

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/16364654>

Sexual Arousal to Rape Depictions: Individual Differences

Article in *Journal of Abnormal Psychology* · March 1983

DOI: 10.1037//0021-843X.92.1.55 · Source: PubMed

CITATIONS

138

READS

814

2 authors, including:



Neil M Malamuth

University of California, Los Angeles

139 PUBLICATIONS 13,914 CITATIONS

SEE PROFILE

Sexual Arousal to Rape Depictions: Individual Differences

Neil M. Malamuth
Department of Communication Studies,
University of California, Los Angeles
and University of Manitoba, Winnipeg,
Manitoba, Canada

James V. P. Check
University of Manitoba, Winnipeg,
Manitoba, Canada

One hundred forty-five male subjects participated in the two sessions of this experiment. The first part was an orientation session in which personality variables, sexual motivations, sexual experience, and self-reported likelihood of raping were assessed. The second part was a laboratory session in which subjects first listened to one of eight audiotaped depictions of an interaction involving sexual acts between a man and a woman. The content of these depictions was systematically manipulated along the dimensions of consent (women's consent vs. non-consent), pain (woman's pain vs. no pain), and outcome (woman's arousal vs. disgust). Later in the second session, subjects listened to a second audiotaped portrayal of either nonconsenting or consenting sex. Their sexual arousal was assessed throughout this second session by penile tumescence and self-reports. Resulting data highlighted the importance of the interaction between individual differences variables and manipulations in the content of the portrayals in affecting sexual arousal to rape depictions. Support was obtained for the prediction that such arousal is not an isolated response but is associated with other measures of sexually aggressive tendencies.

Research on the determinants of nonrapists' sexual arousal to rape depictions (Malamuth, Heim, & Feshbach, 1980; Malamuth & Check, 1980a; 1980b) has attempted to account for incongruous conclusions reached in two disparate areas of investigation. One of these is research designed to develop an objective index of a proclivity to rape based on sexual arousal differences between rapists and nonrapists. The other is research documenting an increase in sexual violence within the mass media.

This study was supported by Grants 410-78-0607-R1 and 410-78-0607-R2 from the Social Sciences and Humanities Research Council of Canada to the first author. Portions of this paper were presented at the meeting of the American Psychological Association, Los Angeles, August 1981.

The authors wish to thank Shelly Turcotte, Mary Gall, Doug Speirs, and Charles Blararu for serving as experimenters, and David Bronstein and Catherine McClintock for their assistance in writing the stories. Thanks also go to Gordon Barnes for his valuable suggestions regarding the selection of predictor variables, to Jeff Tanaka for statistical consultation, and to Zipora Malamuth for helpful comments on an earlier draft.

Requests for reprints should be sent to Neil M. Malamuth, Communication Studies, 232 Royce Hall, University of California, Los Angeles, California 90024.

Arousal to Rape Index

Abel and his associates (Abel, Barlow, Blanchard, & Guild, 1977; Abel, Becker, & Skinner, 1980; Abel, Blanchard, & Becker, 1976, 1978a; Abel, Blanchard, Becker, & Djenderedjian, 1978b) reported that rapists showed relatively high and about equal levels of penile tumescence to audiotaped portrayals of both rape and consenting sexual acts. Other investigators reported similar data (Barbaree, Marshall, & Lanthier, 1979; Hinton, O'Neill, & Webster, 1980; Quinsey, Chaplin, & Varney, 1981). Although there has been some indication that the more violent rapists are more aroused sexually by rape scenes than by consenting scenes (Abel et al., 1977), the conclusion about rapists in general has been that they are aroused equally by rape depictions and depictions of mutually consenting sex.

These studies (e.g., Abel et al., 1977) found that nonrapists, in contrast to rapists, showed relatively little sexual arousal (both in self-report and tumescence measures) to rape depictions compared with consenting depictions. Note however, that although these ex-

periments found overall differences in arousal-to-rape stimuli between rapists and nonrapists, it has also been observed at times that "many normals do respond considerably to deviant film material including rape" (Hinton et al., 1980, p. 215). However, these experiments did not identify variables that distinguish among individuals from the general population who do or do not become sexually aroused by rape depictions.

Abel et al. (1977) developed the rape index, which is a ratio of sexual arousal to rape portrayals to arousal to consenting sex portrayals. They argued (see also, Abel et al., 1978a, 1978b, 1980) that this measure serves as an objective index of a proclivity to rape. With this index, a man whose sexual arousal to rape depictions is similar to or greater than his arousal to consenting depictions would be considered to have an inclination to rape. These investigators and others have been using this measure in the diagnosis and treatment of rapists and have recently extended it to child molesters by contrasting sexual arousal to depictions of child molestation with arousal to adult-consenting depictions (Abel, Becker, Murphy, & Flanagan, 1981; Quinsey Chaplin, & Carrigan, 1980). Quinsey et al. (1980) provided some support for the predictive validity of this assessment technique by showing that it successfully predicted recidivism following discharge from a psychiatric institution. Further, Malamuth (in press) found that the rape index predicted males' aggression against women in a laboratory setting.

The Mass Media and Sexual Violence

As noted, the development of the rape index was based on findings that nonrapists showed relatively little sexual arousal to rape depictions. Such data appear to be inconsistent with content analyses revealing that a great deal of hard-core pornography¹ (Smith, 1976, Note 1) and an increasing percentage of soft-core erotica (Malamuth & Spinner, 1980) incorporate rape themes. It seems likely that publishers' decisions to include such violent pornography in their publications is to some degree a reflection of buyers' interests and gratifications. This suggests that rape themes may be quite sexually arousing

to many consumers of pornography, most of whom would probably not be actual rapists.

To account for the differing conclusions regarding nonrapists' sexual responsiveness to rape depictions, Malamuth et al. (1980b) suggested that the type of sexual violence found in the mass media may differ in content from that used in the research on rapists and that certain types of rape depictions may be highly sexually arousing to some nonrapists. To assess this possibility empirically, they systematically manipulated the content of rape depictions and consenting depictions presented to college students. Their findings and the findings of subsequent experiments (Malamuth & Check, 1980a, 1980b) indicated that the victim's reactions within rape scenes were of critical importance. Rape depictions were found to stimulate relatively little sexual arousal when the victim was portrayed as continuously abhorring the assault (the type of depiction used in the research contrasting rapists' arousal to that of nonrapists). When the victim was perceived as becoming involuntarily sexually aroused, on the other hand, sexual arousal to rape depictions was as high as, and even tended to be nonsignificantly higher than, arousal to consenting depictions (see Malamuth & Check, 1980a). These data appear to help reconcile the conflicting conclusions described earlier in that both content-analytical studies (e.g., Smith, 1976) and somewhat less systematic observations (e.g., Brownmiller, 1975) have noted that rape portrayals in pornography almost invariably depict the victim as becoming sexually aroused.

Individual Differences

Although manipulations in the content of stimuli have yielded valuable information regarding the type of rape depictions that inhibit the sexual arousal of nonrapists, previous research in this area has largely ignored the potential mediating role of individual differences among subjects. The classification of subjects into either a rapist or nonrapist grouping may have obscured important in-

¹ The terms *erotic* and *pornographic* are used interchangeably in this paper to refer to sexually explicit depictions without any pejorative meaning necessarily intended.

formation. Consideration of individual differences among the nonrapist group seems particularly necessary (although similar analyses examining individual differences among rapists are needed also) in light of theorizing (e.g., Clark & Lewis, 1977; Russell, 1975) and research (e.g., Malamuth, 1981) that suggest that within the nonincarcerated male population there are men with relatively strong inclinations to aggress against women.

The present research was designed to examine the role of individual differences as they relate to sexual responsiveness to rape portrayals. We sought to determine whether nonrapists' arousal to rape depictions is an isolated response or is associated with other tendencies towards sexual aggression. The conceptualization of rape as the expression of power and aggressive motives was the basis for selecting specific measures to relate to arousal to rape. We predicted that sexual arousal to nonconsenting intercourse (but not arousal to consenting sex) would be associated with (a) a man's self-reported likelihood that he might rape under certain circumstances, (b) the degree to which power was a motive for engaging in sexual acts, and (c) the personality dimension of Psychoticism, a dimension hypothesized to reflect inclinations to aggress against women (Eysenck, 1978). In addition, we assessed a number of other variables (i.e., the expression of love and affection as a motive for sex, the sexual experience, and the personality dimensions of neuroticism and extraversion) to explore their possible relationship to sexual arousal to rape, although no specific predictions were made regarding these variables.

Method

Subjects

Three hundred seven male students taking Introductory Psychology signed up for the orientation session of the experiment. After being presented with a description of the procedures and measures to be employed in the laboratory session, 146 of these subjects also signed up for the laboratory phase of the experiment. In addition to being given credit for showing up at the orientation session, subjects who signed up for the laboratory phase of the experiment were given experimental credit for arriving at the laboratory (irrespective of whether or not they actually chose to participate in the experiment). Of those who signed up for the laboratory session, only one subject decided not to participate after arriving at the

laboratory. The remaining 145 subjects were randomly assigned to the various experimental conditions.

Design Overview

The experiment was conducted in two separate sessions, an orientation session and the actual experimental laboratory session. At the orientation session, subjects filled out a number of questionnaires. The laboratory session consisted of two phases separated by a 10-minute interlude. In Phase 1 subjects were exposed to one of eight audiotaped pornographic passages (which varied along several dimensions). In Phase 2, subjects listened to a second pornographic passage that depicted either a nonconsenting intercourse (rape) or a mutually consenting intercourse (nonrape) and then filled out a questionnaire. Sexual arousal was assessed throughout the laboratory session.

Materials

Orientation questionnaire. The orientation session involved the administration of a questionnaire that included four measures assessing personality, sexual motivations, sexual experience, and self-reported likelihood of raping.

Personality variables. The Eysenck Personality Questionnaire (EPQ) was employed as a measure of personality traits (Eysenck, 1978). The EPQ yields scores on three personality dimensions (Psychoticism, Neuroticism, and Extraversion) and on a Lie scale. As Eysenck (1978) makes abundantly clear, these scales purport to reflect variables that stretch through the normal, nonpsychiatric population. Eysenck (1978) hypothesized that higher scores on the Psychoticism scale, which is of particular interest in the present study, would be expected to be associated with aggressive and impersonal sex, and he noted that criminals scored much higher than noncriminals on this dimension. Note that Eysenck (1977) also predicted, on the basis of his theory of personality, that criminals would score relatively high on the Neuroticism, Extraversion, and Psychoticism scales. To the extent that this theory is valid and if sexual arousal to rape reflects antisocial tendencies in general, such arousal would be expected to be associated with neuroticism, extraversion, and psychoticism.

Sexual motivations. A measure developed by Nelson (1979) was used to assess the function of, or motivations for, engaging in sexual acts. This measure asks respondents to indicate the degree to which various feelings and sensations are important to them as motivations for engaging in sexual acts. Nelson (1979) provided data concerning the reliability and validity of his scale, which yields scores on several functions of sexuality. Of primary interest in the present investigation was the power function, which refers to the degree to which feelings of control or of relinquishing control over one's partner motivate sexuality (e.g., "I enjoy the feeling of having someone in my grasp"; "I enjoy the conquest"). A second function examined in the present research was the love and affection function, which refers to needs to receive and share affection and intimacy with others (e.g., "Sex is the way that I show I really care about someone").

Sexual experience. The Sexual Behavior Inventory (SBI; Bentler, 1968) was used to assess sexual experience in conventional heterosexual acts. Subjects indicated whether they had engaged in specific sexual behaviors that varied in degree of intimacy (e.g., kissing, fondling of breasts, intercourse).

Likelihood of raping. Subjects' self-perceptions regarding the possibility that they personally might rape were also assessed in the orientation phase of the research. Participants indicated on a 6-point scale ranging from "not at all likely" to "very likely" whether they would rape if they could be assured that they would not be caught and punished. Such ratings have been shown in previous research to have considerable predictive validity with respect to other responses associated with sexual aggression (Malamuth, 1981; Malamuth & Check, 1980a; Malamuth, Haber, & Feshbach, 1980; Tieger, 1981; Malamuth, Reisin, & Spinner, Note 2). Whereas a relationship has been documented between sexual arousal to rape scenes and reported likelihood of raping (LR; e.g., Malamuth et al., 1980a), the relationship between LR ratings and different types of rape depictions (e.g., victim abhorrence vs. victim arousal) has not been adequately examined.

Also included in the questionnaire administered to subjects during the orientation phase were a number of items that elicited demographic information and reactions to and participation in various sexual acts (e.g., group sex, homosexual acts, and coercive sex). These background items were used to determine whether there were any differences between the volunteers and the non-volunteers for the laboratory session of the research.

Depictions (Experimental Variables)

Phase 1. Each of the eight versions of the audiotaped depictions in Phase 1 was about 1,000 words and was presented at a speed of about 200 words per minute. The content of these stories was systematically manipulated in a fully crossed factorial design along the dimensions of consent (women's consent vs. nonconsent), pain (woman's pain vs. no pain), and outcome (woman's arousal vs. disgust). The materials were identical to those used by Malamuth and Check (1980b), who presented data that validated the intended manipulations and described their content in more detail.

Phase 2. The Phase 2 stories were similar in length to those of Phase 1. In the nonconsenting (i.e., rape) depiction, a man secretly followed a woman from a disco, broke into her apartment, and forcibly raped her. In the consenting story, a man and a woman had mutually consenting intercourse in the man's apartment. A validation of written versions of these stories was conducted with 17 male and female undergraduate raters. It was found that, as intended, the woman was clearly perceived as being less willing and experiencing more pain and less pleasure in the nonconsenting than in the consenting depiction (all p s < .0001). Moreover, the two stories were perceived as equally sexually explicit, realistic, and well written.

Sexual Arousal Measures

Self-reported arousal. Self-reported sexual arousal was measured in both phases on an 11-point scale rang-

ing from 0% (not at all sexually arousing) to 100% (very sexually arousing) in units of 10%. Subjects were asked to indicate their arousal on this scale immediately after hearing each story.

Penile tumescence. Penile tumescence was monitored by the use of a D. M. Davis, Inc. mercury-in-rubber strain gauge, a device recommended in recent analyses of differing measurement 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. Penile tumescence was computed on the basis of the maximum positive deflection from baseline taken before the depiction. A comparison between this approach and that of computing the area under the curve has shown that the two procedures yield similar results (Abel, Blanchard, Murphy, Becker, & Djenderdjan, 1981). Note that recent findings point to certain limitations in the sensitivity of circumferential measures of penile tumescence (Earls, 1981; Farkas, Evans, & Sine, 1979; Earls & Marshall, Note 3). These data, based on the actual videotaping of subjects during exposure to erotic stimuli, reveal that on the average there is about a 35% increase in penile length during erection prior to any circumferential change. Furthermore, following about 80% change in penile length, no further increase occurs in penile circumference. Consequently, measures of penile circumference appear to be assessing a somewhat restricted range of change in physiological arousal.

Postexperimental Questionnaire

At the end of the experiment, subjects filled out a postexperimental questionnaire. Subjects were asked a number of questions designed to assess whether they were aware of the key experimental hypotheses (e.g., effects of victim's reactions on sexual arousal). Two independent raters agreed that none of the subjects indicated awareness of these hypotheses.

Procedure

Orientation session. The orientation sessions were attended by subjects in large groups. Subjects first filled out the orientation questionnaire and were then given a sheet explaining the procedures to be used in the experiment proper. At this point subjects decided whether or not to sign up for the experiment.

Experimental procedure. The experiment proper was conducted generally within 1 week after the orientation phase. The subject was given credit for experimental participation upon arriving at the laboratory. The experiment was conducted using two male and two female experimenters.² The subject was escorted to a sound-proof room, handed a set of written instructions, and left alone. The instructions indicated that the subject's responses were anonymous and that he was free to leave

² Analyses of the data within the same sex of experimenter showed that there were no significant differences, thereby justifying collapsing across this dimension. In the analyses, the sex of experimenter variable concerns the data for the two male versus the two female experimenters.

at any time during the experiment without loss of credit and without notifying the experimenter. If the subject chose to remain, he closed the door, signed or initialed a consent-to-participate form, placed the strain gauge on his penis, did his trousers back up, and notified the experimenter via intercom that he was ready to begin.

When the subject was ready, the experimenter started the tape recorder, which he or she operated from the control room. The instructions on the tape indicated that there would be stories interspersed with music and that the subject was to imagine the events described during the presentation of the stories but that he was not to fantasize sexually during the musical interludes. After the initial instructions, there was a 2-minute musical interlude and then the first erotic passage was presented by a male voice (Phase 1). At the end of the first passage, a second male voice on the tape asked the subject to indicate on the scale provided how sexually stimulating he had found the story. A 10-minute musical interlude followed (during which all subjects returned to baseline levels of arousal), and then the second story was presented, followed again by instructions for the subjects to rate how sexually arousing they had found the passage (Phase 2).

At the end of the experiment, the subject filled out the postexperimental questionnaire and notified the experimenter via intercom that he was finished. The experimenter then brought the subject a debriefing sheet, which, for subjects who were exposed to rape depictions, stressed the violent nature of rape and presented several points designed to dispel rape myths.³

Results

Volunteers Versus Nonvolunteers

An initial analysis was conducted comparing the orientation data of the 146 subjects who volunteered for the laboratory phase of the experiment with the data of the 162 subjects who came to the orientation session but chose not to participate in the laboratory phase. This analysis indicated that volunteers did not differ from nonvolunteers on any of the predictor measures assessing personality, sexual motivations, or sexual experience, nor did they differ on the EPQ Lie scale. However, analyses of the items inquiring about sexual history and reactions to and experiences with various sexual behaviors revealed differences between the two groups. Volunteers were more oriented toward unconventional sexual activities and were more force oriented. With respect to unconventional sexual activities, volunteers, relative to nonvolunteers, were more likely to have thought of male homosexual acts ($p < .02$), to have found the idea of such acts more attractive ($p < .007$), and to have indicated a greater likelihood of engaging in such acts in

the future ($p < .022$). Volunteers also indicated a greater likelihood of engaging in the future in anal intercourse ($p < .016$) and group sex ($p < .008$). They also reported that they find the idea of watching lesbian acts more attractive ($p < .002$) and that they have thought about such acts more frequently ($p < .031$). Finally, volunteers were less likely to have tried conventional intercourse ($p < .003$)⁴ and were nonsignificantly less likely to have thought about it ($p < .07$) than were nonvolunteers.

With respect to forced sexuality, volunteers were more likely to have thought of forcing a woman into sexual acts ($p < .01$), and they found the idea of forcing a female into sexual acts more attractive ($p < .02$) than did nonvolunteers. Also, there were differences that approached conventional levels of statistical significance, with volunteers indicating a greater likelihood of raping ($p < .06$) and feeling less disgusted about forcing a female into sexual acts ($p < .08$) than did nonvolunteers.

Differences between volunteers and non-

³ Assessments of the effectiveness of such debriefings were recently conducted by Malamuth and Check (in press), Check and Malamuth (in press-a), and Donnerstein and Berkowitz (1981). These assessments were conducted as long as 4 months following research participation (Donnerstein & Berkowitz, 1981) as well as without subjects' awareness that the assessment is at all related to their earlier research participation (Check & Malamuth, in press-a; Malamuth & Check, in press). The findings of these experiments consistently show that the overall impact of research participation that includes exposure to rape portrayals followed by debriefings is a reduction in subjects' acceptance of rape myths.

⁴ At first glance, there appears to be some inconsistency regarding differences between volunteers and nonvolunteers in the results obtained with the SBI as compared to the question concerning sexual intercourse on the demographic and sexual history questionnaire. The former measure did not reveal significant differences, whereas the latter measure did. Examination of overall means on the SBI shows that, on this measure as well, volunteers reported nonsignificantly less sexual experience than did nonvolunteers. The lack of significance on this measure may be due to the wider range of conventional sexual acts assessed as opposed to the other questionnaire that, in assessing conventional sexuality, only inquired about intercourse. To examine this explanation more directly, the specific item on the SBI inquiring about heterosexual intercourse was analyzed separately and showed that fewer volunteers than nonvolunteers reported having engaged in heterosexual intercourse ($p < .004$).

volunteers in research assessing penile tumescence have been similarly documented by other investigators (e.g., Farkas, Sine, & Evans, 1978). These data point to the need for some qualification in generalizing the findings from research using physiological measures of sexual arousal. It may be useful to attempt to replicate the present findings using self-reported measures of arousal only. Although self-reports have some obvious limitations, fewer individuals may be deterred from participation. Note that previous experiments in this line of investigation that have used only self-report measures of sexual arousal (e.g., Malamuth & Check, 1980b) yielded very similar conclusions to those reached in experiments assessing both tumescence and self-reports (e.g., Malamuth & Check, 1980a).

Phase 1 Analyses

To determine the mediating effects of subjects' individual characteristics on the impact of the manipulated variables, it would have been desirable to classify subjects on the basis of each of the background measures obtained in the orientation session (personality, sexual motivations, etc.). Such a classification scheme added to the four manipulated variables would have created a very large set of independent variables that would require an unrealistic sample to test for the full range of main and interaction effects. We therefore decided to select only one of the background variables for inclusion with the analysis of the manipulated independent variables. Subjects' self-reported likelihood of raping was chosen as this background variable based on earlier work (see Malamuth, 1981, for a detailed discussion of this variable) suggesting that this is a critical individual differences variable for research on responses to rape. On the basis of the orientation questionnaire, subjects who indicated that there was no likelihood that they would rape (i.e., a response of 1 on the 6-point questionnaire) were classified as low likelihood of raping (i.e., low LR, $n = 86$). Those who responded 2 or greater (indicating some likelihood of raping) were classified as high likelihood of raping (i.e., high LR, $n = 59$). This distribution is similar to that of previous studies (Check & Mala-

muth, in press-b; Malamuth, 1981; Malamuth & Check, 1980a; Malamuth et al., 1980a; Tieger, 1981; Malamuth et al., Note 2). Phase 1 penile tumescence and self-reported sexual arousal were then analyzed as a set with a 2 (consent) \times 2 (pain) \times 2 (outcome) \times 2 (sex of experimenter) \times 2 (likelihood of raping) multivariate analysis of variance (MANOVA).⁵

A main effect was obtained for sex of experimenter, multivariate $F(2, 113) = 3.55$, $p < .04$, with a univariate effect only on penile tumescence, $F(1, 114) = 6.59$, $p < .012$. Subjects were more aroused with the female experimenters than with the male experimenters (penile diameter $ms = 37.7$ mm and 35.5 mm, respectively). Note that subjects also indicated higher self-reported arousal with the female experimenters than with the male experimenters ($ms = 40.5\%$ and 36.8%, respectively), although this difference was not statistically significant.

The analysis of the Phase 1 arousal data also yielded a number of interaction effects. To simplify presentation those interactions that did not involve the LR independent variable will be presented first, followed by those interactions that did involve LR.

Interactions not involving likelihood of raping. The analysis yielded a significant interaction of consent and outcome, multivariate $F(2, 113) = 5.30$, $p < .007$, with significant univariate effects on both penile tumescence, $F(1, 114) = 7.38$, $p < .008$, and self-reports, $F(1, 114) = 6.04$, $p < .016$. Examination of the means indicated that when the woman was disgusted, subjects were more sexually aroused by the consenting than the nonconsenting depictions, whereas when she was perceived to be aroused, subjects' arousal was higher in the nonconsenting conditions. However, as reported in the following section, a second order interaction with LR provided further information regarding this interaction.

There was also a Consent \times Outcome \times Sex of Experimenter interaction, multivar-

⁵ The use of the LR independent variable resulted in some inequality of cell sizes. Therefore, all analyses were adjusted for unequal ns using Overall and Spiegel's (1969) Method 1, which assesses each effect after adjusting for its relationship to all other effects.

iate $F(2, 113) = 3.18, p < .05$, with a univariate effect that was significant on penile tumescence, $F(1, 114) = 5.00, p < .03$, and approached significance on self-reports, $F(1, 114) = 2.98, p < .09$. Inspection of the means for this interaction revealed that the differences reported as a function of the Consent \times Outcome interaction, although generally in the same direction for both genders of experimenters, were more apparent with the female experimenters than with the male experimenters.

Interactions involving likelihood of raping. The analysis also yielded two interactions involving LR. The means relevant to these interactions are displayed in Figure 1. The first interaction was a Consent \times Likelihood of Raping interaction, multivariate $F(2, 113) = 3.30, p < .04$, with a significant univariate effect on the penile tumescence measure, $F(1, 114) = 6.12, p < .02$. Examination of the tumescence means indicated that low-LR subjects were more aroused by the consenting than by the nonconsenting depictions ($M = 37.51$ mm vs. 35.88 mm, respectively), whereas high-LR subjects showed differences in the opposite direction ($M = 35.72$ mm for the consenting portrayals vs. 37.04 mm for the nonconsenting depictions). The second interaction was a Consent \times Outcome \times Likelihood of Raping, multivariate $F(2, 113) = 2.37, p < .10^6$, with a significant univariate effect on self-reports, $F(1, 114) = 4.54, p < .04$. Although the interaction of consent, outcome, and likelihood of raping on penile tumescence did not reach conventional levels of statistical significance, the pattern of these data was quite similar for both the physiological and reported data (see Figure 1).

As can be seen from the lower two panels of Figure 1, both high- and low-LR subjects in the woman's disgust conditions evidenced lower arousal to the nonconsenting depictions than to the consenting depictions: Self-reported arousal, combined $M = 42.9\%$ for consenting vs. 31.9% for nonconsenting, $F(1, 114) = 5.04, p < .03$; penile tumescence, combined $M = 38.0$ mm for consenting vs. 35.3 mm for nonconsenting, $F(1, 114) = 4.55, p < .04$. In the woman's arousal conditions, however, (see upper panels of Figure 1) high-LR subjects showed greater sexual

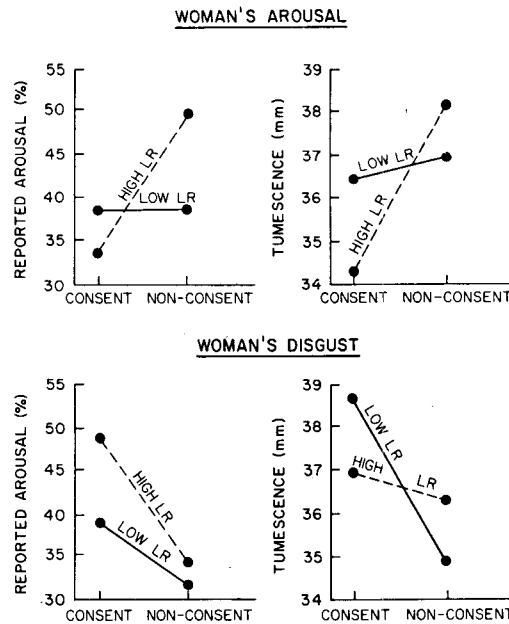


Figure 1. Penile tumescence and self-reported sexual arousal as a function of depiction content and subjects' likelihood of raping (LR) classification.

arousal to the nonconsenting depictions than to the consenting depictions, both on the self-report measure, $F(1, 114) = 4.06, p < .05$, and on the penile tumescence measure, $F(1, 114) = 3.80, p < .054$. In contrast, in the same conditions low-LR subjects responded about equally to the nonconsenting and consenting depictions ($F_s < 1$).

Finally, the Phase 1 analysis yielded a significant interaction of pain, sex of experimenter, and LR, multivariate $F(2, 113) = 5.14, p < .008$, with a univariate effect on self-reported arousal, $F(1, 114) = 9.83, p < .003$. In exploring this interaction, follow-up comparisons of self-reported arousal to the pain and the no-pain depictions within each of the four Sex of Experimenter \times Likelihood of Raping cells were conducted. These comparisons revealed that high-LR subjects with a male experimenter reported greater arousal

⁶ As Hummel and Sligo (1971) have demonstrated, multivariate analysis of variance (MANOVA) is generally more conservative than its univariate counterpart even when significant multivariate F s are followed up by univariate F tests. Therefore, in the present study any multivariate effect significant at $p < .10$ was considered reliable.

to the pain depictions than to the no-pain depictions, ($ms = 52.9\%$ and 32.0% , respectively), $F(1, 114) = 5.51$, $p < .021$. There were no other significant differences for these comparisons.

Phase 2 Analyses

Experimental effects. The addition of the Phase 2 story as an independent variable made the cell sizes one half of what they were in Phase 1. Including six of the independent variables in the Phase 2 analyses would have resulted in very small cell sizes and a number of empty cells. Therefore, LR could not be included as an independent variable. All Phase 2 analyses of variance were therefore conducted using 2 (consent) \times 2 (pain) \times 2 (outcome) \times 2 (sex of experimenter) \times 2 (Phase 2 story) MANOVAS.

There was a main effect as a function of the Phase 2 story on the sexual arousal measures, multivariate $F(2, 110)^7 = 8.85$, $p < .003$, with a significant univariate effect on self-reports, $F(1, 111) = 17.13$, $p < .0007$, and an effect that only approached acceptable levels of significance on the penile tumescence measure, $F(1, 111) = 2.70$, $p < .10$. Subjects evidenced greater sexual arousal to the Phase 2 story when it was a mutually consenting intercourse depiction than when it was a nonconsenting (i.e., rape) depiction (self-report, $ms = 56.1\%$ and 38.8% , respectively; tumescence, $ms = 38.1$ mm and 36.7 mm, respectively).

The only other effect on the Phase 2 arousal data was a Consent \times Outcome interaction effect, multivariate $F(2, 110) = 3.50$, $p < .04$. In the univariate space, this effect approached conventional levels of significance for self-reports, $F(1, 111) = 2.99$, $p < .09$, but was significant for the penile tumescence measure, $F(1, 111) = 5.36$, $p < .03$. Although none of the simple-effects comparisons was significant, examination of the means for this interaction indicated that subjects who had heard the nonconsenting woman's arousal depiction in Phase 1 showed nonsignificantly more arousal in Phase 2 (to both rape and consenting portrayals) than those who had heard the nonconsenting woman's disgust depiction in Phase 1 (self-report, $ms = 54.1\%$ and 44.7% , respectively,

$p < .12$; penile tumescence, $ms = 38.5$ mm and 36.2 mm, respectively, $p < .08$). In contrast, subjects who had heard the consenting woman's arousal depiction in Phase 1 showed slightly less arousal in Phase 2 than did those subjects who had heard the consenting woman's disgust depictions in Phase 1 (both $F_s < 1$). The data for subjects who in Phase 2 had heard the rape portrayal were similar to the data producing the significant effect obtained by Malamuth and Check (1980a). In that study, subjects exposed to a nonconsenting woman's disgust portrayal were less sexually aroused to a subsequent rape portrayal than those who had heard either a nonconsenting woman's arousal or a consenting woman's arousal depiction prior to listening to the rape depiction. However, in contrast to the present study, Malamuth and Check (1980a) did not include a consenting portrayal as the second presentation, but had only a rape depiction. The present data suggest that initial exposure to a nonconsenting woman's disgust portrayal has a general inhibitory effect on subsequent sexual arousal, rather than being limited to arousal to the rape depictions (as suggested by Malamuth & Check, 1980a).

Predictors of Arousal to Rape

The independent variables used in predicting sexual arousal were the predictors assessed in the orientation session. To reiterate, these included measures of personality (psychoticism, neuroticism, and extraversion), sexual motivations (power motivation and love and affection motivation), sexual experience, and likelihood of raping. The dependent variables for these analyses were self-reported sexual arousal and penile tumescence from Phases 1 and 2 of the laboratory session.⁸

⁷ There are slight differences between the degrees of freedom for Phase 1 and Phase 2 due to malfunction of the equipment assessing penile tumescence in a few instances.

⁸ In order to assess the possibility that subjects' attitudes about disclosure might have affected the arousal data, the EPQ Lie scale scores were correlated with the sexual arousal measures. These correlations revealed no consistent relationship between the Lie scale and the sexual arousal measures, nor did the Lie scale have any impact in the multiple-regression analyses.

Table 1
Intercorrelations Between Predictors of Sexual Arousal to Rape Depictions

| Predictors | Psychoticism | Neuroticism | Extraversion | Power motivation | Love/affection motivation | Sexual experience |
|---------------------------|--------------|-------------|--------------|------------------|---------------------------|-------------------|
| Likelihood of raping | .17** | .10 | .08 | .30*** | .07 | -.03 |
| Psychoticism | — | -.04 | -.19** | .10 | -.20** | -.08 |
| Neuroticism | | — | -.12 | .14* | .12 | .01 |
| Extraversion | | | — | .25*** | .16* | .38*** |
| Power motivation | | | | — | .12 | .11 |
| Love/affection motivation | | | | | — | .29*** |

* $p < .10$. ** $p < .05$. *** $p < .01$.

The intercorrelations among the predictor variables are presented in Table 1. These correlations suggest the possibility that any relationships between the predictor variables and sexual arousal to rape depictions may not be independent of each other. Therefore, the orientation predictor variables noted here were combined in simultaneous multiple-regression analyses to determine their independent relationships with sexual arousal to both rape and consenting depictions. The correlational and regression analyses were calculated in a hierarchical fashion (i.e., the analyses were calculated after first partialing out from the arousal data the effects of the experimentally manipulated independent variables).⁹

The significant predictors of self-reported sexual arousal to rape depictions are presented in Table 2. The simple correlations (actually semipartial correlations due to the partialing out of the independent variable effects) for each variable are presented in Columns 1 and 3, and the standardized beta weights are presented in Columns 2 and 4. As can be seen in Table 2, likelihood of raping, psychoticism, neuroticism, power motivation, and sexual experience variables were related to self-reported arousal to rape depictions. In Phase 1, the simple correlations indicated that those who reported being more aroused to the rape depictions reported higher LR, scored higher on the Psychoticism scale, and were more motivated by power in their sexual behavior. In Phase 2, self-reported arousal to rape was correlated with higher LR ratings and higher power motivation. Although the simple correlations did not reach conventional levels of statistical significance, there was some indication of a relationship

between arousal to rape depiction in both Phases 1 and 2 and higher Neuroticism scores, as well as an inverse relationship between arousal to rape depiction and sexual experience.

The multiple regression analyses yielded a significant multiple correlation with arousal to rape depiction, accounting for 31% of the variance in Phase 1 and 36% of the variance in Phase 2 (see Table 2). A comparison of the simple correlation for each predictor variable (Columns 1 and 3 of Table 2) with its respective beta weight (Columns 2 and 4 of Table 2) gives an indication of the degree to which the variable's relationship to rape arousal is independent of that variable's relationship to the other predictor variables.¹⁰ As can be seen from Table 2, the relationships of sexual arousal to rape depiction with psychoticism, neuroticism, and (lack of) sexual experience are largely independent of the interrelationships among these variables. On the other hand, the relationship of sexual arousal to rape depiction with power motivation—and, to some degree, LR—appears to be related to the contribution of the other predictor variables.

The general consistency between the findings for both phases of the study points to the reliability of the relationships found between the predictor variables and self-re-

⁹ In all instances of significant relationships reported in the analyses that follow, these data are also significant if the effects of the experimentally manipulated independent variables are not first partialled out.

¹⁰ For a discussion of techniques to determine the unique and nonunique contributions of correlated independent variables to a dependent variable using multiple-regression analyses, see Cohen and Cohen (1975) and Seibold and McPhee (1979).

Table 2
Multiple Regression to Predict Reported Sexual Arousal to Rape Depictions

| Predictor | Phase 1 Depictions | | Phase 2 Depictions | |
|---------------------------|--------------------|---------|--------------------|---------|
| | <i>r</i> | β | <i>r</i> | β |
| Likelihood of raping | .27** | .21 | .38*** | .25* |
| Psychoticism | .31** | .31** | .18 | .23* |
| Neuroticism | .21* | .22* | .25* | .29** |
| Extraversion | -.04 | .21 | .07 | .19 |
| Power motivation | .35*** | .14 | .36*** | .15 |
| Love/affection motivation | -.11 | .01 | .10 | .20 |
| Sexual experience | -.24* | -.27** | -.23* | -.27** |
| Multiple <i>R</i> | .56 | | .60 | |
| <i>df</i> | 7, 52 | | 7, 48 | |
| <i>F</i> | 3.39**** | | 3.76**** | |

Note. *r* is the semipartial Pearson correlation coefficient computed after removing the independent variable effects. β is the standardized regression weight.

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .005$.

ported arousal to rape depictions. Not only were the depictions used in the two phases different but about one half of the subjects who were exposed to a consenting or to a nonconsenting depiction in the first phase were exposed to the opposite depiction in the second phase. Thus, the data constitute a generally successful replication of these findings with differing stimuli and a substantially different sample.

The correlations between penile tumescence to rape depiction and the predictor variables did not reach acceptable levels of significance, although the pattern of the data was generally similar to that with self-reported arousal. The multiple regression analyses of the data on penile-tumescence responses to rape depiction yielded nonsignificant multiple correlations in both phases: Phase 1, $F(7, 52) = 1.87$, *ns*; Phase 2, $F(7, 48) = 1.44$, *ns*.

As expected, the predictor variables (selected because of their hypothesized relationship with arousal to rape depictions) were generally not found to relate to sexual arousal in the consenting portrayals. The multiple-correlation analyses of sexual arousal to the consenting depiction yielded nonsignificant multiple correlations: Phase 1, $F(7, 58) =$

1.52, *ns*, for self-reported arousal, and $F(7, 58) = .80$, *ns*, for penile tumescence; Phase 2, $F(7, 44) = 2.00$, *ns*, for self-reported arousal, and $F(7, 44) = .81$, *ns* for penile tumescence.

Discussion

The data highlight the importance of the interaction between individual differences among subjects and variations in the depiction content in affecting sexual arousal to rape portrayals. Although there was some variability in the findings obtained with self-reported as compared to penile-tumescence measures of sexual arousal, the pattern of the data on both of these measures clearly indicates that when the woman was portrayed as experiencing disgust, both low- and high-LR subjects were less sexually aroused by nonconsenting as compared with consenting depictions. However, when the woman was perceived as becoming aroused sexually, a very different pattern emerged: Low-LR subjects were equally aroused to the consenting and the nonconsenting depictions, whereas high-LR subjects showed greater arousal to the nonconsenting scenes.

Correlational data further accentuate the importance of individual differences among subjects and show that arousal to rape depiction is not an isolated response, but is associated with other measures of aggressive tendencies. In both phases of the experiment, using substantially different subject samples and completely different rape depictions, self-reported arousal to rape was associated in Phase 1 with all three of the measures reflecting aggressive tendencies—LR ratings, psychoticism, and power motivation. In Phase 2, self-reported arousal to rape was significantly correlated with LR ratings and with power motivation.

With respect to penile tumescence, the correlational analyses revealed that the measures of aggressive tendencies were not significantly associated with arousal to rape depiction. The differences between the findings for self-reported arousal and penile tumescence may be due, at least in part, to the restricted range of arousal assessed by the tumescence measure (see Method section).

In both phases of the laboratory session,

reported sexual arousal to rape depiction was inversely related to sexual experience. These data may be interpreted as supporting theories that suggest that a lack of somatosensory pleasurable experiences with the opposite sex contribute to the development of sexually aggressive tendencies (e.g., Prescott, 1975, 1977). Alternatively, the association between sexual experience and arousal to rape may be due to the existence of a third variable, such as hostility toward women, that causes both less sexual experience and increased arousal to rape depiction.

The data obtained in the present study have clear implications for research designed to develop measures to assess tendencies toward rape and for mass-media research. The general pattern of the relationships between sexual arousal to rape depiction and measures of sexual aggression provides support for the assertion that arousal to rape depiction may serve as one index of a proclivity to rape. However, the current findings point to a number of refinements in that procedure. First, researchers should pay greater attention to the content of the depictions used rather than assume that the consent or nonconsent of the woman is the primary dimension that will affect arousal. In particular, the present and earlier findings (Malamuth et al., 1980b, Malamuth & Check, 1980a) suggest that it is those nonconsenting depictions that accentuate the woman's suffering that are likely to inhibit the arousal of nonrapists. The present data significantly extend earlier research in showing that it is also essential to differentiate among nonrapists along individual differences dimensions such as LR ratings. We predict that much greater discrimination will be obtained in comparisons between rapists and nonrapists in their sexual arousal to rape depictions if distinctions in the content of the stimuli and the makeup of the comparison groups are carefully considered.

More precise attention to the content of the stimuli and to individual differences among subjects may reveal the reasons for the conflicting findings in studies attempting to replicate the data of Abel and his colleagues. Whereas some studies report successful replications (e.g., Barbaree, Marshall, & Lanthier, 1979; Quinsey et al., 1981), oth-

ers report conflicting data (e.g., Farkas, 1979; Murphy, Krisak, Stalgaitis, & Anderson, Note 4). Studies yielding these contradictory data have, in fact, differed in their procedures along either or both of the content- and individual-differences variables studied in the present research. The successful replications employed rape depictions that emphasized the woman's abhorrence, whereas the consenting portrayals emphasized her enjoyment. Furthermore, the nonrapist samples in these studies were usually highly selected individuals, such as graduate students. On the other hand, studies showing relatively weak or no differences between the sexual arousal of nonrapists and rapists have generally used a more representative cross section of the population and have in some cases (e.g., Farkas, 1979) employed rape depictions that strongly suggested victim arousal.

The data suggest that current trends within the mass media may indeed reflect interest among some segments of consumers. The findings show that a sizeable minority of the population (i.e., high-LR subjects) are more sexually aroused to the type of rape depiction typically found in pornography (i.e., that portraying victim arousal) than to similar consenting portrayals. Future research should address the reasons why some men are highly sexually aroused to certain depictions of rape, as well as analyze the effects of exposure to such depictions on fantasies, attitudes, and behavior (for a review of current findings see Malamuth & Donnerstein, 1982). The relationships found in the present study between sexual arousal to rape depictions and other responses reflecting aggressive inclinations may serve as a basis for the development of a theoretical framework to guide such research.

Reference Notes

1. Smith, D. D. *Sexual aggression in American pornography: The stereotype of rape*. Paper presented at the meeting of the American Sociological Association, New York, August 1976.
2. Malamuth, N. M., Reisin, I., & Spinner, B. *Exposure to pornography and reactions to rape*. Paper presented at the meeting of the American Psychological Association, New York, September 1979.
3. Earls, C., & Marshall, W. *The relationship between penile length and diameter*. Paper presented at the meeting of the Canadian Psychological Association, Toronto, June 1981.

4. Murphy, W. D., Krisak, J., Stalgaitis, S., & Anderson, K. *Penile assessment of sexual arousal in incarcerated rapists: Limitations*. Paper presented at the Third National Conference for the Treatment of Sexual Aggressives, Avila, California, April 1981.

References

- Abel, G. G., Barlow, D. H., Blanchard, E. B., & Guild, D. The components of rapists' sexual arousal. *Archives of General Psychiatry*, 1977, 34, 895-903.
- Abel, G. G., Becker, J. V., Murphy, W. D., & Flanagan, B. In R. B. Stuart (Ed.) *Violent behavior: Social learning approaches to prediction, management and treatment*. New York: Brunner-Mazel, 1981.
- Abel, G. G., Becker, J. V., & Skinner, L. J. Aggressive behavior and sex. *Psychiatric Clinics of North America*, 1980, 3, 133-151.
- Abel, G. G., Blanchard, E. B., & Becker, J. V. Psychological treatment of rapists. In M. Walker & S. Brodsky (Eds.), *Sexual assault: The victim and the rapist*. Lexington, Mass.: Lexington Books, 1976.
- Abel, G. G., Blanchard, E. B., & Becker, J. V. An integrated treatment program for rapists. In R. Rada (Ed.) *Clinical aspects of the rapist*. New York: Grune & Stratton, 1978. (a)
- Abel, G. G., Blanchard, E., Becker, J. V., & Djenderedjian, A. Differentiating sexual aggressiveness with penile measure. *Criminal Justice and Behavior*, 1978, 5, 315-332. (b)
- Abel, G. G., Blanchard, E. B., Murphy, W. D., Becker, J. V., & Djenderedjian, A. Two methods of measuring penile response. *Behavior Therapy*, 1981, 12, 320-328.
- Barbaree, H., Marshall, W., Lanthier, R. Deviant sexual arousal in rapists. *Behaviour Research and Therapy*, 1979, 17, 215-222.
- Bentler, P. M. Heterosexual behavior assessment—1: Males. *Behaviour Research and Therapy*, 1968, 6, 21-25.
- Brownmiller, S. *Against our will: Men, women and rape*. New York: Simon & Schuster, 1975.
- Check, J. V. P., & Malamuth, N. M. Can participation in pornography experiments have positive effects? *The Journal of Sex Research*, in press. (a)
- Check, J. V. P., & Malamuth, N. M. Sex-role stereotyping and reactions to depictions of stranger versus acquaintance rape. *Journal of Personality and Social Psychology*, in press. (b)
- Clark, L., & Lewis, D. *Rape: The price of coercive sexuality*. Toronto, Canada: The Women's Press, 1977.
- Cohen, J., & Cohen, P. *Applied multiple regression/correlation analysis for the behavioral sciences*. New York: Wiley, 1975.
- Donnerstein, E., & Berkowitz, L. Victim reactions in aggressive-erotic films as a factor in violence against women. *Journal of Personality and Social Psychology*, 1981, 41, 710-724.
- Earls, C. *Erectile responses below 10% in the human male*. Unpublished doctoral dissertation, Queen's University, Kingston, Ontario, Canada, 1981.
- Eysenck, H. J. *Crime and personality*. (3rd ed.). London: Granada, 1977.
- Eysenck, H. J. *Sex and personality*. London: Sphere Books, 1978.
- Farkas, G. M. *Trait and state determinants of male sexual arousal to description of coercive sexuality*. Unpublished doctoral dissertation, University of Hawaii, 1979.
- Farkas, G. M., Evans, I. M., & Sine, L. F. Reliability gauge measure of penile circumference. *Behavior Therapy*, 1979, 10, 555-561.
- Farkas, G. M., Sine, L. F., & Evans, I. M. Personality, sexuality and demographic differences between volunteers and nonvolunteers for a laboratory study of male sexual behavior. *Archives of Sexual Behavior*, 1978, 7, 513-520.
- Hinton, J. W., O'Neill, M. T., & Webster, S. Psychophysiological assessment of sex offenders in a security hospital. *Archives of Sexual Behavior*, 1980, 3, 205-216.
- Hummel, T., & Sligo, J. Empirical comparison of univariate and multivariate analyses of variance procedures. *Psychological Bulletin*, 1971, 76, 49-57.
- Laws, D. R. A comparison of the measurement characteristics of two circumferential penile transducers. *Archives of Sexual Behavior*, 1977, 6, 45-51.
- Malamuth, N. M. Rape proclivity among males. *Journal of Social Issues*, 1981, 37, 138-157.
- Malamuth, N. M. Factors associated with rape as predictors of laboratory aggression against women. *Journal of Personality and Social Psychology*, in press.
- Malamuth, N. M., & Check, J. V. P. Debriefing effectiveness following exposure to pornographic rape depictions. *The Journal of Sex Research*, in press.
- Malamuth, N. M., & Check, J. V. P. Penile tumescence and perceptual responses to rape as a function of victim's perceived reactions. *Journal of Applied Social Psychology*, 1980, 10, 528-547. (a)
- Malamuth, N. M., & Check, J. V. P. Sexual arousal to rape and consenting depictions: The importance of the woman's arousal. *Journal of Abnormal Psychology*, 1980, 89, 763-766. (b)
- Malamuth, N. M., & Donnerstein, E. The effects of aggressive-pornographic mass media stimuli. In L. Berkowitz (Ed.) *Advances in experimental social psychology* (Vol. 15). New York: Academic Press, 1982.
- Malamuth, N. M., Haber, S., & Feshbach, S. Testing hypotheses regarding rape: Exposure to sexual violence, sex differences, and the "normality" of rapists. *Journal of Research in Personality*, 1980, 14, 121-137. (a)
- Malamuth, N. M., Heim, M., & Feshbach, S. Sexual responsiveness of college students to rape depictions: Inhibitory and disinhibitory effects. *Journal of Personality and Social Psychology*, 1980, 38, 399-408. (b)
- Malamuth, N. M., & Spinner, B. A longitudinal content analysis of sexual violence in the best-selling erotic magazines. *The Journal of Sex Research*, 1980, 16, 226-237.
- Nelson, P. A. *Personality, sexual functions, and sexual behavior: An experiment in methodology*. Unpublished doctoral dissertation, University of Florida, 1979.
- Overall, J., Spiegel, D. Concerning least squares analysis of experimental data. *Psychological Bulletin*, 1969, 72, 311-322.

- Prescott, J. Body pleasure and the origins of violence. *Futurist*, April 1975, pp. 64-80.
- Prescott, J. Phylogenetic and ontogenetic aspects of human affectional development. In R. Gemme & C. Wheeler (Eds.). *Progress in sexology*. New York: Plenum Press, 1977.
- Quinsey, V. L., Chaplin, T. C., & Carrigan, W. F. Biofeedback and signaled punishment in the modification of inappropriate sexual age preferences. *Behavior Therapy*, 1980, 11, 567-576.
- Quinsey, V. L., Chaplin, T. C., & Varney, G. A comparison of rapists' and non-sex offenders' sexual preferences for mutually consenting sex, rape, and physical abuse of women. *Behavioral Assessment*, 1981, 3, 127-135.
- Rosen, R. C., & Keefe, F. J. The measurement of human penile tumescence. *Psychophysiology*, 1978, 15, 366-376.
- Russell, D. E. H. *The politics of rape*. New York: Stein & Day, 1975.
- Seibold, D. R., & McPhee, R. D. Commonality analysis: A method for decomposing explained variance in multiple regression analyses. *Human Communication Research*, 1979, 5, 355-365.
- Smith, D. D. The social content of pornography. *Journal of Communication*, 1976, 26, 16-33.
- Tieger, T. Self-rated likelihood of raping and the social perception of rape. *Journal of Research in Personality*, 1981, 15, 147-158.

Received March 29, 1982

Revision received October 6, 1982 ■