kilpatrick et al., 1992; Tjaden & Thoennes, 2000). Results from the National Crime Victimization Study suggest that between 1992 and 2000, 63% of completed rapes and 65% of attempted rapes against women were never reported to the police (Rennison, 2002). Other researchers have provided even higher rates of underreporting, estimating that between 64% and 96% of all rape incidents are never reported (Bachman, 1998; Fisher, Cullen, & Turner, 2000; Fisher, Daigle, Cullen, & Turner, 2003; Kilpatrick et al., 1992; Perkins & Klaus, 1996; Russell, 1982). Estimated victimization rates, coupled with high underreporting rates, suggest that undetected rapists, that is, men who are never reported or prosecuted for perpetrating ACR (Lisak & Miller, 2002), constitute a sizable group.

Research on undetected rapists uses primarily self-report survey instruments. The Sexual Experiences Survey, developed by Koss and Gidycz (1985), has been used to collect sexual victimization and perpetration data from respondents who self-report a wide range of sexual experiences, including those that approximate legal definitions of ACR. Research into ACR perpetration by undetected rapists has produced a persistent gap between rape victimization and perpetration reporting rates, with men consistently reporting rape perpetration rates that are 66% to 75% lower than victimization rates (Kolivas & Gross, 2007; Spitzberg, 1999). Although considered unlikely by some researchers (Koss, Gidycz, & Wisniewski, 1987), the gap in reporting rates may be partially explained by undetected rapists who commit multiple ACR incidents. Research with convicted rapists suggests that men who have previously perpetrated sexual assault are more likely than those who have not to perpetrate future sexual assault and to engage in other forms of violent behavior (Prentky, Lee, Knight, & Cerce, 1997; Pritchard & Bagley, 2000; Weinrott & Saylor, 1991). Additionally, when given the opportunity to self-report all their sexual and violent crimes under conditions of anonymity, convicted rapists report far more crimes than appear on their official records (Abel et al., 1987; Weinrott & Saylor, 1991). Although research with convicted rapists suggests that rape reperpetration is common, convicted rapists may differ from men who perpetrate rape but are not officially identified, prosecuted, or convicted. It is therefore not clear that results based on convicted rapists can be extended to their undetected counterparts.

Two longitudinal studies of sexual assaults by college students reported incidence rates as well as reperpetration rates for their samples (Abbey & McAuslan, 2004; Hall, DeGarmo, Eap, Teten, & Sue, 2006). Each study surveyed participants two times, 12 months apart. In both cases, nearly one-third (28% and 32%, respectively) of all participants reported perpetrating sexual assault during either the first or the second time frame, and an additional 9% of participants in each study reported perpetrating sexual assault in both time frames. Both studies defined perpetrators as men who reported any type of sexual assault, from forced sexual contact to ACR. As a result, ACR reperpetration rates cannot be determined.

Although other longitudinal studies of rape among college students exist, they often do not report reperpetration rates. Malamuth, Linz, Heavey, Barnes, and Acker (1995) surveyed male college students twice: once while in college and again with a 10-year follow-up survey. The authors reported a significant positive correlation between committing a sexual assault and/or rape across 10 years but did not report reperpetration rates for either sexual assault or rape. White and Smith (2004) surveyed a sample of college men annually and reported that by the end of the fourth year of college, 35% of men who completed all four surveys perpetrated at least one sexual assault or rape. The authors did not detail reperpetration rates for their sample over time, but they did report that, as a group, men who reported rape consistently used more sexually coercive behaviors than did men who reported other sexual assaults.

It also is possible to estimate rape reperpetration rates from studies that provide information about the total number of previous incidents of sexual assaults and ACR retrospectively reported by participants. Cross-sectional research assessing self-reported sexual assault and ACR perpetration suggests that the majority of young men who report ACR report having committed multiple acts of ACR as well as other sexually and physically violent acts (Abbey, McAuslan, Zawacki, Clinton-Sherrod, & Buck, 2001; Lisak & Miller, 2002). For example, in a sample of 1,882 male college students with a mean age of 26.5 years ( $SD = 8.28$ ), 6% ( $n = 120$ ) reported perpetrating acts in their lifetime that met legal definitions for ACR. Of these 120 perpetrators, 63% ( $n = 76$ ) retrospectively reported committing repeat rapes

( $M = 5.8$ ,  $Mdn = 3$ ), either with multiple victims or by assaulting the same victim more than once (Lisak & Miller, 2002). Similarly, in their longitudinal study, Abbey and McAuslan (2004) reported that men who admitted committing any type of sexual assault, from forced sexual contact to ACR, during either time frame typically reported committing multiple incidents. In addition, men who reported perpetrating in both time frames committed significantly more incidents and more severe forms of sexual assault than men who reported perpetration on only one survey (Abbey & McAuslan, 2004).

The present study contributes to existing research on rape perpetration by undetected rapists using the results of a longitudinal self-report survey on sexual activities among male navy personnel across the transition from civilian to military life. It builds on previous work that reported lifetime incidence rates of premilitary ACR reported by recruits at the beginning of basic training (Merrill, Stander, Thomsen, Crouch, & Milner, 2005; Merrill, Thomsen, Gold, & Milner, 2001; Merrill et al., 1998). Although sexual assaults that involve unwanted sexual contact and verbal coercion carry significant implications for both the perpetrator and the victim, ACR activities are legally distinct and carry more severe penalties for a perpetrator who is identified and convicted. For this reason, we limited the present study to self-reported ACR. We defined rape as vaginal, anal, or oral sexual intercourse through the threat or actual use of force (force) or by incapacitating the victim with drugs or alcohol (substances). We defined perpetration in two ways: based on reports of ACR perpetration in two distinct time periods and based on retrospective self-reports of the number of ACR incidents perpetrated.

Based on the previous finding that demographic variables did not significantly differentiate men who reported premilitary ACR from those who did not (Merrill et al., 2005), we expected that demographic variables would be unrelated to reporting ACR during military service. However, we expected that men with a history of premilitary ACR would be more likely than those with no history of ACR to report perpetrating again during military service. We further explored the relationship between rape perpetration and specific characteristics of reported rape incidents. We considered how assault severity (i.e., attempted vs. completed rape), the number of reported incidents (i.e., single vs. multiple events), the methods used (i.e., substances vs. force), the victims of completed rape (i.e., acquaintance vs. stranger), and the timing of the first ACR (i.e., before vs. after 18th birthday) might be related to the likelihood of ACR perpetration. Consistent with previous research, we expected that the majority of men who perpetrated rape against women would report that they knew their victims (Abbey, Clinton-Sherrod, McAuslan, Zawacki, & Buck, 2003; Abbey & McAuslan, 2004; Tjaden & Thoennes, 1998). In addition, we expected that perpetration would be related to more severe incidents, including completed (vs. attempted) rape and the use of force (vs. substances). Finally, we discussed the observed patterns of reported rape perpetration behaviors within our sample and considered the implications of these patterns for further research into undetected rapes and prevention programs for navy personnel.

## METHODS

### Participants

Respondents were 2,925 male navy personnel who voluntarily participated in a longitudinal study across their first 2 years of military service. Although relative population representation is an important Department of Defense goal, recruits constitute a non-representative sample of the general population since they are screened before entering

military service (U.S. Department of Defense, 2005). Physical, medical, and mental health minimum standards; educational and moral requirements; age limits; and security clearance issues are part of the legal and policy constraints imposed by the military services (Sackett & Mavor, 2006).

All recruits were processed through the Recruit Training Command (RTC) in Great Lakes, Illinois, between June 1996 and June 1997. They were initially surveyed during their first week at RTC. Follow-up surveys were mailed 6 months after basic training. Men who did not respond were mailed a second copy 5 weeks later. Follow-up surveys were again mailed to all participants 12 months after basic training and once again to non-responders after 13 months. Although follow-up surveys also were mailed to participants after 2 years of service, the present report includes only information from baseline through the first year of service, because of a low response rate to the final follow-up survey. We analyzed the first follow-up survey (i.e., either after 6 months or 12 months) returned by each participant with complete information regarding ACR events in the year following basic training.

From the initial sample of 2,925 men, 58% ( $n = 1,692$ ) either had been discharged from military service or did not return the 6- or 12-month follow-up survey. Of the 1,233 men with both a baseline and follow-up survey, 7% ( $n = 87$ ) provided incomplete ACR data from one or both surveys and therefore were excluded from the final sample. The remaining 1,146 men who had complete sexual assault data for both the initial and a follow-up survey constituted our final sample.

Attrition analyses comparing participants included in this study with those who were excluded in terms of variables assessed at baseline revealed no significant differences on the demographic variables of age, level of education, family-of-origin income level, and marital status. There were slight differences by race/ethnicity, with Asian personnel somewhat overrepresented in the longitudinal sample,  $p < .001$ ,  $\Phi' = .08$ . More important, men who attrited from the study (13%) were more likely than men who remained in the study (11%) to report premilitary ACR, although the difference did not attain statistical significance,  $\chi^2(1, N = 2,717) = 3.175$ ,  $p < .10$ ,  $\Phi' = .03$ . Furthermore, men who were excluded from the study sample reported perpetrating a greater number of ACR incidents ( $M = .76$ ,  $SD = 3.53$ ), on average, than did men who were included in the follow-up analysis ( $M = .52$ ,  $SD = 2.76$ ),  $t(2,689.56) = -2.007$ ,<sup>1</sup>  $p < .05$ . Although this effect ( $d = .08$ ) was smaller than typical (Cohen, 1988), it suggests that our results may constitute conservative estimates of actual rates of ACR perpetration and reperpetration.

The majority of men included in the final sample for this study were single (91%), with 5% married, 2% cohabiting, and 2% other. Participants ranged in age from 17 to 34 years ( $M = 19.82$ ,  $SD = 2.72$ ). Most participants were high school diploma graduates (84%), with an additional 7% reporting some postsecondary education. Participants were diverse in race/ethnicity, with 62% White, 15% African American, 13% Hispanic, and 10% other.

## Measures

**Demographic Questionnaire.** The Demographic Questionnaire was designed to gather basic demographic data at baseline. Participants provided their birth dates, gender, race/ethnicity, education, marital status, and family-of-origin income level.

**Sexual Experiences Survey.** A modified 10-item version of the Social Experiences Survey (SES) was used to assess self-reported sexual assault perpetration (Koss et al., 1987). The

SES uses behaviorally specific questions describing sexually coercive and aggressive acts, including those that approximate legal definitions of ACR. Past research has demonstrated both the criterion validity and the construct validity of the SES (Alksnis, Desmarais, Senn, & Hunter, 2000; Koss & Gidycz, 1985; Lisak & Roth, 1988; Malamuth, 1986; Ouimette, 1997). On the initial survey, respondents were asked to report all premilitary sexual assault incidents they perpetrated (a) between their 14th birthday and the age of 18 and (b) since the age of 18. On the follow-up surveys, respondents were asked to report all sexual assault incidents they perpetrated during the past 6 months. Because the follow-up surveys were not distributed until after participants had completed at least 6 months of military service, every sexual assault reported on the follow-up surveys occurred during active-duty military service. Rather than using the original dichotomous (yes/no) response format, we used an 11-point response scale that assessed the number of times (range = 0–10+ times) that each sexual act was perpetrated.

For the present study, only items indicating attempted rape (two items) and completed rape (three items) were analyzed (see Appendix). Respondents could report using two different methods for both attempted and completed rape: (a) using substances (i.e., alcohol and/or drugs) to incapacitate a woman and (b) using force or threats of force against a woman. Finally, respondents who reported perpetrating a completed rape (but not those who reported perpetrating only attempted rape) were asked to classify their relationship(s) with the victim(s). Victims were classified as either known (e.g., girlfriend, acquaintance, date) or strangers. Six dichotomous variables were created, each indexing whether respondents reported a particular type of assault (attempted rape, completed rape, ACR involving force, ACR involving substances, known victim, stranger victim).

## Procedures

The information gathered in the present study was part of an extensive survey package offered to new navy personnel during their first week at RTC between June 1996 and June 1997. Nonmilitary personnel of the same gender as participants administered the survey package in a classroom setting to single-sex groups of recruits. Participation was voluntary. Overall, 94% of men invited did participate. Before agreeing to participate, participants were provided with a description of the study, a Privacy Act statement, and an informed consent 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.” Participants granted permission to the researchers to obtain additional information about their military records and to analyze these data in conjunction with information provided on the survey.

## RESULTS

Based on self-reports, overall 87% ( $n = 1,002$ ) of respondents had never perpetrated ACR, whereas 13% ( $n = 144$ ) perpetrated at least one ACR incident between their 14th birthday and the end of their first year of military service. Among those reporting at least one ACR incident, 71% ( $n = 103$ ) reported perpetrating only before entering the military, 15% ( $n = 21$ ) reported perpetrating only during their first year of military service, and 14% ( $n = 20$ ) reported perpetrating both before entering the military and during their first service year. When categorized by the total number of lifetime incidents reported, 29% ( $n = 40$ ) perpetrated a single incident only, whereas 71% ( $n = 96$ ) perpetrated two or

more incidents ( $M = 6.36$ ,  $SD = 9.55$ ). Of the 865 total lifetime ACR incidents reported by these men, perpetrators committed 95% of ACR incidents.

### Characteristics of ACR Prior to Entering and During Military Service

There were no significant demographic differences (age, marital status, level of education, race/ethnicity, or family-of-origin income level) between men who had and those who had not perpetrated ACR prior to basic training or during military service. Table 1 compares the characteristics of ACR incidents perpetrated before military service to those perpetrated during military service. Bivariate comparisons showed that ACR patterns were similar regardless of time period. Most respondents reported completed rape rather than attempted rape, multiple ACR incidents rather than a single incident, using substances rather than force, and knowing their victim rather than targeting a stranger.<sup>2</sup>

Bivariate comparisons suggested that respondents with a history of premilitary ACR were significantly more likely to perpetrate military ACR than men who had no history of premilitary ACR,  $\chi^2(1, N = 1,146) = 64.25$ ,  $p < .001$ ,  $\Phi' = .24$ . Of the 123 men with a history of premilitary ACR, 16% ( $n = 20$ ) reported perpetrating ACR while in the military. Among the 1,023 men who did not have a history of premilitary ACR, only 2% ( $n = 21$ ) reported perpetrating ACR while in the military. There were no other significant differences in the characteristics of ACR (assault severity, total number of assaults, method, and

**TABLE 1. Characteristics of Premilitary and Military Self-Reported ACR**

Characteristic	Premilitary Percentage ( <i>n</i> )	Military Percentage ( <i>n</i> )
Assault <sup>a</sup>		
Attempted rape	53% (63)	48% (19)
Completed rape	79% (97)	85% (35)
Number of incidents		
Single	31% (36)	33% (13)
Multiple	69% (80)	67% (27)
Method <sup>a</sup>		
Drugs or alcohol	77% (89)	75% (30)
Threats or use of force	34% (39)	45% (18)
Victim <sup>a</sup>		
Acquaintance	89% (82)	92% (24)
Stranger	23% (21)	27% (7)

*Note.* Percentages for all rape characteristics are calculated for participants reporting premilitary and military attempted and completed rape (ACR; premilitary ACR,  $n = 123$ ; military ACR,  $n = 41$ ). Because of missing data,  $n$  varies (premilitary ACR,  $n = 92$ – $123$ ; military ACR,  $n = 31$ – $41$ ). There were no significant differences in the characteristics of self-reported ACR whether perpetrated premilitary or while in the military,  $p < .05$ .

<sup>a</sup>Perpetrators could be included in both subcategories for each of these variables; percentages do not sum to 100%.



victim) perpetrated during military service between those whose first incident occurred prior to military service and those who first perpetrated during military service.

These results were confirmed by the results of a hierarchical logistic regression predicting the report of any ACR during military service. We entered demographic variables (marital status, level of education, age, family-of-origin income level, and race/ethnicity) in an initial block.<sup>3</sup> The second block included two independent variables regarding premilitary ACR perpetration status: (a) ever attempted rape and (b) ever completed rape. In a third block we entered six additional independent variables regarding the characteristics of premilitary ACR incidents (first incident before 18th birthday, ever used substances, ever used force, ever raped a stranger, ever raped an acquaintance, and total number of premilitary ACR incidents reported) in a stepwise fashion. None of these ACR characteristics entered the equation. Furthermore, of the variables forced into the equation in blocks 1 and 2, only the report of a completed rape prior to entering the military was a significant predictor of military ACR perpetration,  $B(SE) = 2.27 (0.42)$ ,  $t(1,134) = 5.40$ ,  $p < .001$ . The odds ratio of 9.69 (95% CI: 4.24–22.13) indicates that ACR perpetration during the first year of military service was nearly 10 times more likely if a man had committed a completed rape before entering the military than if he had not.

### Lifetime Self-Reported Rape Perpetration

We next considered reperpetration as a function of the total number of lifetime ACR incidents participants reported. We explored bivariate relationships between the total number of lifetime ACR incidents with demographic variables and ACR characteristics.<sup>4</sup> Once again, none of the demographic variables (i.e., marital status, level of education, age, family-of-origin income level, and race/ethnicity) were significantly related to the total number of ACR incidents reported. The timing of the first reported ACR (before vs. after 18th birthday) also was unrelated to total number of ACR incidents perpetrated.

However, a clear pattern emerged in bivariate tests of association between total number of ACR incidents and assault severity, methods, and victim (see Table 2). We divided participants into three mutually exclusive groups for each of these variables (e.g., only attempted rape, only completed rape, or both attempted and completed rape). For each variable, we observed the same results. As a group, men who reported “both” reported a significantly higher mean number of incidents than men in the two “only” groups. However, there were no differences in the mean number of incidents reported by the two “only” groups. These results are unsurprising and perhaps even tautological. By default, all men who reported “both” for assault severity, methods, and victim had committed at least two lifetime ACR incidents. As a group, therefore, they would be expected to have committed more total lifetime ACR than the two “only” groups, which contained all the single-incident perpetrators. In spite of this inherent confound, Table 2 provides interesting insights into patterns of perpetration that were less common. For example, not only were men unlikely to target a stranger, but among the few who reported targeting a stranger, even fewer targeted only strangers.

We further considered the patterns of lifetime completed rape incidents reported by our sample by cross-tabulating the methods used and the victims targeted in completed rape incidents (see Table 3). This table supports the patterns evident in Tables 1 and 2 but further highlights rare events. Respondents reported using substances (83%) more frequently than force (27%) and knowing their victim (92%) more often than targeting strangers (26%). All the men who reported using force and targeting a stranger (4%) also reported

**TABLE 2. Mean Number and Percentage of Lifetime ACR Incidents by Incident Characteristics**

Characteristic	<i>M</i> (CI)	Percentage ( <i>n</i> )
Assault		
Attempted rape	1.93 (1.31–2.55)	21% (29)
Completed rape	4.31 (3.06–5.56)	43% (58)
Both attempted and completed rapes	11.41* (7.50–15.32)	36% (49)
Method		
Drugs or alcohol only	4.08 (3.20–4.97)	61% (83)
Threats or use of force only	3.94 (2.41–5.46)	23% (31)
Both substances and force	18.36* (10.48–26.25)	16% (22)
Victim		
Acquaintance only	5.97 (4.58–7.37)	75% (72)
Stranger only	1.71 (0.69–2.74)	7% (7)
Both acquaintance and stranger	14.35* (4.58–24.12)	18% (17)
First incident before 18th birthday		
Yes	5.22	40% (55)
No	7.14	60% (81)

Note. ACR = attempted or completed rape; CI = 95% confidence interval for the mean.

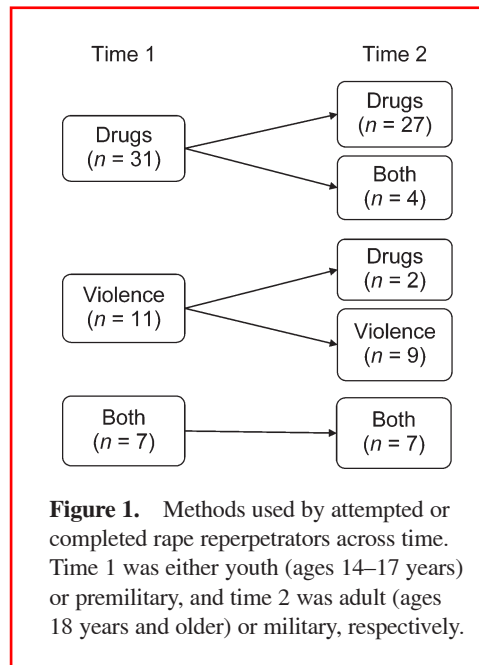
\*Mean differences are significant at the .05 level.

**TABLE 3. Mean (SD) Number and Percentage of Lifetime Completed Rapes as a Function of Method of Assault and Relationship to Victim**

	Substances Only	Force Only	Both Methods
Known			
Mean ( <i>SD</i> )	3.60 (4.16)	4.00 (3.81)	8.50 (5.32)
95% CI	2.44–4.78	2.04–5.96	2.92–14.08
Percentage ( <i>n</i> )	51% (51)	17% (17)	6% (6)
Stranger			
Mean ( <i>SD</i> ; CI)	1.63 (1.06)		
95% CI	0.74–2.51		
Percentage ( <i>n</i> )	8% (8)		
Both victims			
Mean ( <i>SD</i> ; CI)	5.93 (5.57)		29.75 (10.40)
95% CI	2.71–9.14		13.19–46.31
Percentage ( <i>n</i> )	14% (14)		4% (4)

Note. CI = 95% confidence interval for the mean.





using substances and targeting an acquaintance. Of the men who used only force against their victims, none reported raping a stranger; all the men knew their victims.

Table 3 also shows that most respondents reported using only one method (90%) and targeting only one type of victim (82%). These numbers suggest that most respondents specialized in the methods they used and the victims they targeted. In fact, only 4% of the sample generalized in both methods and victims. As previously noted, men who specialized in both methods and victims reported lower mean numbers of completed rapes than did men who generalized in methods and/or victims.

Clearly, certain patterns of rape were very uncommon among our participants. To further illustrate this, we mapped the methods used by men for all ACR incidents across either of two time periods: (a) youth (ages 14–17 years) versus adult (18 years or older) and (b) premilitary versus military. Figure 1 diagrams the method used from time 1 to time 2 for all repeat offenders. The majority of these men (88%) reported using the same method(s) across time. Among those who reported different methods over time (12%,  $n = 6$ ), 67% reported using substances in time 1 and both substances and force in time 2; the remaining 33% reported using only force in time 1 and using only substances in time 2.

## DISCUSSION

The present study adds to existing research on rape perpetration by undetected rapists using the results of a longitudinal self-report survey on sexual activities among navy personnel across the transition from civilian to military life. By the end of their first service year, 13% of our sample reported perpetrating at least one ACR incident during their life. From the longitudinal data, we determined that 9% of the sample perpetrated prior to military service only, whereas 2% of the sample first perpetrated ACR during their military service, and another 2% of the sample perpetrated ACR both prior to entering the military and again

during military service. However, if we consider reperpetration as a function of the total number of lifetime ACR incidents retrospectively reported, the majority (71%) of all men who perpetrated ACR by the end of their first service year reported perpetrating multiple incidents ( $M = 8.66$ ,  $SD = 10.43$ ). Although only 14% of perpetrators reported ACR both prior to entering the military and then again during the first service year, 71% of perpetrators reported multiple lifetime ACR incidents.

Only two studies with longitudinal data collected from college student samples have reported sexual assault reperpetration rates. Both studies found a rate of 9%, but only after defining a perpetrator as a man who reported any sexual assault, including unwanted sexual contact, verbal coercion, and ACR (Abbey & McAuslan, 2004; Hall et al., 2006). Since our study is the first to report reperpetration of ACR incidents from a longitudinal study, we cannot directly compare our results with these earlier studies. However, in a study of college students that examined reperpetration in terms of total self-reported ACR events (Lisak & Miller, 2002), of men who reported perpetrating ACR during their lifetime, most (63%) reported perpetrating multiple incidents ( $M = 5.8$ ,  $Mdn = 3$ ). These results are similar to the rate reported by our sample (71%), suggesting that most perpetrators will reperpetrate.

We found no significant differences in demographic variables between respondents based on their lifetime history of self-reported ACR incidents. Regardless of time period, participants reported primarily perpetrating completed rape rather than attempted rape, perpetrating multiple ACR incidents rather than single ACR incidents, using substances more frequently than force, and knowing their victim rather than targeting a stranger.

Men with a history of premilitary ACR were significantly more likely than participants who did not have a history of ACR incidents to perpetrate ACR during military service. Using hierarchical logistic regression analysis, we determined that ACR perpetration during the first year of military service was nearly 10 times more likely if a man had committed completed rape before entering the military than if he had not. Interestingly, premilitary perpetration of attempted rape was not associated with increased risk of military ACR. Moreover, no specific ACR characteristic (e.g., method used, relationship to victim, early age of first perpetration) was significantly predictive of the likelihood of subsequent ACR perpetration.

Bivariate analyses of the total number of lifetime ACR incidents in relation to assault severity, methods, victims, and timing of first incident suggested that men overwhelmingly reported using a single method and targeting a single victim type. Among those reporting completed rape, only 4% reported using both multiple methods and targeting multiple types of victims. Using force against a victim and targeting a stranger were not reported by many respondents. In fact, the stereotypical rape incident characterized by a man violently attacking a stranger was not reported by any of the respondents. Instead, respondents who used only force against their victims reported raping only women they knew. Men who targeted strangers exclusively reported they used substances only in the rape incident.

These findings may help explain why most self-reported ACR incidents go undetected. Research into the reporting of rape incidents to authorities suggests that women were more likely to report rape to the police if the perpetrator used force and a weapon and inflicted physical injury (Bachman, 1998; Du Mont, Miller, & Myhr, 2003; Williams, 1984). In addition, a woman is more likely to report a rape perpetrated by a stranger (Feldman-Summers & Norris, 1984; Feldman-Summers & Palmer, 1980; Williams, 1984). Legal perspectives on acquaintance rape suggest that a woman faces considerably more challenges throughout the entire legal process when bringing a claim of rape against an

acquaintance rather than a stranger (Parrot & Bechhofer, 1991). There are significant differences between the stereotypical rape incident involving a stranger who uses force against the victim and acquaintance rape incidents, which most often occur in either the victim's or the perpetrator's home and rarely involve weapons or result in physical injuries (Fisher et al., 2003). With stereotypical rape incidents, there are multiple opportunities for medical, emergency, and legal workers to become involved with the victim after the attack. Victims of acquaintance rape incidents are much less likely to seek similar assistance (Abbey, 1987). As a result, men who use substances against their victims and attack acquaintances rarely have their rape incidents detected and prosecuted within the legal system.

The results of this study should be interpreted within the context of its limitations. Although the SES is the dominant self-report survey instrument used to research sexual assault victimization and perpetration in nonclinical samples (Kolivas & Gross, 2007), questions have been raised about its limitations (Abbey, Parkhill, & Koss, 2005; Ouimette, Shaw, Drozd, & Leader, 2000; Testa, Vanzile-Tamsen, Livingston, & Koss, 2004). Data gathered through self-report measures may be limited by respondents' memory failure, underreporting of sensitive and socially undesirable behaviors, and incomplete responses. In addition, our final sample was restricted by three requirements so that only (a) respondents with identifying information, (b) respondents with complete baseline information, and (c) respondents with complete follow-up information would be included in the final sample. Each restriction may have biased our results toward lower rates of all reported ACR incidents. In fact, attrition analyses comparing our final sample with recruits who could not be included in the final sample suggest that the reperpetration rates presented in this study are conservative estimates of actual rates for our full initial sample.

Nevertheless, the size of our final sample, as well as its demographic diversity, allowed us to limit our analysis to self-reported behaviors that approximate legal definitions of attempted and completed rape. We also were able to test demographic variables as relative risk factors and determine that age, education level, race/ethnicity, family-of-origin income level, and marital status did not significantly differentiate perpetrators from nonperpetrators. Access to longitudinal data for our sample permitted us to further investigate patterns of ACR incidents. Although reports of reperpetration over two distinct time periods were relatively rare, reperpetration as a function of the total number of lifetime incidents was not uncommon. Of all men who perpetrated at least one ACR, 71% acknowledged multiple incidents. Finally, the tendency for most men to use a single method was consistently observed for reperpetration both during a single time period and over two different time periods.

The results presented here, as well as the patterns of ACR incidents observed, provide important information about sexual activities that approximate serious legal crimes but were never detected or prosecuted within the legal system. Our results also have important implications for prevention programs, particularly those designed for navy personnel. As previously reported (Merrill et al., 2005), up to 12% of all newly enlisted recruits may have perpetrated completed rape prior to military service and therefore are at greater risk of perpetrating ACR during military service. With the navy recruiting between 29,154 and 42,196 male enlisted personnel yearly between fiscal years 1996 and 2006 (Defense Manpower Data Center, 2007), as many as 3,499 to 5,064 men annually may be members of this higher-risk group. Reports of alleged sexual assaults involving military personnel as either victim or perpetrator increased from 2005 to 2006 by 24%, totaling 2,947 reports. Among the reports filed in 2006, 1,167 reports involved service members as both the

victim and the perpetrator (U.S. Department of Defense, 2007). This article demonstrates that rape perpetration is no less a problem among military personnel than their civilian counterparts.

Both potential victims and potential perpetrators should be educated in an attempt to prevent sexual aggression and attacks. It is important to design prevention programs that educate both men and women about the most common patterns of undetected rape (i.e., a perpetrator known by the victim who uses substances to incapacitate her). Some strategies proposed by other researchers include improving perceptions of risk factors in social dating situations, changing attitudes and beliefs that directly and indirectly support sexual violence, encouraging a reduction in alcohol consumption, teaching communication skills, limiting peer approval of sexual aggression, and increasing empathy for the experience of the victim and understanding of the aftereffects of rape (Abbey, McAuslan, & Ross, 1998; Abbey et al., 2001, 2003; Bondurant & Donat, 1999; Flores, 1999). Prevention programs may also be designed to teach bystanders or witnesses of sexual violence how to intervene before or during an incident, ways to counter social norms that support sexual violence, and skills necessary to be an effective and supportive ally to survivors of sexual violence (Banyard, Moynihan, & Plante, 2007). An effective prevention program may reduce the number of ACR incidents committed during military service and provide men and women with additional information on building successful personal and professional relationships.

## NOTES

1. Equal variance not assumed.
2. Information regarding the relationship between perpetrator and victim was available only for completed rape.
3. We replaced missing values for marital status, family-of-origin income level, and race/ethnicity with mode or mean values as appropriate.
4. We considered conducting a multivariate analysis of the relationship of total perpetration with the demographic variables and the rape characteristics. However, because the total number of incidents was not completely independent of the rape characteristics and because not all combinations of specific ACR characteristics occurred within the data, multivariate analysis was not appropriate.

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## APPENDIX

### SES questions assessing ACR perpetration by using substances:

1. “Have you attempted to have sexual intercourse with a female (tried to insert your penis in her vagina) when she didn’t want to by giving her alcohol or drugs but you did NOT succeed?”
2. “Have you made a female have sexual intercourse (putting all or part of your penis in her vagina even if you didn’t ejaculate or come) by giving her alcohol or drugs or getting her high or drunk?”

### SES questions assessing ACR perpetration by using threats or actual force:

1. “Have you attempted to have sexual intercourse with a female (tried to insert your penis in her vagina) when she didn’t want to by threatening or using some degree of force but you did NOT succeed?”
2. “Have you made a female have sexual intercourse (putting all or part of your penis in her vagina even if you didn’t ejaculate or come) by using some degree of force or threatening to harm her?”
3. “Have you made a female do other sexual things like anal sex, oral sex, or putting fingers or objects inside of her or you by using some degree of force or threatening to harm her?”