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Sexual Arousal in Response to Aggression: Ideological, Aggressive, and Sexual Correlates

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In two experiments we assessed the impact of aggression on nonrapists' sexual arousal. In the first, both male subjects (n = 37) and female subjects (n = 43) reported more sexual arousal in response to nonaggressive than to aggressive depictions when the portrayals were sexually explicit, but the opposite occurred when the portrayals were nonsexual. Only male subjects (N = 359) participated in the second experiment. On the basis of their self-reported sexual arousal to the use of force, they were classified into the no arousal, moderate arousal or high arousal from force groups. To evaluate the veridicality of this classification, we assessed some subjects' (n = 118) penile tumescence in response to various depictions. The findings generally replicated those of the first experiment and confirmed the accuracy of the arousal-from-force classification. The no arousal and the moderate arousal from force subjects were less sexually aroused by aggressive than by nonaggressive portrayals, but the opposite was found for the high arousal from force group. Using the entire sample (N = 359), we also assessed differences on various factors among these three groups. We found strong differences on ideological factors, including acceptance of violence against and dominance over women. We also found differences in acceptance of nonsexual aggression and in subjects' beliefs that they might actually use force against women. In contrast, differences were not found on sexuality factors. The data's implications for theories on the causes of rape are discussed.

This research is part of a series of experiments that concern sexual arousal from aggression. Initial interest in this area was inspired by attempts to assess rapists' "proclivity to rape" on the basis of sexual arousal responses. Abel and his associates (Abel, Barlow, Blanchard, & Guild, 1977; Abel, Blanchard, & Becker, 1976, 1978; Abel, Blanchard, Becker, & Djenderedjian, 1978) reported that rapists showed relatively high and about equal levels of penile tumescence in response to audiotaped portrayals of both rape and consenting sexual acts.[1] Male nonrapists, in contrast, showed relatively little sexual arousal (both in self-report and tumescence measures) from rape depictions in comparison with consenting depictions.

Abel et al. (1977) developed the Rape Index, a ratio of sexual arousal to rape portrayals compared with arousal to consenting sex portrayals. With this index, a man whose arousal from rape is similar to or greater than his arousal from consenting depictions would be considered to have an inclination to rape. Various investigators have used this measure in the diagnosis and treatment of rapists and have extended it to child molesters by contrasting sexual arousal from depictions of child molestation with arousal from adult-consenting depictions (e.g., Abel, Becker, Murphy, & Flanagan, 1981; Avery-Clark & Laws, 1984; Quinsey, Chaplin, & Carrigan, 1980). Quinsey et al. (1980) provided some support for the predictive validity of this assessment technique by showing that it was successfully predictive of recidivism that followed discharge from a psychiatric institution.

Abel et al. (1977) also studied rapists' sexual arousal from nonsexual aggression (i.e., a man physically assaulting a woman without reference to sexual acts). They reported a high correlation between arousal from rape and arousal from nonsexual aggression. Furthermore, on the basis of the arousal of rapists with a history of sadistic crimes, they suggested that sexual arousal from nonsexual aggression may be particularly useful in identifying the most dangerous rapists. In connection with this suggestion, it is noteworthy that clinical analyses of serial murderers (i.e., those who kill many victims, often for years on end) suggest that in many instances sexual arousal from aggression and feelings of lust associated with aggression are crucial motivations for such murders (e.g., Darrach & Norris, 1984). It is also noteworthy that studies suggest that some wife beaters experience sexual arousal from nonsexual assaults on their wives (e.g., "Fifteen percent seemed to experience sexual arousal from the violence"; Davidson, 1978, p. 31).

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[1] However, more recent research (Quinsey, Chaplin, & Upfold, 1984) shows that many rapists are more aroused by rape than by consenting portrayals.

Although the data of Abel et al. (1977) seemed to yield a rather clear-cut relation between sexual arousal from aggression and violent behavior, there were at least two aspects of their methodology that limited generalizability. First, as these investigators noted, the number of rapists assessed was relatively small. Second, the nonrapist comparison group consisted of sexual "deviates" (e.g., exhibitionist, voyeur).

Other investigators who used larger samples and comparison groups of men from the general population, however, reported data that by and large supported Abel et al.'s (1977) basic conclusions (Barbaree, Marshall, & Lanthier, 1979; Quinsey, Chaplin, & Varney, 1981). Two additional conclusions also became evident from other research: (a) Within the nonrapist male population, there are large individual differences in the degree to which men are aroused by rape depictions (Ceniti & Malamuth, 1984; Check & Malamuth, 1983; Malamuth, 1981, 1984; Malamuth & Check, 1983; Malamuth, Heim, & Feshbach, 1980); and (b) variations in either the content of rape scenes, such as whether the victim reacted with abhorrence or arousal (Malamuth & Check, 1980a, 1980b, 1983; Malamuth et al., 1980; Quinsey & Chaplin, 1984), or in subjects' psychological state, namely, degree of anger (Yates, Barbaree, & Marshall, 1984), may critically affect the degree of nonrapists' sexual arousal by rape stimuli. In connection with these data, it is noteworthy that in the mass media (which is presumably consumed primarily by nonrapists) there have been increases in recent years in the frequency of sexual aggression (e.g., Dietz & Evans, 1982; Malamuth & Spinner, 1980; Smith, 1976a, 1976b).

Some researchers who followed Abel et al. (1977) compared the arousal of rapists versus nonrapists by nonsexual aggression. (Note that Abel et al. studied only rapists' arousal to these stimuli.) These studies yielded somewhat conflicting results. Differences were not found in some studies (e.g., Quinsey et al., 1980), but in other studies rapists were found to be more aroused than nonrapists by nonsexual aggression (e.g., Quinsey, Chaplin, & Upfold, 1984). In some studies both rapists and nonrapists showed some sexual arousal to nonsexual aggression, whereas in other studies nonrapists did not show any arousal from these stimuli. The arousal of nonrapists from nonsexual aggression seems quite unexpected, but was generally overlooked in the investigators' discussions.

Other data provided some support for the suggestion that a nonsexual aggression index, computed by means of dividing sexual arousal from nonsexual aggression by arousal from consenting sex, may have predictive utility in identifying dangerousness among rapists. Quinsey and Chaplin (1982) found that such an index was significantly related to whether the rapist's victim was injured during the crime. Although Quinsey et al. (1984) did not find a relation for rapists between the nonsexual aggression index and amount of victim damage in the most serious offense, they did find a significant relation for the degree of victim damage across offenses. Avery-Clark and Laws (1984) found that the assessment of child abusers' sexual arousal from aggressive cues (including nonsexual aggression) successfully differentiated between relatively more versus less dangerous offenders.

From this review, the impact of aggression on the sexual arousal of nonrapists remains unclear. It appears that the assessment of sexual arousal from aggressive elements may indeed be useful in the study of offenders such as rapists and child abusers and even in the assessment of aggressive tendencies among nonrapists (Malamuth, 1983, 1984, in press). However, a key requirement for this research—the mapping of the sexual arousal patterns of normal subjects with respect to aggression (Abel & Blanchard, 1976)—has not as yet been fully accomplished. Differences in the findings with nonrapists may be related to three factors: First, the representativeness of nonrapists' groups is questionable. Researchers typically used small samples (e.g., 10 subjects) of unemployed men who were recruited via newspapers or local employment agencies. Second, subjects in these experiments were explicitly told that the purpose of the research was to find assessment techniques that may help in treating rapists, although they were also told that there is interest in determining how people who are not sex offenders respond to such assessments. It may be that such instructions, particularly when given in the context of a maximum security institution, inhibit the sexual arousal of nonrapists from aggressive depictions. Third, researchers have frequently not examined individual differences among normal subjects but treated them as a homogeneous group. Previous researchers who did examine individual differences among relatively representative samples of nonrapists (e.g., Malamuth & Check, 1983) did not include nonsexual aggressive depictions. In light of the conflicting data regarding this type of depiction, it is particularly important to determine whether it stimulates sexual arousal in some individuals.

THE PRESENT STUDIES

The major purposes of our experiments were (a) to study among the nonrapist population the impact of aggression on sexual arousal in a manner that would rectify the three problems just noted, and (b) to analyze the factors relating to sexual arousal from aggression in order to better understand the basis for such arousal.

In the first experiment we sought to minimize the problem of self-selection among subjects. A difficulty in generalizing from this area of research stems from the use of genital measures of arousal. Although such measures may increase objectivity, volunteers for research in which genital measures are used often differ considerably from nonvolunteers (Farkas, Sine, & Evans, 1978; Malamuth & Check, 1983). In contrast, volunteers for studies in which only self-reported measures of sexual arousal are used have not been found to significantly differ from nonvolunteers (Barker & Perlman, 1975).

Although the major focus of this research is on men, we judged it to be important to also examine women's responses. In the first study, we included male and female subjects and used only a self-reported measure of sexual arousal. The procedure used to recruit subjects resulted in relatively little self-selection and therefore enabled us to use a more representative sample of participants.

EXPERIMENT 1

Method

Subjects

Subjects were 37 male and 43 female psychology undergraduates. Approximately equal numbers were randomly assigned to each condition (i.e., story).

Materials

Stories

Each story was about 1,000 words. The content was manipulated along the dimensions of aggression (aggressive vs. nonaggressive) and sexual explicitness (sexually explicit vs. nonsexual). The *aggressive sexual* story was a sexually explicit depiction of a rape. We sought to make it representative of rape depictions typically found in pornography[2] (e.g., Smith, 1976a, 1976b). Consequently, there was some suggestion that despite her nonconsent and pain, the victim showed some sexual arousal. The *aggressive nonsexual* story depicted a man brutally assaulting a woman (cutting her with a knife and beating her into unconsciousness). The *nonaggressive sexual* story was a sexually explicit depiction of a man and a woman having mutually consenting intercourse. The *nonaggressive nonsexual* story was about a man and a woman having a casual conversation.

Questionnaire

Reported sexual arousal was measured on a scale ranging from 0% to 100% in units of 10%. Following this scale were items intended to validate the manipulations. These included perceptions of the woman's willingness, pleasure, and pain, and ratings of the stories' sexual explicitness, realism, and quality of writing.

Procedure

Subjects participated in their classes. The experimenter stated that some might find the stories offensive, that responses were completely anonymous, and that anyone could leave at any time without penalty. Two persons left the room. Subjects were also told that they were under no obligation to fill out the materials. They were then given a written story with the attached questionnaire. After completing it, subjects were given a written debriefing. For those who read violent depictions, the stories stressed the terrible nature of violence against women and presented a number of points designed to dispel rape myths.[3]

Results

Manipulation Checks

Perceptions of the Woman's Reactions

The items assessing perceptions of the woman's willingness, pain, and pleasure were analyzed as a set with a 2 × 2 × 2 (Aggression × Sexual Explicitness × Subjects' Gender) multivariate analyses of variance (MANOVA). It yielded an effect of aggression, multivariate $F(3, 70) = 59.22$, $p < .0001$, with univariates on all three items. As intended, the woman in the aggressive depictions, in relation to the woman in the nonaggressive depictions, was perceived as less willing ($p < .0001$) and as experiencing less pleasure ($p < .006$) and more pain ($p < .0001$).

This analysis also yielded an effect of sexual explicitness, multivariate $F(3, 70) = 78.55$, $p < .0001$, with univariates on all three items. The woman in the nonsexual depictions, relative to the woman in the sexual depictions, was perceived as less willing ($p < .0001$), experiencing more pain ($p < .02$) and less pleasure ($p < .0001$). However, there was also an Aggression × Sexual Explicitness interaction, multivariate $F(3, 70) = 4.00$, $p < .02$, with a univariate effect on the woman's willingness, $F(1, 72) = 9.54$, $p < .003$, and a marginally significant effect on the woman's pain, $F(1, 72) = 3.85$, $p < .054$. These interactions occurred because the women in both the consenting intercourse and the nonaggressive nonsexual depictions were perceived as willing participants and experiencing no pain. Within the aggressive stories, however, the woman in the sexual depiction was seen as more willing than in the nonsexual portrayal. Similarly, subjects tended to perceive the woman in the aggressive sexual depiction as experiencing less pain than in the nonsexual aggressive portrayal. There were no other effects for the perception data.

Ratings of the Stories

Ratings of the stories' sexual explicitness, realism, and writing were also analyzed with a 2 × 2 × 2 MANOVA. The only effect was sexual explicitness, multivariate $F(3, 70) = 60.03$, $p < .0001$, with the expected univariate on sexual explicitness, $F(1, 72) = 161.51$, $p < .0001$. The explicit depictions were rated as much more sexually explicit than the nonsexual depictions.

There was, however, a univariate effect on realism for the sexual explicitness variable, $F(1, 72) = 5.90$, $p < .02$. Subjects rated the sexually explicit depictions as somewhat less realistic than the nonsexual depictions (*M*s = 2.50 and 3.07, respectively).

In summary, the manipulation checks revealed that the stories produced the intended effects, although there was a relatively minor unexpected difference in realism ratings. That does not appear to pose problems for interpreting the findings reported next or for interpreting those of Experiment 2.

Sexual Arousal

Sexual arousal, analyzed with a 2 × 2 × 2 analysis of variance (ANOVA), yielded an effect of sexual explicitness, $F(1, 72) = 31.44$, $p < .0001$, with more arousal from the explicit depictions than from the nonsexual depictions (*M*s = 39.47% and 11.43%, respectively). However, there was also an Aggression × Sexual Explicitness interaction, $F(1, 72) = 5.41$, $p < .02$. When the depiction were sexually explicit, subjects reported more arousal from the nonaggressive than from the aggressive depiction (*M* = 42.51% vs. 35.50, respectively). When the depictions were nonsexual, they reported more arousal from the aggressive than from the nonaggressive depiction (*M*s = 18.55% vs. 4.27%, respectively). Follow-up comparisons revealed that this difference was significant only in the nonsexual conditions, $F(1, 72) = 4.34$, $p < .04$. There were no other effects for the arousal data.

Discussion

The data indicate that aggression does not necessarily inhibit the sexual arousal of nonrapists. It is crucial, therefore, to identify individual differences in sexual arousal to aggression rather than treating nonrapists as a unitary group. In addition, it is essential to begin to analyze the etiology of sexual arousal to aggression (Quinsey, in press).

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[2] The terms *pornography, erotica,* and *sexually explicit stimuli* are used interchangeably in this article without any pejorative meaning necessarily intended.

[3] Assessments of the effectiveness of such debriefings were recently conducted by Malamuth and Check (1984), Check and Malamuth (1984), and Donnerstein and Berkowitz (1981). The findings consistently supported the efficacy of such debriefings.

EXPERIMENT 2

The etiology of such arousal might be understood within the framework of theoretical approaches to the causes of rape. There are two general types of theories relevant to the present research. The first emphasizes cultural attitudes, roles and beliefs that justify sexual coercion (e.g., Brownmiller, 1975; Burt, 1978, 1980; Clark & Lewis, 1977; Russell, 1975, 1984). According to this view, our culture's socialization often defines coercive sexuality as the normal standard, reflecting a "macho" dominant role for men and a submissive role for women. Rape is therefore seen as an extreme point on a continuum of forced sexuality rather than a discrete, deviant act committed by only a few mentally ill men. Sexual arousal from aggression, therefore, might be similarly seen as falling along a continuum whereby nonrapists evince differing levels of similarity to rapists.

On the basis of such cultural theories, sexual arousal from aggression would be expected to be associated with a general set of beliefs or ideology in which male dominance and female submissiveness are perceived as natural and justified, which adheres to a perception of male–female relationships as fundamentally adversarial and includes attitudes described as "rape supportive" (Burt, 1980). Furthermore, according to this approach, to the extent that arousal from aggression reflects a macho orientation, it would be associated with a general acceptance of aggression in nonsexual situations (e.g., Sanday, 1981). Lastly, on the basis of the cultural approach, one would expect that sexual arousal from aggression is not an isolated response but is related to other measures of inclinations toward violence against women.

According to the second approach, in contrast, rape is viewed primarily as being sexually motivated. There are several variants to such an approach. According to one, rape is a form of sexual pathology, as presented in some psychoanalytic analyses (e.g., Hammer, 1957). Another variant is the contention that rape is motivated by overwhelming sexual impulses (Cohen, Garofalo, Boucher, & Seghorn, 1971). In sociobiological approaches, researchers (Shields & Shields, 1983; Thornhill & Thornhill, 1983) suggest an additional variant in theorizing that those men who are unsuccessful in obtaining sexual access to women by other strategies will use force. What these variants have in common is the prediction that differences in men's inclinations to rape, such as those that may be reflected in sexual arousal from aggression, would be related to differences in sexual factors, such as sexual deprivation, sexual inhibitions, and so on.

In an analysis of a representative sample of tribal societies, Sanday (1981) found evidence that was consistent with a cultural approach to the etiology of rape. In cultures with higher rates of rape, there was greater acceptance of a social ideology of male dominance over women and of intergroup and interpersonal aggression. In contrast to the predictions of a sexual approach, however, she did not find a relation between indices of sexual repression and cross-cultural differences in rape rates. In our research, similar predictor variables were used within the same culture.

To identify individual differences, we asked subjects to indicate how sexually aroused they thought they would be by forcing a woman to do something against her will. We used the phrase *force* rather than terms such as *violence* or *aggression* because these might provide information only about the more extreme end of the continuum predicted by cultural theories of rape. We later examined whether reported arousal from force was indeed predictive of sexual arousal from rape and from nonsexual aggression. In addition, we analyzed whether differences in sexual arousal to force were associated with four general areas: (a) *ideological attitudes* concerning areas such as adversarial male–female relations, rape, and male dominance; (b) *aggressive attitudes* about interpersonal and international aggression; (c) *sexual responses* such as attitudes, inhibitions, experiences, and knowledge; and (d) *self-ratings* regarding whether the subject himself might engage in sexually aggressive acts, and how attractive he found such acts, as well as his reactions to mutually consenting intercourse.

Method

Subjects

Three hundred sixty-seven male introductory psychology students participated in an orientation session. Eight subjects, however, did not respond to the question of how sexually aroused they were by the use of force (see *Materials* section) and were therefore not included in the analyses. After completing the orientation questionnaire and being presented with a general description of the laboratory session, 123 subjects also signed up for the laboratory phase. In addition to being given experimental credit for just coming to the orientation session, subjects who signed up for the laboratory phase were given credit for arriving at the laboratory (irrespective of whether they actually chose to participate). Of those who signed up for the laboratory session, 5 decided not to participate after arriving at the laboratory. The remaining 118 subjects were randomly assigned to the various experimental conditions.

Materials

Orientation Questionnaire

The orientation session involved the administration of a questionnaire containing the measures to be described. In order to avoid the problem of "yea saying," in some cases greater agreement and in others greater disagreement with an item indicated higher scores. Items from the various measures were randomly distributed throughout the questionnaire.

Arousal from force. Subjects were asked how sexually arousing they thought they would find various activities, including "forcing a female to do something she didn't want to"[4] (on 0% to 100% scales in increments of 10%). On the basis of responses to this question, we sought to divide subjects into three equal groups. As described next, however, the distribution of responses and theoretical considerations resulted in some deviation from complete equality among the groups.

Close to 30% of subjects indicated no sexual arousal from force. This was chosen as the cut-off point for the lowest group for two reasons. First, theoretically it seemed that those indicating no arousal would differ from those indicating any arousal. Second, with the next level as the cutoff, 50% of subjects would be in the lowest group. For the middle group, it would have been ideal to use the ⅔ point in the distribution as the cutoff. This point fell within the 30% reported arousal to force level. Therefore, the cut-off between the moderate and high groups could have been either above 20% or above 30% reported arousal. The latter was selected because

[4] Although the phrasing here did not specify any sexual context to the use of force, it appears that subjects generally interpreted its meaning in this way. This conclusion is based on other recent studies in which we have used wording such as "forcing a woman to do something sexual she didn't want to" and obtained responses distributed similarly to those in this study.

it resulted in the larger number of subjects in the middle rather than in the highest group, which conceptually seemed more appropriate. Using these divisions for the no (i.e., 0%), moderate (i.e., 10% to 30%), and high (i.e., 40% and above) groups resulted in 106, 147, and 106 subjects, respectively. Of these individuals, 30, 52, and 36 subjects, respectively, volunteered for the laboratory research phase. A chi-square analysis indicated no differences in the proportion of volunteers from these three arousal from force groups.

Ideological attitudes. Scales developed by Burt (1980) were used to assess attitudes regarding sexual aggression and male dominance. According to Burt, these measure ideological beliefs contributing to aggression against women. These included the Rape Myth Acceptance (RMA) scale (19 items), Acceptance of Interpersonal Violence Against Women (AIV) scale (6 items), Adversarial Sex Beliefs (ASB) scale (9 items), Sex Role Stereotyping (SRS) scale (9 items), and the Sexual Conservatism (SC) scale (10 items). In a recent factor analysis of the first three of these scales, Briere, Malamuth, and Check (in press) found that each was actually multidimensional. They therefore reformed these into nine unidimensional scales that were used in the present study: Disbelief of Rape Claims, Victim Responsible for Rape, Rape Reports as Manipulation, Rape Only Happens to Certain Women, Male Dominance is Justified, Adversarial Sexual Beliefs, Women Enjoy Sexual Violence, Acceptance of Domestic Violence, and Acceptance of Vengeance. In the present study, we performed similar factor analyses on the two remaining scales, the SRS and SC scales, using a Guttman's 1.0 eigenvalue criterion (Kaiser, 1970), followed by varimax rotations on extracted factors. When multiple factors were discovered within a given scale, new subscales were created with those items whose loadings exceeded .30. The findings are summarized in the Results section of this article.[5]

General aggression. Ten items were developed for this study to enable us to assess attitudes about various types of nonsexual aggression. These items were factor analyzed as described earlier.

Sexuality factors. In addition to Burt's (1980) SC scale, 33 items based on those of Fisher and Byrne (1979) enabled us to assess varied sexual responses. Because there were some differences in the size of the accompanying scales (i.e., from 4 to 7 points), they were converted to *z* scores before analyses. Factor analyses were performed on these items as for the scales described earlier.

Self-ratings. Subjects were asked questions regarding their own personal reactions and likely behavior. We asked how attractive they found the idea of consenting sexual intercourse, raping, and forcing a female to do something she did not want to (on scales from 1 = *very unattractive* to 4 = *very attractive*) and how likely they would be to rape or force sexual intercourse if they were assured of not being caught or punished (1 = *no likelihood,* 5 = *very likely*). Subjects' reports regarding how sexually aroused they were to consenting sexual intercourse (0% to 100%) was also included in the data analyses as part of this item set.

Subjects were also asked if they thought they ever would try certain activities. Responses were on a *no* versus *yes* scale and were analyzed separately from the other self-ratings. This study focused on reports that subjects "would rape" or "would force a female" rather than on what they had actually done, for two reasons. First, research indicates that particularly with behaviors likely to be inhibited, future intentions may be a better measure of motivation than past experience (e.g., Zuckerman, 1984). Second, that research also indicates that measures of future intentions correlate highly with past behaviors.

Depictions (Experimental Variables)

The four depictions of Experiment 1 were tape-recorded with a male voice. The reading of each lasted about 4 min.

Sexual Arousal Measures

Self-reported arousal. Self-reported sexual arousal was measured on the same 11-point scale used in Experiment 1.

Penile tumescence. Potential criticisms of the first experiment relate to measuring sexual arousal via self-reports only. For example, one might argue that subjects' reports reflect social desirability. Such an argument is questionable because social desirability is more likely to lead to underestimating than to overestimating sexual arousal from aggressive depictions. Another argument may be that subjects labeled as sexual arousal some general level of arousal or other reactions, such as anger or resentment. If this were the case, it would nonetheless be of considerable interest to discover that subjects define their arousal as sexual in nature. Moreover, previous research (e.g., Malamuth et al., 1980) indicates that subjects do meaningfully distinguish between sexual arousal and other reactions to aggressive sexual depictions. Nonetheless, in light of such potential criticisms, we judged it important to include in the second study an objective measure of sexual arousal.

Penile tumescence was monitored via a mercury-in-rubber strain gauge, a device recommended in analyses of instruments (Laws, 1977; Rosen & Keefe, 1978). Changes in resistance of the gauge as a function of changes in penile circumference were amplified and recorded on a microcomputer. Tumescence was computed as the maximum amplitude during the story. A comparison between the maximum scores and computing the total area under the curve has yielded similar results (Abel, Blanchard, Becker, & Djenderedjian, 1981).

Postexperimental Questionnaire

Subjects filled out a postexperimental questionnaire that enabled us to assess whether they were aware of the key experimental hypotheses. No subject was excluded on the basis of this information.

Procedure

Orientation Session

The orientation sessions were conducted by a male experimenter in a large-group format with subjects seated far apart from each other. Subjects first filled out the orientation questionnaire and were then given a description of the laboratory session. They then decided whether to sign up for the laboratory phase.

Laboratory Phase

The laboratory session was conducted generally within a week after the orientation phase by one of either two male or two female experimenters. The subject was escorted to a soundproof room, handed written instructions, and left alone. The instructions indicated that responses were anonymous and that the subject could leave at any time without loss of credit and without notifying the experimenter. If he chose to remain, he placed the strain gauge on his penis, did his trousers up, and notified the experimenter via intercom that he was ready to begin.

The experimenter then started the tape recorder operated from the control room. The taped instructions indicated that the subject should imagine the events described. There was then a 2-min musical interlude followed by the passage. At the end, a second male voice on the tape asked the subject to indicate on the scale provided how sexually arousing he had found the story.

At the end of the experiment, the subject filled out the postexperimental questionnaire and was given a debriefing sheet that was similar to that of Experiment 1.

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[5] Detailed information (content of items, loadings, etc.) regarding these factor analyses and all those referred to below are available on request from the first author. Herein only the number of factors extracted and the names given to them are reported.

Results

Factor Analyses

Factor analyses of the SC scale yielded four factors labeled *Sex for Procreation, Sexual Conservatism for Women, Stronger Male Sex Drives,* and *Sex and Menstruation.* Although these appear to primarily concern sexual responses, they were included with the ideological set because Burt (1980) described the SC scale as part of this set. The SRS scale produced two factors labeled *Stereotyped Roles for Women in Relationships* and *Rules Regarding Traditional Male and Female Behavior.*

Factor analyses of the general aggression items yielded three factors: a relatively large factor labeled *Support of Personal and Institutional Aggression* and two smaller factors labeled *Opposition to Hunting and Use of Guns by Public* and *Physical Punishment for Children.* In addition, one item, referring to support for the use of nuclear weapons, did not load significantly on any of the factors. However, because of particular theoretical interest in this subject, we decided to include it as a single item factor labeled *Support for Use of Nuclear Weapons.* The analyses to be reported yield very similar results (and are not qualitatively different) if this item is not included.

Factor analyses of the sexuality items yielded nine factors labeled *Sexual Permissiveness, Acceptance of Masturbation, Sex Inhibited by Contraception Problems, Acceptance of Explicit Sexual Materials, Sexual Experience and Knowledge, Importance of Sex, Sex Inhibited by Disapproval, Sex Inhibited by Fear,* and *Adequacy of Sex Knowledge.*

Volunteers Versus Nonvolunteers

Analyses in which we compared the orientation data of volunteers versus nonvolunteers for the laboratory session did not show differences on the measures of ideology or general aggression, nor on any of the self-ratings regarding force. However, analyses of the sexuality factors revealed some differences. Volunteers scored higher on Sexual Permissiveness ($p < .005$), Acceptance of Masturbation ($p < .002$), and Acceptance of Explicit Sexual Materials ($p < .01$). Two factors as well yielded marginally significant effects; volunteers tended to score higher on the Importance of Sex ($p < .06$) and the Adequacy of Sex Knowledge ($p < .08$) factors. These differences are similar to those of previous studies (e.g., Farkas et al., 1978) and do not seem to pose any serious limitations to the utility of the laboratory phase.

Sexual Arousal

An initial analysis was performed on subjects' baseline tumescence as a check on the random assignment to conditions. As expected, no significant effects were obtained (all $p > .10$).

Reported sexual arousal and penile tumescence were analyzed as a set via a 2 × 2 × 3 (Aggression × Sexual Explicitness × Arousal to Force) MANOVA. We adjusted all analyses for unequal numbers, using Overall and Speigel's (1969) Method 1, by which we assessed each effect after adjusting for its relation to all other effects.

A main effect was obtained for sexual explicitness, multivariate $F(2, 105) = 78.89$, $p < .001$, with univariate effects on both self-reported arousal, $F(1, 106) = 152.02$, $p < .001$, and penile tumescence, $F(1, 106) = 21.16$, $p < .001$. As expected, the sexually explicit depictions were more sexually arousing than the nonsexual portrayals (48.30% vs. 3.70% on self-reports and 36.68 mm vs. 32.19 mm on tumescence).

A main effect was also found for the aggression variable, multivariate $F(2, 105) = 4.55$, $p < .02$. A significant univariate was obtained only on the self-reported arousal, $F(1, 106) = 7.25$, $p < .01$; nonaggressive stories stimulated more reported arousal than did aggressive stories (32.37% vs. 23.41%). Interpretation of this effect, however, is clarified by the interactions, reported as follows.

An interaction occurred between the sexual explicitness and the aggression variables, multivariate $F(2, 105) = 5.79$, $p < .004$, with univariates on both self-reported arousal, $F(1, 106) = 8.56$, $p < .004$, and tumescence, $F(1, 106) = 4.87$, $p < .03$. The means relevant to this interaction are presented in Figure 1. Multivariate analyses of simple effects indicated that the sexual nonaggressive depiction stimulated more arousal than did the sexual aggressive depiction, $F(2, 105) = 7.41$, $p < .001$. Univariate comparisons reached significance only for the self-report data. Multivariate comparisons also showed that the aggressive nonsexual depiction tended to stimulate more sexual arousal than the nonaggressive nonsexual depiction, $F(2, 105) = 2.59$, $p < .08$, with a significant univariate effect on only penile tumescence, $F(1, 106) = 5.19$, $p < .03$.

The tumescence data are similar to the self-reported arousal data of Experiment 1. The second experiment's self-reported arousal data are also similar to those of the first experiment, with one exception. In the first experiment only, subjects reported some sexual arousal to the nonsexual aggressive depiction (although the tumescence data indicated that some were actually aroused in the second experiment as well). The difference in willingness to report arousal to this depiction in the two experiments may be attributable to the differing procedures used. In the first experiment, subjects participated in large groups in which the experimenter could not identify who had filled out a particular questionnaire. In the second experiment, subjects participated individually and, although their names were not used, they may have been aware that the experimenter could examine their individual arousal levels. If the "best" measure of each experiment is used (i.e., self-reported arousal of Experiment 1 and the tumescence data of Experiment 2), the conclusions of the two studies are very similar.[6]

[6] The following are the correlations between self-reported sexual arousal and the maximum tumescence deflection from baseline for the two depictions in which these could be meaningfully computed: For the aggressive–sexual depiction, $r(30) = .48$, $p < .003$, one-tailed; for the nonaggressive–sexual depiction, $r(30) = .31$, $p < .04$, one-tailed. These are similar to those in other studies (e.g., Heiman, 1977). For the aggressive–nonsexual and the nonaggressive–nonsexual depictions, so few subjects reported any arousal that the correlations could not be meaningfully computed. The question of correspondence between self-report and physiological measures of sexual arousal, and which is a more "accurate" measure, has been debated among researchers (e.g., Blader & Marshall, 1984; Farkas, Sine, & Evans, 1979). The effects of having both physiological and self-reported measures of arousal in the same study remain unclear. It is possible that as with the "bogus pipeline" (Jones & Sigall, 1971), the subject may provide more veridical self-reports when he knows

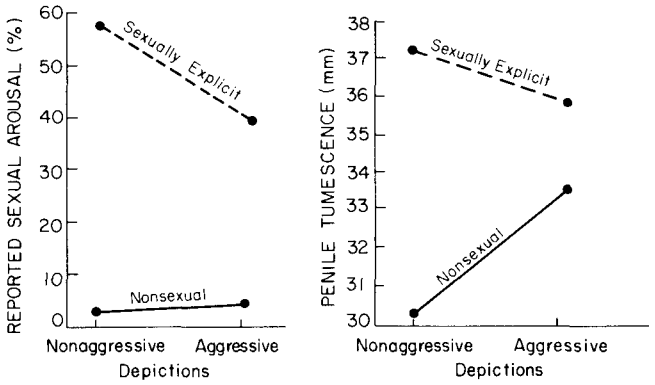

Figure 1. Reported sexual arousal and penile tumescence to depictions varied in content along the sexual explicitness (sexual vs. nonsexual) and aggression (aggressive vs. nonaggressive) dimensions.

An interaction was also obtained between the aggression and the arousal-from-force variables, multivariate $F(4, 210) = 2.81$, $p < .03$, with a univariate interaction on penile tumescence, $F(2, 106) = 3.80$, $p < .03$, and an effect approaching significance on reported arousal, $F(2, 106) = 2.70$, $p < .07$. The means relevant to this interaction are presented in Figure 2. Multivariate simple effect analyses showed that the no arousal and the moderate arousal from force groups were less sexually aroused by the aggressive than by the nonaggressive depictions, $F(2, 105) = 6.1$, $p < .003$, and $F(2, 105) = 3.76$, $p < .03$, respectively. Univariates were significant only on reported sexual arousal. In contrast, the high arousal from force group was found to be more sexually aroused by the aggressive than by the nonaggressive portrayals, multivariate $F(2, 105) = 4.0$, $p < .02$. Univariate analyses achieved significance on the tumescence data only.

Discriminant Analyses

We performed four discriminant analyses to determine whether each of the four sets of factors (ideological, aggression, sexuality, and self-ratings) differentiated among the three arousal-from-force groups. Significant discriminant results were followed by univariate ANOVAs and post hoc Scheffé analyses, in addition to inspection of the discriminant function structure coefficients.

In keeping with the predictions of cultural theories of rape, arousal from force was predicted via the ideological attitudes equation, $\chi^2(30, N = 322) = 54.50$, $p < .004$, the attitudes regarding general aggression equation, $\chi^2(8, N = 359) = 26.43$, $p < .0007$, and the self-ratings equation, $\chi^2(12, N = 334) = 217.47$, $p < .0001$. However, contrary to the predictions of a sexual approach to the etiology of rape, the sexuality set revealed no significant differences, $\chi^2(18, N = 303) = 15.72$, $p = .612$ (see Table 1).

Evaluation of the structure coefficients for the ideological attitudes variable set (see Table 1) indicated that Disbelief of Rape Claims, Victim Responsible for Rape, Rape Reports as Manipulation, Male Dominance is Justified, Adversarial Sexual Beliefs, Women Enjoy Sexual Violence, Acceptance of Domestic Violence, Stereotyped Roles for Women in Relationships, and Rules Regarding Traditional Male and Female Behavior were each significant discriminators of arousal to force. Although the post hoc Scheffé results varied somewhat among these attitude groups, polynomial analyses showed the significant attitude variables to be a linear function of increasing arousal to force. Most of the nonsignificant variables in this set concerned sexual attitudes derived from the SC scale (see Table 1).

The structure coefficients for the general aggression equation indicated that arousal from force was related to support of Personal and Institutional Aggression and to Support for Use of Nuclear Weapons. Polynomial analyses showed linear functions for each significant variable.

Lastly, the structure coefficients for the self-ratings equation pointed to strong associations between arousal from force and self-reported attraction to the idea of raping and of forcing and to reported likelihood of engaging in such acts if one could be assured of not being caught and punished (see Table 1). Interestingly, this same analysis revealed that attraction and arousal to consensual sexual intercourse did not relate to arousal from force levels.

The items concerning whether subjects thought that in the future they "will rape" and "will force" were both highly significant by a chi-square analysis in relation to reported arousal from force, $\chi^2(2, N = 301) = 14.74$, $p < .0006$, and $\chi^2(2, N = 287) = 87.96$, $p < .0001$, respectively (see Table 2). However, the "will rape" analysis was weakened by the few indicating "yes" to this item, producing three cells whose expected frequencies fell below the conventionally acceptable level for chi-square analysis (Siegel, 1956). Results of analyzing these data by simple correlations also showed significance between both the "will rape" and "will force" variables and reported arousal from force,

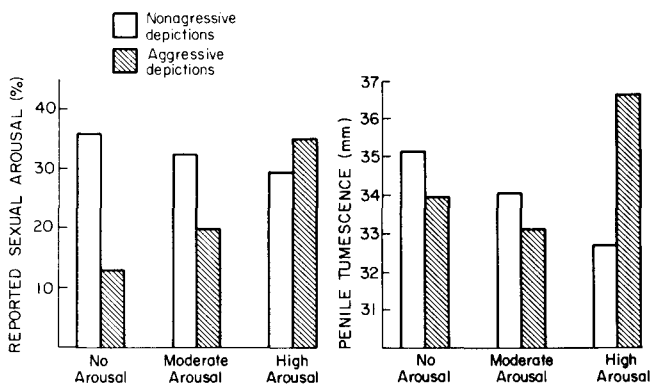

Figure 2. Reported sexual arousal and penile tumescence as a function of arousal from force group (no, moderate, and high) and the depictions' aggressiveness (aggressive vs. nonaggressive).

that the experimenter is assessing his physiological responses. Another possibility is that if the subject "is required to report his arousal to forced-sex stimuli, this task may inhibit arousal by accentuating social demands" (Blader & Marshall, 1984, p. 624). Blader and Marshall (1984) found that under some circumstances, the requirement to report arousal reduced both self-reported and tumescence arousal from coercive stimuli, but in other circumstances only reported arousal was inhibited. In general, there seems to be agreement that when arousal in response to coercive stimuli is found, either with self-reports or with tumescence, it should usually be considered valid. However, the lack of indications of arousal may be veridical or may reflect inhibitory factors in reporting or exhibiting arousal.

Table 1
Means and Statistical Significance of Ideological, Aggressive, and Sexual Responses and Self-Ratings for Three Levels of Reported Arousal From Force

Variable	Arousal from force: No	Moderate	High	F[a]	p	DFA[b]	Trend[c]
Ideological attitudes							
Disbelief of rape claims	12.91_a	14.15_a	14.10_a	3.41	.05	*.37*	linear
Victim responsible for rape	24.15_a	25.58_a	29.37_b	8.65	.0002	*.64*	linear
Rape reports as manipulation	4.32_a	5.08_b	5.26_b	5.84	.003	*.54*	linear
Rape only happens to certain women	2.22	2.46	2.19	1.00	*ns*	−.01	—
Male dominance is justified	12.75_a	14.53_b	15.55_b	9.62	.0001	*.72*	linear
Adversarial sexual beliefs	8.84_a	9.55_{ab}	10.28_b	3.74	.03	*.49*	linear
Women enjoy sexual violence	8.01_a	9.16_b	10.58_c	12.58	.0001	*.82*	linear
Acceptance of domestic violence	6.18_a	7.00_b	7.20_b	3.45	.03	*.42*	linear
Acceptance of vengeance	2.89	3.20	2.97	1.07	*ns*	.06	—
Sex for procreation	9.21	8.46	9.00	1.33	*ns*	−.08	—
Sexual conservatism for women	14.65	14.64	15.91	2.49	—	.28	—
Stronger male sex drives	6.29	6.22	6.61	0.78	—	.14	—
Sex and menstruation	4.68	4.46	4.59	0.55	*ns*	.07	—
Stereotyped roles for women in relationships	15.97_a	16.68_a	19.13_b	7.34	.001	*.57*	linear
Rules regarding traditional male and female behavior	11.73	12.86_a	13.27_a	3.05	.05	*.40*	linear
Aggressive attitudes							
Support of personal and institutional aggression	23.04_a	25.44_b	26.22_b	9.02	.0002	*.83*	linear
Opposition to hunting and use of guns by public	11.13	10.20	10.17	1.74	*ns*	.34	—
Physical punishment for children	3.71	4.03	3.91	1.19	*ns*	.22	—
Support for use of nuclear weapons	1.79_a	2.27_{ab}	2.62_b	5.72	.004	*.66*	linear
Sexual responses							
Sexual permissiveness	0.00	−0.47	0.40	0.56	*ns*	—	
Acceptance of masturbation	0.11	0.02	−0.01	0.05	*ns*	—	
Sex inhibited by contraception problems	−0.34	0.10	0.30	2.54	.08	—	
Acceptance of explicit sexual materials	−0.04	−0.32	0.47	1.42	*ns*	—	
Sexual experience and knowledge	−0.14	0.08	0.13	0.33	*ns*	—	
Importance of sex	−0.04	−0.22	0.11	1.01	*ns*	—	
Sex inhibited by disapproval	−0.16	0.03	0.12	0.48	*ns*	—	
Sex inhibited by fear	−0.14	−0.01	0.19	1.49	*ns*	—	
Adequacy of sex knowledge	0.08	0.01	−0.12	0.86	*ns*	—	
Self-ratings							
Idea of rape is attractive	1.05_a	1.36_{bc}	1.52_c	12.72	.0001	.28	linear
Idea of forcing a woman is attractive	1.08_a	1.67_b	2.24_c	75.55	.0001	*.71*	linear
Likelihood of raping	1.06_a	1.51_b	2.07_c	30.58	.0001	*.45*	linear
Likelihood of forcing	1.14_a	2.13_b	3.19_c	115.14	.0001	*.87*	linear
Idea of intercourse is attractive	3.29	3.14	3.00	1.41	*ns*	−.10	—
Own arousal to sexual intercourse	75.25	77.17	72.68	0.043	*ns*	−.03	—

Note. Means not sharing a common subscript are different at $p < .05$ (Scheffé).
[a] Degrees of freedom for the F tests ranged from 2, 300 to 2, 356. Differences were due to some subjects' not answering individual questions.
[b] Discriminant function analysis structure coefficients, considered meaningful (italicized) at $|c| \geq .35$.
[c] Trends significant at $p < .05$.

Table 2
Subjects' Reports Regarding Whether They Might Rape or Might Force a Woman in Future as a Function of Arousal-From-Force Group

Question	Arousal from force			
	No	Moderate	High	Total
Will rape				
No	95	122	72	289
Yes	1	2	9	12
Will force woman				
No	92	101	29	222
Yes	2	18	45	65

$r(299) = .19, p < .0004$, and $r(285) = .52, p < .0001$, respectively, suggesting that predictions of future rape and force are related to self-reported arousal from force.

Discussion

The results generally replicated and extended the findings obtained in the first experiment in showing that aggression may be a sexual stimulant for some individuals from the general population. The data confirmed that men's reported sexual arousal from forcing a woman (assessed in a preliminary session) is predictive of their actual sexual arousal that was assessed in a later session by both self-reports and penile tumescence. More specifically, three subgroups were identified: For those who reported no arousal or moderate arousal from force (approximately 70% of the male subjects), the presence of aggression inhibited sexual arousal. In contrast, for those who reported a relatively high level of arousal from force (about 30% of the subjects), aggression was indeed found to enhance sexual arousal, particularly when assessed via penile tumescence.

In examining the correlates of sexual arousal from force, we found that those indicating higher levels of such arousal were more accepting of an ideology that justifies male aggression against and dominance over women. Furthermore, arousal from force was also found to be associated with greater acceptance of aggression in nonsexual situations. In addition, we found that arousal from force related to attraction to sexually coercive acts and the belief that subjects themselves might actually engage in such acts in the future. In contrast, arousal from force did not relate to noncoercive sexual responses including attitudes, inhibitions, or sexual experience and knowledge; it was also not related to subjects' self-ratings regarding attractions, intentions, and reactions to mutually consenting intercourse. However, the assessment of sexual responses was based on subjects' self-perceptions that may not adequately enable one to assess some variables such as unconscious sexual conflicts.

These data are consistent with the data of Briere and Malamuth (1983), who found that self-reported likelihood of sexual aggression was related to rape-supportive attitudes but not to variables reflecting sexual drive or sexual inhibitions. The findings are also consistent with Sanday's (1981) analysis of tribal societies in implicating ideological and aggressive variables but not sexual variables as linked to aggression against women, although she examined rape rates, whereas we focused on sexual arousal from coercion.

On the whole, the data are supportive of theoretical approaches, such as a feminist one (e.g., Brownmiller, 1975), that implicate cultural attitudes and roles as causes of aggression against women but are not supportive of theoretical approaches that implicate sexual causes. However, the findings regarding sexually explicit stimuli are inconsistent with the feminist perspective, whose proponents often contend that exposure to pornography is one of the causes of violence against women. However, the primary focus in this article has been on sexual arousal from aggression and not on attitudes or behavior. Other data suggest that exposure to certain types of pornography, particularly violent pornography, does not change adults' sexual arousal patterns, including sexual arousal from aggression (e.g., Ceniti & Malamuth, 1984), but may increase men's callous attitudes towards women, acceptance of rape myths, and aggressive behavior in the laboratory (e.g., Malamuth & Donnerstein, 1984). In addition, the assessment of reactions to pornography in this study was based on subjects' own definition of this term, and we did not distinguish between violent and nonviolent pornography. Future researchers should more precisely measure pornography experience and distinguish among various types in assessing possible links with sexual arousal from aggression.

On the basis of the correlation between ideological beliefs and sexual arousal from force, we may speculate about one possible etiology of such arousal. In adolescence, when many youth experience their first sexual fantasies and activities, individuals who are more accepting of an adversarial ideology, especially in male–female relationships, may be more likely to experience sexual arousal in the context of aggressive and adversarial relations. For example, a man who believes that women must be coerced into sexual acts may experience sexual arousal and pleasure while engaging in an act of real or imagined aggression or dominance. Through the frequent pairing of sexual arousal with aggressive acts and feelings, conditioning of arousal in response to sexual aggression and, by extension, to aggression alone may occur.

What do the data suggest in regard to a link between sexual arousal from force and aggressive behavior? On the one hand, the relations between such arousal and reported expectation of committing future acts of sexual coercion are consistent with the view that such arousal indeed is a motivator for coercive acts against women (Abel et al., 1977). In fact, recent data by Malamuth (1983, in press) show that sexual arousal from aggression is predictive, for men from the general population, of aggression against women that is measured both via laboratory aggression and via aggression in dating situations. On the other hand, the relatively large percentage of men in this sample who reported high levels of sexual arousal from force suggests that such arousal alone may be insufficient to cause the actual commission of violence. After all, the majority of these individuals are unlikely to be actual rapists[7] or serial murderers. Although such sexual

[7] Questions may be raised in regard to the actual similarity of the sexual arousal levels in response to aggressive depictions of some subjects from the general population, such as some within the high arousal from force group, and those of identified rapists. This research, in combination with other work (e.g., Ceniti & Malamuth, 1984; Malamuth, in press;

arousal, therefore, may be one important component of the motivation to rape, the presence of additional factors, such as attitudes accepting of violent behavior, sexist attitudes, dominance motives, an antisocial personality, hostility towards women, feelings of social alienation, peers that condone sexual aggression, or lack of empathy (Earls & Marshall, 1983; Malamuth, 1983, in press; Rapaport & Burkhart, 1984) may be of considerable importance in translating an arousal pattern into coercive or violent inclinations or behavior. Consistent with this suggestion are the data of Malamuth (in press). This investigator assessed the ability of a measure of sexual arousal from aggression to be predictive of "real world" aggression against women independently and in combination with measures of attitudes, dominance motives, hostility, sexual experience, and personality characteristics. He found that although the sexual arousal measure alone was predictive of aggression, the additional information provided by considering the interactive effects of the other measures yielded far better prediction. An important task for investigators in future theoretical development and research is to analyze the factor configurations that may combine with sexual arousal from force so as to result in coercive and violent behavior against women.

Malamuth & Check, 1980a, 1980b, 1983), suggests a high degree of similarity. First, in some studies with men from the general population, researchers used the identical stimuli as those used in studies with rapists (e.g., Abel, Barlow, Blanchard, & Guild, 1977). Second, with the criterion of equal or greater arousal from rape as compared with consenting sex portrayals (Abel et al., 1977), some men within the general population are clearly comparable with rapists. One might argue, however, that the arousal levels of men from the general population in response to consenting sex are lower than those of rapists, and consequently their arousal in response to rape is also less. Both theoretical and empirical (e.g., Quinsey, Chaplin, & Upfold, 1984) information strongly contradicts such a contention. There remains the possibility, nonetheless, that if depictions of extremely vicious sexual and nonsexual violence were used, there would be very few men within the general population who would show arousal levels comparable to those of some rapists, particularly the sadistic ones (Quinsey et al., 1984). This issue should be investigated in future studies in which researchers not only differentiate among types of rapists but also do not treat nonrapists as a unitary group.

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