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## THE EFFECTS OF FRAME OF REFERENCE ON RESPONSES TO QUESTIONS ABOUT SEXUAL ASSAULT VICTIMIZATION AND PERPETRATION

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### Abstract

Self-reports of sexual assault are affected by a variety of factors including the number of questions, question phrasing, and context. Participants (307 women, 166 men) were randomly assigned to one of two forms of a questionnaire. One form had the tactics used to obtain forced sex as the initial frame of reference, whereas the other form had the type of sex that was forced as the initial frame of reference. Seventy-five percent of the women who received the tactics-first version reported that they had at least one victimization experience since the age of 14, as compared to 62% of the women who received the type-of-sex-first version. Sixty-nine percent of the men who received the tactics-first version reported that they had at least one perpetration experience since the age of 14, as compared to 36% of the men who received the type-of-sex-first version. These findings have implications for how questionnaires should be designed to maximize reporting of sexual assault incidents.

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For more than 30 years, feminist researchers in the United States have argued that the narrow definitions used by federal and state governments to define rape and sexual assault produce serious underestimates of their prevalence. In addition, methodological limitations in many surveys of sexual assault victimization and perpetration reduce the likelihood that sexual assaults will be reported. There have been a number of thorough reviews of these issues (Hamby & Koss, 2003; Koss, 1992, 1993; Lynch, 1996; Smith, 1994), thus only a brief summary is provided below. The steps researchers take to ensure that participants feel that their responses are confidential have a critical impact on participants' willingness to

report on sensitive topics such as sexual assault. Additionally, the survey research literature provides many examples of how small differences in question phrasing or context can have significant effects on participants' responses by altering the perceived scope of the question or triggering different memories. Findings from these studies suggest that additional methodological research is needed to determine how to enhance the accuracy of sexual assault reporting. This manuscript describes the findings from an experiment designed to evaluate how responses to questions about sexual assault victimization and perpetration were affected by framing questions in terms of the tactics used by the perpetrator as compared to the type of sex that was forced. The relevant literature is reviewed below and then the study's hypotheses are described.

### **Issues Associated with Definitions and the Use of Filter Questions**

Beginning in the 1970s, feminists drew attention to limitations in definitions of rape and sexual assault that deflated prevalence estimates. The Federal Bureau of Investigation (FBI) restricts rape to physically forced sexual intercourse of female victims and includes only rapes reported to the police (FBI, 2002). Through rape reform laws, many states now have more broadly defined rape statutes that include vaginal, anal, or oral sexual intercourse with a woman or man obtained through force or threat of force, a lack of consent, or inability to give consent due to age, intoxication, or mental status (Searles & Berger, 1987). Additionally, many states adopted codes that criminalized, with lesser penalties, a range of forced sexual acts often labeled criminal sexual conduct (e.g., Michigan Penal Code, 1990). The term *sexual assault* is often used to refer to the full range of physically and verbally forced sexual acts ranging from forced kissing or sexual touching to rape.

The original National Crime Survey (Bureau of Justice Statistics, 1987) used state-of-the-art survey sampling techniques to obtain a representative sample of the U.S. population; however, it required an affirmative response to a nonspecific screening item about "being attacked" before specific questions about rape were asked. This survey method severely limited the number of sexual assaults identified. When the screening item was revised to specifically ask about "rape" and "sexual attacks," prevalence estimates more than doubled (Lynch, 1996). Survey researchers have theorized that the use of screening or filter questions reduces affirmative responses because they suggest to participants that the question refers to rare events and that only extreme cases should be reported. For example, Knauper (1998) found that participants reported witnessing significantly fewer crimes when asked a filter question first, rather than being asked immediately how many crimes they had witnessed. Filter questions frequently produce lower prevalence rates because some participants misunderstand the scope of the filter question, thereby opting out of questions that are relevant to them (Brittingham, Tourangeau, & Kay, 1998).

### **The Effects of Question Phrasing, Number of Questions, and Context on Memory of Relevant Experiences**

Even without a filter question, study participants can fail to respond to a question that is relevant to them because the words used in the survey may not evoke their experience (Fowler, 1993; Schaeffer & Presser, 2003). This issue is a particular concern in sexual assault research because many victims and perpetrators do not use the labels rape or sexual

assault to describe what occurred, even if it legally fits those definitions (Fricker, Smith, Davis, & Hanson, 2003; Koss, 1993). To address this problem, Koss, Gidycz, and Wisniewski (1987) developed a 10-item measure of sexual assault that asked about verbally and physically forced sexual activities that fit standard legal definitions of sexual assault and rape using behaviorally specific language (e.g., “threatened or used some degree of physical force”). This measure, the Sexual Experiences Scale (SES), has been widely used by researchers, especially in samples of college students and other young adults (Gidycz, Coble, Latham, & Layman, 1993; Greene & Navarro, 1998; Humphrey & White, 2000; Testa & Dermen, 1999). Fisher and Cullen (2000) found a rape prevalence rate nine times higher than that found in the National Crime Victimization Survey using identical procedures but replacing the questions about rape and sexual attacks with behaviorally specific questions such as those in the SES. Similar results were found in an experiment that randomly assigned adults to one of two versions of a childhood sexual abuse questionnaire (Fricker et al., 2003). Participants who received behaviorally specific questions reported significantly higher rates of childhood sexual abuse than did participants who received questions that used the term “sexual abuse.”

Estimates of sexual assault victimization reported by college women with the SES or similar measures range from 51% to 70% (Abbey, Ross, McDuffie, & McAuslan, 1996; Gidycz et al., 1993; Greene & Navarro, 1998; Humphrey & White, 2000). Estimates of sexual assault perpetration reported by college men with the SES or similar measures range from 25% to 61% (Abbey, McAuslan, Zawacki, Clinton, & Buck, 2001; Koss et al., 1987; Mills & Granoff, 1992; Wheeler, George, & Dahl, 2002; White & Smith, 2004). Some critics have suggested that the high rates of sexual assault reported using the SES and the variability found across studies using the same or similar measures raise questions about the construct validity of the measure (Estrich, 1987; Gilbert, 1991). These authors argue that if recall of a forced sexual experience is affected by question content, then these events must not have been very important or upsetting to participants.

These findings, however, must be considered in context. There are many examples in the survey research literature of participants failing to recall what researchers thought would be memorable events. In reviews of this research, Belli (1998) and Loftus (1982) describe documented instances of hospitalizations, car accidents, and periods of unemployment that were underreported in surveys. For example, Cannell, Fisher, and Bakker (1965) found that 42% of hospitalizations that had occurred 1 year earlier were not reported by participants in a national health survey. Fourteen percent of the individuals involved in an injury-producing automobile accident did not recall the event when asked about it in a survey interview 1 year later (reported in Loftus, 1982). More recently, Chapman and Underwood (2000) found that after 1 year, drivers failed to recall approximately one-third of their near-accidents in motor vehicles. Rates of underreporting in these studies increased significantly over time, suggesting that recall is the primary reason for underreporting, rather than a disinclination to share these experiences with the researcher. Although it seems counterintuitive that events such as being hospitalized or having a car accident would not be recalled easily, research on autobiographical memory suggests that context plays an important role in determining which memories are evoked (Belli, 1998). Fowler (1993) argued that survey participants often feel that it is important to respond promptly, particularly when presented with long lists of

questions. Asking additional, related questions enhances participants' memory of past events by stimulating associations and providing more time to think. In a follow-up of the hospitalization survey described above, recall improved significantly in a second interview that included three questions rather than a single item (Loftus, 1982).

Numerous experiments with survey research methodology have documented that the context within which a question is placed in a survey can dramatically influence participants' responses (Crossley & Kennedy, 2002; Tourangeau, Singer, & Presser, 2003; Vautier, Mullet, & Bourdet-Loubere, 2003). For example, Schwarz, Strack, and Mai (1991) found that the correlation between marital satisfaction and general life satisfaction was .32 if the general question was asked first; however, it was .67 when the marital question was asked first. In another study, the percentage of participants who endorsed a general item in support of abortion was significantly higher when that question preceded rather than followed a question about approval of abortion when the fetus has a defect (Schuman & Presser, 1981). The National Crime Survey asked a random half of participants to report their victimization experiences after answering a series of questions regarding their attitudes about crime; the other half did not answer the attitude questions (Schuman & Presser, 1981). Rates of victimization were significantly higher for those participants who answered the attitude questions first; the attitude questions apparently stimulated participants' memories of relevant experiences. The authors of these studies assumed that participants were doing their best to provide honest responses but that the questions stimulated different memories and attitude associations, thereby leading to different responses.

### Overview of This Study's Goals and Hypotheses

In summary, past research suggests that the precise questions asked and the phrasing of the questions influence people's reporting of past events. The study described in this article had two interrelated goals. The first was to expand the items in the SES to address more fully the types of forced sex that can occur and the strategies that can be used to obtain forced sex. The original SES included four types of forced sexual activity: forced sexual contact (e.g., kissing, touching); attempted sexual intercourse; completed sexual intercourse; and completed sex acts including anal sex, oral sex, and insertion of objects. In this study, we separated oral sex from anal sex and insertion of objects. A number of studies have documented that oral sex is common among young adults and is frequently not perceived as "real" sex (Bogart, Cecil, Wagstaff, Pinkerton, & Abramson, 2000; Sanders & Reinisch, 1999); thus, it may be important to assess its prevalence separately. In terms of perpetrators' tactics, the original SES included one item that asked about a man giving alcohol and drugs to the woman without her knowledge. Due to concern about date rape drugs, we separated alcohol and drugs into two separate questions. Another common way that alcohol is used in sexual assault is for a man to take advantage of an intoxicated woman who is too impaired to give consent (Abbey et al., 1996, 2001; Kramer, 1994). This tactic was therefore included. The original SES had two items that assessed verbal coercion as a tactic: overwhelming the victim with continual arguments and pressure and using a position of authority to obtain sex. Affirmative responses to the position-of-authority item are extremely low (Koss et al., 1987); thus, we placed this item with two other forms of verbal pressure described in past

research: telling lies or making promises and showing displeasure, guilt, or anger (Abbey, BeShears, Clinton-Sherrod, & McAuslan, 2004; Fischer, 1996).

Our modified SES therefore included five types of forced sex—sexual touching, attempted intercourse, oral sex, completed sexual intercourse, and anal sex/insertion of objects—and seven tactics—using arguments and pressure, telling lies and making promises, using guilt and anger, giving alcohol, giving drugs, taking advantage of a woman who is too intoxicated to consent, and using physical force. Although increasing the number of items can aid participants' recall by providing items that more closely correspond to their experience and stimulating associations, extremely long lists can tire respondents and lead to more errors, especially when content overlaps (Rossi, Wright, & Anderson, 1983; Schaeffer & Presser, 2003). A common strategy in survey research to reduce respondent fatigue when long lists of items are used is to group similar items and state information common to them all only once. For example, a series of questions about quality of life might have an introduction that reads, "Taking into account what has happened in the past four weeks, how satisfied are you with ... ," and then the questions that follow simply include what varies, for example, "your work life?," "your home life?," "your life as a whole?" (Abbey, Andrews, & Halman, 1995). Applying this format to sexual assault, we can treat either the type of sex, "Since the age of 14, has a man ever made you have oral sex?" or the tactic, "Since the age of 14, has a man ever given you alcohol without your knowledge or consent?" as the introductory statement.

We had no methodological reason to believe that one of these introductions would aid recall better than the other. Thus, we conducted an experiment to determine if the frame of reference used to start the question (tactic used vs. type of sex obtained) would have an impact on the number of sexual assaults reported. It seems reasonable to expect that if people have organized these memories in terms of one or the other, then recall will be enhanced when the frame of reference corresponds to how the memory was organized (Belli, 1998; Schaefer & Presser, 2003). Although men can be victims of sexual assault (often with male perpetrators) and women can be perpetrators, women are much more likely than men to report being victims of sexual assault, and men are much more likely than women to report being perpetrators (Bureau of Justice Statistics, 1995; Tjaden & Thoennes, 2000). Thus, to reduce response burden, women were asked the 35 questions in terms of their experiences as victims of sexual assault and men were asked parallel questions in terms of their experiences as perpetrators of sexual assault.

We tentatively hypothesized that female victims and male perpetrators of sexual assault might organize these memories differently and therefore provide higher frequency estimates for different question frames. We hypothesized that, for victims of sexual assault, the type of strategy used to obtain sex would be most salient and, therefore, leading with a question about strategy would enhance recall. Usually the victim knew and trusted the perpetrator (Koss et al., 1987; Tjaden & Thoennes, 2000); thus, the fact that this individual was willing to lie or use alcohol to obtain sex seemed likely to be more important than the type of sex obtained (Cleveland, Koss, & Lyons, 1999). In contrast, narratives from perpetrators often focus on their sexual desire, entitlement, and fulfillment (Kanin, 1985; Martin & Hummer, 1998); thus, we hypothesized that for perpetrators, the type of sex obtained would be most salient and, therefore, leading with a question about type of sex would enhance recall.

## METHOD

### Participants

Participants were 307 female and 166 male college students at a large urban university. They were recruited from lists provided by the registrar's office and through flyers posted on campus. Fifty-four percent of participants were Caucasian, 33% were African American, 7% were Arabic or Middle Easterner, 3% were Asian or Pacific Islander, 1% were Hispanic, and the remainder had another ethnic background. Participants' average age was 24.2 years ( $SD = 3.4$ ).

### Procedures

Students were contacted by telephone and asked if they were interested in completing a survey on health topics. They were then asked several questions to evaluate their eligibility for a larger study that required participants to have been sexually active with someone of the opposite sex and to be a social drinker. Individuals who met these criteria and who were interested in completing the survey were mailed (a) an information sheet that included all the elements of informed consent, (b) a self-administered questionnaire, (c) a postage-paid envelope in which to return the questionnaire, (d) a voucher to receive payment for participation, and (e) a postage-paid envelope in which to return the payment voucher. Questionnaires did not include names or other identifying information and were mailed back separately from the payment voucher so that participants' responses and identifying information were kept separate. Upon return of a payment sheet and verification that an envelope containing a questionnaire had also been returned, participants were mailed a \$25 money order. Surveys were returned by 76% of potential participants.

### Measures

**Victimization survey**—The SES was placed near the end of the health survey in a section entitled "Sexual Experiences," following the common survey research convention of beginning with less personal questions and building toward more sensitive questions (Rossi et al., 1983). Participants were reminded that their name did not appear on the questionnaires and that their answers were completely confidential.

Half of the women randomly received the "type of sex" version of the questionnaire that read, "Since the age of 14, has a man ever fondled, kissed, or sexually touched you without your consent?" Appearing below this question stem were the seven types of tactics, beginning with "by overwhelming you with continual arguments and pressure although you indicated you didn't want to?" and ending with "by using some degree of physical force (twisting your arm, holding you down) or in any other way restraining or physically hurting you?" The next series of questions again began with a description of a type of sex, this time attempted sexual intercourse, which was followed with the same seven questions about the tactics used to achieve it. Following this same structure, a series of questions followed about oral sex, then vaginal sexual intercourse, and then anal sex or insertion of objects.

The other half of the women randomly received the second version of the questionnaire, which placed the "tactic used" first. In effect, the order of the clauses was reversed in the

two forms. After the instructions, participants read, “Since the age of 14, has a man ever overwhelmed you with continual arguments and pressure although you indicated you didn’t want to in order to . . . .” Appearing below this question stem were the five types of sex beginning with fondling, kissing, and sexually touching and ending with anal sex or inserting an object. This list then was repeated for each of the different forms of tactics. (The complete list of items is in Table 1 and the first set of questions for each form is provided in the Appendix.)

Responses were made on 4-point scales with response options ranging from *0 to 3 or more* times since age 14. For the analyses described in this article, responses were collapsed to a 2-point scale of *never* or *at least one time* since the age of 14.

**Perpetration survey**—The questionnaire format was identical for men except they were asked about their perpetration experiences. Half of the men randomly received the type-of-sex-first version. This version first asked, “Since the age of 14, have you ever fondled, kissed, or sexually touched a woman without her consent?” which was followed by the list of seven tactics and then repeated for each of the types of forced sex. The other half of the men randomly received the type-of-tactics-first version. This version first asked, “Since the age of 14, have you ever overwhelmed a woman with continual arguments and pressure although she indicated she didn’t want to, in order to . . . .” which was followed by the five types of sex and then repeated for each of the tactics used to obtain forced sex.

## RESULTS

### The Effects of Question Phrasing on Reports of Victimization

To address the hypothesis that question phrasing would affect women’s recall of past sexual assaults, responses to the individual items were combined by creating a dichotomous measure that assigned a score of “1” to women who gave an affirmative response to any of the questions and a “0” to those who answered no to every question. Seventy-five percent of the women who received the tactics-first version of the questionnaire reported that they had at least one forced sexual experience since the age of 14, as compared to 62% of the women who received the type-of-sex-first version,  $\chi^2(1, N = 307) = 5.86, p = .02$ .

Table 1 presents the frequencies for each individual question. Given the large number of questions and the relatively small sample size, statistical tests were not computed for individual items. Differences were most often found for the tactics of using arguments and pressure, telling lies and making promises, using guilt and anger, and taking advantage of a woman who is too intoxicated to give consent to achieve fondling and kissing, and attempted and completed sexual intercourse.

### The Effects of Question Phrasing on Reports of Perpetration

Men’s responses to the individual items were combined to examine the overall effect of question phrasing on self-reported perpetration. Sixty-nine percent of the men who received the tactics-first version reported that they had at least one perpetration experience since the age of 14, as compared to 36% of the men who received the type-of-sex-first version,  $\chi^2(1, N = 166) = 17.61, p = .001$ . Table 2 presents the frequencies for individual items.

Differences were most often found for the tactics of using arguments and pressure, telling lies and making promises, using guilt and anger, and taking advantage of a woman who is too intoxicated to give consent to achieve fondling and kissing, and attempted and completed sexual intercourse.

### **The Effects of Additional Verbal Coercion and Alcohol and Drug Questions**

The second goal of this study was to determine if the items added to the SES increased reports of victimization and perpetration. Although there was considerable overlap in participants' responses to questions about the three verbally coercive strategies, each participant identified incidents that were not reported with the other question phrasings. In terms of victimization, 15 women (4.9% of sample) reported an incident in which the perpetrator told lies or made false promises and 26 women (8.5%) who did not also report an incident in which the perpetrator overwhelmed them with continual arguments and pressure reported an incident in which the perpetrator used guilt or anger (original SES item). In terms of perpetration, 21 men (12.6% of sample) reported an incident in which they had told lies or made false promises and 19 men (11.4%) who did not also report an incident in which they overwhelmed a woman with continual arguments and pressure reported an incident in which they used guilt or anger (original SES item).

The questions about sex occurring when the victim was too intoxicated to give consent identified many incidents of forced sex that were not identified through questions about the perpetrator giving the victim alcohol or drugs without her knowledge. In terms of victimization experiences, the question about being too intoxicated to give consent identified 64 women (20.8% of the sample) who experienced an alcohol and/or drug-involved assault who were not identified by the "give alcohol" questions and 59 women (19.2%) who were not identified by the "give drug" questions. In terms of perpetration experiences, the question about being too intoxicated to give consent identified 16 men (9.6%) who perpetrated an alcohol and/or drug-involved assault who were not identified by the "give alcohol" questions and 16 men (9.6%) who were not identified by the "give drug" questions.

Neither of the questions about being given alcohol or drugs without one's knowledge were endorsed frequently; 34 women (11.1%) and five men (3%) answered yes to one or both of these questions. However, when these events occurred, they tended to be independent. Women reported 18 instances in which they were given drugs, 11 instances in which they were given alcohol, and 5 instances in which they were given both. Men reported one instance in which they gave a woman drugs, three in which they gave a woman alcohol, and one in which they gave a woman both.

## **DISCUSSION**

This study had two primary goals: (a) to determine if question phrasing influenced the rates of forced sexual experiences that participants reported and (b) to determine if additional verbal coercion and alcohol and drug questions identified instances of verbally and physically forced sexual experiences not captured by the original SES questions. Our underlying premise was that sexual assault experiences tend to be underreported and that modifications of existing measures that lead to higher rates of reporting are valuable because



they help researchers determine the full scope of these experiences. The entire range of the SES was used, not just the items that measure incidents that meet the definition of rape in most jurisdictions. This study's findings demonstrate that recall of verbally and physically forced sexual experiences is influenced by the phrasing of the items. The two versions of each question contained the same information but varied which clause was primary and which was secondary. When the question began with information about the type of tactic used rather than the type of sex that was forced, an additional 13% of women reported victimization experiences and an additional 33% of men reported perpetration experiences. Although these findings need to be replicated with larger samples that allow for more sophisticated data analyses, differences appeared largest for both men and women for verbally coercive tactics used to obtain forced sexual contact, attempted sexual intercourse, and completed sexual intercourse. In past research, men have consistently reported perpetrating sexual assault at rates much lower than women report being victimized (Abbey et al., 1996, 2001; Koss et al., 1987). Although some of this difference is probably due to multiple acts of sexual assault being perpetrated by the same men, it has also been interpreted as a sign of men's greater reluctance to disclose sexual assault. Thus, the high rate of perpetration reported by men who completed the tactics version of the questionnaire is particularly noteworthy.

Contrary to our prediction, both women and men reported higher rates of forced sexual experiences when tactics were in the primary clause. We had conjectured that women would store these memories based on the tactic used to achieve forced sex, whereas men would store them based on the type of sex obtained. Our findings suggest instead that women and men store these experiences similarly. Although we have framed our hypotheses and findings in terms of the effects of question phrasing on recall, the data collection strategy used does not provide direct information about the mechanism through which these effects occurred. The initial clause might also be viewed as a prime that activated different schema (Bargh & Chartrand, 2000; Hauptmann & Karni, 2002). The tactic used to obtain forced sex might be a central component of both men's and women's sexual assault scripts; thus, beginning questions with tactics may have more effectively primed these memories than beginning with type of sex forced. Also, because there were more tactics than types of sex, participants who read the tactics-first version responded to seven lists of five questions, whereas participants who read the type-of-sex-first version responded to five lists of seven questions. It also took more words to describe the tactics than the types of sex. Although the total number of questions was identical, it is possible that shorter lists were somehow easier to respond to than longer lists. Pretesting different versions of the questionnaire using cognitive approaches such as the "think aloud" paradigm (Presser et al., 2004), in which participants talk out loud as they answer questions, could clarify the thought processes participants use when responding to these different types of questions.

The additional verbal coercion items identified instances of verbally forced sex that were not uncovered using the original SES items. Questions that asked about telling lies or making promises that were untrue and showing displeasure through guilt, swearing, sulking, or getting angry identified incidents of verbally coercive sex that were not identified through the original SES item about overwhelming the victim through continual arguments and pressure. Although in most jurisdictions lies and swearing are not strategies that would meet

legal standards for sexual assault, it is difficult to tell from a single question how serious these events were. Some types of lies fall within sexual assault statutes (Falk, 1998). Displays of extreme negative affect might in some instances convey a threat of harm that could be construed as rape. To fully understand what occurred during a coercive sexual experience and to determine whether it corresponds to criminal statutes, additional follow-up questions are required (Abbey & McAuslan, 2004; Fisher & Cullen, 2000; Hamby & Koss, 2003; Testa, VanZile-Tamsen, Livingston, & Koss, 2004). Furthermore, the impact of a verbally or physically forced sexual experience on the victim is not necessarily determined by whether or not the incident met criminal standards in a specific jurisdiction. The psychological meaning of the event is determined by a variety of factors including violation of trust, reactions of others, and whether any restitution was received (Koss, Bachar, & Hopkins, 2003).

As found in past research, questions that specifically asked about sex that occurred because the victim was too intoxicated to give consent elicited incidents that were not captured by other questions on the SES (Abbey et al., 1996, 2001, 2004). In a number of states, these acts constitute rape (Kramer, 1994). We suggest that researchers interested in capturing the full range of tactics used to achieve forced sex include items that assess whether the victim was too intoxicated to give consent. Although instances of the use of date rape drugs receive a great deal of media attention, it is actually is relatively low (Pope & Shouldice, 2001). Alcohol is much more frequently involved in sexual assault than are other drugs (Abbey et al., 2001, 2004; Brecklin & Ullman, 2002). Thus, unless researchers have a specific reason to examine drug use separately, we suggest combining questions about alcohol and other drugs.

The original SES does not match every potential tactic with every type of forced sex; it includes four tactics and four types of sex but only 10 items (Koss et al., 1987). We fully crossed type of sex with type of tactic in this questionnaire. Although the overall rates of forced sex reported in this study were high, especially for men, a perusal of individual items indicated that men reported higher rates of verbally coerced sexual intercourse and lower rates of attempted and completed rape than is often found (Koss et al., 1987; White & Smith, 2004). The inclusion of 35 questions may have had unintended effects on participants' responses to the most serious items. We followed the standard strategy used in survey research of beginning with less serious questions and building toward more extreme questions in each version of the questionnaire. This survey method meant that questions about physically forced sexual intercourse appeared near the end of the series. At this point, participants may have been fatigued, and they also may not have known how to respond if an incident involved multiple strategies or types of sex. If, for example, an incident began with arguments and pressure, then proceeded to displays of anger, and ultimately led to physical force, participants might not have continued to circle an affirmative response after they had already noted this experience once. Survey researchers have found that whether participants perceive two questions as being independent or belonging together influences how they respond to them (Schwarz et al., 1991; Tourangeau et al., 2003). If the questions are perceived as belonging together, norms of nonredundancy are followed, such that information conveyed by the first question is not repeated in the second. We may have inadvertently encouraged this response style by the way we formatted the questionnaire.

Thus, after participants had identified an incident once, they may have assumed there was no need to identify it again, thereby reducing the reporting of more extreme incidents. These effects were presumably stronger for men because they were more motivated than women to minimize the severity of what happened. In future research using similar formats, it might be helpful to add to the instructions the information that sometimes these experiences involve multiple tactics and types of sex and that participants should answer yes every time the question applies to them. Follow-up questions would then be needed to assess how many separate incidents had occurred. Alternatively, to determine the impact of question order, experiments could be conducted in which response rates were compared for participants who answered questions ordered from least to most severe versus most to least severe.

### Limitations and Directions for Future Research

A limitation of this study's findings is that they are based on a sample of college students who were sexually active and social drinkers. Future studies need to include representative samples of noncollege populations and larger sample sizes. With larger samples, item by item analyses could be conducted, as well as subgroup analyses for individuals from different ethnic backgrounds. For most questionnaires, a balance is needed between depth and respondent fatigue. In a review of studies of childhood sexual abuse, Bolen and Scannapieco (1999) found that prevalence rates were best predicted by the log of the number of questions asked. A logarithmic effect indicates that as the number of questions increases, the rate of increase in prevalence slows, such that at some point new questions become redundant. Future studies could randomly assign participants to different length questionnaires to determine if an optimal number of questions can be established.

The 10-item SES was published in 1987 (Koss et al., 1987). The study presented here is one of many that provide suggestions for improved question phrasing (Abbey et al., 2001, 2004; Fisher & Cullen, 2000; Hamby & Koss, 2003; Testa et al., 2004; White & Smith, 2004). This study is part of a series of studies that we and other colleagues have undertaken to develop an updated SES. From our perspective, the measure presented here provides important suggestions for item content for a revised SES, but additional research is needed before a fully validated, revised SES is available.<sup>1</sup>

There are other strategies to enhance recall that have not been used by sexual assault researchers but that should be considered in future methodological work. For example, a number of researchers have used event history calendars, which are also called timeline follow-back procedures, to aid recall of past events (Belli, 1998; Sobell, Brown, Leo, & Sobell, 1996). Participants are encouraged to refer to a calendar and to mark memorable historical and personal events to aid recall. These procedures are particularly helpful in situations in which multiple, similar events occurred. For sexual assault researchers, these strategies might be most helpful when the abuse occurred within a relationship over an extended period of time.

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<sup>1</sup>For more information about the revised SES, contact either the first author (aabbey@med.wayne.edu) or the third author (mpk@u.arizona.edu).

Most sexual assault researchers have not taken advantage of new data collection techniques including computer-assisted self-interviewing (CASI) and Web surveys. Most research that has systematically examined participants' responses to CASI as compared to standard personal interviews have found higher rates of reporting of illegal and embarrassing activities using CASI (Turner et al., 1998). Many individuals perceive Web-based surveys as more private and enjoyable than traditional paper-and-pencil questionnaires, suggesting that Internet surveys are also a useful methodological advance for sexual assault researchers (McCabe, Boyd, Couper, Crawford, & D'Arcy, 2002). These innovations may be particularly important in surveys focused on perpetrators, who typically report sexual assault at much lower rates than do victims, perhaps due to concerns about acknowledging potentially criminal acts. In summary, although great advances have been made over the past 30 years in how sexual assault is measured, careful attention to the broader literature on survey development and administration could improve the quality of existing measures.

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## APPENDIX

### Sample Format From Women's Questionnaire

	Number of times since age 14 (circle one)			
Type of Sex First Format:				
<i>Since the age of 14, has a man ever fondled, kissed, or sexually touched you without your consent...</i>				
by overwhelming you with continual arguments and pressure although you indicated you didn't want to?	0	1	2	3 or more
by telling lies or making promises that he knew were untrue (after you indicated you didn't want to)?	0	1	2	3 or more
by showing displeasure by making you feel guilty, swearing, sulking, or getting angry (after you indicated you didn't want to)?	0	1	2	3 or more
by giving you alcohol without your knowledge or consent?	0	1	2	3 or more
by giving you drugs without your knowledge or consent?	0	1	2	3 or more
when you were passed out or too intoxicated to give consent or stop what was happening?	0	1	2	3 or more
by using some degree of physical force (twisting your arm, holding you down) or in any other way restraining or physically hurting you?	0	1	2	3 or more
Type of Tactic First Format:				
<i>Since the age of 14, has a man ever overwhelmed you with continual arguments and pressure, although you indicated you didn't want to, in order to...</i>				
fondle, kiss, or sexually touch you without your consent?	0	1	2	3 or more
attempt to make you have sexual intercourse with him, but for some reason intercourse did not happen?	0	1	2	3 or more
make you have oral sex with him?	0	1	2	3 or more
make you have sexual intercourse with him?	0	1	2	3 or more

	Number of times since age 14 (circle one)			
make you have anal sex or insert an object into you?	0	1	2	3 or more

## REFERENCES

- Abbey A, Andrews FM, Halman LJ. Provision and receipt of social support and disregard: What is their impact on the marital life quality of infertile and fertile couples? *Journal of Personality and Social Psychology*. 1995; 68:455–469. [PubMed: 7714725]
- Abbey A, BeShears R, Clinton-Sherrod AM, McAuslan P. Similarities and differences in women's sexual assault experiences based on tactics used by the perpetrator. *Psychology of Women Quarterly*. 2004; 28:323–332. [PubMed: 26257466]
- Abbey A, McAuslan P. A longitudinal examination of male college students' perpetration of sexual assault. *Journal of Consulting and Clinical Psychology*. 2004; 72:747–756. [PubMed: 15482033]
- Abbey A, McAuslan P, Zawacki T, Clinton AM, Buck PO. Attitudinal, experiential, and situational predictors of sexual assault perpetration. *Journal of Interpersonal Violence*. 2001; 16:784–807.
- Abbey A, Ross LT, McDuffie D, McAuslan P. Alcohol and dating risk factors for sexual assault among college women. *Psychology of Women Quarterly*. 1996; 20:147–169.
- Bargh, JA.; Chartrand, TL. The mind in the middle: A practical guide to priming and automaticity research. In: Reiss, HT.; Judd, CM., editors. *Handbook of research methods in social and personality psychology*. New York: Cambridge University Press; 2000. p. 253-285.
- Belli RF. The structure of autobiographical memory and the event history calendar: Potential improvements in the quality of retrospective reports in surveys. *Memory*. 1998; 6:386–406.
- Bogart LM, Cecil H, Wagstaff DA, Pinkerton SC, Abramson PR. Is it "sex"? College students' interpretations of sexual behavior terminology. *The Journal of Sex Research*. 2000; 37:108–116.
- Bolen RM, Scannapieco M. Prevalence of child sexual abuse: A corrective meta-analysis. *Social Service Review*. 1999; 73:281–313.
- Brecklin LR, Ullman SE. The roles of victim and offender alcohol use in sexual assaults: Results from the national violence against women survey. *Journal of Studies on Alcohol*. 2002; 63:57–63. [PubMed: 11925059]
- Brittingham A, Tourangeau R, Kay W. Reports of smoking in a national survey: Data from screening and detailed interviews and from self- and interviewer-administered questions. *Annals of Epidemiology*. 1998; 8:393–401. [PubMed: 9708875]
- Bureau of Justice Statistics. *Criminal victimization in the United States*. Washington, DC: U.S. Department of Justice; 1987.
- Bureau of Justice Statistics. *Criminal victimization in the United States*. Washington, DC: U.S. Department of Justice; 1995.
- Cannell, CF.; Fisher, G.; Bakker, T. *Vital and Health Statistics*. Washington, DC: U.S. Government Printing Office; 1965. Reporting of hospitalization in the Health Interview Survey. PHS Publication No. 1000, Series 2, No. 6
- Chapman P, Under wood G. Forgetting near-accidents: The roles of severity, culpability, and experience in the poor recall of dangerous driving situations. *Applied Cognitive Psychology*. 2000; 14:31–44.
- Cleveland HH, Koss MP, Lyons J. Rape tactics from the survivor's perspective: Contextual dependence and within-event independence. *Journal of Interpersonal Violence*. 1999; 14:532–547.
- Crossley TF, Kennedy S. The reliability of self-assessed health status. *Journal of Health Economics*. 2002; 21:643–658. [PubMed: 12146595]
- Estrich, S. *Real rape*. Cambridge, MA: Harvard University Press; 1987.
- Falk PJ. Rape by fraud and rape by coercion. *Brooklyn Law Review*. 1998; 64:44–180.
- Federal Bureau of Investigation. *Uniform crime reports*. Washington, DC: U.S. Department of Justice; 2002.

- Fischer GJ. Deceptive, verbally coercive college males: Attitudinal predictors and lies told. *Archives of Sexual Behavior*. 1996; 25:527–533. [PubMed: 8899144]
- Fisher BS, Cullen FT. Measuring the sexual victimization of women: Evolution, current controversies, and future research. *Criminal Justice*. 2000; 4:317–390.
- Fowler, FJ, Jr. *Survey research methods*. 2nd ed.. New-bury Park, CA: Sage; 1993.
- Fricke AE, Smith DW, Davis JL, Hanson RF. Effects of context and question type on endorsement of childhood sexual abuse. *Journal of Traumatic Stress*. 2003; 16:265–268. [PubMed: 12816339]
- Gidycz CA, Coble CN, Latham L, Layman MJ. Sexual assault experiences in adulthood and prior victimization experiences: A prospective analysis. *Psychology of Women Quarterly*. 1993; 17:151–168.
- Gilbert N. The phantom epidemic of sexual assault. *Public Interest*. 1991; 103:54–65.
- Greene DM, Navarro RL. Situation-specific assertiveness in the epidemiology of sexual victimization among university women: A prospective path analysis. *Psychology of Women Quarterly*. 1998; 22:589–604.
- Hamby SL, Koss MP. Shades of gray: A qualitative study of terms used in the measurement of sexual victimization. *Psychology of Women Quarterly*. 2003; 27:243–255.
- Hauptmann B, Karni A. From primed to learn: The saturation of repetition priming and the induction of long-term memory. *Cognitive Brain Research*. 2002; 13:313–322. [PubMed: 11918997]
- Humphrey JA, White JW. Women's vulnerability to sexual assault from adolescence to young adulthood. *Journal of Adolescent Health*. 2000; 27:419–424. [PubMed: 11090744]
- Kanin EJ. Date rapists: Differential sexual socialization and relative deprivation. *Archives of Sexual Behavior*. 1985; 14:219–231. [PubMed: 4004546]
- Knauper B. Filter questions and question interpretation: Presuppositions at work. *Public Opinion Quarterly*. 1998; 62:70–78.
- Koss MP. The underdetection of rape: Methodological choices influence incidence estimates. *Journal of Social Issues*. 1992; 48:61–75.
- Koss MP. Detecting the scope of rape: A review of prevalence research methods. *Journal of Interpersonal Violence*. 1993; 8:198–222.
- Koss MP, Bachar KJ, Hopkins CQ. Restorative justice of sexual violence: Repairing victims, building community, and holding offenders accountable. *Annals of the New York Academy of Sciences*. 2003; 989:1–13. [PubMed: 12839882]
- Koss MP, Gidycz CA, Wisniewski N. The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology*. 1987; 55:162–170. [PubMed: 3494755]
- Kramer KM. Rule by myth: The social and legal dynamics governing alcohol-related acquaintance rapes. *Stanford Law Review*. 1994; 47:115–160.
- Loftus, EF. Memory and its distortions. In: Kraut, AG., editor. *The G. Stanley Hall lecture series*. Vol. 2. Washington, DC: American Psychological Association; 1982. p. 123-154.
- Lynch JP. The polls-review: Clarifying divergent estimates of rape from two national surveys. *Public Opinion Quarterly*. 1996; 60:410–430.
- Martin, PY.; Hummer, RA. Bergen, RK. *Intimate violence*. Thousand Oaks, CA: Sage; 1998. Fraternities and rape on campus; p. 157-167.
- McCabe SE, Boyd CJ, Couper MP, Crawford S, D'Arcy H. Mode effects for collecting alcohol and other drug use data: Web and U.S. mail. *Journal of Studies on Alcohol*. 2002; 63:755–761. [PubMed: 12529076]
- Michigan Penal Code. Rape. 1990; 750(520):230–235b.
- Mills CS, Granoff BJ. Date and acquaintance rape among a sample of college students. *Social Work*. 1992; 37:504–509. [PubMed: 1448695]
- Pope E, Shouldice M. Drugs and sexual assault. *Trauma, Violence, & Abuse*. 2001; 2:51–55.
- Presser S, Couper MP, Lessler JT, Martin E, Martin J, Roghgeb JM, et al. Methods for testing and evaluating survey questions. *Public Opinion Quarterly*. 2004; 68:109–130.
- Rossi, PH.; Wright, JD.; Anderson, AB. *Handbook of survey research*. New York: Academic Press; 1983.

- Sanders SA, Reinisch JM. Would you say you “had sex” if ...? *Journal of American Medical Association*. 1999; 281:275–277.
- Schaeffer NC, Presser S. The science of asking questions. *Annual Review of Sociology*. 2003; 29:65–88.
- Schuman, H.; Presser, S. Questions and answers in attitude surveys Experiments on question form, wording, and content. New York: Academic Press; 1981.
- Schwarz N, Strack F, Mai HP. Assimilation and contrast effects in part-whole question sequences: A conversational logic analysis. *Public Opinion Quarterly*. 1991; 55:3–23.
- Searles P, Berger RJ. The current status of rape reform legislation: An examination of state statutes. *Women’s Rights Law Reporter*. 1987; 10:25–43.
- Smith MD. Enhancing the quality of survey data on violence against women: A feminist approach. *Gender & Society*. 1994; 8:109–127.
- Sobell LC, Brown J, Leo GI, Sobell MB. The reliability of the alcohol timeline follow back when administered by telephone and by computer. *Drug and Alcohol Dependence*. 1996; 42:49–54. [PubMed: 8889403]
- Testa M, Dermen KH. The differential correlates of sexual coercion and rape. *Journal of Interpersonal Violence*. 1999; 14:548–561.
- Testa M, VanZile-Tamsen C, Livingston JA, Koss MP. Assessing women’s experiences of sexual aggression using the sexual experiences survey: Evidence for validity and implications for research. *Psychology of Women Quarterly*. 2004; 28:256–265.
- Tjaden, P.; Thoennes, N. Extent, nature, and consequences of intimate partner violence. Washington, DC: U.S. Department of Justice, NCJ 181867; 2000.
- Tourangeau R, Singer E, Presser S. Context effects in attitude surveys: Effects of remote items and impact on predictive validity. *Sociological Methods & Research*. 2003; 31:486–513.
- Turner CF, Ku L, Rogers SM, Lindberg LD, Pleck JH, Sonnerstein JH. Adolescent sexual behavior, drug use, and violence: Increased reporting with computer survey technology. *Science*. 1998; 280:867–873. [PubMed: 9572724]
- Vautier S, Mullet E, Bourdet-Loubere S. The instruction set of questionnaires can affect the structure of the data: Application to self-rated state anxiety. *Theory and Decision*. 2003; 54:249–259.
- Wheeler JG, George WH, Dahl BJ. Sexually aggressive college males: Empathy as a moderator in the “Confluence Model” of sexual aggression. *Personality and Individual Differences*. 2002; 33:759–775.
- White JW, Smith PH. Sexual assault perpetration and re-perpetration: From adolescence to young adulthood. *Criminal Justice and Behavior*. 2004; 31:182–202.

**Table 1**Effects of Question Phrasing on Percent of Women Who Endorsed Forced Sex Questions ( $N = 307$ )

<i>Tactic</i>	<i>Type of Sex</i>	<i>Percent Yes</i>		<i>Difference</i>
		<i>Tactic First</i> ( <i>n</i> = 157)	<i>Type of Sex First</i> ( <i>n</i> = 150)	
Arguments/pressure				
	Fondled, kissed	46.7	31.8	14.9
	Attempt sex	36.7	28.0	8.7
	Oral sex	15.3	17.2	-1.9
	Sexual intercourse	17.3	14.6	2.7
	Anal sex/objects	7.3	7.0	0.3
Lies/promises				
	Fondled, kissed	36.0	19.1	16.9
	Attempt sex	30.7	15.3	15.4
	Oral sex	12.7	10.2	2.5
	Sexual intercourse	18.0	10.2	7.8
	Anal sex/objects	2.0	1.9	0.1
Guilt/anger				
	Fondled, kissed	34.7	24.2	10.5
	Attempt sex	36.7	19.7	17.0
	Oral sex	18.7	15.9	2.8
	Sexual intercourse	23.3	14.6	8.9
	Anal sex/objects	2.7	3.8	-1.1
Give alcohol				
	Fondled, kissed	4.7	3.8	0.9
	Attempt sex	3.3	1.3	2.0
	Oral sex	2.0	0.6	1.4
	Sexual intercourse	3.3	1.3	2.0
	Anal sex/objects	0.7	0.0	0.7
Give drugs				
	Fondled, kissed	8.0	5.1	2.9
	Attempt sex	4.0	1.3	2.7
	Oral sex	1.3	1.9	-0.6
	Sexual intercourse	0.7	4.5	-3.8
	Anal sex/objects	1.3	1.3	0.0
Too intoxicated				
	Fondled, kissed	26.0	15.3	10.7
	Attempt sex	14.7	7.6	7.1
	Oral sex	8.7	2.5	6.2
	Sexual intercourse	10.7	8.3	2.4
	Anal sex/objects	0.7	1.9	-1.2
Physical force				



<i>Tactic</i>	<i>Type of Sex</i>	<i>Percent Yes</i>		<i>Difference</i>
		<i>Tactic First (n = 157)</i>	<i>Type of Sex First (n = 150)</i>	
	Fondled, kissed	21.3	16.6	4.7
	Attempt sex	12.0	12.1	-0.1
	Oral sex	6.0	3.8	2.2
	Sexual intercourse	10.7	9.6	1.1
	Anal sex/objects	2.7	2.5	0.2

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**Table 2**Effects of Question Phrasing on Percent of Men Who Endorsed Forced Sex Questions ( $N= 166$ )

<i>Tactic</i>	<i>Type of Sex</i>	<i>Percent Yes</i>		<i>Difference</i>
		<i>Tactic First (n = 83)</i>	<i>Type of Sex First (n = 83)</i>	
Arguments/pressure				
	Fondled, kissed	15.7	8.4	7.3
	Attempt sex	25.3	10.8	14.5
	Oral sex	14.5	13.3	1.2
	Sexual intercourse	10.8	8.4	2.4
	Anal sex/objects	4.8	0.0	4.8
Lies/promises				
	Fondled, kissed	37.3	9.6	27.7
	Attempt sex	26.5	10.8	15.7
	Oral sex	20.5	10.8	9.7
	Sexual intercourse	24.1	12.0	12.1
	Anal sex/objects	6.0	1.2	4.8
Guilt/anger				
	Fondled, kissed	30.1	19.3	10.8
	Attempt sex	20.5	12.0	8.5
	Oral sex	18.1	16.9	1.2
	Sexual intercourse	21.7	9.6	12.1
	Anal sex/objects	4.8	1.2	3.6
Give alcohol				
	Fondled, kissed	2.4	2.4	0.0
	Attempt sex	0.0	2.4	-2.4
	Oral sex	0.0	2.4	-2.4
	Sexual intercourse	0.0	2.4	-2.4
	Anal sex/objects	0.0	1.2	-1.2
Give drugs				
	Fondled, kissed	1.2	1.2	0.0
	Attempt sex	0.0	1.2	-1.2
	Oral sex	0.0	1.2	-1.2
	Sexual intercourse	0.0	1.2	-1.2
	Anal sex/objects	0.0	1.2	-1.2
Too intoxicated				
	Fondled, kissed	14.5	6.0	8.5
	Attempt sex	2.4	2.4	0.0
	Oral sex	1.2	2.4	-1.2
	Sexual intercourse	0.0	2.4	-2.4
	Anal sex/objects	0.0	1.2	-1.2
Physical force				

<i>Tactic</i>	<i>Type of Sex</i>	<i>Percent Yes</i>		<i>Difference</i>
		<i>Tactic First (n = 83)</i>	<i>Type of Sex First (n = 83)</i>	
	Fondled, kissed	6.0	2.4	3.6
	Attempt sex	1.2	1.2	0.0
	Oral sex	0.0	2.4	-2.4
	Sexual intercourse	0.0	1.2	-1.2
	Anal sex/objects	0.0	1.2	-1.2

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