EFFECTS OF REPEATED EXPOSURE TO SEXUALLY VIOLENT AND NONVIOLENT STIMULI ON SEXUAL AROUSAL AND ACTIVITY

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Doctor of Philosophy

by

Joseph Ceniti

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ABSTRACT

The major purpose of the present study was to examine the effects of repeated exposure to sexually violent or nonviolent stimuli on sexual arousal to rape and consenting depictions. A secondary objective was to investigate repeated exposure effects on intra- and extra-laboratory sexual activities. For exploratory purposes, several arousal correlates were also examined.

Sixty-nine male undergraduates participated in the study. After completing questionnaires assessing their sexual socialization experiences, sex attitudes, and "likelihood to rape", subjects attended a pre-exposure session in which they were exposed to written and pictorial depictions of rape and nonrape. Based on their tumescence responses to these portrayals, subjects were classified as force-oriented, nonforce-oriented, or unclassifiable. Within each force-orientation group, subjects were then randomly assigned to sexually violent, sexually nonviolent, or control conditions. Those in the sexually violent condition were subsequently exposed to 6 feature-length films and 4 written and pictorial depictions consisting primarily of sexually violent behaviors over a period of 4 weeks. Subjects in the sexually nonviolent condition were exposed to 10 similar media presentations depicting sexually nonviolent activities. Control subjects were not presented with any stimuli during these 4 weeks. Following the exposure phase, all subjects attended a post-exposure session in which they were exposed to portrayals with themes similar to those in the pre-exposure session. Tumescence responses, self-reported arousal, affective reactions, and

evaluative ratings were obtained for each depiction. Subjects were then instructed to create arousing fantasies and to indicate their content. Data on subjects' extra-laboratory sexual activities during a 25-day post-exposure period were collected.

Results revealed that, for force-oriented subjects, those exposed to sexually violent or nonviolent stimuli were less aroused to the rape depictions in the post-exposure session than the controls. A similar pattern (though generally nonsignificant) occurred with the nonrape depictions for these subjects. For nonforce-oriented and unclassifiable subjects, there were no significant differences among the three exposure conditions. No differences in frequency of extra-laboratory sexual activities among the various groups during the post-exposure were obtained, nor were there any group differences in the number of sexually violent fantasies created in the post-exposure session. Finally, only affective reactions and "likelihood to rape" ratings correlated positively with arousal to rape and/or nonrape depictions.

Theoretical considerations and methodological difficulties were discussed. Social and clinical implications were also considered.

CHAPTER 1

INTRODUCTION

With the recent proliferation of pornographic[1] magazines, books, and films, much public concern has been expressed over the potentially harmful effects of such materials. In Canada, this concern is clearly evident in the recent attempt (albeit unsuccessful) to enact Parliamentary Bill C-21, Sections 18 and 19, which would have criminalized the sale and distribution of obscene materials (Fourth Session, Thirtieth Parliament, First Reading, November 21, 1978). Under this bill, a matter or thing is obscene where

> a dominant characteristic of the matter or thing is the undue exploitation of sex, violence, crime horror or cruelty or the undue degradation of the human person (p. 7).

In 1967, the U.S. Congress, under Public Law 90-100, found traffic in obscenity and pornography to be "a matter of national concern" (Report of the Commission on Obscenity and Pornography, 1970, p. 1). Consequently, the Commission on Obscenity and Pornography[2] was established to investigate several issues including (a) the relationship between repeated exposure to pornography and sexual arousal to determine if there is a cumulative or satiation effect and (b) the

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[1]The terms pornography, erotica, obscenity, sexually explicit materials, erotic materials, pornographic materials, and obscene materials will be used interchangeably throughout this paper to refer to a wide range of nondeviant (e.g., oral sex, heterosexual intercourse) and deviant (e.g., sadomasochism, rape) behaviors portrayed in textual and pictorial media.

[2]The Commission on Obscenity and Pornography will be referred to as simply the Commission throughout this paper.

relationship between exposures to erotica and subsequent sexual behaviors.

Most of the empirical evidence on the above two issues has been produced by the Commission. As the literature review below will indicate, the Commission's conclusions, despite the conclusive manner in which they were presented, have left many central questions largely unanswered. In light of these inclusive findings and the seemingly social importance of the effects of pornography on sexual arousal and sexual activity, it is surprising to find that only a handful of non-Commission reports have addressed themselves to these issues. It was therefore the purpose of the present study to further examine these two important issues. The primary focus, however, was the issue of exposure effects on sexual arousal. For exploratory purposes, relationships between various predictor variables and arousal were also investigated.

THE EFFECTS OF EXPOSURE TO PORNOGRAPHY ON SEXUAL AROUSAL

Does repeated exposure to pornography result in an enhanced, inconsequential, or diminished response to it? Empirical evidence on this issue is inadequate. Instead, there is a plethora of rhetoric expressing strong opinions and persistent beliefs concerning the consequences of exposure to pornography. Some authors (e.g., Longford Committee, 1972) have argued that repeated exposure to pornography results in an enhancement of sexual arousal and interest in such material (i.e., enhancement effect). In contrast, others (e.g., Sonenschein, 1969; Steiner, 1970) have asserted that repeated exposure to sexually explicit materials results in boredom (i.e., satiation effect).

Enhancement Effect

Evidence for the enhancement effect (as well as for "no effect") can be found in four Commission studies which examined the consumption of pornography (Berger, Gagnon, and Simon, 1973; Finkelstein, 1971; Nawy, 1971; Winick, 1971). The assumption made in these studies is that if people continue to purchase erotica then they must not have satiated to it. Winick conducted interviews with 100 patrons of adult movie theaters and found that 15% of the patrons attended the theaters at least once a week, 37% less than once a week but more than once every two months, and 23% occasionally. In another survey of patrons of ten adult bookstores in Boston, Finkelstein was reportedly told by most of the storeowners that they have a steady clientele who buy erotic materials regularly. Based on observational data from adult movie theaters and indepth questionnaires from two groups of erotic theater patrons in San Francisco, Nawy found that 70% of the patrons attended sex movies at least once a month. More specifically, 14.7% more than once a week, 21% once a week, 17.1% once every two weeks, and 17.5% once a month. Finally, in another survey, Berger et al. administered a questionnaire tapping dating frequency and exposure to sexually explicit materials of 473 working class adolescents. They found that high levels of exposure to pornography did not bore these adolescents.

Although the above studies have been interpreted to suggest that repeated exposure to erotica leads to an increased or a continued desire for it, the questionable reliability of the subjects' reports and the fact that many of the potential respondents who were asked to participate in the surveys refused to do so makes such a conclusion highly speculative.

Another line of research that has provided some evidence for an enhancement effect is that of Jakobovits (1965). He presented one of two sets of 10 stories describing sexual scenes to 10 males and 10 females ranging in age from 21 to 31. The order of the stories in each set was systematically varied so that every story appeared once in each position. Subjects were asked to rate the degree of sexual stimulation evoked by the stories. The results revealed an enhancement effect for both sexes. That is, for males, the reported mean sexual arousal increased from 1.8 on the first story to 4.2 (on a 7-point bi-polar scale) on the tenth story. Similarly, for females, the reported mean sexual arousal increased from 1.5 to 5.3.

While these findings suggest that repeated exposure to pornography may result in an enhanced sexual response to it, they are better described as a "warm-up" effect within the same session. To demonstrate an enhanced sexual response effect with some external validity, it would be necessary to show that across sessions greater arousal is a function of repeated experience. The present findings merely demonstrate that a larger amount of stimulation (i.e., number of stories) results in greater sexual arousal. These data are in keeping with the more recent results of Kolarsky and Madlafousek (1977) that greater arousal within the same session were generated by erotic exposures which were presented following an earlier arousing presentation than without a previous erotic exposure.

A study that does suggest a possible enhancement effect following exposure to sexual stimuli across sessions was recently presented by Schaefer and Colgan (1977). The authors exposed six control subjects and two experimental subjects to pornographic literature for six trials

over a 2-week period. In each session, the subjects read the same 6-page erotic stimuli, followed by a novel 1-page erotic passage. Immediately after each session the experimental subjects ejaculated (reinforcement condition) whereas the controls did not (nonreinforcement condition). Physiological measures of sexual arousal (i.e., penile tumescence) were obtained.

For the control subjects, the results revealed a significant decrease in penile tumescence across trials to the same 6-page erotic stimulus, while no differences across trials were found for the novel stimuli. For the experimental subjects, there was a significant increase in sexual response across trials for both same and novel erotic passages. These findings suggest that repeated exposure to the same sexual stimuli per se results in satiation while mere exposures to similar erotica has no effect. On the other hand, an enhancement effect may occur when the exposure is followed immediately and repeatedly by reinforcement (i.e., ejaculation).

While this study has raised a critical issue (i.e., reinforcement), the findings must be interpreted with great caution due to various methodological and statistical limitations. First, the authors did not indicate if the subjects were randomly assigned to the two groups. Second, the very small size of the experimental group (i.e., 2) invalidates the use of analysis of variance for data analysis and also seriously limits generalizibility. Third, the number of subjects in the two groups differed. One assumption of the fixed effects model for the analysis of variance is that the error variance of the treatment groups must be equal (Hays, 1973). This assumption can be safely violated only if the number of subjects in each group is the same. However, the two

group sizes in the above study were 2 and 6. If ANOVA is performed without controlling for unequal sample sizes (as was the case in Schaefer and Colgan), its application would be inappropriate and, if performed, would produce inaccurate data. Finally, both experimenters were female, thus raising the question of possible sex-of-experimenter effect on the subjects' sexual responses.

Satiation Effect

Contrary to the preceding position, other investigators (e.g., Sonenschein, 1969) have advanced the thesis that repeated exposure to erotica does not result in continued excitement but in satiation of sexual arousal and interest in such material. Steiner (1970) has asserted that:

> After fifty pages of hardening nipples, softly opening thighs, and hot rivers flowing in and out of the ecstatic anatomy, the spirit cries out, not in hypocritical outrage, but because I am a poor Square throttling by libido, but in pure, nauseous boredom (p. 103).

Several survey studies (Ben-Veniste, 1971; Kutchinsky, 1971, 1973) have provided evidence for the "satiation" position. In these studies the authors compared production and consumption of pornography in Denmark before and after the abolition of sales restrictions. In 1967 the Danish Parliament relaxed all restrictions on the sale of pornographic literature. Starting in 1962 and continuing to 1967, the pornography industry in Denmark published millions of erotic books, with two or three new books being published each week (Kutchinsky, 1971). This upsurge in the production and consumption of erotic books continued in greater proportion into 1968 but quickly dissipated by 1970 to a publication rate of less than one book per month, a level below that found before restrictions were relaxed. This dramatic decline in sales

may have been the result of greater competition in the sale of pornographic materials from other countries (e.g., United States). Another possible explanation is the increase in sales of erotic magazines and films in the late 1960's. However, the consumption of pornographic magazines and films, after an initial increase immediately after the abolition of all restrictions on such materials in 1969, also declined markedly (Bachy, 1976). Thus it would appear that greater access to pornography (given the assumption that this leads to greater experience with it) may result in satiation of sexual arousal and interest to it.

In a related study, Gebhard, Gagnon, Pomeroy, and Christenson (1965) used data obtained from interviews and official records to compare the sexual histories of 1,356 white sex offenders, 888 white nonsex offenders, and 477 white nonoffenders. They found that pornographic collectors tended to lose sexual interest in the material over time, though their collection of such material continued unabated. This proclivity to continue collecting pornography seems to invalidate the assumption set forth in the interpretation of the Danish reports, i.e., consumption of sexually explicit materials is a measure of exposure effects. However, it should be noted that the subjects continued to collect pornography for nonsexual reasons. For example, many of the males collected the materials for social purposes, i.e., to show to others at certain socials "for a few laughs" (p. 676).

The only Commission report that addressed itself directly to the issue of whether repeated exposure to pornography results in a cumulative or satiation effect is that of Howard, Reifler, and Liptzin (1971). In a pre-exposure session, 23 experimental subjects (college

students) and 9 control subjects (college students), ranging in age from 21 to 23, were exposed to an erotic film (F1). Physiological measures including penile circumference and prostatic acid phosphatese were obtained. These values served as baseline measures of sexual arousal to pornography.

A week later, the experimental group returned for a 3-week exposure period (90 minutes a day, 5 days a week). During the first two weeks subjects were presented with a variety of pornographic materials (films, stills, magazines, novels) and a potpourri of popular magazines (Life, Reader's Digest, National Geographic) to read and view at their own choosing. In the subsequent three sessions, the original set of pornographic materials was replaced by a new one. The nonerotic materials were removed in the last two sessions, leaving only the pornographic stimuli. Throughout these fifteen sessions the subjects were required to record their activity every ten minutes. The number of 10-minute periods in which the subjects viewed or read pornographic material was used as one measure of sexual arosal to such material. Physiological measures of sexual arousal (e.g., acid phosphatase activity, penile tumenscence) were also obtained. The control subjects were not exposed to pornography during the 3-week exposure period.

Immediately after the exposure period, the experimental and control groups were shown a second erotic film (F2) comparable to F1. Again physiological measures of sexual arousal were recorded. Eight weeks later only the experimental group returned to view a third erotic film (F3). Physiological measures of sexual arousal were again recorded.

Data from the exposure period revealed that acid phosphatase (AP) activity decreased significantly from a daily mean of 52 (on the first

day of the 3-week exposure period) to 31 (on last day of exposure) MGM phenolphthalein per minute of exposure. Introduction of new erotic materials on the eleventh day of exposure increased the phenolphthalein level to 51 from 34 on day ten, but it quickly dissipated in the subsequent sessions.

Results also revealed a significant difference between experimentals (32.3) and controls (110.0) for F2. Furthermore, the AP secretion of the experimental group decreased significantly from 54.8 for F1 to 32.3 for F2, with 19 of the 23 subjects showing this decrease. For the control group, however, the difference between the level for F1 (63.3) and for F2 (110.0) was not significant, though 7 of the 9 subjects showed an increase while viewing F2. Finally, for the experimental subjects, the mean AP activity level for F3 (44.9) was significantly greater than for F2 (32.3), but not significantly different from the F1 (54.8) value.

The preceding findings demonstrated that repeated exposure to erotic results in marked dimunuition of sexual arousal, though there was a partial recovery of interest in such material after two months of nonexposure. Nonetheless, these results must be interpreted with caution because of the questionable validity of AP values as measures of sexual arousal (Pagano & Kirschner, 1978).

In order to analyze the data on penile circumference (a measure of sexual arousal with more established validity), 30 seconds of the data every two minutes for 20 minutes were quantified, thus providing values for 10 2-minute periods. A comparison between the experimental and control groups during F2 revealed a consistently lower sexual response by the former, with periods 2 and 3 being the only nonsignificant

differences. Also, for the control subjects, a comparison between each 2-minute period of F1 and its corresponding period of F2 showed a greater penile circumference for F2. Although this difference was not significant, the F2 values were consistently greater than those of F1 in all ten comparisons. Conversely, the experimental subjects showed consistently less penile size during F2 relative to that shown during F1. These differences, however, were only significant in periods 2, 4, 5, 6, and 7. During F3, only period 5 was significantly lower than the corresponding period of F1, and six periods -1, 2, 3, 4, 6, 7- showed greater F3 values than F2 values. As was the case with the AP data, the results also reflect a satiation effect soon after the 3-week exposure period. However there was a recovery in sexual arousal after a 2-month nonexposure period.

Another measure of sexual interest in this study - number of 10-minute periods spent with the pornographic materials - indicated a rapid diminution of interest. The proportion of 10-minute periods spent with erotic materials decreased from 84% on the first day of the 3-week exposure period to 26% on the last day of the same period.

Taken together, the findings of the above study suggest that repeated exposure to erotica results in satiation of sexual arousal and interest to such materials, though there may be a recovery of interest after a relatively long period of nonexposure. In making such an interpretation, several limitations should be considered (Cline, 1975). First, subjects were bombarded with erotica for five days a week for three consecutive weeks. It would seem that such a heavy dosage (whether it be pornography, sexual intercourse, or anything for that matter) is likely to lead to satiation. Second, given the time limit of

the study, there is no evidence to answer the question of lasting satiation effects. Third, the study did not approximate a real-life situation or the use of erotica in a subject's natural environment. Instead, subjects were deliberately overexposed to pornography for money in a laboratory setting with special equipment. Finally, subjects were male college students, thus making it difficult to generalize the findings to the general population.

In a very recent and important study, Zillmann and Bryant (in press) have also addressed themselves directly to the issue of repeated exposure effects. They randomly assigned college undergraduates to one of three exposure conditions. In each condition subjects were exposed to six 8-minute films per session for six consecutive weekly meetings. In the massive-exposure condition, subjects viewed six explicitly sexual films per session. In the moderate-exposure condition, subjects observed three explicitly sexual films and three nonerotic ones per session. In the no-exposure condition, subjects saw only nonerotic films in each session. All erotic films were hardcore and portrayed nonviolent heterosexual activities only. The nonerotic films were educational and entertaining in nature. In the seventh week, all subjects were exposed to (a) a softcore film depicting nonviolent heterosexual activities, (b) a hardcore film portraying nonviolent heterosexual behaviors (similar to films used during exposure period), and (c) a hardcore film depicting both sadomasochistic and bestiality activities. All films were approximately 8 minutes in length. Sexual arousal to each of these three films was assessed in terms of heart rate and systolic blood pressure. Both of these physiological measures have been found to correlate positively with sexual arousal (Zuckerman, 1971).

In terms of heart rate data, massive exposure to hardcore erotica resulted in a habituation effect for both hardcore and softcore films. This effect was more pronounced for the hardcore film which was very similar to those employed during the exposure period. Moderate exposure also led to a similar but weaker habituation effect for both hardcore and softcore films. There were no differences among the film exposure groups on heart rate response to the sadomasochistic/bestiality film.

In terms of the systolic blood pressure data, results again revealed a habituation effect with the hardcore film for subjects in the massive and moderate exposure conditions. Similar to the heart rate data, this effect was more pronounced for those in the massive-exposure condition than those in the moderate-exposure condition. However, in contrast to the heart rate results, there was no difference among the film exposure groups for the softcore film. For the sadomasochistic/bestiality film, there were again no differences among the exposure groups.

Taken together, the above data suggest that massive exposure to a specific type of erotica (e.g., sexually explicit behaviors between two consenting adults) may lead to habituation to stimuli of great affinity to the materials used during the exposure period. Also, although the systolic blood pressure data showed no differences among the exposure groups for the softcore film, the habituation effect obtained with the heart rate data suggests that habituation may generalize to stimuli of lesser affinity but with similar sexual content. Finally, the results suggested no generalization of habituation to sexual stimuli substantially different in content.

In making the above interpretation, several limitations of Zillmann and Bryant's study should be considered. First, heart rate and systolic blood pressure are general measures of arousal and, therefore, the validity of these measures in reflecting an accurate assessment of sexual arousal is limited. Second, the same medium depicting similar activities was utilized throughout the study. It may be that the nature of the media employed (i.e., same vs. different) affects the type of exposure effects that might occur. Third, subjects were college students and, therefore, generalization of the findings to the general public is questionable.

In light of the studies discussed under the cumulative and satiation effect sections, it would seem that the question of whether repeated exposure to pornography results in satiation or continued excitement remains largely unanswered. The various problems associated with the foregoing studies have made it difficult to arrive at any satisfactory conclusions. Nonetheless, the findings of Schaefer and Colgan (1977) appear to raise a critical issue that has received no attention in other pornography studies. It would seem that the occurrence of reinforcement (i.e., ejaculation) soon after exposure to pornography may be a critical factor in determining whether there will be a cumulative or satiation effect. Indeed several studies have indicated that such "reinforcement" via masturbation (Brown, Amoroso, and Ware, 1976; Davis and Braucht, 1971; Schmidt, Sigusch, and Meyberg, 1969) or heterosexual intercourse (Mann et al., 1971, 1974; Schmidt et al., 1969) is very common in "real world" settings shortly after one reads or views sexually explicit materials.

THE EFFECTS OF EXPOSURE TO PORNOGRAPHY ON SEXUAL ACTIVITY

A secondary issue of the present study concerns the relationship between repeated exposure to pornography and subsequent sexual behavior. Conceivably, exposure may result in an increase of sexual arousal which, in turn, may lead to increased frequency of sexual activity (ranging from coital incidence to frequency of rape) and/or learning or modeling phenomena of specific sexual behaviors (ranging from petting to sadomasochistic acts) which would later be elicited by appropriate stimuli (Byrne and Lambert, 1971). The subsequent discussion concerning this issue will examine effects on nondeviant sexual behaviors[3] and deviant sexual behaviors[4] separately.

Effects on Nondeviant Sexual Behaviors

A number of controlled studies have examined the effects of exposure to sexually explicit stimuli on heterosexual and autoerotic activities. In these studies, exposure to erotica occurred either in one session (Amoroso, Brown, Preusse, Ware, and Pilkey, 1971; Brown, Amoroso, and Ware, 1976; Byrne and Lambert, 1971; Cook and Fosen, 1971; Davis and Braucht, 1971a; Schmidt and Sigusch, 1970; Schmidt, Sigusch, and Meyber, 1969; Sigusch, Schmidt, Reinfeld, and Sutor, 1970; Wishoff, 1978) or in several sessions over a number of weeks (Howard, Reifler,

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[3]For the purpose of this paper, nondeviant sexual behaviors include necking, petting, oral sex, anal sex, masturbation, heterosexual intercourse, and sexually nonviolent fantasies.

[4]Deviant sexual behaviors include antisocial sexual behaviors (rape, pedophilla) and atypical sexual behaviors (sadomasochism, transvestism).

and Liptzin, 1971; Mann et al., 1971, 1974). Sexual behavioral effects were assessed 24 hours after exposure (Amoroso et al., 1971; Cook and Fosen, 1971; Davis and Braucht, 1971a; Fisher and Byrne, 1978; Howard et al., 1970; Kutchinsky, 1971a; Mann et al., 1971, 1974; Mosher, 1971; Schmidt, and Sigusch, 1970; Schmidt et al., 1969; Sigusch et al., 1970), one week after exposure (Amoroso et al., 1971; Brown et al., 1976; Byrne and Lambert, 1971; Kutchinsky, 1971a; Mann et al., 1971, 1974) and two months after exposure (Howard et al., 1970).

The procedures used in the aforementioned studies were essentially identical. The subjects were exposed to the sexual stimuli and then asked to either report or mail in within a given time their sexual behaviors after the exposure(s). These data were usually compared to those of a control group who were not exposed to erotica.

The results of the above studies have generally showed that, following exposure to erotica, some subjects increased frequency of masturbation (Brown et al., 1976; Davis and Braucht, 1971a; Schmidt et al, 1969) or coitus (Mann et al., 1971, 1974; Schmidt et al., 1969), a smaller proportion decreased them (Amoroso et al., 1971; Schmidt and Sigusch, 1970), while the majority reported no changes in these behaviors (Byrne and Lambert, 1971; Howard et al., 1971; Kutchinsky, 1971; Mosher, 1971). Several studies obtained significant increases in discussions about sex (Davis and Braucht, 1971a; Mosher, 1971; Schmidt and Sigusch, 1970), sexual dreams (Amoroso et al., 1971; Davis and Braucht, 1971a) and sexual fantasies (Davis and Braucht, 1971a; Schmidt and Sigusch, 1970).

Of the above studies, two Commission reports (Howard et al., 1971; Mann et al., 1971, 1974) and one non-Commission report (Fisher and Byrne, 1978) merit further attention. Howard et al. exposed twenty-

three subjects to erotic materials 90 minutes per day, 3 times a week, for 2 consecutive weeks. Results revealed no significant changes in the subjects' sexual behaviors after the exposure, the only exception being a significant increase of time spent thinking about sex during the first five days of exposure. However, this latter value returned to the pre-exposure level during the second week of exposure.

In the other Commission study, Mann et al. (1971, 1974) first asked subjects (83 married couples) to maintain a daily log of their sexual activities for four weeks (Phase I). The purpose of Phase I was to obtain baseline measures of sexual activities. Subjects were then randomly assigned to one experimental group and two control groups. At the end of the four weeks the experimental group and one control group were asked to return for Phase II. In this phase the 51 couples in the experimental group viewed seven pornographic films, depicting conventional sexual activities (e.g., coitus) or deviant activities (e.g., homosexuality, sadomasochism), once a week for 4 consecutive weeks (erotic film condition). Seventeen couples in the control group viewed four films of general interest once a week for four weeks (nonerotic film condition). The remaining 15 couples were in the second control group and they did not watch any films during Phase II (no film condition). However, all subjects were asked to continue recording their sexual activities during the 4 weeks of Phase II. The third and final phase of the study consisted of another 4 weeks of recording only, thus providing the post-exposure measures of sexual activity.

Results showed that the sexual activity of the subjects in the erotic film condition was significantly greater on each of the four film-viewing days than on the other 24 days of Phase II for both males

and females. A similar analysis of the controls (nonerotic film condition) revealed no significant changes in sexual activity. A more detailed examination of these data showed that 37 of the 49 males in the erotic film condition (77%) and 30 of their spouses (63%) had greater frequencies of sexual activity on the 4 film-viewing nights as compared to 7 of the 17 males in the nonerotic film condition (41%) and 6 of their spouses (35%). These findings suggest that exposure to erotic films results in significant immediate increases (i.e., on the same night of viewing) in sexual activity, while exposure to nonerotic films does not lead to such significant changes.

In another comparison neither the experimental subjects nor the controls showed any significant changes from the pre- to post-exposure periods (i.e., Phase I vs. Phase III), thus suggesting that repeated exposure to pornography has no lasting behavioral effects.

Finally, as noted earlier, the experimental subjects were also exposed to films portraying deviant activities. Unfortunately, the experimenters did not compare the effect of exposure to the deviant stimuli, relative to exposure to the nondeviant stimuli, on sexual activity. Furthermore, the manner in which the data was presented in the published report did not permit the present writer to make such a comparison.

In a more recent study, Fisher and Byrne (1978) have provided some evidence of a correlational relationship between certain background variables and the effects of exposure to erotica on sexual-behavioral activities. They exposed 31 males and 31 female undergraduates in small same-sex groups (6-12 subjects) to a sexually explicit movie. At the beginning of the session, the subjects were asked to complete a

behavioral questionnaire which surveyed the sexual behaviors of the preceding two days in terms of autoerotic and heterosexual activity; talking, thinking, and dreaming about sex; and obtaining pornography. The subjects also completed a background questionnaire tapping sexual socialization variables and attitudes towards sex. After viewing the film, the subjects were asked to rate their reactions to it in terms of sexual, evaluative, and affective responses. At the end of the session, each subject was given a sealed envelope containing another behavioral questionnaire. The subjects were instructed to open the envelope in two days and then fill-out and mail the questionnaires to the experimenters.

Results indicated that those individuals who rated the film as relatively pornographic (erotophobes), relative to those who rated the film as relatively nonpornographic (erotophiles), reported more restrictive sexual socialization experiences, more negative attitudes toward sex, and responded to the film with more negative affect. Also, the erotophobes showed a significant increase in sexual activity from pre- to post-exposure; however, the erotophiles did not show any significant changes.

The above study, however, examined the sexual activity of the subjects for only two days before and after the exposures. Furthermore, two different methods of data collection were used, i.e., pre-exposure data was gathered in the laboratory whereas post-exposure data was mailed in to the experimenters. These two diverse data-gathering procedures may have created a difference between erotophiles and erotophobes in terms of the degree of inhibition experienced in the laboratory, relative to that in their natural environment, when disclosing information on their sexual and sex-related activities.

To recapitulate, the preceding studies which have examined the relationship between exposure to erotica and sexual activity have found that some individuals engage in greater sexual activities such as masturbation, coitus, sexual dreams, and discussions about sex. However, the majority of subjects reported no change in these behaviors. Nonetheless, when changes did occur, they were usually in the domain of established patterns of sexual behaviors. In other words, when an increase in masturbation and coitus did occur after exposure, it occurred in individuals who were already engaging in masturbatory or coital activities.

However, caution must be exercised in the interpretation of the above findings because of several limitations which in some cases, for ethical and practical reasons, couldn't be circumvented (Cline, 1975). First, in most studies, sexual behavior was examined for only the 24 hours before and after exposure to the erotic material. Several studies conducted 1-or 2-week follow-ups but again this period is too short to arrive at conclusions concerning long-term behavioral effects. A study by Howard et al. (1971) checked for behavioral effects after a relatively long period of time following exposure (i.e., 2 months); however, this study was beset with other problems (e.g., massive exposure within a short period of time) which made it difficult to arrive at any conclusive statements. Second, the studies differed in terms of the amount of exposure. For example, Amoroso et al. (1971) exposed the subjects to pornography for only 50 seconds. In another study (Byrne and Lambert, 1971), total exposure time was only 6½ minutes. With such short exposures to erotic stimuli, it would seem absurd to arrive at any conclusions concerning the effects of

pornography. Third, almost all of the subjects were young college students. In the studies that used married couples (Byrne and Lambert, 1971; Mann et al., 1971, 1974), almost all were college educated. Whether similar results would be obtained with individuals from the general population is another question. Also, since young college-educated individuals (especially males) tend to have greater experiences with pornography, relative to conservative, older, lower class subjects (Abelson et al., 1971), it follows that most of the subjects in the studies had already been repeatedly exposed to sexually explicit materials. If such materials were to have a detrimental effect, then it would be expected that such an effect would have already occurred. Fourth, all the participants in the pornography studies volunteered to read or view sexually explicit materials and to answer questions regarding their sexual behaviors, a fact which obviously introduces some unknown degree of systematic bias. Finally, it is questionable whether a subject would report any deviant sexual behavior if, in fact, he or she did commit such an act. It is interesting to note that, given the expressed concern that exposure to pornography may lead to sexual deviancy (Report of the Commission on Obscenity and Pornography, 1970, p. 3), most of the studies examining post-exposure behaviors did not ask the subjects about involvement in such behaviors.

Effects on Deviant Sexual Behaviors

One line of research has specifically looked at the relationship between erotica and deviant sexual behaviors. Actually, two types of investigations have been utilized: (1) retrospective studies which have examined sex offenders' past experience with pornography and (2)

statistical studies of the relationship between the availability of pornography and the rates of sex crimes.

There is a widespread belief among the American public that reading or viewing pornography leads to deviant sexual behavior (Johnson, Kupperstein, & Peters, 1971). In their national survey of American adults, Abelson et al. (1971) found that 47% of the males and 51% of the females believe that "sexual materials lead people to commit rape" (p. 50). Several retrospective studies employing survey-interview methods (Cook & Fosen, 1971; Gebhard, Gagnon, Pomeroy, & Christenson, 1965; Goldstein, Kant & Hartman, 1973; Goldstein, Kant, Judd, Rice, & Green, 1970; Johnson et al., 1971; Propper, 1971; Walker, 1971) have attempted to determine if in fact frequency of exposure to pornography is related to the development of deviant sexual behavior.

The most sophisticated and erudite of these studies is that of Goldstein and his colleagues (1971, 1973). In this study, 251 subjects were administered an extensive interview to determine the extent of their experience with sexual stimuli in books, photographs, and films during preadolescence, adolescence, and adulthood. The various categories of sexual activities portrayed within each media included nude men, nude women, heterosexual intercourse, homosexuality, oral-genital, and sadomasochism. The subjects included 19 rapists, 20 male object pedophiles, 20 female object pedophiles, 37 homosexuals, 13 transsexuals, 52 heavy pornographic users (i.e., patrons of "adult" bookstores and/or "skinflick" theaters), 51 controls (whites), 17 Black middle class males, and 22 Black ghetto males.

An analysis of the data for the preadolescent period revealed that all subjects experienced relatively little exposure to pornography. When exposure did occur, it was typically to portrayals of nudity.

During adolescence, sex offenders (rapists, pedophiles) reported to have had less experience with pornography, especially with materials portraying socially sanctioned behaviors (i.e., heterosexual intercourse), than the controls. Similarly, a comparison between the two sexual atypical samples (i.e., homosexuals and transsexuals) and the control sample revealed even sharper differences in the same direction. Heavy users of erotic materials also showed less exposure to erotica than the controls. However, there was no difference in exposure between the control group and either of the two black groups.

In order to collect data on adulthood exposure to pornography, Goldstein et al. asked the institutionalized sex offenders to report their experiences during the year prior to imprisonment. The other groups were asked to report their experiences during the year prior to the interview. As was the case in their adolescent years, the sex offenders reportedly had less exposure to erotica, especially to sexual stimuli portraying heterosexual intercourse. Similarly, transsexuals again reported generally less experience with pornography than controls. However, in contrast to their adolescent years, both homosexuals and heavy users of pornography reported greater experience with erotic materials than the controls as adult. In the homosexual-control comparison, these differences were smallest for stimuli that included the female in some sexually provocative fashion. Finally the two black groups and the control group were generally similar in their experience with pornography in adulthood.

The foregoing findings of the Goldstein et al. study seem to suggest that exposure to pornography in preadolescent, adolescent, and adult years does not lead to sexual deviancy. If anything, they indicate that underexposure may be related to abnormal sexual activity. Other findings in this study also suggest no relationship between exposure to pornography and sexual behavior. For example, a nonsignificant percentage of sex offenders (15%), sexual atypicals (7%), users (22%), and controls (13%) actually imitated some feature of the depicted sexual behavior to which they were exposed to as adults and which stood out most vividly in their minds. Also, a similar pattern of data was obtained for the analysis of the effect of exposure to erotica on other than the portrayed sexual behaviors. The differences between the controls and each of the other groups were found to be nonsignificant at both age periods. Finally, a similar pattern of data was obtained for the analysis of the effect of exposure to erotica on other than the portrayed sexual behaviors.

Other studies that have compared sex offenders to nonsex offenders (Cook & Fosen, 1971) and/or nonoffenders (Gebhard et al., 1965; Johnson et al., 1971) have also found no significant differences in experience with pornography. However, a few studies involving incarcerated delinquents (Propper, 1971), aggressive sexual offenders (Walker, 1971), and city jail inmates and college educated males (Davis and Braucht, 1971, 1973) found evidence for the thesis that exposure to pornography, especially before the age of 14, may lead to sexual deviancy. For example, sex offenders increased their sexual behaviors significantly more after viewing pornography than nonsex offenders (Walker, 1971). Also a significant minority (30%) of the sex offenders reported "that

pornography had something to do with their having committed the offense they were convicted of " (p. 129). This difference in conclusions between these studies may be in part attributed to the nature of the samples compared. For example, Goldstein et al. reports comparisons between specific sex offender groups and nonoffenders while Davis and Braucht fail to make such contrasts. The latter interviewed six college-educated groups and one city-jail inmate group (without specifying if any of these were sex offenders), hardly the type of groups appropriate for making valid comparisons to determine if exposure to pornography leads to deviant sexual behaviors.

Taken together, the above studies on the relationship between exposure to pornography and sexual deviancy do not provide convincing evidence for any type of relationship. Several methodological difficulties account for this (Cline, 1975). First, the validity of the retrospective self-reports is questionable. Second, in comparing sex offenders to non-offenders, some studies did not differentiate between the various categories of sex offenders (e.g., Cook and Fosen, 1971; Johnson et al., 1971). The Kinsey Institute studies have demonstrated that there are at least twenty-one types of sex offenders with marked differences in personality traits and family, sexual, and psychosocial histories (Cline, 1975). Third, the samples of sex offenders consisted of those convicted and imprisoned, thus introducing a lower class bias. Middle or upper class sex offenders are typically paroled rather than convicted (Cline, 1975). Fourth, the control groups have usually been inadequate. All the aforementioned studies failed to match the comparison groups in terms of educational level, socioeconomic level, age, marital status, and psychosexual history. In their study,

Goldstein and his colleagues (1971, 1973) attempted to eliminate this problem. However they were unsuccessful, i.e., the three sex offender groups were significantly older, less educated, and of lower socioeconomic status. For example, 50% of the controls as compared to 26% of the rapists, 30% of the male object pedophiles, and 5% of the female object pedophiles had been to college. Fifth, no standard definition of pornography was used in the retrospective studies. In responding to questions concerning their past experiences with pornography, subjects had to rely on their individual interpretation of what constitutes pornography. Finally, the findings of these studies are correlational and thus do not demonstrate a causal relationship.

Another line of research that has attempted to shed some light on the relationship between pornography and sexual deviance has involved statistical studies in which the authors examined the estimated availability of erotica and its effect on the frequency of sex crimes (e.g., Bachy, 1976; Ben-Veniste, 1971; Kupperstein and Wilson, 1971). The underlying assumption of these studies was that increased availability of pornography would facilitate exposure to it which, in turn, would lead to sexual crimes or deviance.

Ben-Veniste (1971) examined the rate of sex crimes before and after the abolition of restrictions on pornography in Denmark. As mentioned earlier in this paper, legal restrictions were relaxed for erotic books in 1967 and for all other media of erotica in 1969. Using Copenhagen police statistics, Ben-Veniste found that total sex crimes, which had been relatively stable from 1958 to 1966, began to drop markedly --by 25% in 1967 (to a total of 591 sex offenses), 12% in 1968 (515), and 30% in 1969 (358). In an extension of this analysis, Bachy (1976) reported

a further decline of approximately 20% by 1974. Although these results suggest that the increased availability of erotica resulted in a decline in the commission of a sex offence, a closer examination of the data showed no significant reduction in violent sex crimes (e.g., rape) in Copenhagen (Bachy, 1976; Kutchinsky, 1973). The significant reduction in sex crimes were most evident in nonphysical sexual deviancy, thus probably reflecting society's increasing tolerance for such sexual activities as homosexuality.

In their analysis of the FBI Uniform Crime Reports from 1960 to 1969, Kupperstein and Wilson (1971) found an increase in the United States in both the availability of pornography and sex offenses. There was an absolute increase of 57% in rape arrests and 80% in prostitution and commercialized vice. On the other hand there was a 17% decrease of arrests for other sex offenses. However, this decrease is spurious and misleading because of changing public tolerance and law enforcement policy of such "other sex offenses" as homosexuality. Nonetheless, although these results suggest a correlational relationship between increased availability of erotica and sex crimes, Kupperstein and Wilson argued that the rise in sex offenses was proportionally smaller than the increased availability of pornography.

Taken together, the foregoing statistical studies do not answer the question of whether increased availability of sexual materials affect the commission of sex offenses. Changing attitudes towards certain sexual behaviors (e.g., homosexuality), questionable reliability of police statistics, and unknown sex offenses that are never reported contribute to this state of affairs.

VIOLENCE

Although the foregoing studies have attempted to elucidate the issues of repeated exposure to pornography and its effects on sexual arousal and behavior, they have generally failed to examine a seemingly important variable, i.e., violence. In this section the existing research on violence in pornography will be examined.

In recent years an increasing amount of violent content has been incorporated in sexually explicit materials (Malamuth and Spinner, 1980, Smith, 1976a; Time, 1976, 1977; Village Voice, 1977). Several writers have asserted that exposure to sexually violent materials affects both sexual responsitivity to and occurrence of sexually deviant behaviors (e.g., sadomasochism, rape). For example, it has been argued that violence within erotica enhances sexual arousal to sexually violent fantasies (Gager and Shurr, 1976) and creates a "climate in which acts of sexual hostility directed against women are not only tolerated but ideologically encouraged" (Brownmiller, 1975, p. 444). This, in turn, may lead to sexually deviant activities as well as affecting attitudes towards sexual violence. Indeed, a major assumption underlying the censorship laws in Canada (Section 159 of the Criminal Code) and the United States (18 U.S.C. Sections 1461, 1462, 1464, 1465) is that individuals who are exposed to pornography will be instigated to engage in antisocial sexual behaviors (Sharp, 1976, and Cline, 1975, respectively).

Effects of Repeated Exposure to Aggressive Erotica on Arousal

The majority of the studies that have employed aggressive pornography have examined the amount of sexual arousal elicited by this material rather than repeated exposure effects. Some of these

investigations used non-deviates for the sample population while others employed sex deviates. Studies which used non-deviates employed college students (Birddell et al., 1978; Malamuth, Heim & Feshbach, 1980, Kutchinsky, 1971a; Malamuth, 1981; Levitt, 1969; Schmidt, 1975), married couples (Mann et al., 1971), or nonsex offenders (Kercher and Walker, 1973) to empirically evaluate sexual responsitivity to sadomasochism (Kercher and Walker, 1971; Kutchinsky, 1971a; Levitt, 1969; Mann et al., 1971; Schmidt, 1975) or rape (Birddell et al., 1978, Malamuth, 1981; Malamuth, Heim, and Feshbach, 1980; Schmidt, 1975).

The studies which used sadomasochistic stimuli generally found greater sexual arousal to conventional sex practices (i.e., heterosexual activities). However, the results of those studies which employed portrayals of rape were not as consistent. The German college students in Schmidt's study showed relatively high arousal and strong negative emotions to a rape film. In contrast, the non-rapists in Abel et al's study showed relatively low arousal to an audio description of rape. The reason for these discrepant results is uncertain, though possible explanations may include content of rape portrayal, mode of presentation, and cultural differences.

Indeed, several studies have demonstrated that under certain conditions rape portrayals generate levels of sexual arousal comparable to those stimulated by nonviolent sexual materials in non-deviates. For example, Malamuth, Heim, and Feshbach (1980) have found that stories in which the rape victim experienced involuntary orgasm (as compared to a nausea outcome) elicited levels of arousal similar to those for nonviolent depictions. Malamuth (1981) demonstrated that, for the slide-audio presentation of a sexual scene, both the rape version and

the mutually-consenting version elicited relatively high and similar levels of sexual arousal. For the mutually consenting version, subjects reported a mean rating of 43%. For the rape-audio presentation, which was almost identical to the one used by Birddell et al. (1977) but read by a female rather than a male, subjects reported a mean rating of 42%. Similarly, Birddell et al. (1977) found that non-deviate subjects, who were led to believe that they had consumed alcohol (irrespective of whether they actually did), were relatively sexually aroused by an audio description of rape (read by a male). Those who were not led to believe that they were under the influence of alcohol showed low arousal to the rape tape.

In respect to sex deviates, Abel, Barlow, Blanchard, & Guild (1977) found that rapists, relative to other types of sex offenders, were significantly more responsive to audio descriptions of rape, with arousal levels comparable to those for the mutually-consenting sex depictions. The nonrapist group showed substantial arousal only to the consenting sex depictions. These investigators interpreted this "excessive" sexual arousal to rape themes as an index of the "proclivity to rape" (see also Abel et al., 1976, 1978; Abel and Blanchard, 1976). They subsequently suggested a classification scheme to obtain this index -- arousal to rape depictions which is .7 or more of the arousal to consenting sex depictions would reflect a "proclivity to rape" whereas a ratio of less than .7 would suggest no such tendency. Abel and associates (e.g., Abel, Becker, Murphy, & Flanagan, 1981) later modified this ratio to that of 1.00 as the discriminating criterion. Generalizing the preceding interpretation to other sexually aggressive activities, one may also hypothesize that relatively high arousal to

sadomasochistic stimuli may serve as a measure of proclivity to sadomasochistic behaviors. If these two hypotheses hold, then exposures that increase sexual responsitivity to sadomasochistic or rape stimuli may lead to similar behaviors. However, it would be incautious to conclude from these two assertions any simple or direct relationship between sexual responsitivity to sadomasochistic or rape themes/fantasies and actually engaging in similar behaviors (Malamuth, Feshbach and Jaffe, 1977).

As indicated earlier, the above studies dealt only with the arousal level elicited by aggressive pornography. There are two studies (Malamuth, Haber, and Feshbach, 1980; Zillmann and Bryant, in press), however, that used college students to investigate repeated exposure effects on arousal to aggressive pornography. As discussed under the satiation effect section, Zillmann and Bryant (in press) examined the effects of repeated exposure to nonviolent erotica on arousal to three short films depicting various sexual activities. There were no differences between subjects exposed to erotica and controls for the film depicting sadomasochistic and bestiality activities. This finding suggests that repeated exposure to sexually nonviolent stimuli has no effect on subsequent sexually violent stimuli (i.e., sadomasochism). But what about the effects of exposure to sexually violent stimuli?

The study by Malamuth, Haber, and Feshbach (1980) is the only one known to the present author which has addressed itself directly to the issue of whether exposure to sexually violent materials affects subsequent arousal to similar stimuli. In that study, the experimenters first exposed college students to either a violent (i.e., sadomasochistic) or a nonviolent version of the same sexual passage.

All subjects were subsequently exposed to a second passage portraying a rape scene. Self-reports revealed that males, who had been exposed to the violent version, tended to become more sexually aroused to the rape depiction than those who had earlier been exposed to the nonviolent version. These findings suggest that repeated exposure to sexually violent behaviors may enhance sexual responsitivity to such activities, though it would be incautious to arrive at a more definite conclusion with such limited exposure.

The above discussion clearly demonstrates an almost total absence of studies employing sexually violent materials for examining repeated exposure effects. Consequently, the present study was designed primarily to examine the effects of repeated exposure to aggressive pornography on arousal to violent, as well as nonviolent, erotica. In addition, the effects of repeated exposure to nonviolent erotica on arousal to sexually violent and nonviolent stimuli were examined.

Effects of Repeated Exposure to Sexually Violent Stimuli on Sexual Activities

Only two studies which have addressed themselves to the effects issue are known to the present author. In the first study, Malamuth (1981) examined the effect of repeated exposure to sexually violent stimulus on subsequent fantasies. He exposed twenty-nine male undergraduates, classified in terms of force-orientation on the basis of questionnaire responses, to either a rape or mutually-consenting version of a slide-audio sex story. All subjects were subsequently presented with an audio description of a rape scene. Immediately after the rape-audio presentation, each subject was asked to try and become as sexually aroused as possible by fantasizing to whatever he wanted but without

direct manipulation of his penis. The subject was then asked to complete a questionnaire concerning the content of his fantasy.

Results showed that, among the sexually violent oriented subjects, those who were initially exposed to the slide-audio rape version created more arousing fantasies than those who were exposed to the slide-audio mutually-consenting version. Among the non-force oriented subjects, those who were earlier shown the rape version created less arousing fantasies than those who were exposed to the mutually-consenting version. Most importantly, the subjects who were exposed to the rape version, irrespective of their sexual classification, created a significantly greater number of sexually violent fantasies than those who were exposed to the mutually-consenting version. Taken together, the preceding findings suggest that repeated exposure to rape portrayals may stimulate rape fantasies in some individuals.

In the second study, which was discussed earlier, Mann et al. (1971, 1974) exposed 51 married couples to various erotic films once a week for four consecutive weeks. In one of these sessions, the subjects viewed a film portraying sadomasochistic behavior (i.e., whipping). An analysis of the data revealed that two subjects had engaged in sadomasochistic behaviors during the four weeks prior to the exposure period, two during the 4-week exposure period, and none in the four weeks following the exposure period. Thus, it would appear that exposure to sadomasochistic behaviors did not lead to similar deviant sexual activity. However, the frequency of exposure was far too small to make any conclusive statements.

In light of the paucity and inadequacy of research on sexual-violence behavioral effects, the present study investigated the effects

of repeated exposure to aggressive pornography on sexually violent, as well as nonviolent, activities. Behavioral effects following exposures to nonviolent erotica were also examined. The sexually violent behaviors which were of interest in the present study included sexually violent fantasies, forcing a female into sex, and sadomasochism. The sexually nonviolent activities included necking, petting, oral sex, masturbation, coitus, and sexually nonviolent fantasies.

AROUSAL CORRELATES

For exploratory purposes, the present study examined subjects' sexual socialization experiences, attitudes towards sex, evaluative responses, affective reactions, and "likelihood to rape" ratings and their relationship to sexual arousal. Earlier investigations of these issues are presented below.

Several studies (e.g., Schmidt et al., 1969) found that subjects with more restrictive sexual socialization experiences and/or more conservative sex attitudes tended to judge nonviolent erotica less arousing than subjects with less restrictive sexual socialization experiences and/or less conservative sex attitudes. However, Mosher (1971) did not find any relationship between sexual experiences and sexual arousal to sexually nonviolent stimuli. The reason(s) for these inconsistent findings is perplexing since these studies employed similar procedures and identical pornographic films. Perhaps differences in marital status and age between the two groups of subjects were responsible for the discrepant findings. Subjects in the studies of Schmidt and his colleagues, relative to those in Mosher's study, were generally older and more of them were married.

The above studies dealt only with sexually nonviolent stimuli. There is a recent study (Malamuth and Check, 1983), however, that examined the relationship between sexual experience and sexually violent stimuli (i.e., rape portrayal). A significant negative correlation was obtained between these two variables. In other words, subjects with less sexual experience reported greater arousal to rape depictions than those with greater sexual experience.

In respect to evaluative ratings, Amoroso et al. (1971) found that subjects who rated nonviolent erotica more pornographic reported greater arousal than those who rated the same stimuli less pornographic. However, Fisher and Byrne (1978) found no relationship between pornographic ratings and sexual arousal. These discrepant findings may be a function of the difference in medium of presentation between the former (erotic slides) and the latter (erotic film) study. No study has yet examined the relationship between evaluative ratings and sexual arousal using sexually violent stimuli.

In respect to affective reactions, Colson (1974), Mann et al. (1971), and Schmidt and his colleagues (1969, 1970) found an inverse relationship between ratings of favorableness and arousal to nonaggressive pornography. In other words, subjects who rated the nonviolent erotica more favorably reported less arousal than those who rated the same stimuli less favorably. In a study that employed sexually violent materials, Schmidt (1975) found a negative relationship between negative affect and arousal to rape stimuli. However, he obtained a positive relationship between these two variables with sadomasochistic stimuli.

Several studies (Check and Malamuth, in press; Malamuth and Check, 1980a, 1980b; Malamuth and Check, 1981; Malamuth, Heim, and Feshbach,

1980) have reported consistent findings for the relationship between self-reported "likelihood to rape" (LR) and sexual arousal. More specifically, LR ratings (based on subjects' responses to a 6-point scale ranging from "not at all likely" to "very likely" as to whether they would rape if assured that no punitive consequences would ensue) were found to be positively correlated with arousal to rape but not to mutually-consenting portrayals. In another study, Malamuth and Check (1983) have presented evidence suggesting that this relationship between LR ratings and arousal may be significantly influenced by the content of the rape depictions. They exposed subjects to audio tapes which included; (1) a rape portrayal with the victim expressing abhorrence throughout the assault (i.e., "negative"-outcome); (2) a rape depiction wherein the rapist perceived that the victim becomes involuntarily sexually aroused (i.e., "positive"-outcome); and (3) a mutually-consenting depiction (i.e., consenting). Results revealed that subjects who indicated no LR and those who reported some LR were less sexually aroused by the rape "negative"-outcome as compared with the consenting depictions. However, when the woman was portrayed as becoming sexually aroused, subjects who indicated no LR showed comparable levels to the rape "positive"-outcome and consenting depictions while subjects who reported some LR showed greater arousal to the rape "positive"-outcome than to any other depiction.

To summarize this section, it is evident that research investigating the relationships in question is in its infancy, with a paucity of studies employing sexually violent stimuli. In an effort to elucidate further these relationships, the present study investigated subjects' sexual socialization experiences, sex attitudes, evaluative

responses, affective reactions, and "likelihood to rape" ratings and their relationship to sexual arousal. Both sexually violent and nonviolent stimuli were employed in the assessment of sexual arousal.

PURPOSE OF THE PRESENT STUDY

As the preceding literature review clearly demonstrates, there are very few studies which have investigated the effects of repeated exposure to pornography, especially that which contains violent themes. In regards to the effects on sexual arousal, only three studies (Howard et al., 1971; Schaefer and Colgan, 1977; Zillmann and Bryant, in press) have addressed themselves directly to the issue of repeated exposure effects. However, all three studies employed only sexually nonviolent materials during the exposure period and Zillmann and Bryant were the only ones to include a sexually violent stimulus (i.e., short film depicting sadomasochism and bestiality) in the post-exposure session. In another pertinent study, Malamuth, Haber, and Feshbach (1980) used two sexually violent stimuli but the study was a single-session design and both stimuli were presented in the same session. It is therefore apparent that no single study has yet investigated adequately the impact of several exposures to violent erotica. The present study attempted to fill this void by examining repeated exposure effects using various sexually violent materials (as well as sexually nonviolent stimuli) across several sessions.

Mere exposure, however, was not the only concern. There are probably various critical variables which may interact with exposure in affecting the nature of exposure effects. One of these potential

factors may be reinforcement (i.e., masturbation) as suggested by the findings of Schaefer and Colgan. Unfortunately, manipulation of this variable was deemed impractical and unethical and, therefore, it was not included in the design. Another potential variable may be an individual's "proclivity to rape" (Abel et al., 1977) or "force-orientation". There is no theoretical framework which takes into account exposure effects and one's force-orientation, thus making it difficult to generate directional hypotheses regarding the effects of these two variables. Nonetheless, it makes good intuitive sense that these two factors may interact in some fashion in influencing sexual arousal. Consequently, in an effort to shed some light on this concern, the present study was designed primarily to investigate the following issues:

1) Effects of repeated exposure to sexually violent or nonviolent stimuli on:
    a) sexual arousal to rape depictions
    b) sexual arousal to mutually-consenting portrayals
2) Same as in 1 but taking into consideration subjects' classification in the Force-orientation categories.

A secondary focus of the present investigation was to examine repeated exposure effects on sexual activities. Most of the research in this area has employed single-session designs and has focused primarily on sexually nonviolent stimuli and behaviors. The only study which has addressed itself directly to repeated exposure effects is that of Mann et al. (1971). However, they employed a sexually violent stimulus

(i.e., sadomasochistic film) in only one of the sessions. In another study, Malamuth (1981) investigated the effects of exposure to two sexually violent stimuli and of one's force-orientation on the nature of fantasies which were generated in the laboratory. However, this study involved only one session. Because of the absence of studies adequately addressing repeated exposure effects on sexual behavior, particularly with sexually violent materials, the present investigation examined the following issues:

3) Effects of repeated exposure to sexually violent or nonviolent stimuli on:
    a) sexually violent behaviors outside the laboratory (i.e., sexually violent fantasies, forcing a female into sex, sadomasochism)
    b) sexually nonviolent bahaviors outside the laboratory (i.e., necking, petting, oral sex, masturbation, coitus, sexually nonviolent fantasies)
    c) fantasies in the laboratory
4) Same as 3, considering subjects' classification in the force-orientation categories.

Finally, research concerning arousal correlates is severely limited, particularly in regards to aggressive pornography. Therefore, for exploratory purposes, the present study investigated the following issues:

5) Relationship between sexual arousal to sexually violent or nonviolent depictions and subjects'

a) sexual socialization experiences

b) sex attitudes

c) evaluative responses

d) affective responses

e) "likelihood to rape" ratings.

CHAPTER 2

METHOD

OVERVIEW OF DESIGN

The experimental design consisted of a 3 (Force-orientation) x 3(Exposure) randomized block design. On the basis of their tumescence responses to rape and nonrape depictions in a pre-exposure session, subjects were classified as either force-oriented, nonforce-oriented, or unclassifiable. Subsequently, within each force-orientation group, subjects were randomly assigned to one of three exposure conditions -- sexually violent stimuli, sexually nonviolent stimuli, or no exposure. Those assigned to the sexually violent condition were then exposed to six films and four take-home depictions consisting primarily of sexually violent activities over a period of four weeks. Those in the sexually nonviolent condition were exposed to similar media presentations of sexually nonviolent stimuli during the same period. Subjects in the control condition were not exposed to any stimuli during the 4-week period. Soon after the exposures subjects returned for a post-exposure laboratory session, in which they were presented with depictions that were similar in theme to those in the pre-exposure session.

The major independent variables were exposure and force-orientation. Relevancy of additional variables-- sexual socialization experiences, sex attitudes, evaluative ratings, affective responses, likelihood to rape -- which were based on responses to several questionnaires were also considered. The major dependent variable was sexual arousal as indicated by penile tumescence and self-reports. A second dependent variable was sexual activities (necking, petting, oral

sex, masturbation, coitus, fantasies, sexually violent behaviors). Arousal measures were obtained in the post-exposure session while activity data were collected for a 25-day period immediately following the exposure period. A third dependent variable was the content (i.e., violent vs. nonviolent) of the fantasy that subjects were asked to create during the post-exposure session.

SUBJECTS

Sixty-nine subjects participated in the study. Twenty-two of the 69 subjects who took part in the study were initially recruited from 51 respondents to a University of Manitoba and University of Winnipeg classified advertisement that read:

> Male subjects between the ages of 18 and 35 are needed to participate in a study involving sexual materials. Subjects will be paid $5/hr. for their participation. For further details phone 453-1555, or send name and telephone number to Psychological Study, Dept. of Psychology, University of Manitoba, Winnipeg, Manitoba R3T 2N2.

On first contact the experimenter interviewed the respondents individually to explain the purpose and procedure of the study. They were told that the experiment is an important and unique scientific research project designed to study reactions to sexual stimuli. They were informed that the stimuli they would be exposed to might include a wide range of sexual activities (e.g., heterosexual and homosexual activity, violent and nonviolent sexuality) in various media (film, pictorials, literature). The subjects were informed that they would have to come to the laboratory for three 1-hour sessions within a period

of nine weeks[5] and that they would be exposed to erotic films and reading materials over a period of 4 weeks. They were also informed that their sexual responses to the sexual stimuli while in the laboratory would be assessed physiologically (i.e., penile tumescence) and that the exposures to the stimuli may or may not cause a change in their sexual responses. In addition, they were guaranteed absolute anonymity and were told that they may withdraw from the experiment at any time without loss of money and/or credit for prior participation. It was suggested that they should not participate if they felt that either the content or procedures of the study are distasteful to them, or if they could not adhere to the required time commitment and would be uncomfortable in disclosing details concerning their personal and sexual lives.

After the initial interviews, only 30 of the 51 respondents who decided to participate in the study were considered suitable by the interviewer. This decision was based on a variety of reasons ranging from scheduling difficulties to questionable psychological stability of respondents. The 30 respondents were then asked to complete the Minnesota Multiphasic Personality Inventory and a Sexual Background Questionnaire. Part of the purpose of these questionnaires was to insure that no one was severely psychologically impaired, that subjects had no legal difficulties, and that they were not strictly homosexuals.[6]

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[5] Actually, each subject was required to come to the lab for two sessions (pre-exposure and post-exposure sessions). However, in order to reduce awareness of the true purpose of the study when presented with the same type of depictions in the post-exposure session, subjects were led to believe that there would be a third laboratory session.

[6] Five of the 69 subjects who took part in the study had sexual experiences with both sexes whereas the rest were strictly heterosexuals.

At the end of the preliminary session, subjects were told that they would be contacted by phone later in the week and informed if they were needed for the rest of the study.

When contacted, 29 of the final 30 respondents were asked to come to the laboratory individually for the first session (i.e., pre-exposure session). Three of these subjects, however, decided to withdraw from the study. The one respondent who did not qualify was told that a limited number of subjects with specific personal and sexual histories were needed and that, even though he had that specific background, he was not among the ones randomly selected from the group of qualified subjects.

The 26 respondents who were selected for the study via the newspaper advertisements consisted of 23 college students, 2 college graduates, and one high school graduate. Since more subjects were required for the study, an additional 48 subjects were selected from the subject pool at the Univeristy of Manitoba. An initial interview, identical to the one with the respondents, was conducted with these subjects. Of the total 74 subjects, four of the 26 respondents and one from the subject pool dropped out at various stages of the experiment.

APPARATUS AND SELECTION OF SEXUAL STIMULI

A) Assessment of Physiological Arousal

Penile tumescence was measured throughout the exposures to the sexual stimuli in the pre- and post-exposure sessions via a mercury-in-rubber strain gauge (Davis Incorporated, New York, New York), a device recommended in recent analyses of various measuring instruments (Laws, 1977; Rosen and Keffe, 1978). In essence, this gauge is a fine-bore

rubber band which is filled with mercury and encircles the penis. With changes in penile diameter, the rubber band lengthens, causing a contraction of the mercury column. Change resistance (related to erection) was monitored by a penile plethysmograph bridge, which allows the continuous reading of changes in penile diameter on a chart recorder.

B) Assessment Stimuli

Three written and 3 pictorial sex stories were used in the pre-exposure session (see Appendix A). The first written story depicted a woman masturbating. A second and third written stories, portraying nonrape and rape, were obtained from Abel et al. (1977). The three pictorials depicted nonrape (Viva, 1974), rape (Sex Cine, 1979), and lesbianism (Penthouse, 1979).

In the post-exposure laboratory session, depictions with similar themes were employed (see Appendix B). The first written story depicted a woman masturbating. The second and third written stories portrayed nonrape and rape. These two latter stories were obtained from Abel et al. (1978). The 3 pictorials depicted nonrape (Chic, 1977), rape (Eros, 1977), and lesbianism with a violent component (Chic, 1977).

C) Exposure Stimuli

Eleven soft-core films, three chapters from different erotic books, and four descriptive pictorials portraying a wide range of sexual acivities including heterosexual intercourse, group sex, lesbianism, and sexual-violence were used. The films had been edited by the Ontario Censorship Board and ranged from 40 to 80 minutes. Subjects in the sexually violent condition were exposed to six films entitled Shivers, Portrait of Seduction, Harem Keeper, Chorus Call, Story of O, and Super

Vixens in the given order. With the exception of Shivers and Chorus Call,[7] these films contained elements of sexual violence such as rape and sadomasochism. Subjects were also given two chapters portraying nonviolent erotica (Holliday, 1978; Appendix C) or sadomasochism (Thorton, 1968; Appendix C) and descriptive pictorials of rape (Adelina, 1980; Appendic C) or lesbianism (Adelina, 1980; Appendix C) to read or view in the privacy of their homes. Subjects in the sexually nonviolent condition were exposed to six films entitled Blue Ecstasy, Sex World, Celestine, Chorus Call, Love Airlines, and Private Pleasures in the order presented. They were also given two separate chapters depicting sexually nonviolent activities (Holliday, 1978; Appendix D; Sommers, 1978; Appendix D) and descriptive pictorials of a woman masturbating (Adelina, 1980; Appendix D) or lesbianism (Adelina, 1980; Appendix D).

ASSESSMENT QUESTIONNAIRES

A) Minnesota Multiphasic Personality Inventory. A 566-item objective personality test which assesses the personality make-up of an individual was administered to all subjects (Appendix E).

B) Sexual Background Questionnaire. An 89-item background questionnaire based on those used by Fisher and Byrne (1978) and Goldstein, Kant, and Hartman (1973) was administered to all 69 subjects to tap sexual socialization variables and sex-related attitudes (Appendix E).

[7]Shivers (a R-rated melodrama) and Chorus Call (a sexually nonviolent film) were included to help disguise the violent component of the study.

C) Feelings and Evaluative Scales. An 11-item Feelings Scale (Byrne and Sheffield, 1965), which assessed positive and negative affective reactions to the sexual stimuli, was completed by all subjects immediately after the presentation of each stimulus (Appendix F). Subsequently, subjects completed the male version of the Self-Report of Sexual-Physiological Reactions (Schmidt and Sigusch, 1970), which inquires if and to what degree subjects experienced various physiological responses (i.e., erection, pre-ejaculatory emission, and "physical excitement") to each stimulus (Appendix F). Finally, subjects answered a 6-item opinion questionnaire (based on the questionnaire used by Fisher and Byrne (1978)) to indicate whether they felt the stimuli were pornographic or nonpornographic (Appendix F). For the films, subjects also completed a Movie Rating form (Malamuth & Check, 1981) which assessed their emotional and evaluative reactions (Appendix G).

D) Fantasy Measure. In the pre-and post-exposure sessions, each subject was asked to create an arousing fantasy and to indicate its arousal value and content on a questionnaire based on the one employed by Birddell et al. (1978) (Appendix F).

E) Sexual Activity Record Sheet. This record sheet, based on the one used by Fisher and Byrne (1978), consisted of 22 items which evaluated frequency of various sexual activities; talking, thinking, fantasizing, and dreaming about sex; and reading, viewing, or purchasing of erotic materials (Appendix H). Subjects were asked to record their sexual and sex-related activities daily on the record sheets.

F) Post-Exposure Questionnaires. A short version of the Sexual Background Questionnaire that was used at the start of experiment was administered at the end of the post-session to tap subjects' likelihood

to engage in diverse sexual activities (Appendix I). An 11-item (Appendix I) and 9-item (Appendix I) questionnaires, based on those used by Malamuth (1978), were also administered to the experimental and control subjects, respectively, at the end of the post-exposure session to determine their awareness and hypotheses concerning the purpose of the study.

G) Debriefing Questionnaires. Two questionnaires outlining the purpose of the study (Appendix J) and inquiring subjects about their feelings concerning the experiment (Appendix J) were completed in the debriefing session. Both questionnaires were based on the ones used by Malamuth (1978).

GENERAL RELEASE FORM

Each subject was required to sign a General Release form (Appendix K) which outlined the purpose of the project and specified that he could withdraw from the study at any time without loss of money for prior participation. The document also stated that the experimenter and the University of Manitoba were not responsible for any sexual or sex-related behaviors of the subject outside the laboratory or for any changes in his arousal or behavior patterns that may be associated with his participation in the experiment. Finally, the document indicated that all information gathered throughout the experiment was to be kept confidential.

A major purpose of including the General Release form is the experimenter's ethical responsibility to inform the subject of all potential effects (positive or negative) of the study. While this is undeniably a sound and valid rationale, one may argue that such

a document may generate some concern on the part of the subject due to the suggested potential effects on his sexual and sex-related behavior. One may continue to argue that experimental artifacts such as demand characteristics and evaluation apprehension may occur and they might affect the results of the study. However, not a single subject voiced any concern when presented with the document and each one signed it without any apparent apprehension or hesitation.

CLASSIFICATION OF FORCE-ORIENTATION

A number of studies (e.g., Abel et al., 1977, 1978, 1981; Barbaree, Marshall, & Lanthier, 1979; Quinsey, Chaplin, & Varney, 1979) have demonstrated that the classification scheme developed by Abel et al. (1977) discriminates between rapists and nonrapists with a high degree of accuracy. In a recent application of this classification method with child molesters, Quinsey, Chaplin, and Carrigan (1980) provided collaborating evidence by demonstrating that it successfully predicted recidivism following discharge from a psychiatric institution.

In the present study the general guideline of Abel et al.'s (1977) classification scheme was employed to categorize subjects as either force-oriented, nonforce-oriented, or unclassifiable. Subjects' penile responses to the rape and consenting written depictions in the pre-exposure session were used to evaluate their level of force-orientation. Penile response for each story was computed on the basis of the maximum positive deflection from baseline (measured in centimeters) taken just prior to the presentation of the respective portrayal. Subjects' whose arousal level for the written rape portrayal was .7 or more of the arousal for the written mutually-consenting sex

depiction were classified as force-oriented (n = 28). Those with a comparative ratio below .7 were classified as nonforce-oriented (n = 25). The modified ratio of 1.0 (Abel, Becker, Murphy, & Flanagan, 1981) was not employed since the present study was initiated before the ratio was changed from .7 to 1.0. This, however, should not pose any serious problems because it would not seem likely that the results of the present study would have been substantially altered had the ratio of 1.0 been used instead of .7 . Finally, subjects with scores below 2 centimeters (an arbitrarily selected value) on both portrayals were categorized as unclassifiables (n = 16). Note that the unclassifiable category was not based on Abel et al.'s (1977) classification method. They did not classify subjects who showed 10% or less of full erection. However, in the present study percentage of full erection could not be computed (since subjects were not asked to masturbate to orgasm) and, therefore, the figure of 2 centimeters was arbitrarily chosen by the experimenter.

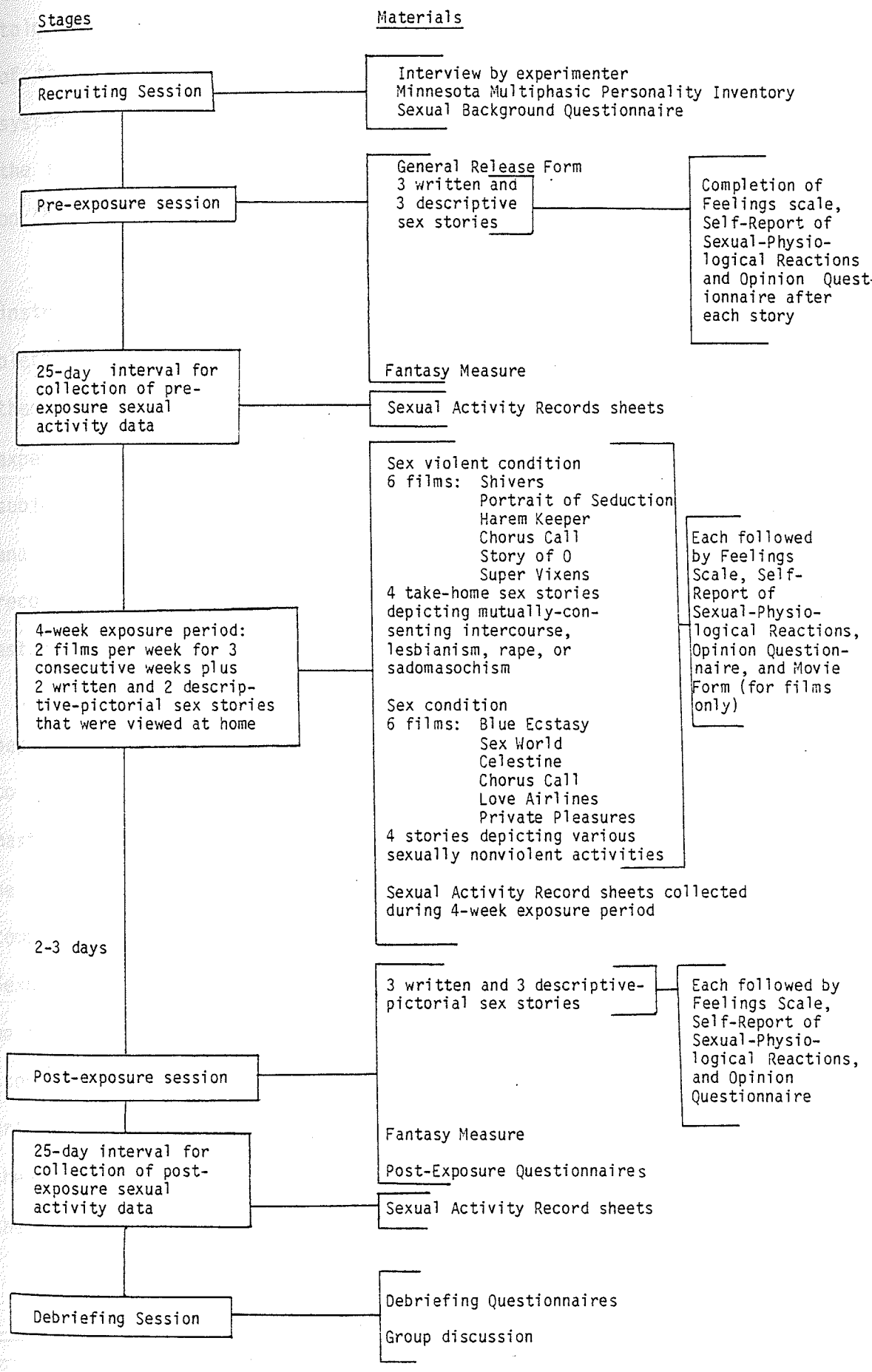
PROCEDURE

The duration of the study was approximately twelve weeks (see Figure 1). Although the 47 subjects who were selected from the subject pool started five weeks after the 22 who responded to the advertisement, the procedure was identical.

In each of the pre-exposure sessions the subject was first asked to sign the General Release Form. He was then led to a room containing a lounge chair, a small table with three bands (sizes 75, 80, 85) and a buzzer on it, and seven envelopes containing the depictions and

Figure 1

Diagram of Experimental Procedure and Materials Employed at Various Stages of the Study



questionnaires. He was then instructed how to use the band. He was told not to touch or put on any of the three bands and not to open any of the envelopes until instructed by the experimenter via the intercom system. Finally, he was told not to manipulate his penis while reading the stories because it would affect the recording of penile tumescence on the polygraph.

Once the experimenter was satisfied that the subject understood the instructions, he went to the adjoining room which contained the penile plethysmograph, chart recorder, and intercom system. The subject was then asked to try each of the three bands and to buzz and inform the experimenter of the band which fitted most comfortably. When the subject called he was told to put on the band he found most comfortable and to sit back and relax until further instructions. The chart recorder was immediately activated in order that a baseline be established.

As soon as the experimenter determined that a stable baseline had been attained (usually within five minutes), he instructed the subject to open envelope #1, to read the story (written depiction of a woman masturbating), and to call the experimenter by pressing the buzzer when he was finished. As soon as the subject called, he was asked to complete the enclosed questionnaires (Feelings Scale, Self-Report of Sexual-Physiological Reaction form, Opinion Questionnaire) and call when he was done. When the subject was finished he was told to place the story and questionnaires back in the envelope and to sit back and relax until he was instructed to open the next envelope. The experimenter then waited for several minutes in order to allow the penis to return to the baseline level.

After the penis had remained at the baseline state for approximately 5 minutes, the experimenter instructed the subject to open envelope #2, to read the story (written depiction of rape), to complete the questionnaires identical to the earlier ones, and to wait until instructed to go on to story #3. The same procedures were followed for story #3 (written depiction of mutually-consenting sex), #4 (descriptive pictorial of mutually-consenting sex), #5 (descriptive pictorial of rape), and #6 (descriptive pictorial of lesbianism). The purpose of depictions #1 and #6 were to help disguise the purpose of the study.

Following the completion of the questionnaires for story #6, the subject was told to sit back and relax until further instructions. After his penis had reached baseline level, he was asked to become as sexually aroused as possible by fantasizing of whatever he wanted and without direct manipulation of his penis. After approximately five minutes, he was instructed to open envelope #7 and complete the questionnaire inquiring about the arousal level and content of his fantasy.

When the subject was finished he was told to take off the band and to see the experimenter before leaving. He was then given Sexual Activity Record sheets to take home and to record his sexual activities daily for the duration of the study. He was also told that he would be contacted and informed about his next session.

On the basis of their tumescence scores to the rape-written and consenting-written depictions, subjects were then classified as either force-oriented, nonforce-oriented, or unclassifiable. Subsequently, within each force-orientation group, subjects were randomly assigned to one of the three exposure conditions.

Approximately four weeks after the pre-exposure session experimental subjects in the sexually violent condition were exposed to six films portraying primarily sexually violent behaviors (e.g., sadomasochism, rape), two per week for three consecutive weeks. Immediately after each movie subjects completed the Movie Rating Form, the Feelings Scale, the Self-Report of Sexual-Physiological Reactions Form, and the Opinion Questionnaire. All films were presented in a small theatre on the university campus. After the last film, subjects were given four written and pictorial materials depicting sexually violent or nonviolent activities to take home for the fourth week of exposure. They were asked to complete the accompanying questionnaires (Feelings Scale, Self-Report of Sexual-Physiological Reactions Form, Opinion Questionnaire) immediately after examining each of the four stories.

During the same 4-week exposure period subjects in the sexually nonviolent conditions were exposed to six soft-core films depicting sexually nonviolent activities. Subjects completed the same questionnaires as the other experimental group after each film. These films were also presented in a small theatre on campus. After the sixth film in the third week of exposure, these subjects were given four written and pictorial materials depicting sexually nonviolent behaviors to take home. They were asked to complete the same set of questionnaires as the other experimental group immediately after finishing each of the four depictions.

During the four weeks of exposure the control group was not exposed to any materials.

Three days after the exposure period, all subjects returned for a post-exposure laboratory session. The procedure of this session was

identical to that of the pre-exposure session. The order, theme, and medium of the depictions were similar (i.e., written depictions of a woman masturbating, rape, and mutually-consenting intercourse and descriptive-pictorials of mutually-consenting intercourse, rape, and lesbianism). Subjects were also asked to generate an arousing fantasy and to record its arousal level and content.

At the end of the post-exposure session subjects were asked to complete the Post-Exposure Questionnaires. Subsequently, they received half of their payment for participating in the study and were informed that the third laboratory session was not necessary.

They were, however, asked to attend a debriefing session 25 days later. In the debriefing session subjects completed a questionnaire tapping their feelings about the experiment. They were also given a handout outlining the purpose and procedure of the study and specifying that some types of pornographic materials may perpetuate myths regarding sexual violence. A group discussion concerning the details and purpose of the study ensued.[8] Finally, subjects received the second half of their payment for their participation in the project.

In respect to the Sexual Activity sheets, subjects were contacted approximately every month and asked to bring them in to the laboratory.

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[8]Recent data by Donnerstein and Berkowitz (1981), Malamuth and Check (in press), Check and Malamuth (in press) suggests that this type of debriefing procedure may be effective in counteracting any undesirable effects of exposure to pornography, especially in reducing subjects' acceptance of rape myths.

CHAPTER 3

RESULTS

RANDOM ASSIGNMENT VERIFICATION

In order to verify the success of the random assignment to the different exposure conditions, analyses were performed on penile tumescence and self-reported sexual arousal data obtained during the pre-exposure laboratory session.

Penile Tumescence

A 2-way multivariate analysis of variance (MANOVA) with Force-orientation (Force-oriented, Nonforce-oriented, Unclassifiable) and Exposure (sexually violent, sexually nonviolent, no exposure) as the independent variables was performed on the pre-exposure tumescence scores for each of the 4 depictions (rape-written, consenting-written, consenting-descriptive pictorial, rape-descriptive pictorial) using the BMDP multivariate program (see Table 1). Results revealed significance, $F(8, 114) = 16.45$, $p < .000$, for the Force-orientation factor. However, this is not surprising since subjects were first classified in terms of their force-orientation on the basis of their pre-exposure tumescence scores. It was only after this classification procedure that, within each force-orientation group, subjects were randomly assigned to the 3 Exposure conditions. As expected, no main effect for Exposure was obtained at the multivariate level, $F(8,114) = .71$, $p < .6831$. Univariate analyses also reavealed no significant Exposure effect for each of the 4 depictions (see Table 1).

The multivariate interaction factor did not achieve significance, $F(16,175) = 1.14$, $p < .3232$. However, while univariate analyses of the

TABLE 1

Two-Way MANOVA of Physiological Measures of Sexual Arousal for the 4 Stories in the Pre-Exposure Session with Force-Orientation and Exposure as the Independent Variables

Source	DF	F	P
FORCE-ORIENTATION (MC)	8,114	16.45	.0000
Rape-Written	2,60	33.58	.0000
Mutually Consenting, Written	2,60	14.37	.0000
Mutually Consenting, Pictorial	2,60	7.14	.0017
Rape, Pictorial	2,60	10.07	.0002
EXPOSURE (MC)	8,114	.71	.6831
Rape-Written	2,60	.14	.8722
Mutually Consenting, Written	2,60	.11	.8988
Mutually Consenting, Pictorial	2,60	1.18	.3152
Rape, Pictorial	2,60	.02	.9807
FORCE-ORIENTATION x EXPOSURE (MC)	16,175	1.14	.3232
Rape-Written	4,60	1.05	.3885
Mutually Consenting, Written	4,60	.62	.6490
Mutually Consenting, Pictorial	4,60	.77	.5495
Rape, Pictorial	4,60	2.50	.0521

MC = Multivariate Composite

interaction for the first 3 stories showed no significance, there was an effect that approached significance for the rape-descriptive pictorial, $F(4,60) = 2.50$, $p < .0521$. In an effort to isolate the source(s) of this marginally significant interaction, an analysis of simple main effects (Keppel, 1973) of the Exposure factor was performed for this rape story. Results indicated no simple main effects for either Force-oriented subjects, $F(2,60) = 1.30$, $p > .10$, or Unclassifiable subjects, $F(2,60) = .14$, $p > .10$. However, for the Nonforce-oriented group, the Exposure factor approached significance, $F(2,60) = 2.95$, $p < .08$.[9] Follow-up comparisons (Winer, 1971) on the Exposure means (see Table 2)[10] among the Nonforce-oriented subjects revealed differences that approached significance between those exposed to sexually violent stimuli (SVS) ($M = 9.03$) and controls ($M = 4.73$), $F(1.60) = 4.63$, $p < .05$, and between those exposed to sexually nonviolent stimuli (SNVS) ($M = 9.31$) and controls ($M = 4.73$), $F(1,60) = 5.48$, $p < .025$. The scores between subjected exposed to SVS ($M = 9.03$) and those exposed to SNVS ($M = 9.31$) did not differ significantly, $F(1,60) = .02$, $p > .10$.

Self Reported Arousal

A 2-way MANOVA with Force-orientation and Exposure as the independent variables was performed on the pre-exposure self-reported scores of sexual arousal for the 4 depictions (see Table 3). The Force-

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[9] Three comparisons were conducted on the Exposure scores of the Non-Force oriented subjects. Consequently, error rate was adjusted to .017 (i.e., .05/3). Throughout the present study an adjusted error rate of .017 was used whenever a prior or post-hoc comparisons were conducted on the scores of the three Exposure conditions. The conventional error rate of .05 was used for omnibus F-tests.

[10] Means of pre-exposure tumsecence scores as a function of Force-orientation and Exposure for the 4 depictions are presented in Appendix L.

TABLE 2

Mean Pre-Exposure Penile Tumescence Scores of Rape-Descriptive Pictorial as a Function of Force-Orientation and Exposure (in centimeters)

	Force-Orientation		
Exposure	Force-oriented	Nonforce-oriented	Unclassifiable
Sexually Violent	9.18 (n=11)	9.03 (n=8)	3.72 (n=6)
Sexually Nonviolent	8.64 (n=9)	9.31 (n=9)	4.16 (n=5)
No Exposure	11.84 (n=8)	4.73 (n=8)	4.84 (n=5)

TABLE 3

Two-Way MANOVA of Self-Report Measures of Sexual Arousal for the 4 Stories in the Pre-Exposure Session with Force-Orientation and Exposure as the Independent Variables

Source	DF	F	P
FORCE-ORIENTATION (MC)	8,114	7.59	.0000
Rape-Written	2,60	19.28	.0000
Mutually Consenting, Written	2,60	6.22	.0035
Mutually Consenting, Pictorial	2,60	.41	.6651
Rape, Pictorial	2,60	3.78	.0283
EXPOSURE (MC)	8,114	.62	.7591
Rape-Written	2,60	.53	.5936
Mutually Consenting, Written	2,60	.78	.4617
Mutually Consenting, Pictorial	2,60	1.66	.1979
Rape, Pictorial	2,60	.11	.8950
FORCE-ORIENTATION x EXPOSURE (MC)	16,175	1.66	.0583
Rape-Written	4,60	.32	.8624
Mutually Consenting, Written	4,60	.64	.6347
Mutually Consenting, Pictorial	4,60	.70	.5945
Rape, Pictorial	4,60	6.65	.0002

MC = Multivariate Composite

orientation factor was significant, $F(8,114) = 7.59$, $p < .000$, but this was not surprising since, as discussed in the previous section, subjects were randomly assigned to the Exposure conditions after being classified in terms of their Force-orientation. As expected, the multivariate main effect for the Exposure variable did not achieve significance, $F(8,114) = .62$, $p < .7591$. Univariate analyses also yielded no main effects for Exposure for the 4 depictions (see Table 3).

There was, however, a multivariate interaction effect that approached significance $F(16,175) = 1.66$, $p < .0583$. Univariate analyses showed a significant interaction effect only for the rape-descriptive pictorial, $F(4,60) = 6.65$, $p < .002$, the same story that approached significance when penile tumescence was used as the dependent variable. An analysis of simple main effects of the Exposure factor for this rape story was subsequently performed to help pinpoint the source(s) of the interaction. Results yielded a simple main effect only for Nonforce-oriented subjects, $F(2,60) = 8.06$, $p < .001$. Follow-up comparisons (Winer 1971) on the Exposure means (see Table 4)[11] among these subjects revealed that those exposed to SNVS ($M = 4.00$) were significantly more aroused than those exposed to no stimuli ($M = 2.13$), $F(1,60) = 13.40$, $p < .017$. An effect that approached significance was obtained between subjects exposed to SVS ($M = 3.13$) and controls ($M = 2.13$), $F(1,60) = 5.0$, $p < .043$, and between subjects exposed to SVS ($M = 3.13$) and those exposed to SNVS ($M = 4.00$), $F(1,60) = 3.90$, $p < .055$.

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[11] Means of pre-exposure self-reports of sexual arousal as a function of Force-orientation and Exposure for all 4 stories are presented in Appendix M.

TABLE 4

Mean Pre-Exposure Self-Reports of Sexual Arousal for Rape-Descriptive Pictorial as a Function of Force-Orientation and Exposure (on a scale of 1-5)

	Force-Orientation		
Exposure	Force-oriented	Nonforce-oriented	Unclassifiable
Sexually Violent	4.00	3.13	2.83
Sexually Nonviolent	3.11	4.00	3.00
No Exposure	4.00	2.13	3.60

Summary

The multivariate analyses performed to check on the random assignment of subjects yielded no significant multivariate or univariate main effects for the Exposure variable. However, while no multivariate interaction effect was found in the analysis of the tumescence data, an interaction that closely approached significance was obtained in the self-reported arousal analysis. Univariate analyses suggested that this interaction effect for the self-report data was a function of the significant interaction for the rape-descriptive pictorial. This same story also approached a significant interaction effect in the tumescence analysis. Follow-up tests of this rape story revealed differences only among Nonforce-oriented subjects in both tumescence and self-report analysis. More specifically, in the penile tumescence analysis, subjects exposed to SVS or SNVS showed a higher level of arousal than controls that approached significance. In the self-report analysis the same pattern occurred and it achieved significan only in the comparison between subjects exposed to SNVS and controls. In both analyses, arousal of subjects exposed to SVS and those presented with SNVS did not differ significantly from each other. Univariate analyses revealed no interaction effect for the remaining 3 stories.

In light of the relatively numerous statistical results that were examined to test for random assignment, some significant effects may occur by chance (Keppel, 1973). Thus, the relatively few significant pre-exposure differences that did occur are not reasons to cause grave concern and they do not necessarily pose a major difficulty for the interpretation of the post-exposure data. Also, since random assignment to the 3 Exposure conditions was done separately for each of the Force-

orientation groups, it would be more important that the results for the Exposure factor do not show initial differences. Indeed, the Exposure factor did not achieve significance in both tumescence and self-report analyses.

On the basis of the above argument, it would seem reasonable to conclude that random assignment was successful, though it still would be advisable to exercise caution in the interpretation of the post-exposure scores for those subjects who showed initial differences (i.e., Nonforce-oriented subjects). Furthermore, to satisfy the more critical reader and to provide a more stringent statistical analysis of the data, subjects' responses were analyzed in three steps. First, a MANOVA was presented to provide a general overview of the data. Second, an analysis of covariance (ANCOVA) for each of the 4 depictions was conducted. The rationale for using the ANCOVA is that it statistically reduces (but does not eliminate) the effects of the differences obtained between the exposure groups in the pre-exposure laboratory session. Third, the nondirectional planned comparisons as outlined in the Introduction chapter were performed using the adjusted means rather than the raw scores.[12]

RELIABILITY TEST AND CORRELATIONS BETWEEN TUMESCENCE AND SELF REPORTED AROUSAL

Since the design of the present study included an intervention (i.e., exposures to pornographic stimuli) between the pre- and post-test

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[12]The reader may ask why weren't appropriate post-hoc comparisons (i.e., Dunn procedure) employed since the contrasts followed an omnibus F-test (i.e., ANCOVA). The reasons for conducting a prior contrasts is that they were specified in the Introduction chapter.

of arousal, the issue of reliability could not be appropriately addressed. However, it may be of interest for the general issue of the reliability of the classification scheme employed to present the correlations between arousal in the two laboratory sessions. Table 5 shows the correlations between arousal (penile tumescence and self-reports) of each depiction in the pre-exposure session and the corresponding story in the post-exposure session. In respect to the stories used in the classification scheme, results yielded significant correlations between tumescence scores of the pre- and post-exposure rape-written depictions, $r = .7393$, $p < .000$, and between the tumescence scores of the pre- and post-exposure consenting-written portrayals, $r = .6186$, $p < .000$. Although the absolute magnitude of these correlations are not as large as one might wish, they are reasonably high.

Past studies have generally reported a significant correlation between penile tumescence and self-reported sexual arousal (Abel et al., 1977; Abel, Blanchard, Murphy, Becker, & Djenderadjian, 1981; Heiman, 1977; Marks & Gelder, 1967; Marks, Gelder, & Bancroft, 1970; Schaefer, Tregarthan, & Colgan, 1976). The results of the present study are consistent with these earlier findings. Table 6 shows significant correlations ($p < .000$) ranging from .3964 to .6497 between tumescence and self-reported arousal scores for each of the 4 depictions in both pre- and post-exposure laboratory sessions.

TABLE 5

Correlations between Sexual Arousal Scores to the Corresponding Depictions in the Pre- and Post-exposure Laboratory Sessions

	Measure of Sexual Arousal	
Depiction	Penile Tumescence	Self-reports
Rape-written	.7393 **	.5421 **
Rape-descriptive Pictorial	.5683 **	.3852 *
Consenting-written	.6186 **	.4601 **
Consenting-descriptive Pictorial	.4252 **	.4301 **

* $p < .001$

** $p < .000$

TABLE 6

Correlations between Penile Tumescence and Self-Reported Scores for each of the 4 Depcitions in the Pre-exposure and Post-exposure Sessions

	Session	
Depiction	Pre-Exposure	Post-Exposure
Rape, written	.6497*	.6464*
Mutually-Consenting, written	.5423*	.6040*
Mutually-Consenting, Descriptive Pictorial	.3964*	.4472*
Rape-Descriptive, Pictorial	.5451*	.4736*

* $p < .000$

n = 69 for each cell

EFFECTS OF REPEATED EXPOSURE ON POST-EXPOSURE AROUSAL

Penile Tumescence

A 3(Force-orientation) x 3(Exposure) MANOVA on the post-exposure tumescence scores of the 4 depictions was performed (see Table 7). Results indicated a significant multivariate effect for the Force-orientation factor, $F(8,114) = 4.15$, $p < .0002$. Univariate analyses for this variable revealed a significant effect for the rape-written, $F(2,60) = 6.20$, $p < .0036$, the rape-descriptive pictorial, $F(2,60) = 3.24$, $p < .046$, and the mutually consenting-written, $F(2,60) = 6.56$, $p < .0027$. Also, the effect for the mutually consenting-descriptive pictorial approached significance, $F(2,60) = 2.77$, $p < .0707$. These results reflect consistency of subjects' force-orientation across time. A significant multivariate effect was also obtained for the Exposure factor, $F(8,114) = 2.04$, $p < .0481$. Univariate analyses, however, revealed no significant Exposure effect for any of the 4 depictions. This indicates that differences among Exposure conditions for each depiction were not sufficiently strong to achieve significance but when considered collectively the Exposure effect reached a level of significance. To clarify the multivariate effect, marginal means of the Exposure factor (see Table 8) were examined. Table 7 suggests that for both rape portrayals, subjects exposed to SVS or SNVS tended to be less aroused than controls. For the nonrape depictions, the scores of the subjects exposed to sexually violent stimuli and controls were very similar. Subjects

TABLE 7

Two-Way MANOVA of Physiological Measures of Sexual Arousal
for the 4 stories in the Post-Session
as a Function of Force-Orientation and Exposure

Source	DF	F	P
FORCE-ORIENTATION (MC)	8,114	4.15	.0002
Rape-Written	2,60	6.20	.0036
Mutually Consenting, Written	2,60	6.56	.0027
Mutually Consenting, Pictorial	2,60	2.77	.0707
Rape, Pictorial	2,60	3.24	.0460
EXPOSURE (MC)	8,114	2.04	.0481
Rape-Written	2,60	.46	.6315
Mutually Consenting, Written	2,60	1.68	.1952
Mutually Consenting, Pictorial	2,60	.62	.5414
Rape, Pictorial	2,60	1.48	.2359
FORCE-ORIENTATION x EXPOSURE (MC)	16,175	2.29	.0046
Rape-Written	4,60	3.44	.0136
Mutually Consenting, Written	4,60	2.49	.0524
Mutually Consenting, Pictorial	4,60	2.43	.0570
Rape, Pictorial	4,60	4.72	.0022

MC = Multivariate Composite

TABLE 8

Marginal Means of Tumescence Scores of the Exposure Factor for the Four Depictions in the Post-exposure Session (in centimeters)

	Depictions			
Exposure	Rape-written	Rape-descriptive pictorial	Consenting-written	Consenting-descriptive pictorial
Sexually Violent	3.12	6.24	3.96	8.19
Sexually Nonviolent	3.89	6.45	3.06	7.10
No Exposure	4.42	7.81	4.55	8.28

exposed to sexually nonviolent stimuli, however, demonstrated a pattern of lower arousal than controls.

The multivariate interaction achieved significance, $F(16,175) = 2.29$, $p < .0046$. Univariate analyses for the interaction factor yielded significance for both rape-written , $F(4,60) = 3.44$, $p < .0136$, and rape-descriptive pictorial, $F(4,60) = 4.72$, $p < .0022$, and an effect that was close to significance for the consenting-written, $F(4,60) = 2.49$, $p < .0524$, and the consenting-descriptive pictorial, $F(4,60) = 2.43$, $p < .057$. The direction of the differences among the various groups for each story is presented in the ANCOVAs below.

The above findings indicate that Force-orientation and Exposure interact in influencing sexual arousal. However, in light of the pre-exposure differences obtained for Nonforce-oriented subjects, interpretation of the above results for these subjects may be open to question. Consequently, as indicated in the previous section, ANCOVAS and planned comparisons on the adjusted means of each of the 4 depictions were conducted.

(a) Rape-Written: The ANCOVA showed no Exposure effect for the rape-written story (see Table 9)[13], $F(2,59) = .84$, $p < .4384$. There was, however, an interaction effect that approached significance, $F(4,59) = 2.42$, $p < .0588$. Planned comparisons on the adjusted means of

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[13] The reason that the result of the Force-orientation factor in the ANCOVA is not reported here, as well as throughout the Arousal section, is that subjects were classified in terms of their force-orientation on the basis of their scores in the pre-exposure session. It was therefore expected that there would be differences across force-orientation groups and consequently adjustments of their raw scores by the ANCOVA procedure is meaningless (Pedhazer, 1982).

TABLE 9

Analysis of Covariance on Penile Scores for the Written Rape Story in Post-Exposure Session as a Function of Force-Orientation and Exposure

Source	SS	DF	MS	F	P
Force-Orientation	45.40	2	22.70	3.51	.0362
Exposure	10.81	2	5.40	.84	.4384
Force-Orientation x Exposure	62.42	4	15.61	2.42	.0588
Covariate	373.34	1	373.34	57.77	.0000
Error	381.28	59	6.46		

Force-oriented subjects (see Figure 2)[14,15] revealed that the difference between those exposed to SVS (M = 1.85) and the controls (M = 4.49) approached significance, $F(1,59) = 3.82$, $p < .056$. Subjects exposed to SNVS (M = .88) also showed less arousal than controls (M = 4.49) and this difference did achieve significance, $F(1,59) = 7.11$, $p < .017$. No significant difference was obtained between subjects exposed to SVS (M = 1.85) and those exposed to SNVS (M = .88), $F(1,59) = .52$, $p > .10$. From these results it seems that, for Force-oriented subjects, repeated exposure to sexually violent or nonviolent stimuli may lead to a satiation effect to subsequent rape stimuli.

For Nonforce-oriented subjects (see Figure 3), planned comparisons revealed no significant differences between subjects exposed to SVS (M = 4.20) and those exposed to SNVS (M = 6.10), $F(1,59) = 1.96$, $p > .10$. or controls (M = 4.20), $F(1,59) < 1$, $p > .10$. There was also no significant difference between subjects exposed to SNVS and controls, $F(1,59) = 1.91$, $p > .10$. = 1.96, $p > .10$. These findings suggest that, for

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[14] Although the results are analyzed in terms of post-exposure measures, they are presented graphically with pre-exposure scores as well. This provides the reader with a quick and clear picture of the overall trend. Data were not examined in terms of difference scores (i.e., pre vs. post) due to questions regarding such analyses (e.g., Cronbach and Furby, 1970).

[15] With random assignment, differences among cell means on the covariate with relatively large groups are usually small and, therefore, differences between adjusted and unadjusted means tend to be small (Pedhazur, 1982). The reader will notice, however, that the difference between these two mean scores are relatively large. Since subjects were not randomly assigned to Force-orientation groups but instead classified on the basis of their scores to the rape-written and nonrape-written depictions, the cell means will differ across force-orientation levels. Consequently, adjustments may be relatively large.

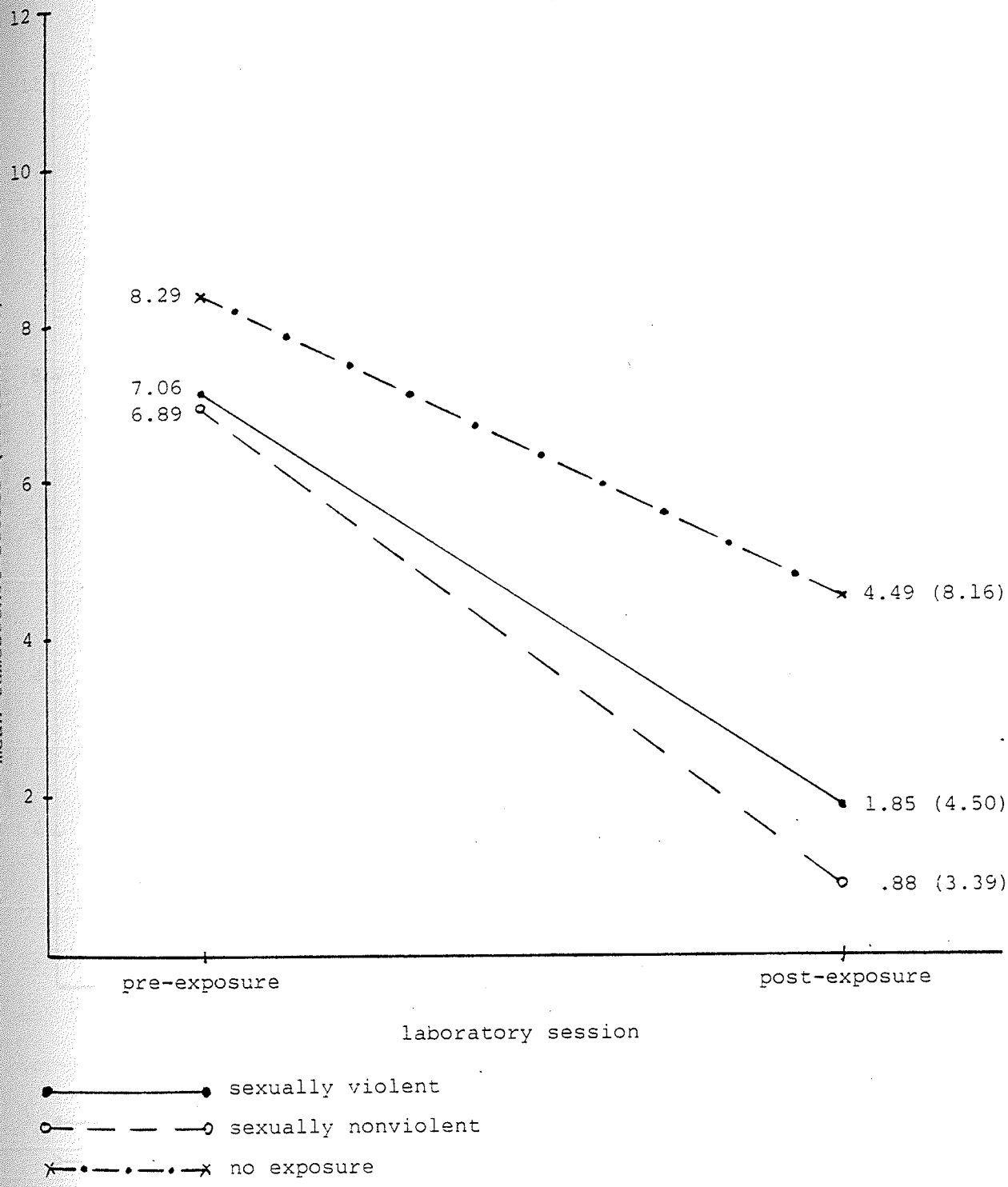

FIGURE 2. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Rape-written Depiction for Force-oriented Subjects in each Exposure Condition

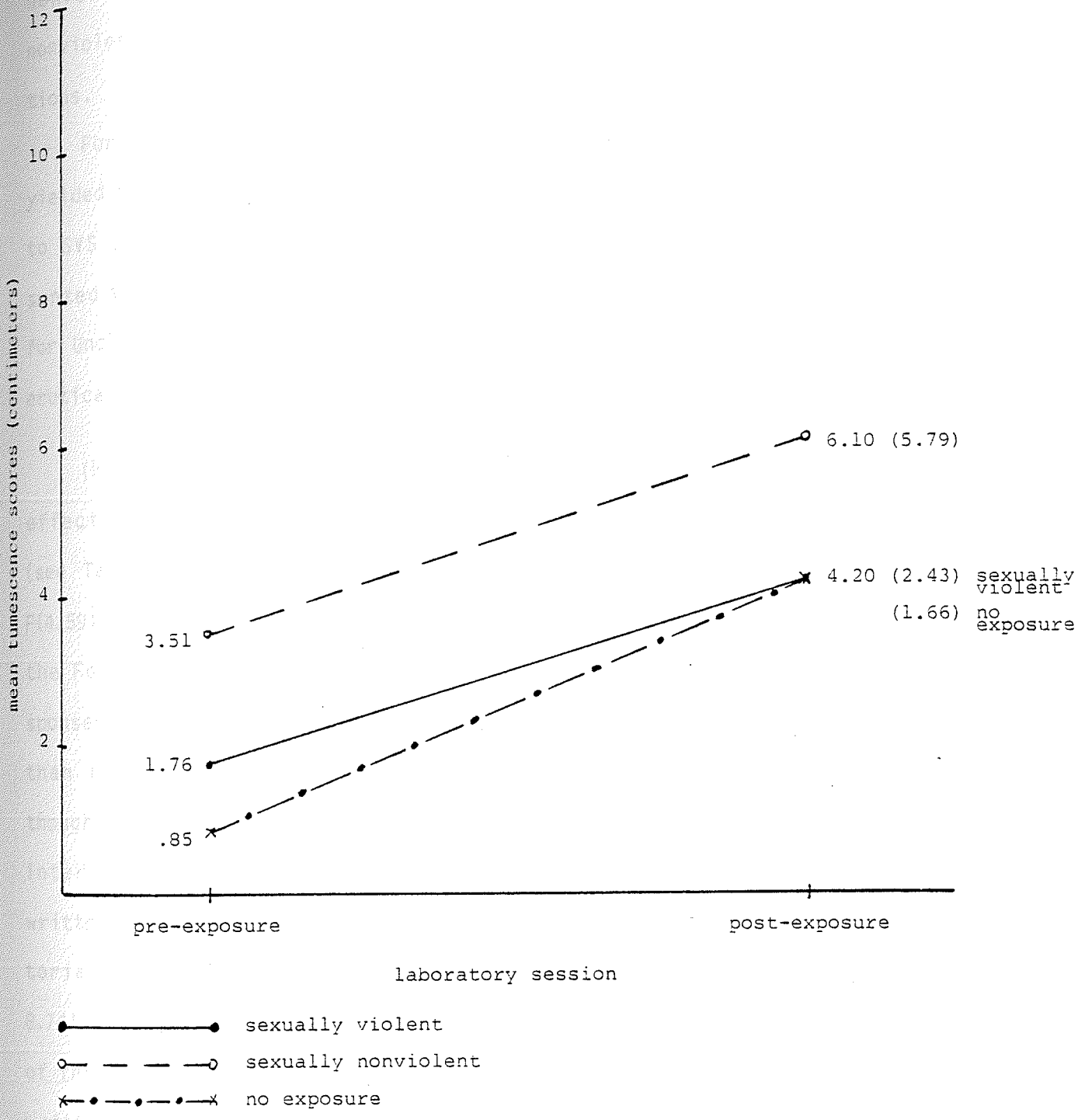

FIGURE 3. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Rape-written Depiction for Nonforce-oriented Subjects in each Exposure Condition

Nonforce-oriented subjects, repeated exposure to sexually violent or nonviolent materials has no effect on subsequent arousal to rape depictions.

For the sixteen subjects classified as Unclassifiable, comparisons yielded no significant differences among the scores of subjects exposed to SVS (M = 4.10), SNVS (M = 4.21), and no stimuli (M = 4.43) as presented in Figure 4, $F(1,59) < 1$, $p > .10$. These findings suggest that, for Unclassifiable subjects, repeated exposure to violent or nonviolent erotica has no effect on subsequent arousal to rape stimuli.

(b) Rape-descriptive pictorial: A 2-way ANCOVA showed no Exposure effect for the rape-descriptive pictorial, $F(2,59) = 2.11$, $p < .1307$ (see Table 10). However, the interaction factor achieved significance, $F(4,59) = 3.02$, $p < .0247$. Planned comparisons on the adjusted means of the Force-oriented subjects (see Figure 5) revealed that penile responses of those exposed to SVS (M = 6.46) were not significantly lower than those of the controls (M = 8.74), $F(1,59) = 1.41$, $p > .10$. Although the aforementioned difference did not achieve significance, it is interesting to note that it is in the same direction as in the rape-written depiction. Difference in arousal to the rape-descriptive pictorial between subjects exposed to SNVS (M = 4.43) and controls (M = 8.74) approached significance, $F(1,59) = 4.96$, $p < .03$. The direction of this difference is also consistent with the one obtained in the rape-written analysis. Also, similar to the rape-written story, significance was not achieved between subjects exposed to SVS (M = 6.46) and those exposed to SNVS (M = 4.43), $F(1,59) = 1.14$, $p > .10$. These results provide additional evidence that, for Force-oriented subjects, repeated exposure to sexually violent or nonviolent stimuli may lead to a sati-

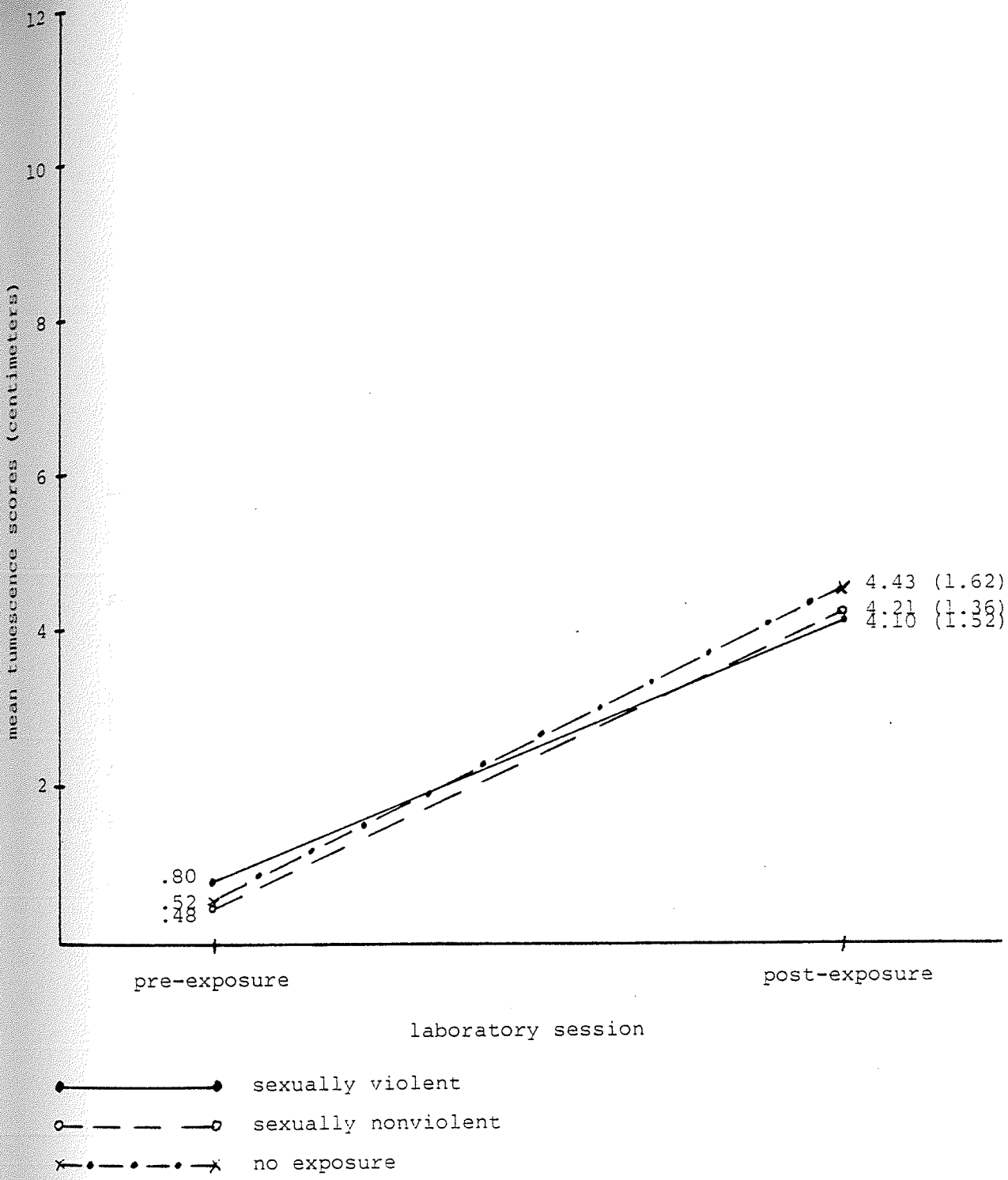

FIGURE 4. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Rape-written Depiction for Unclassifiable Subjects in each Exposure Condition

TABLE 10

Analysis of Covariance on Penile Scores
for the Descriptive Pictorial
of Rape in the Post-Exposure Session as a Function of
Force-Orientation and Exposure

Source	SS	DF	MS	F	P
Force-Orientation	15.51	2	7.75	.60	.5506
Exposure	54.20	2	27.10	2.11	.1307
Force-Orientation x Exposure	155.32	4	38.83	3.02	.0247
Covariate	230.62	1	230.62	17.93	.0001
Error	758.91	59	12.86		

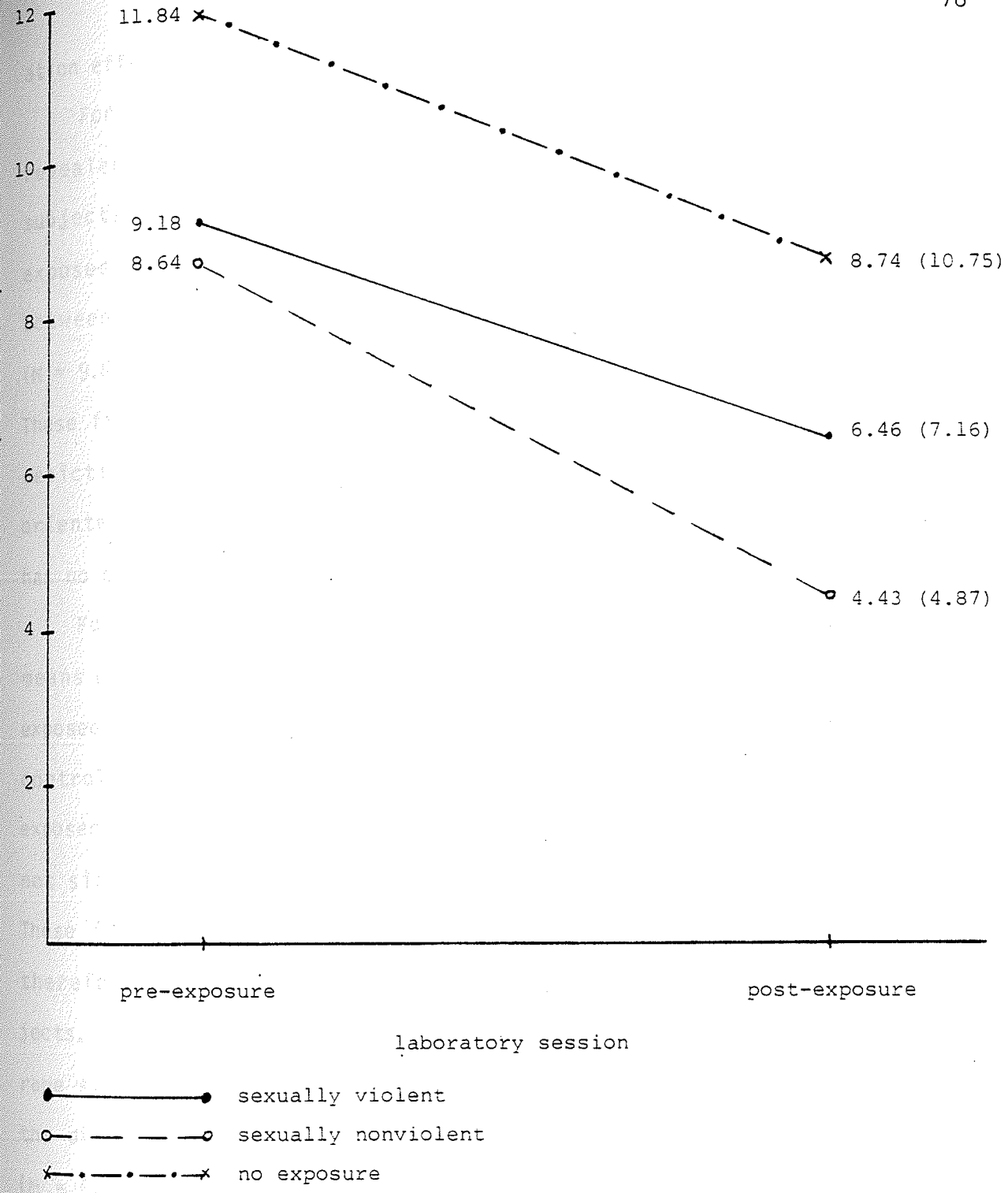

FIGURE 5. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Rape-pictorial Depiction for Force-oriented Subjects in each Exposure Condition

ation effect.

For Nonforce-oriented subjects (see Figure 6), planned comparisons revealed no significant differences between controls (M = 6.66) and subjects exposed to SVS (M = 5.91), $F(1,59) = 1$, $p > .10$, or those exposed to SNVS (M = 9.66), $F(1,59) = 2.31$, $p > .10$. The difference between subjects exposed to SVS (M = 5.91) and those exposed to SNVS (M = 9.66) also failed to achieve significance, $F(1,59) = 3.90$, $p < .06$. These findings are consistent with those obtained with the rape-written depiction, thus providing collaborating evidence that, for Nonforce-oriented subjects, repeated exposure to violent or nonviolent erotica has no effect on subsequent arousal to rape stimuli.

For Unclassifiable subjects, planned comparisons on the adjusted means (see Figure 7) showed that the lower arousal score of subjects exposed to SVS (M = 6.11) did not differ significantly from that of the controls (M = 8.77), $F(1,59) = 1.96$, $p > .10$. The scores of subjects exposed to SVS (M = 6.11) and those exposed to SNVS (M = 3.99) were also not significantly different from each other, $F(1,59) = 1.37$, $p > .10$. These findings are consistent with those of the rape-written data and therefore serve as additional evidence that, for Unclassifiable subjects, repeated exposure to SVS has no effect on subsequent arousal to rape stimuli. In contrast to the results of the rape-written, however, the difference between subjects exposed to SNVS (M = 3.90) and controls (M = 8.77) did achieve significance, $F(1,59) = 6.58$, $p < .017$. This difference has been the only one thus far to achieve significance among Unclassifiable subjects. Consequently, it may be premature to assert that it suggests satiation. The extent to which this significant difference is reliable will be discussed below pending examination of the

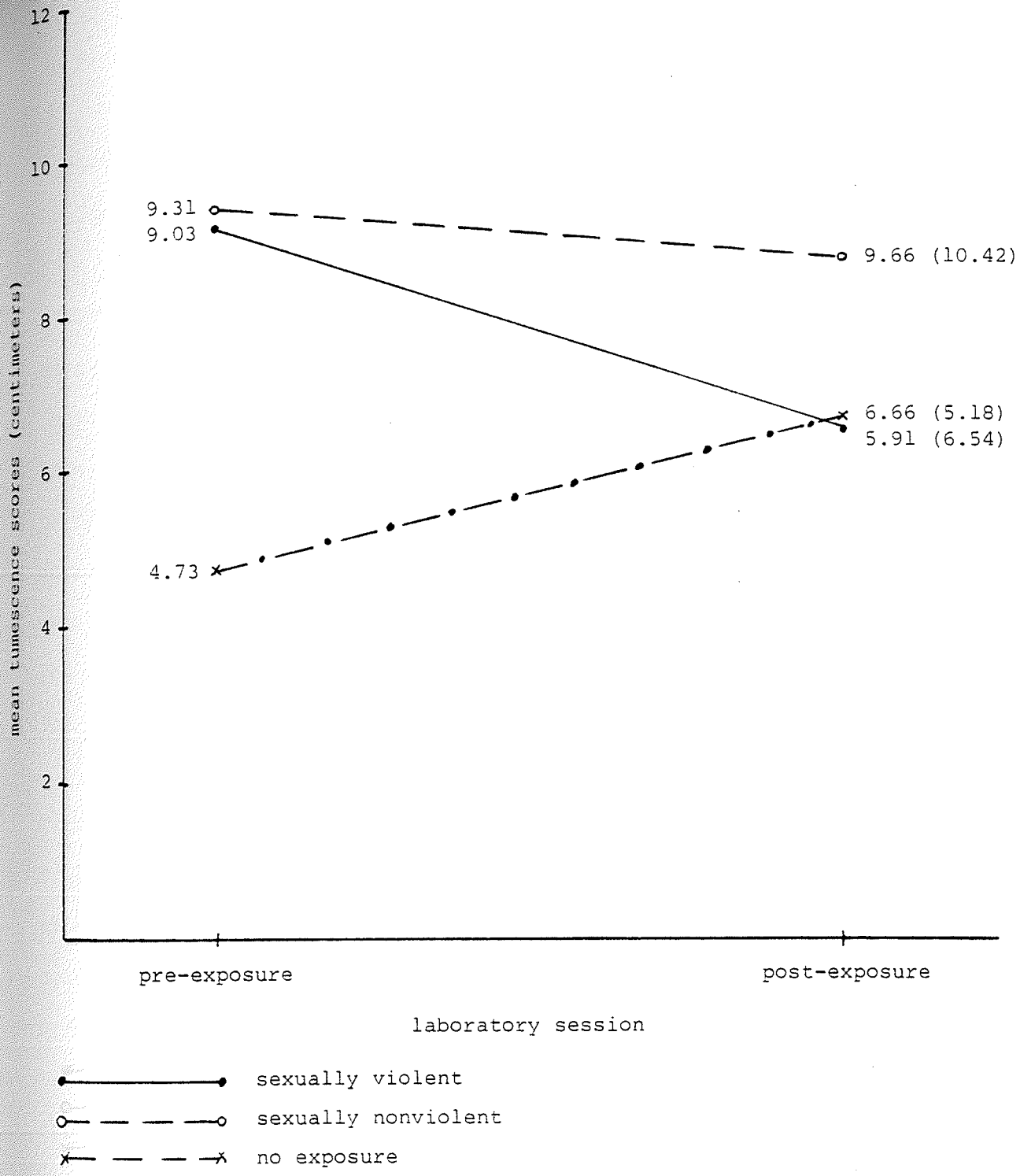

FIGURE 6. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Rape-pictorial Depiction for Nonforce-oriented Subjects in each Exposure Condition

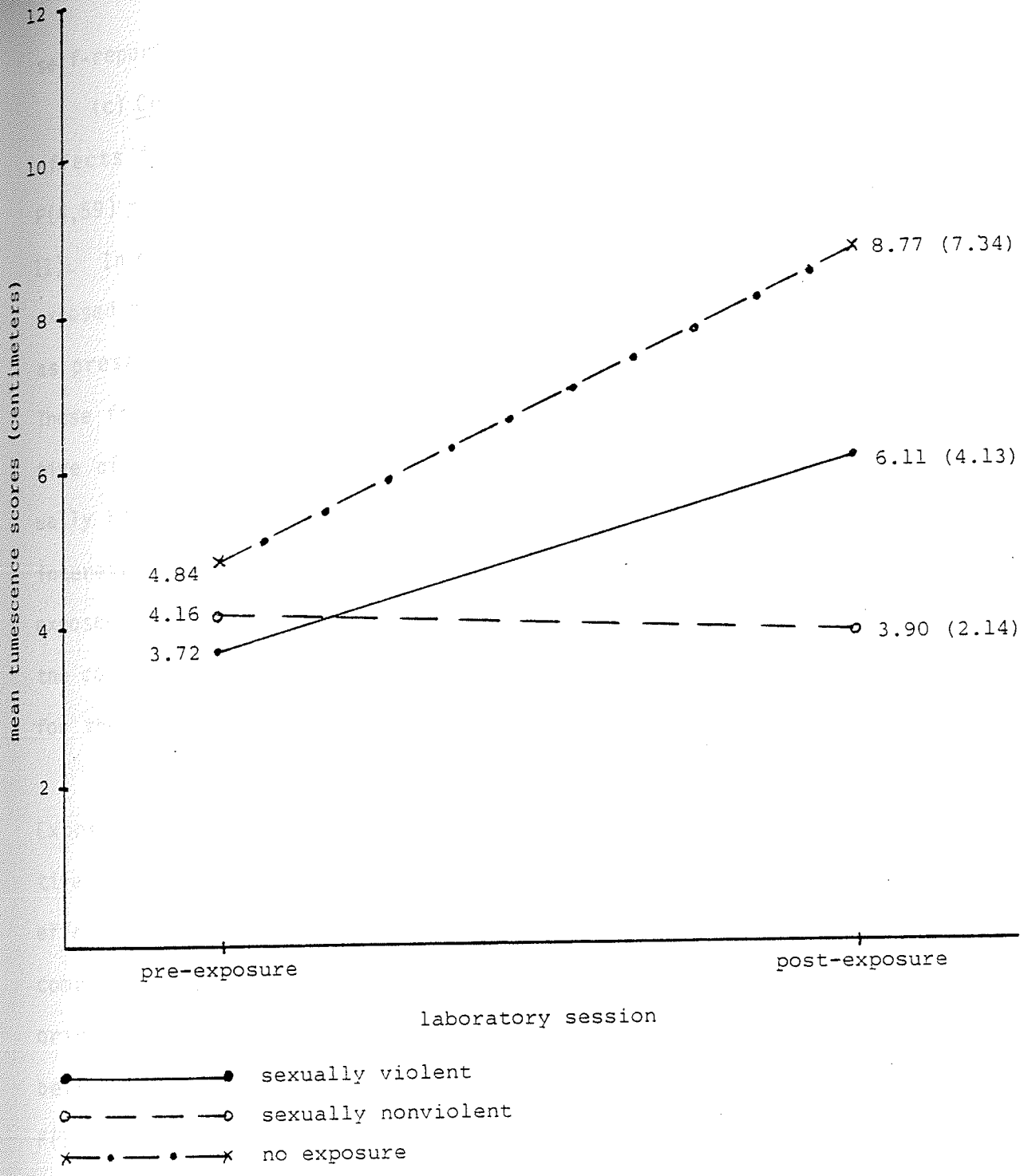

FIGURE 7. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Rape-pictorial Depiction for Unclassifiable Subjects in each Exposure Condition

self-report data of the rape depictions.

(c) Consenting written: A 2-way ANCOVA revealed no significant effects for Exposure, $F(2,59) = 1.94$, $p < .1533$, or the interaction, $F(4,59) = 1.85$, $p < .1308$, for the consenting-written story (see Table 11). In other words, the differences that did occur between subjects exposed to SVS, SNVS, and no stimuli within each Force-orientation group as presented in Figures 8, 9, and 10 did not achieve significance. These findings suggest that repeated exposure to SVS or SNVS, irrespective of Force-orientation, has no effect on subsequent arousal to sexually nonviolent stimuli (i.e., mutually-consenting intercourse). It is interesting to note, however, that the pattern of the scores of subjects exposed to SVS, SNVS, and no stimuli within the Force-oriented group for the consenting-written depiction is consistent with the pattern obtained for the rape-written and rape-descriptive pictorial.

(d) Consenting descriptive pictorial: A 2-way ANCOVA revealed no Exposure effect, $F(2,59) = 1.64$, $p < .202$, for the consenting-descriptive pictorial story (see Table 12). There was, however, an interaction effect that approached significance, $F(2,59) = 2.36$, $p < .0635$. Planned comparisons of the means of the Exposure conditions within the Force-oriented group (see Figure 11) revealed significant differences only between subjects exposed to SNVS ($M = 4.05$) and controls ($M = 10.05$), $F(1,59) = 6.79$, $p < .017$. Although subjects exposed to SVS ($M=7.80$) did not differ significantly from either controls ($M = 10.05$), $F(1,59) < 1$, $p > .10$, or those exposed to SNVS ($M = 4.05$), $F = (1,59) = 2.65$, $p > .10$, it should be noted that the differences are in the same direction as in the other 3 depictions for Force-oriented subjects.

For Nonforce-oriented subjects (see Figure 12) there were no

TABLE 11

Analysis of Covariance on Penile Scores for the Consenting Written in the Post-Exposure Session as a Function of Force-Orientation and Exposure

Source	SS	DF	MS	F	P
Force-Orientation	9.13	2	4.56	. 42	.6605
Exposure	42.23	2	21.16	1.94	.1533
Force-Orientation x Exposure	81.00	4	20.25	1.85	.1308
Covariate	227.10	1	227.10	20.78	.0000
Error	644.79	59	10.93		

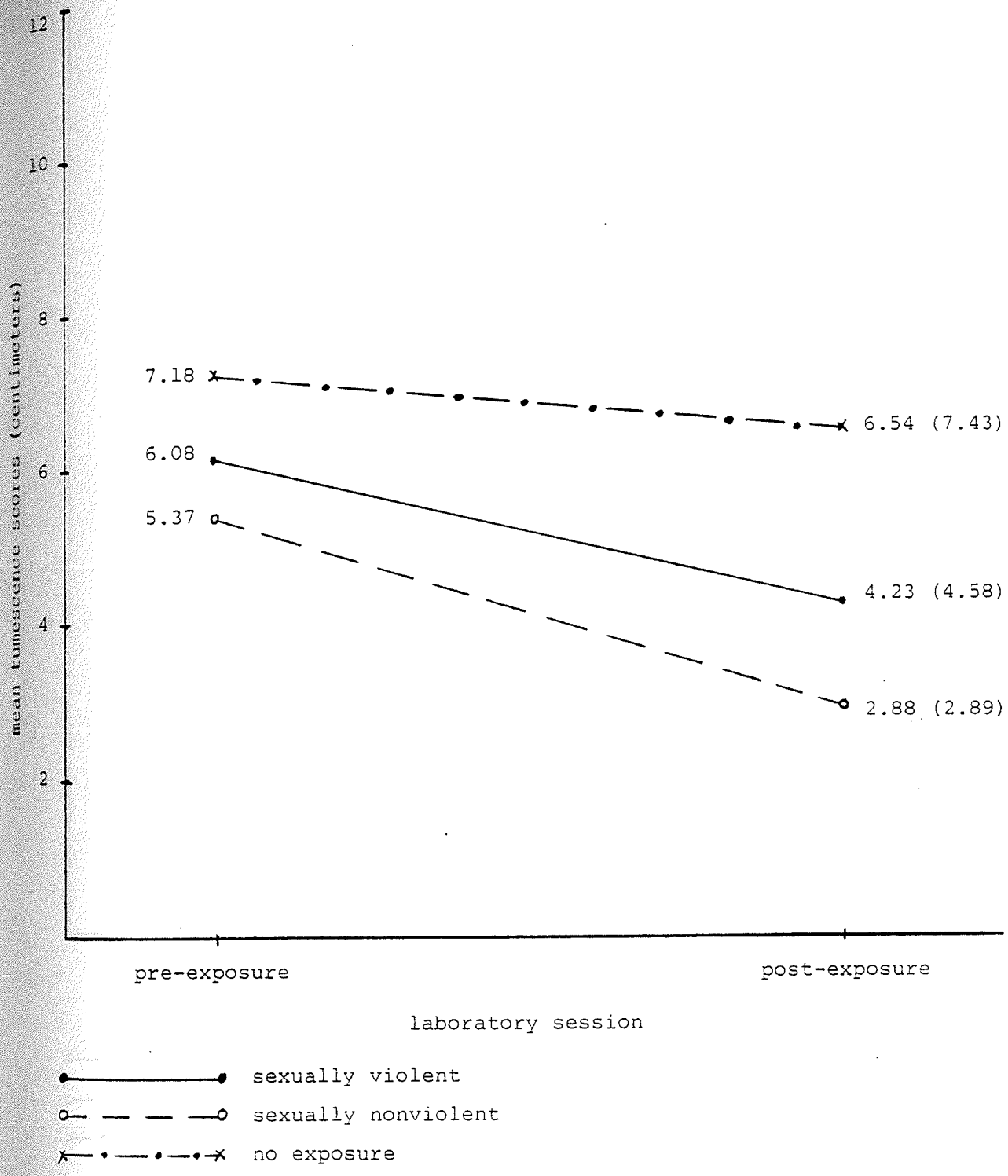

FIGURE 8. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Consenting-written Depiction for Force-oriented Subjects in each Exposure Condition

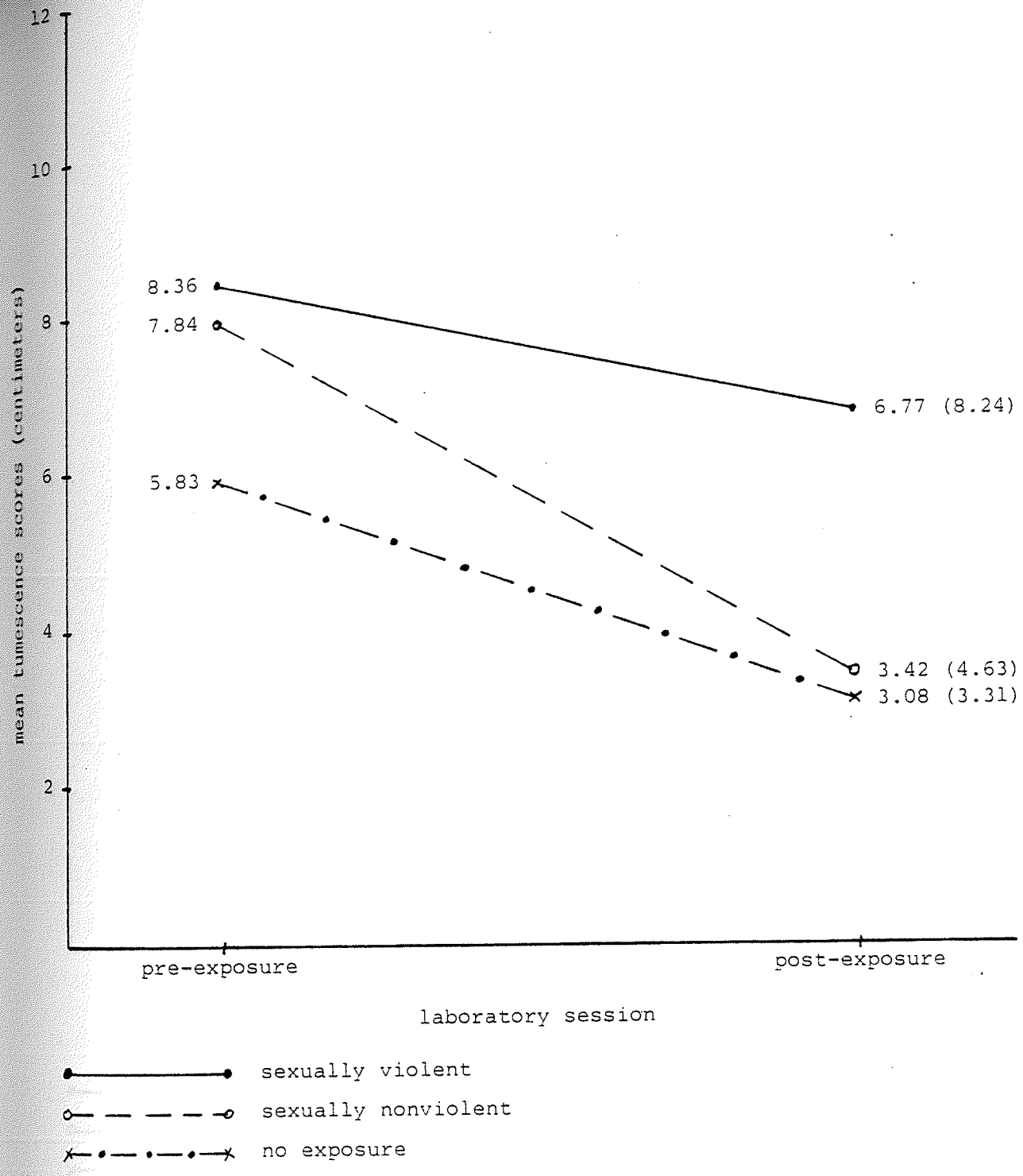

FIGURE 9. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Consenting-written Depiction for Nonforce-oriented Subjects in each Exposure Condition

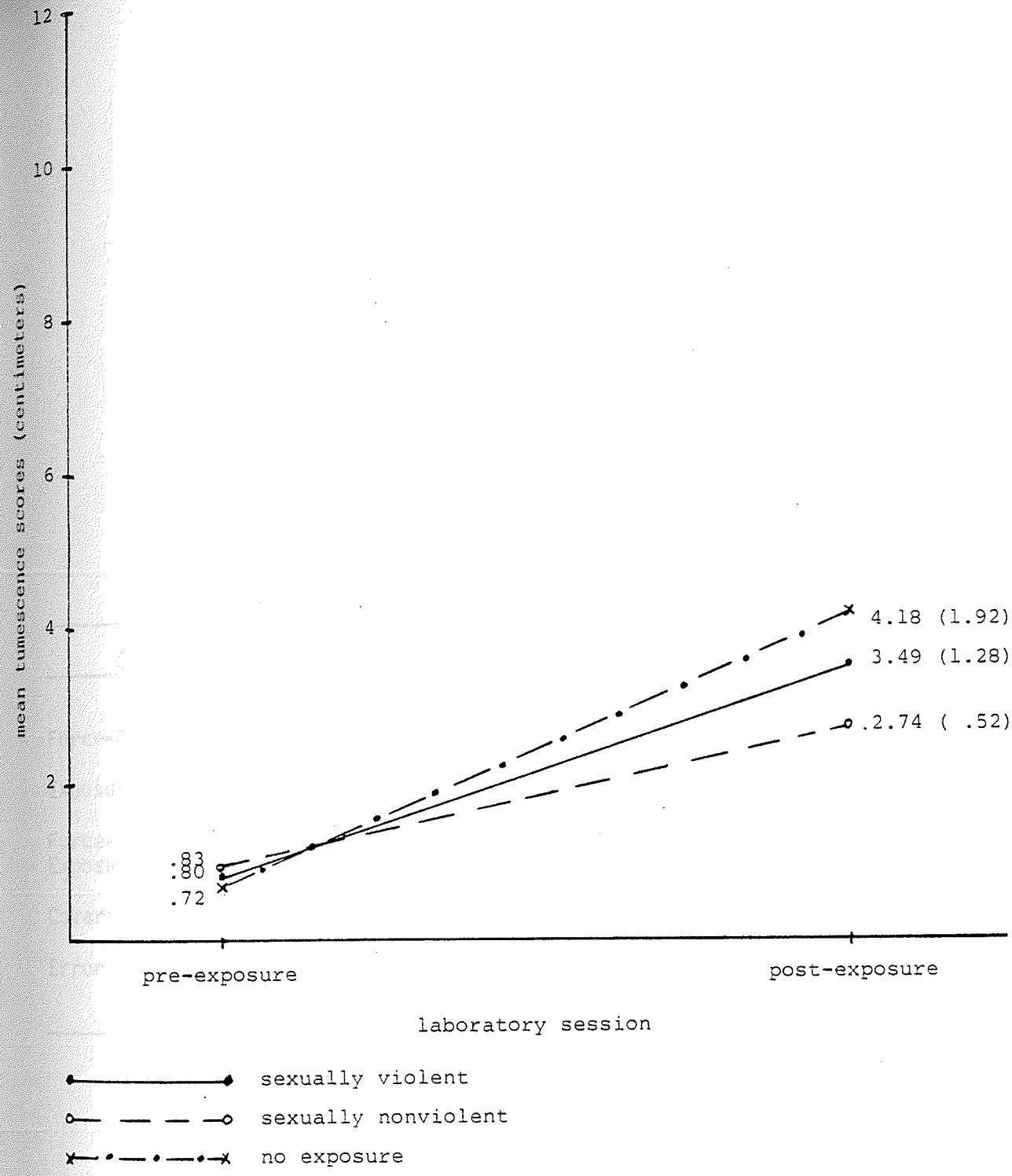

FIGURE 10. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Consenting-written Depiction for Unclassifiable Subjects in each Exposure Condition

TABLE 12

Analysis of Covariance on Penile Scores for the Consenting-Descriptive Pictorial in the Post-Exposure Session as a Function of Force-Orientation and Exposure

Source	SS	DF	MS	F	P
Force-Orientation	34.98	2	17.49	.93	.4020
Exposure	62.14	2	31.07	1.64	.2020
Force-Orientation x Exposure	178.53	4	44.63	2.36	.0635
Covariate	214.19	1	214.19	11.33	.0013
Error	1115.16	59	18.90		

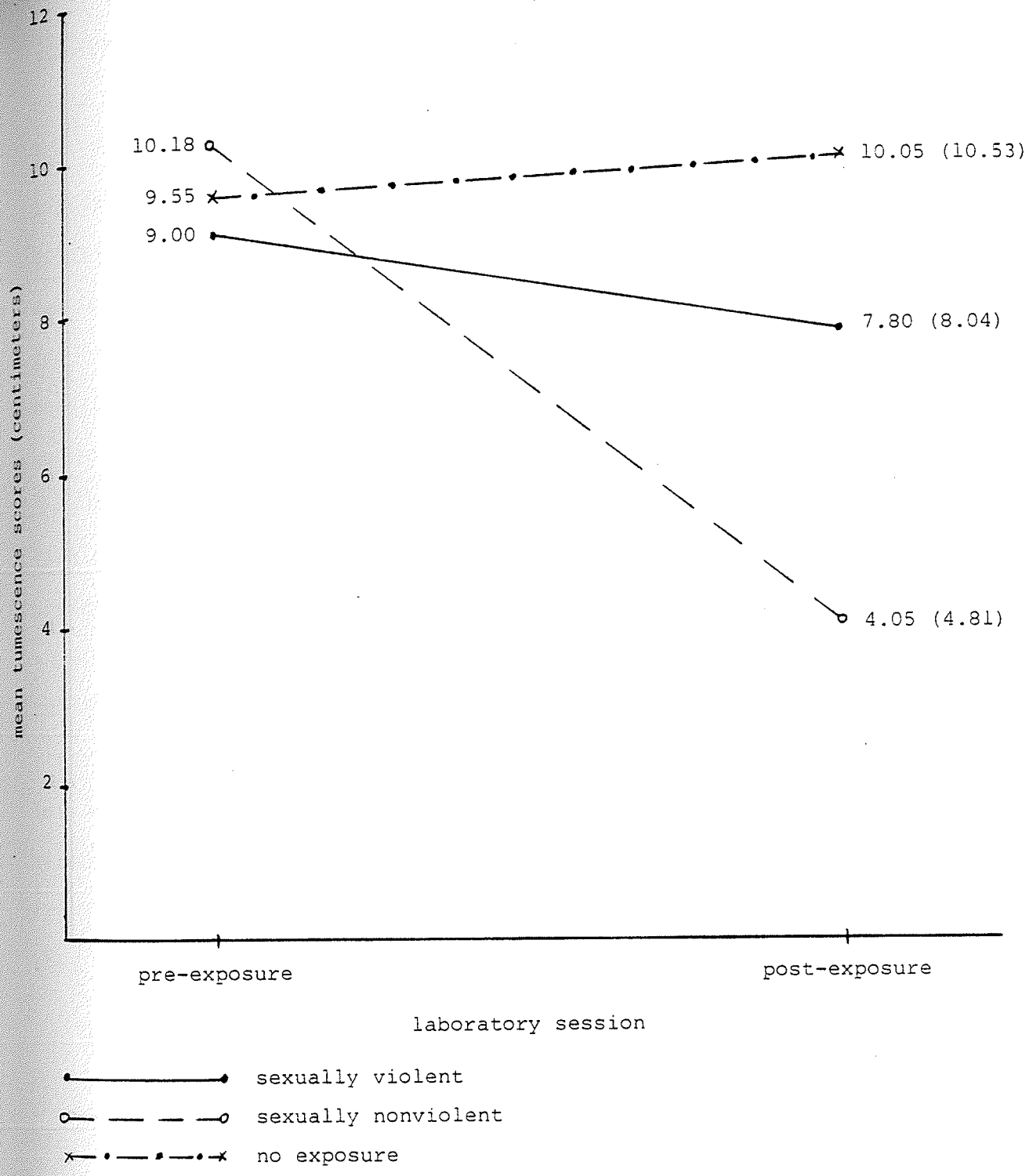

FIGURE 11. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Consenting-pictorial Depiction for Force-oriented Subjects in each Exposure Condition

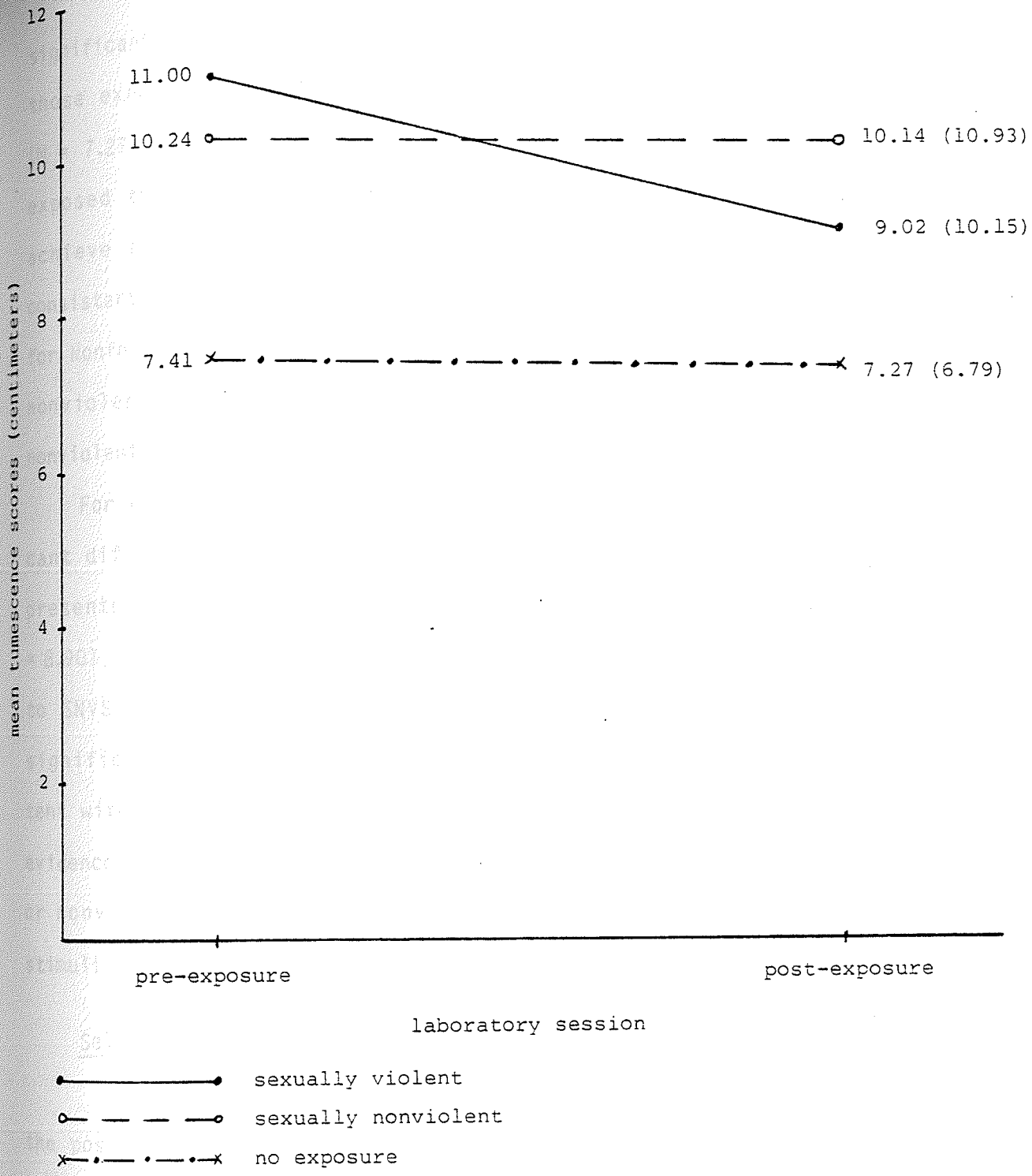

FIGURE 12. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Consenting-pictorial Depiction for Nonforce-oriented Subjects in each Exposure Condition

significant differences between those presented with SVS (M = 9.02) and those exposed to SNVS (M = 10.14), $F(1,59) < 1$, $p > .10$, or controls (M = 7.27), $F(1.59) < 1$, $p > .10$. The difference between subjects exposed to SNVS (M = 10.14) and controls (M = 7.27) also failed to achieve significance, $F(1,59) = 1.52$, $p > .10$. These findings are consistent with the results of the other three stories, suggesting that for Nonforce-oriented subjects repeated exposure to sexually violent or nonviolent stimuli has no effect on subsequent arousal to sexually nonviolent stimuli.

For Unclassifiable subjects (see Figure 13), there were no significant differences between those exposed to SVS (M = 7.98) and those presented with SNVS (M = 5.01), $F(1,59) = 1.62$, $p > .10$, or controls (M = 8.90), $F(1,59) < 1$, $p > .10$. The difference between subjects exposed to SNVS (M = 7.98) and controls (M = 8.90) also failed to achieve significance, $F(1,59) = 2.80$, $p > .10$. These results are also consistent with those of the other three depictions, thus providing additional evidence that for Unclassifiable subjects repeated exposure to violent or nonviolent erotica has no effect on arousal to sexually nonviolent stimuli.

Self-Reported Arousal

A 3(Force-orientation) x 3(Exposure) MANOVA was performed on the post-exposure self-reported arousal of the 4 depictions (see Table 13). This analysis revealed a main effect for the Force-orientation factor at the multivariate level, $F(8,114) = 3.10$, $p < .0033$. Univariate analyses yielded significant Force-orientation effects for the consenting-written, $F(2,60) = 4.73$, $p < .0124$, and the consenting-descriptive pictorial, $F(2,60) = 5.72$, $p < .0053$, and effects that

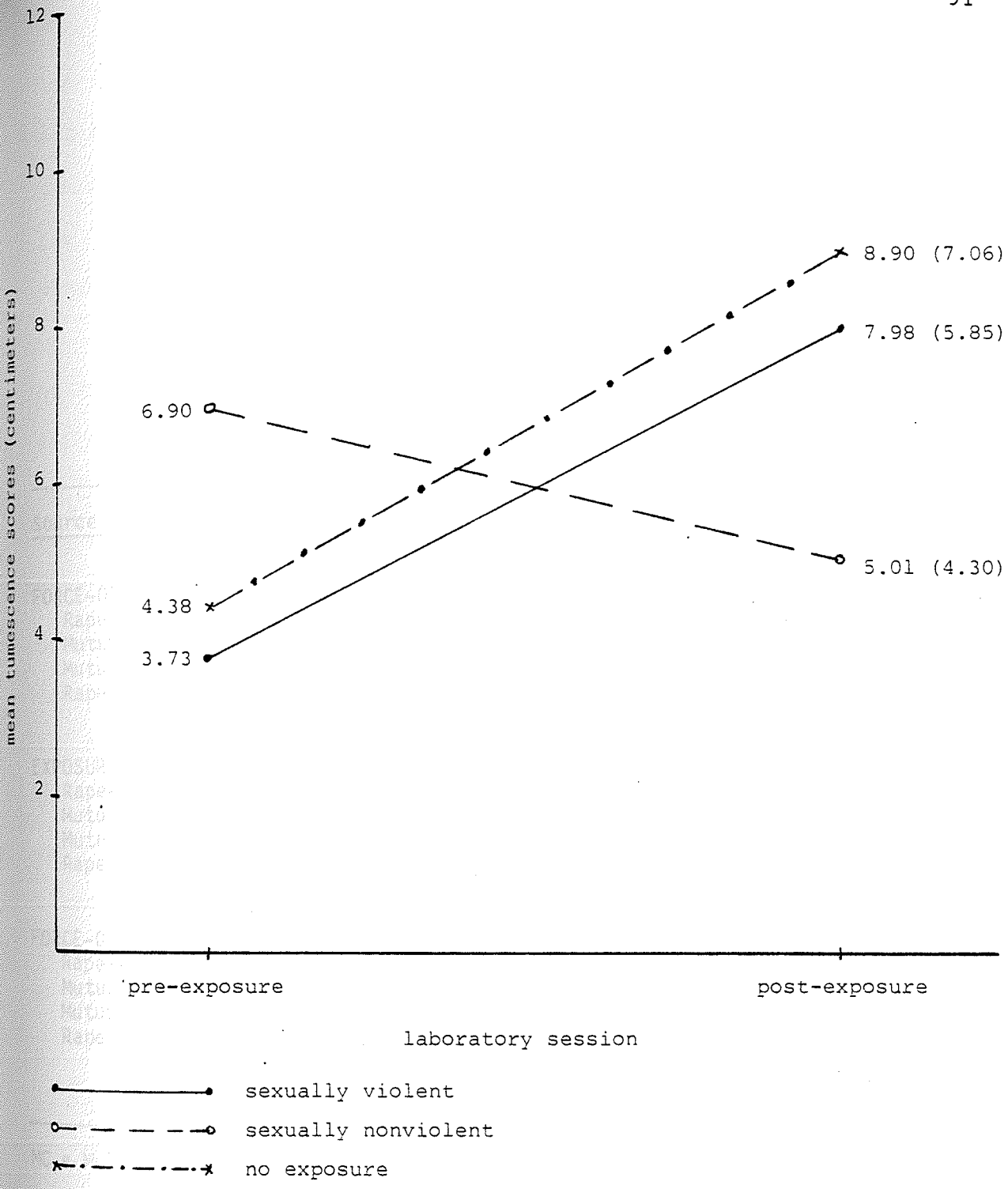

FIGURE 13. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Tumescence Scores of the Consenting-pictorial Depiction for Unclassifiable Subjects in each Exposure Condition

TABLE 13

Two-Way MANOVA of Self-Reports of Sexual Arousal for the 4 stories in the Post-Exposure Session as a Function of Force-Orientation and Exposure

Source	DF	F	P
FORCE-ORIENTATION (MC)	8,114	3.10	.0033
Rape-Written	2,60	2.37	.1021
Mutually Consenting, Written	2,60	4.73	.0124
Mutually Consenting, Pictorial	2,60	5.72	.0053
Rape, Pictorial	2,60	2.33	.1057
EXPOSURE (MC)	8,114	1.77	.0894
Rape-Written	2,60	.68	.5117
Mutually Consenting, Written	2,60	.49	.6151
Mutually Consenting, Pictorial	2,60	2.82	.0677
Rape, Pictorial	2,60	4.93	.0104
FORCE-ORIENTATION x EXPOSURE (MC)	16,175	1.35	.1716
Rape-Written	4,60	1.82	.1373
Mutually Consenting, Written	4,60	.76	.5525
Mutually Consenting, Pictorial	4,60	2.13	.0877
Rape, Pictorial	4,60	1.28	.2863

MC = Multivariate Composite

approached significance for the rape-written, $F(2,60) = 2.37$, $p < .1021$, and the rape-descriptive pictorial, $F(2,60) = 2.33$, $p < .1057$. Since subjects' Force orientation classification reflected initial difference, the fact that significance was generally achieved was expected and merely indicates consistency across time.

Results also showed an Exposure effect that approached significance at the multivariate level, $F(8,114) = 1.77$, $p < .0894$. Univariate analyses revealed a significant Exposure effect for the rape-descriptive pictorial, $F(2,60) = 4.93$, $p < .0104$, and an effect that approached significance for the consenting-descriptive pictorial, $F(2,60) = 2.82$, $p < .0667$. Examination of the marginal means of the Exposure conditions of these two pictorials (see Table 14) showed a pattern similar to that obtained with Force-oriented subjects in the tumescence analysis. That is, for the rape-descriptive pictorial, subjects exposed to sexually violent ($M = 2.28$) or nonviolent ($M = 2.74$) were less aroused than controls ($M = 3.14$). For the consenting-descriptive pictorial, subjects presented with SVS ($M = 3.00$) or SNVS ($M = 3.30$) were also less aroused than controls ($M = 3.62$).

No multivariate interaction effect was obtained, $F(16,175) = 1.35$, $p < .1716$. Univariate analyses revealed only an interaction effect that approached significance for the consenting-descriptive pictorial, $F(4,60) = 2.13$, $p < .0877$. Direction of the differences among the various groups for this story is presented in the ANCOVA below.

The above findings are not fully consistent with the results obtained when penile tumescence was used as the dependent variable. However, for the reasons outlined earlier, the MANOVA was conducted only to provide an overview of the data and a comparative analysis based solely

TABLE 14

Marginal Means of Self-Reported Scores of the Exposure Factor of the Four Depictions in the Post-exposure Session (in centimeters)

	Depictions			
Exposure	Rape-written	Rape-descriptive pictorial	Consenting-written	Consenting-descriptive pictorial
Sexually Violent	1.76	2.28	2.44	3.00
Sexually Nonviolent	1.91	2.74	2.22	3.30
No Exposure	1.95	3.14	2.43	3.62

on the MANOVAs would be highly suspect. Therefore, ANOVAs and planned comparisons based on the adjusted means were also performed with the self-report data and any discrepencies that occurred between the two analyses were discussed.

(a) Rape-written: A 2-way ANCOVA yielded no significant effects for Exposure, $F(2,59) = 1.41$, $p < .2517$, or the interaction, $F(4,59) = 1.55$, $p < .1983$, for the written-rape story (see Table 15). Thus, within each Force-orientation category, the means of subjects exposed to SVS, SNVS, and no stimuli (see Figures 14, 15, 16) did not differ significantly from each other. Although the differences among the Force-oriented subjects did not achieve significance as was the case with the tumescence analysis, it should be noted that the differences in their means were in the same direction.

(b) Rape-descriptive pictorial: A 2-way ANCOVA on the self-reported scores revealed a significant Exposure effect, $F(2,59) = 5.69$, $p < .0055$, and no interaction effect, $F(4,59) = .13$, $p < .9715$, for the rape-descriptive pictorial story (see Table 16). Comparisons of the marginal means of the Exposure factor (Keppel, 1973) yielded significantly lower arousal for subjects exposed to SVS ($M = 2.28$) relative to the controls ($M = 3.14$), $F(1,59) = 9.13$, $p < .017$, and no significant differences between subjects exposed to SNVS ($M = 2.74$) and those exposed to SVS, $F(1,59) = 2.60$, $p > .10$, or the controls, $F(1,59) = 1.99$, $p > .10$.

The above findings of less arousal by subjects exposed to SVS (significant) or SNVS (nonsignificant), relative to the controls, are consistent with the pattern of scores for the Force-oriented subjects. In light of this, the scores of the 3 Exposure conditions within each

TABLE 15

Analysis of Covariance on Self-Reports
of Sexual Arousal
for the Rape-Written in the Post-Exposure Session as a Function
of Force-Orientation and Exposure

Source	SS	DF	MS	F	P
Force-Orientation	.65	2	.33	.73	.4844
Exposure	1.26	2	.63	1.41	.2517
Force-Orientation x Exposure	2.78	4	.69	1.55	.1983
Covariate	9.70	1	9.70	21.75	.0000
Error	26.33	59	.45		

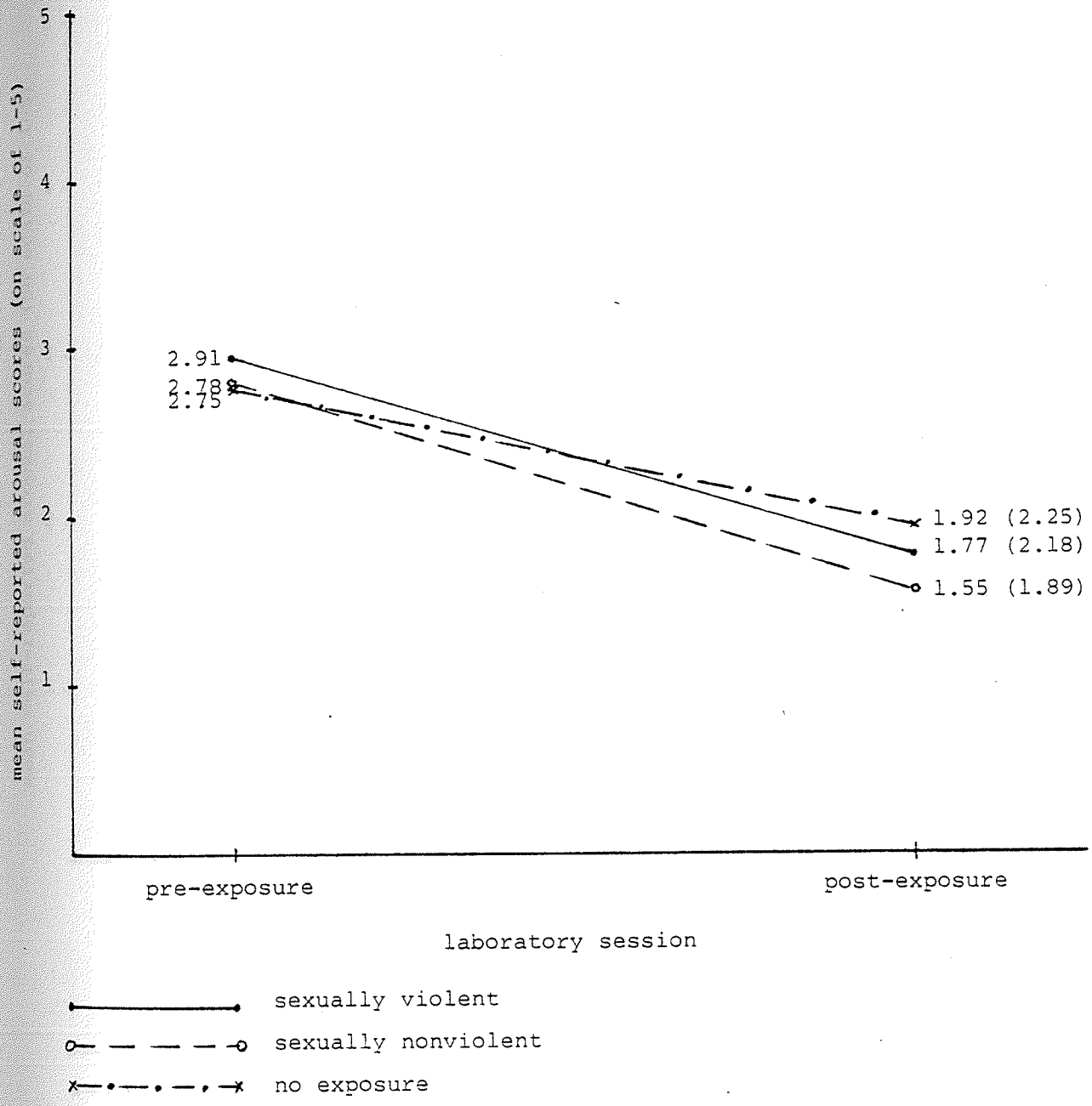

FIGURE 14. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Rape-written Depiction for Force-oriented Subjects in each Exposure Condition

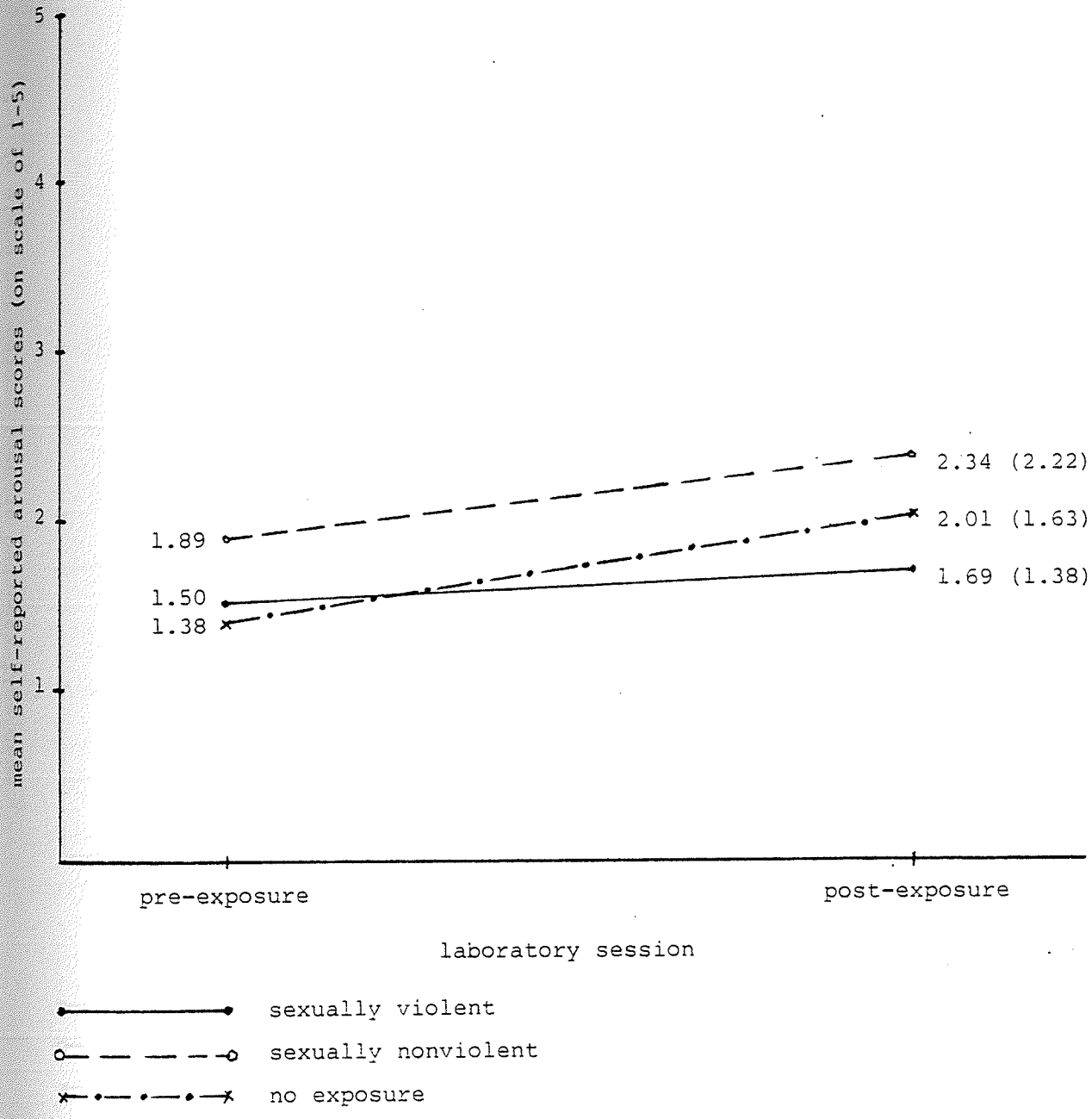

FIGURE 15. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-reported Arousal Scores of the Rape-written Depiction for Nonforce-oriented Subjects in each Exposure Condition

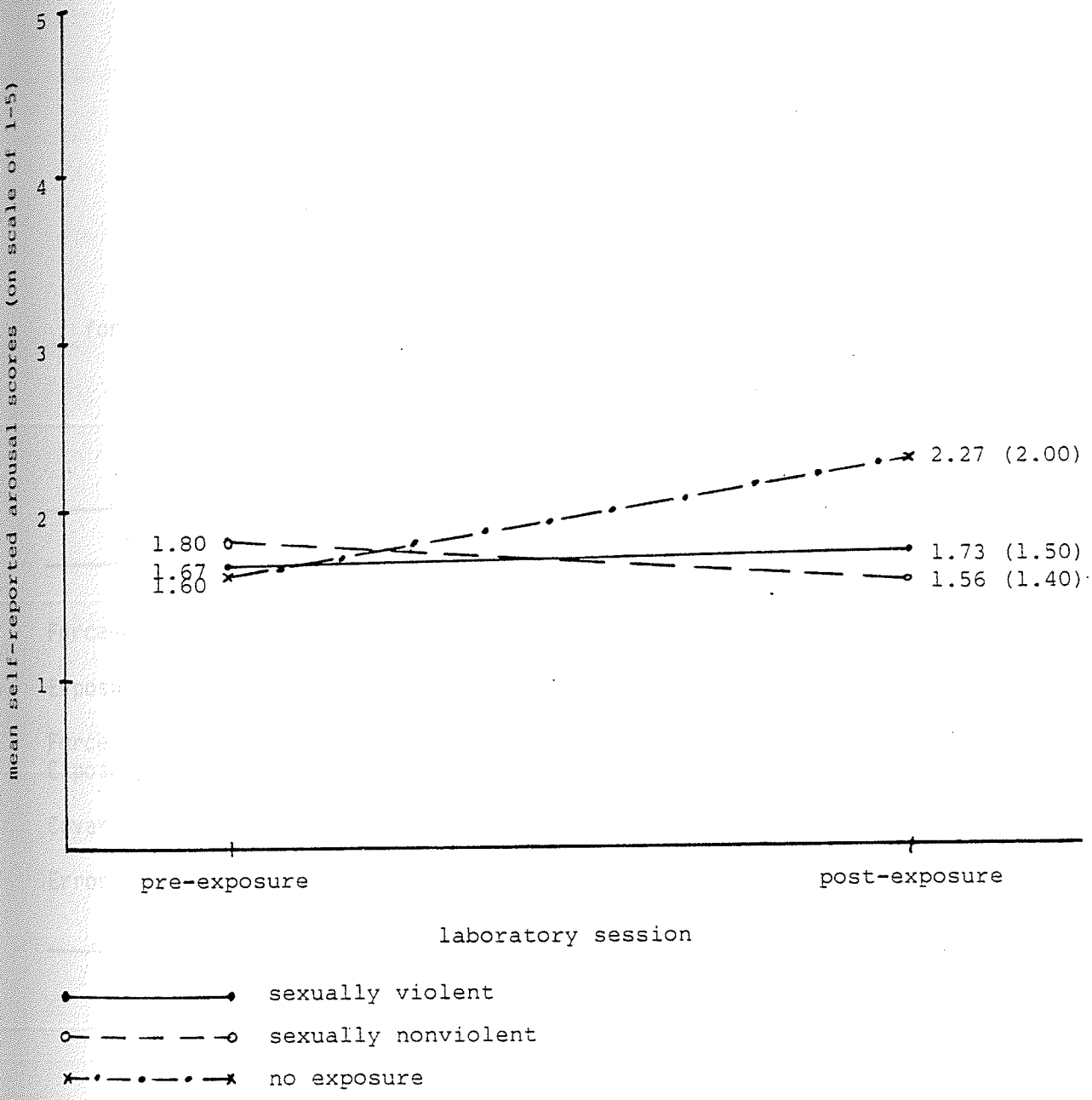

FIGURE 16. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Rape-written Depiction for Unclassifiable Subjects in each Exposure Condition

TABLE 16

Analysis of Covariance on Self-Reports
of Sexual Arousal
for the Descriptive Pictorial of Rape in the Post-Exposure Session
as a Function of Force-Orientation and Exposure

Source	SS	DF	MS	F	P
Force-Orientation	1.62	2	.81	.93	.3984
Exposure	9.85	2	4.92	5.69	.0055
Force-Orientation x Exposure	.44	4	.11	.13	.9715
Covariate	5.77	1	5.77	6.67	.0123
Error	51.05	59	.87		

Force-orientation category were compared for exploratory purposes. Analytical comparisons (Keppel, 1973) between the adjusted means among Force-oriented subjects (see Figure 17) revealed that the difference between subjects exposed to SVS ($M = 2.41$) and controls ($M = 3.53$) approached significance $F(1,59) = 5.15$, $p < .03$. The direction of this difference is consistent with the tumescence data. The difference between subjects exposed to SNVS ($M = 2.76$) and controls ($M = 3.53$) was not significant, $F(1,59) = 1.95$, $p > .10$, though it was in the same direction as in the tumescence analysis. Also, subjects exposed to SVS ($M = 2.41$) and those exposed to SNVS ($M = 2.76$) did not differ significantly $F(1,59) < 1$, $p > .10$. These findings are in keeping with the general patterns of the tumescence data that, for Force-oriented subjects, repeated exposure to violent or nonviolent erotica may lead to a satiation effect.

For Nonforce-oriented subjects, comparisons among the adjusted means of the different Exposure conditions (see Figure 18) showed no significant difference between subjects exposed to SVS ($M = 2.21$) and controls ($M = 3.06$), $F(1,59) = 2.74$, $p > .10$. There were also no significant differences between subjects exposed to SNVS ($M = 2.78$) and controls ($M = 3.06$), $F(1,59) < 1$, $p > .10$, or those exposed to SVS ($M = 2.21$), $F(1,59) = 1.24$, $p > .10$. These findings are consistent with those obtained with the tumescence data and they further suggest that, for Nonforce-oriented subjects, repeated exposure to SVS or SNVS has no effect on subsequent arousal to rape stimuli.

For Unclassifiable subjects, comparisons between the adjusted scores of the 3 Exposure conditions (see Figure 19) revealed no significant differences between subjects exposed to SVS ($M = 2.02$) and controls

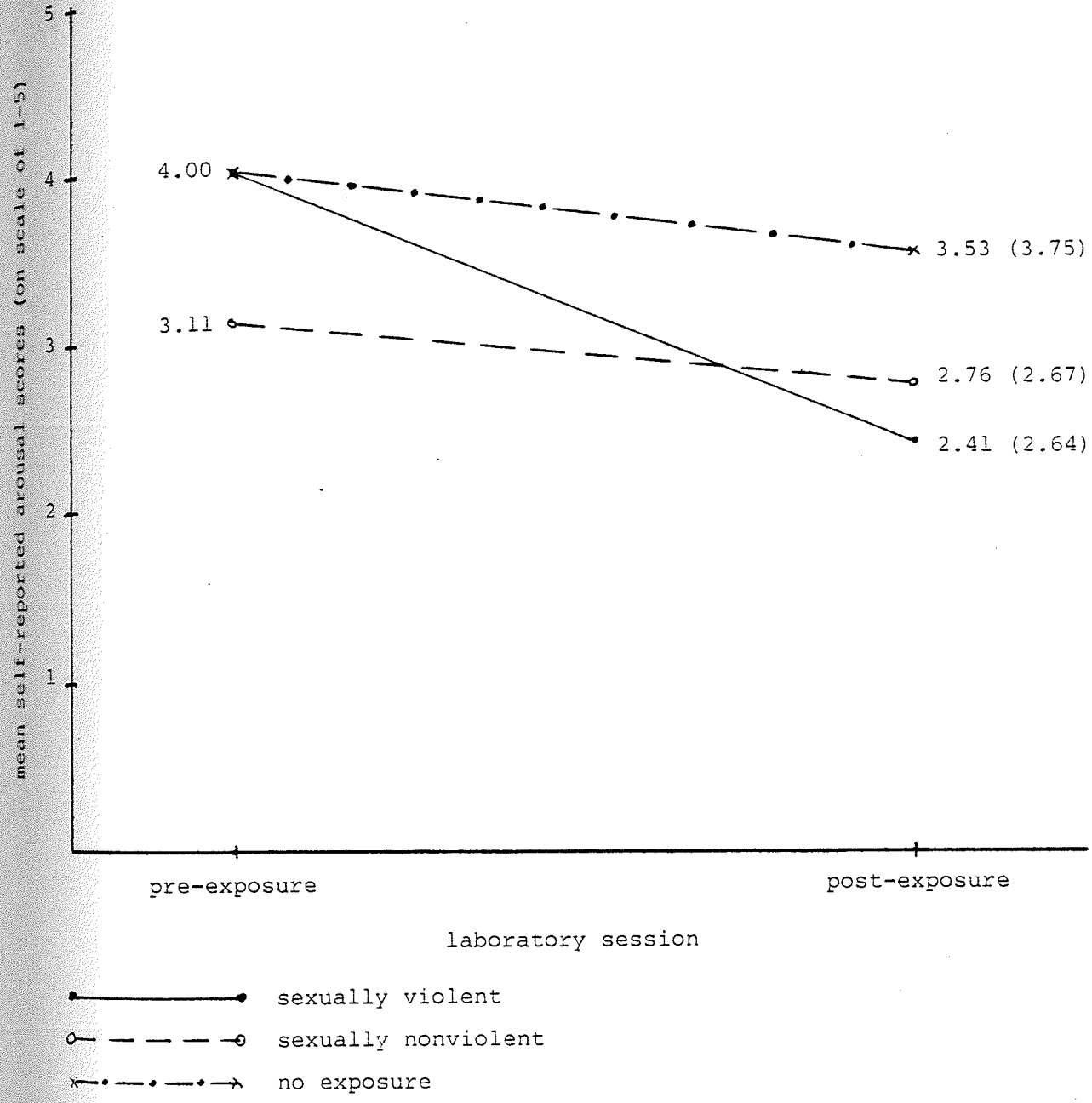

FIGURE 17. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Rape-pictorial Depiction for Force-oriented Subjects in each Exposure Condition

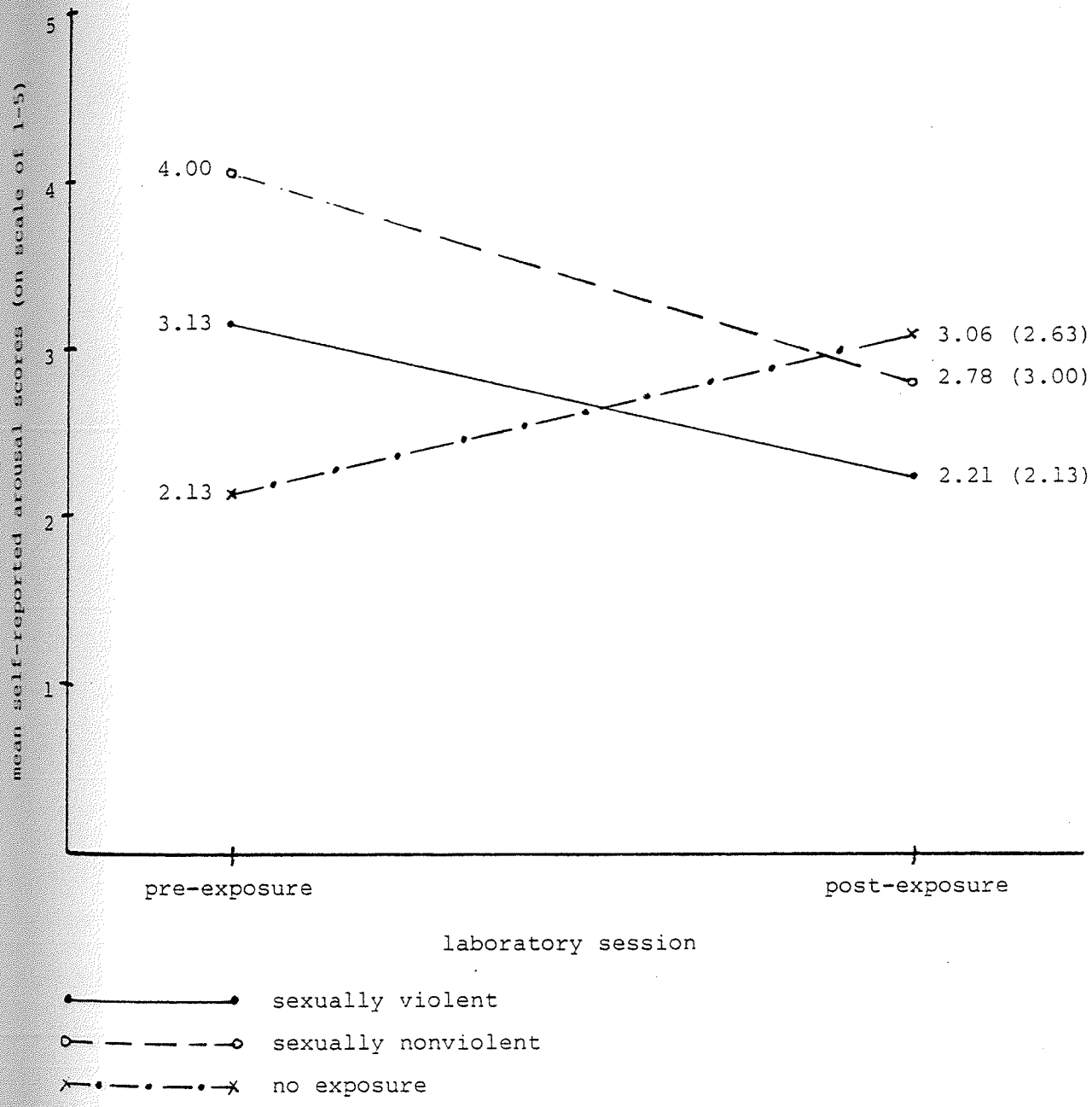

FIGURE 18. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Rape-pictorial Depiction for Nonforce-oriented Subjects in each Exposure Condition

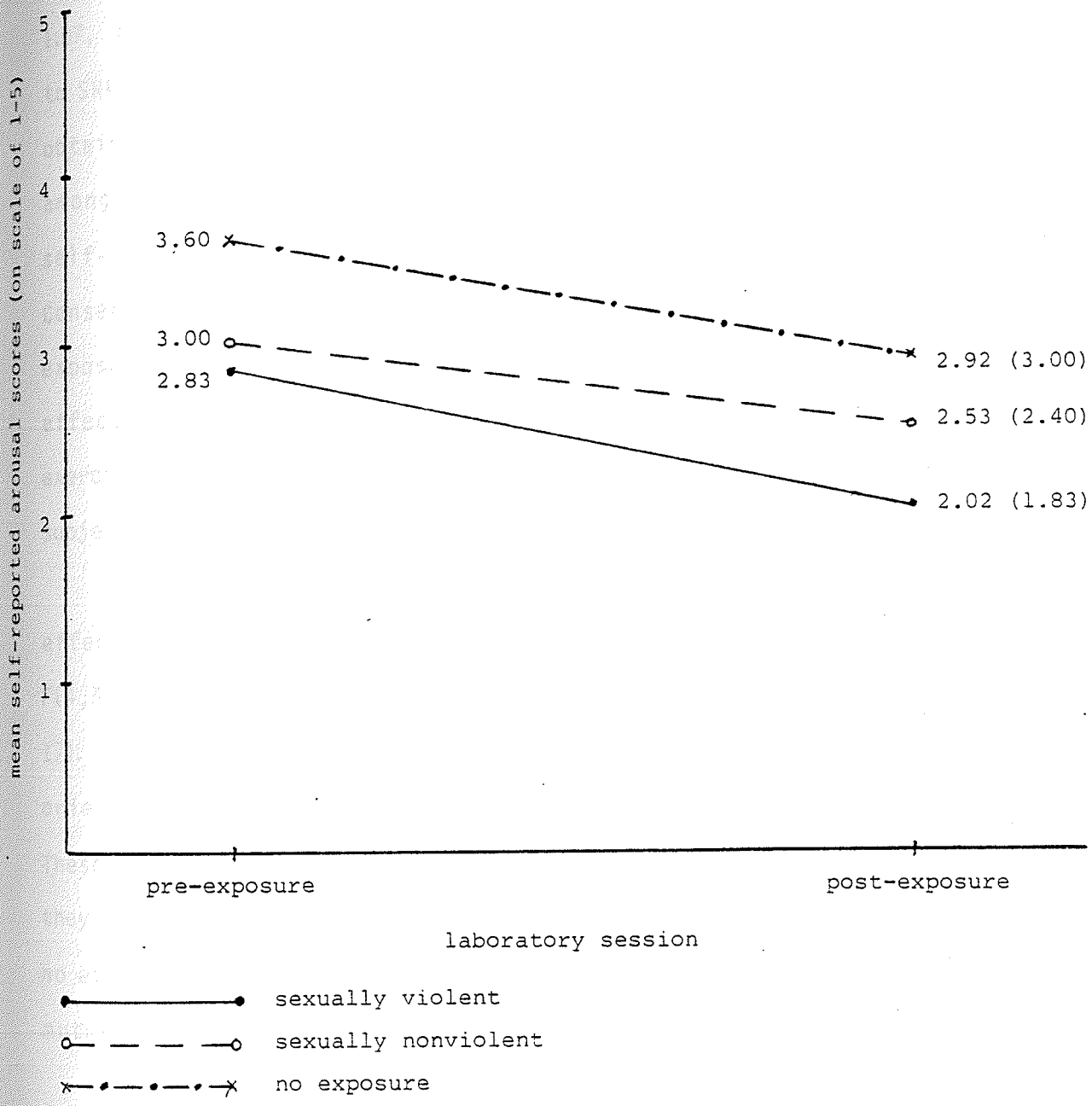

FIGURE 19. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Rape-pictorial Depiction for Unclassifiable Subjects in each Exposure Condition

(M = 2.92), $F(1,59) = 3.32$, $p < .08$. There were also no significant differences between the scores of subjects exposed to SNVS (M = 2.53) and controls, $F(1,59) < 1.0$, $p > .10$, or those exposed to SVS $F(1,59) = 1.07$, $p > .10$. The nonsignificant difference between subjects exposed to SNVS and controls is inconsistent with the significant difference obtained in the tumescence analysis. However, all other comparisons among Unclassifiables for the rape depictions in both tumescence and self-report analyses consistently showed no significant differences. Consequently, it may be that, for Unclassifiable subjects, repeated exposure to sexually violent or nonviolent stimuli has generally no effect on arousal to rape portrayals. Nonetheless it is advisable to exercise caution in the interpretation of the results of Unclassifiable subjects.

(c) Consenting-written: A 2-way ANCOVA revealed no significant effect for Exposure, $F(2,59) = 1.03$, $p < .3641$, or the interaction, $F(4,59) = .71$, $p < .5881$, for the consenting-written story (see Table 17). Thus, differences between the 3 Exposure groups within each Force-orientation condition (see Figures 20,21,22) were not significant. These findings are consistent with those in the tumescence analysis and they provide further testimony that repeated exposure to SVS or SNVS has no effect on subsequent arousal to sexually nonviolent stimuli (i.e., mutually-consenting intercourse).

(d) Consenting descriptive pictorial: A 2-way ANCOVA revealed a significant Exposure effect, $F(2,59) = 3.68$, $p < .0312$ (see Table 18). Follow-up comparisons of the marginal means (Keppel, 1973) of the Exposure factor showed that subjects exposed to SVS reported significantly less arousal (M = 3.00) than controls (M = 3.62), $F(2,60) = 6.64$, $p <$

TABLE 17

Analysis of Covariance on Self-Reported Arousal for the Consenting-Written in Post-Exposure Session as a Function of Force-Orientation and Exposure

Source	SS	DF	MS	F	P
Force-Orientation	2.37	2	1.19	1.44	.2451
Exposure	1.69	2	.85	1.03	.3641
Force-Orientation x Exposure	2.34	4	.59	.71	.5881
Covariate	8.25	4	8.25	10.02	.0025
Error	48.63	59	.82		

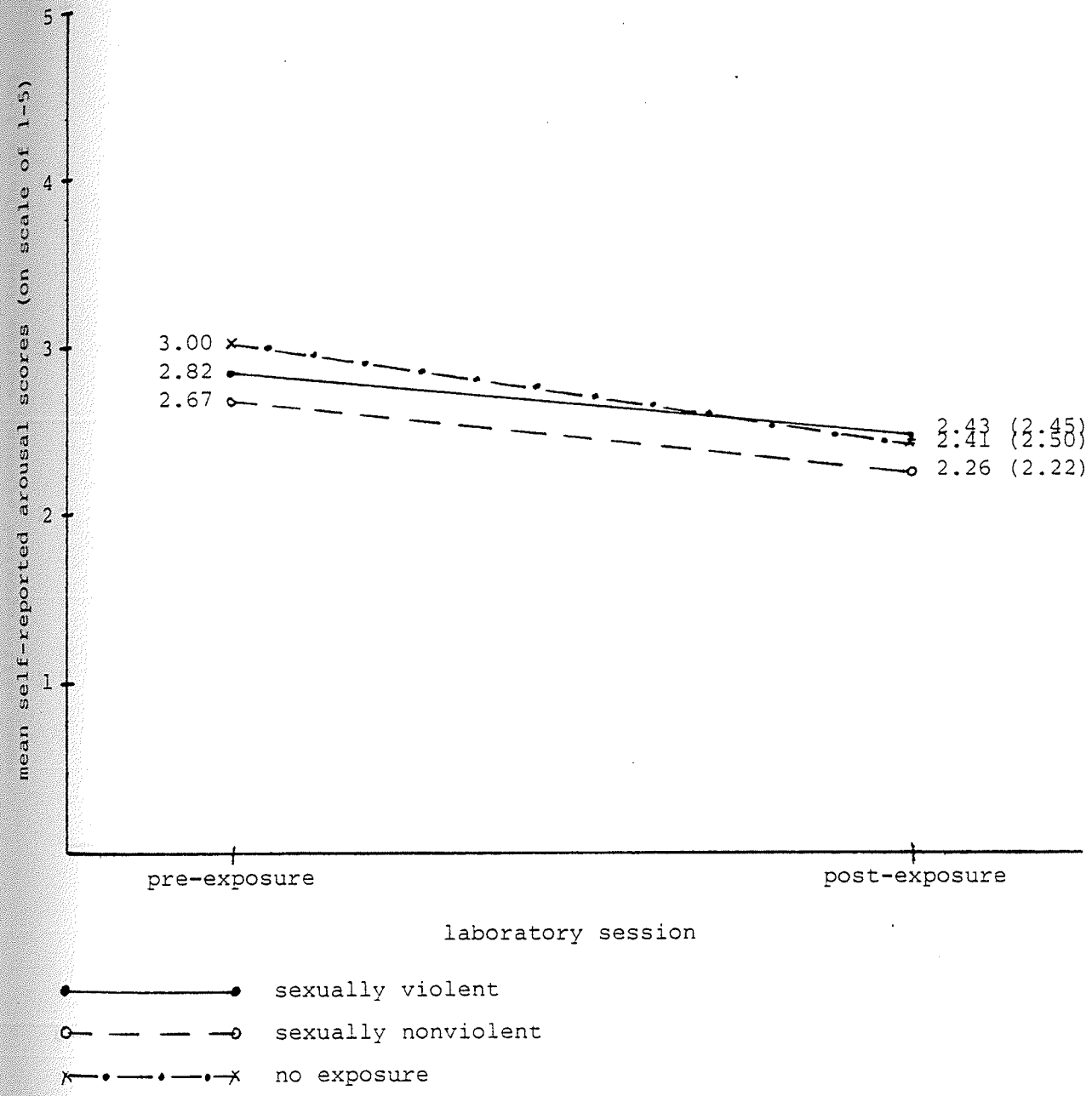

FIGURE 20. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Consenting-written Depiction for Force-oriented Subjects in each Exposure Condition

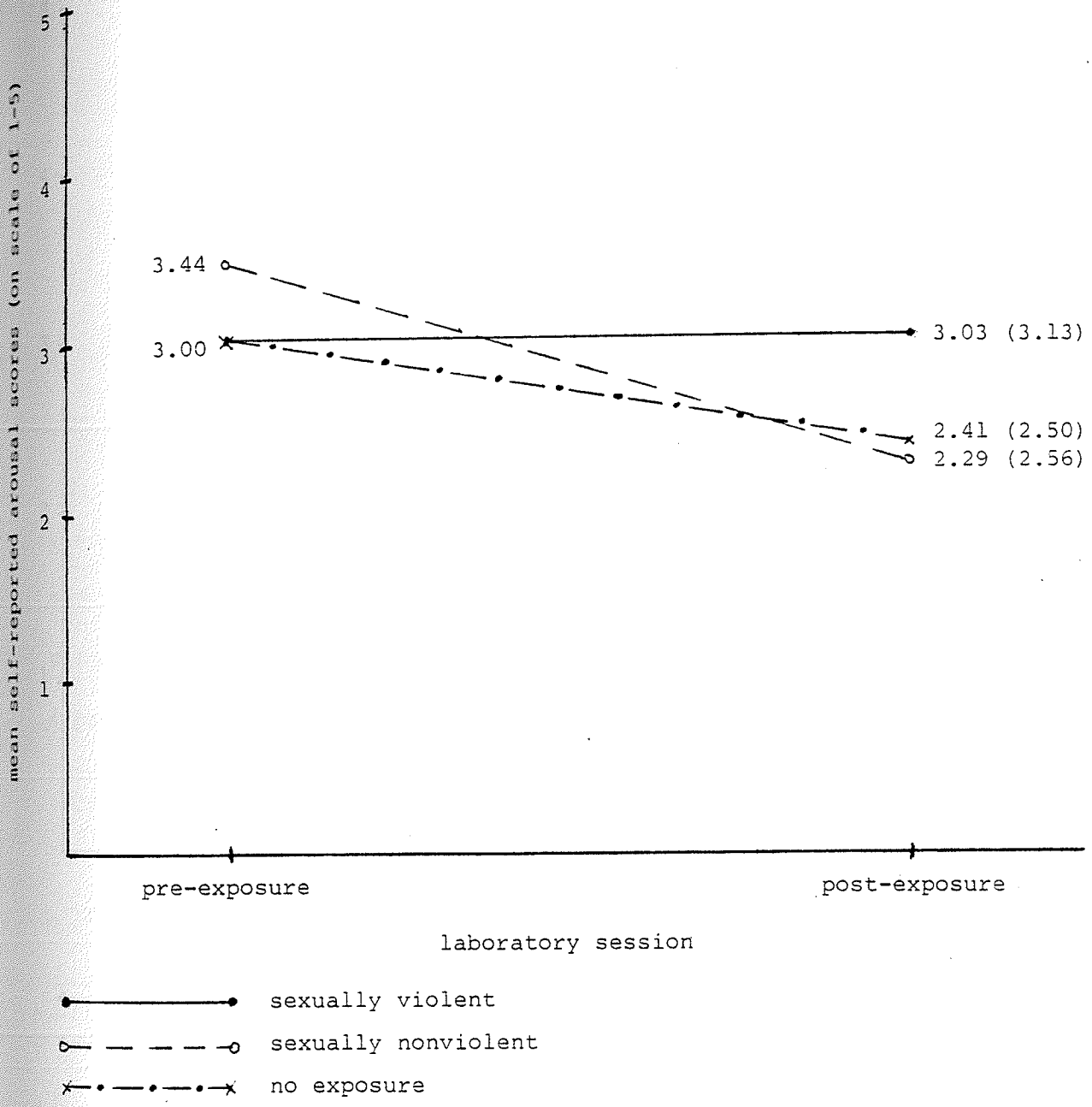

FIGURE 21. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Consenting-written Depiction for Nonforce-oriented Subjects in each Exposure Condition

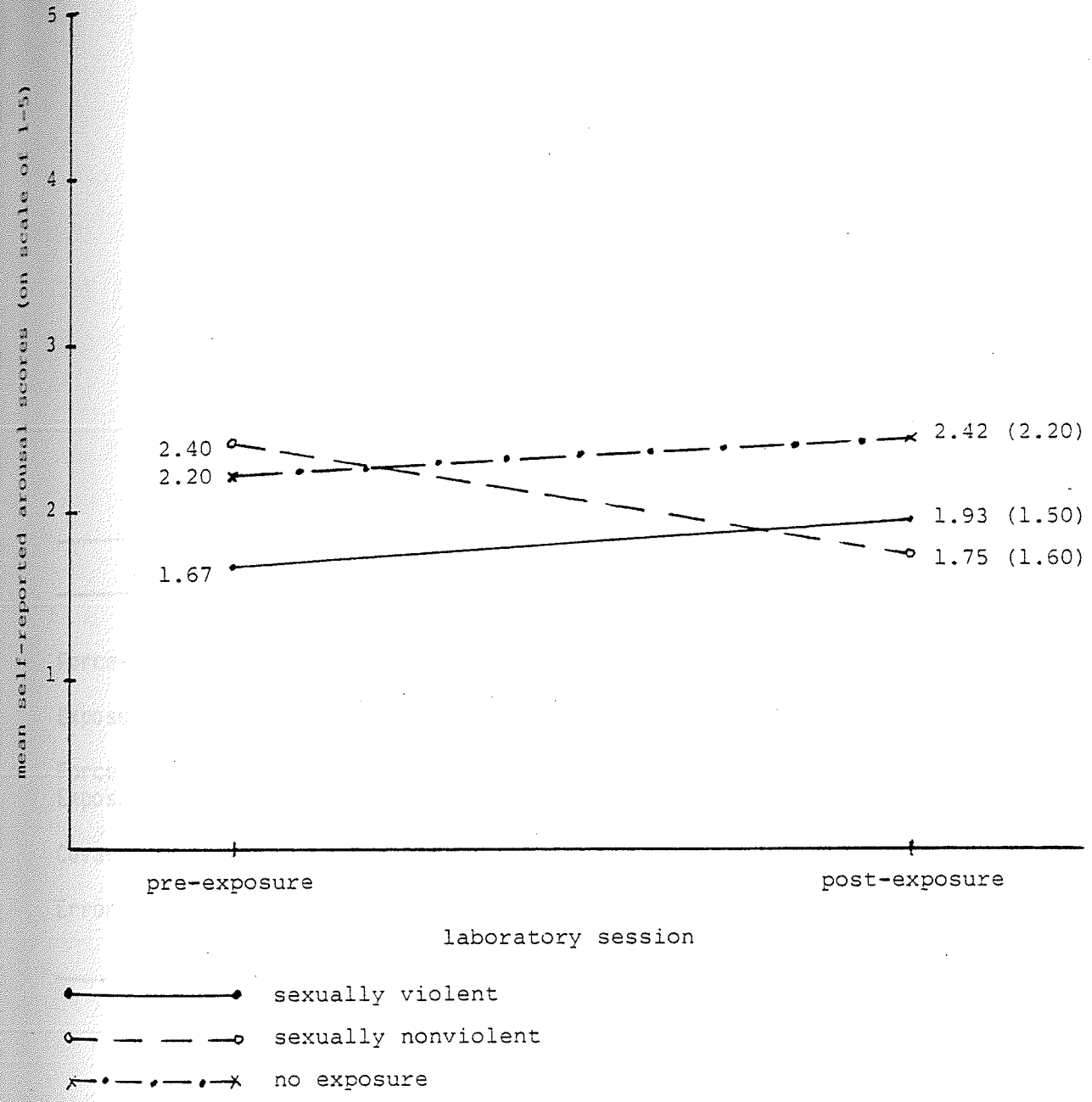

FIGURE 22. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Consenting-written Depiction for Unclassifiable Subjects in each Exposure Condition

TABLE 18

Analysis of Covariance on Self-Reported Arousal for the Consenting-Descriptive Pictorial in the Post-Exposure Session as a Function of Force-Orientation and Exposure

Source	SS	DF	MS	F	P
Force-Orientation	8.15	2	4.07	6.53	.0027
Exposure	4.59	2	2.30	3.68	.0312
Force-Orientation x Exposure	3.74	4	.94	1.50	.2137
Covariate	9.22	1	9.22	14.78	.0003
Error	36.79	59	.62		

.017, and that subjects exposed to SNVS (M = 3.30) did not differ significantly from either controls (M = 3.62), $F(1,60) = 1.85$, $p > .10$, or those exposed to SVS (M = 3.00), $F(1,60) = 1.55$, $p > .10$.

No significant interaction effect was found, $F(4,60) = 1.50$, $p < .2137$. However, since the above findings concerning the marginal means show that the direction of the differences between subjects exposed to SVS/SNVS and controls are consistent with the general pattern emerging for the Force-oriented group, the interaction factor was examined for exploratory purposes.

Comparisons among the means of the three Exposure groups within the Force-oriented category (see Figure 23) revealed significantly less arousal for subjects exposed to SNVS (M = 2.75) relative to controls (M = 3.86), $F(1,59) = 7.08$, $p < .017$. No significant differences were found between subjects exposed to SVS (M = 3.18) and controls (M = 3.86), $F(1,59) = 2.66$, $p > .10$, or those exposed to SNVS (M = 2.75) $F(1,59) = 1.03$, $p > .10$. It should be noted, however, that the lower arousal level of subjects exposed to SVS compared to controls is consistent with the general findings of a satiation effect for the Force-oriented group. The significant difference between subjects exposed to SNVS and controls is also in the same direction and consistent with this general finding.

For Nonforce-oriented subjects, comparisons on the adjusted means (see Figure 24) showed no significant differences between those exposed to SVS (M = 3.28) and those exposed to SNVS (M = 3.93), $F(1,59) = 2.34$, $p > .10$ or controls (M = 3.84), $F(1,59) = 1.81$, $p > .10$ The difference between subjects exposed to SNVS (M = 3.93) and controls (M = 3.84) also failed to reach significance, $F(1,59) < 1$, $p > .10$. These findings

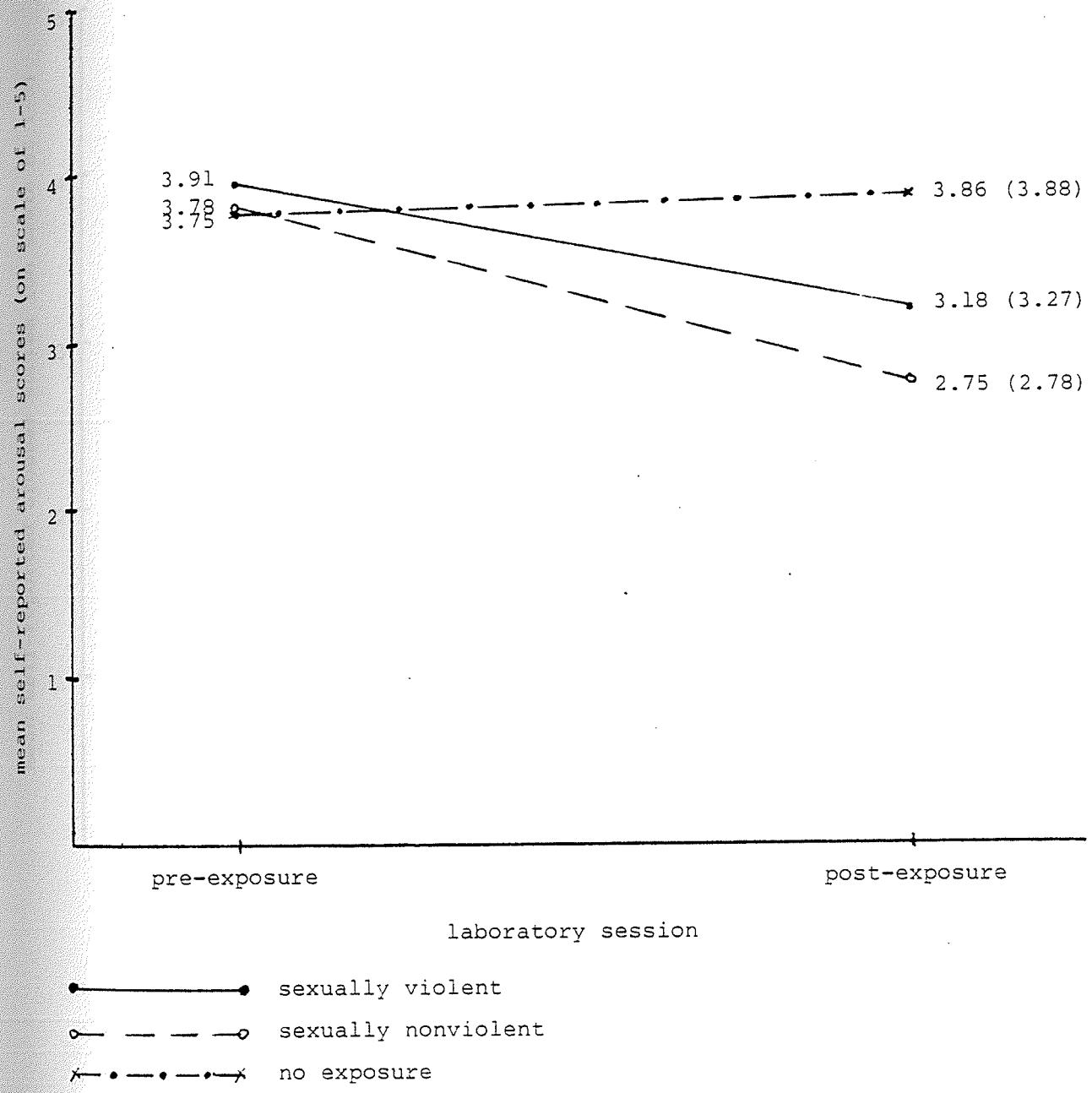

FIGURE 23. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Consenting-pictorial Depiction for Force-oriented Subjects in each Exposure Condition

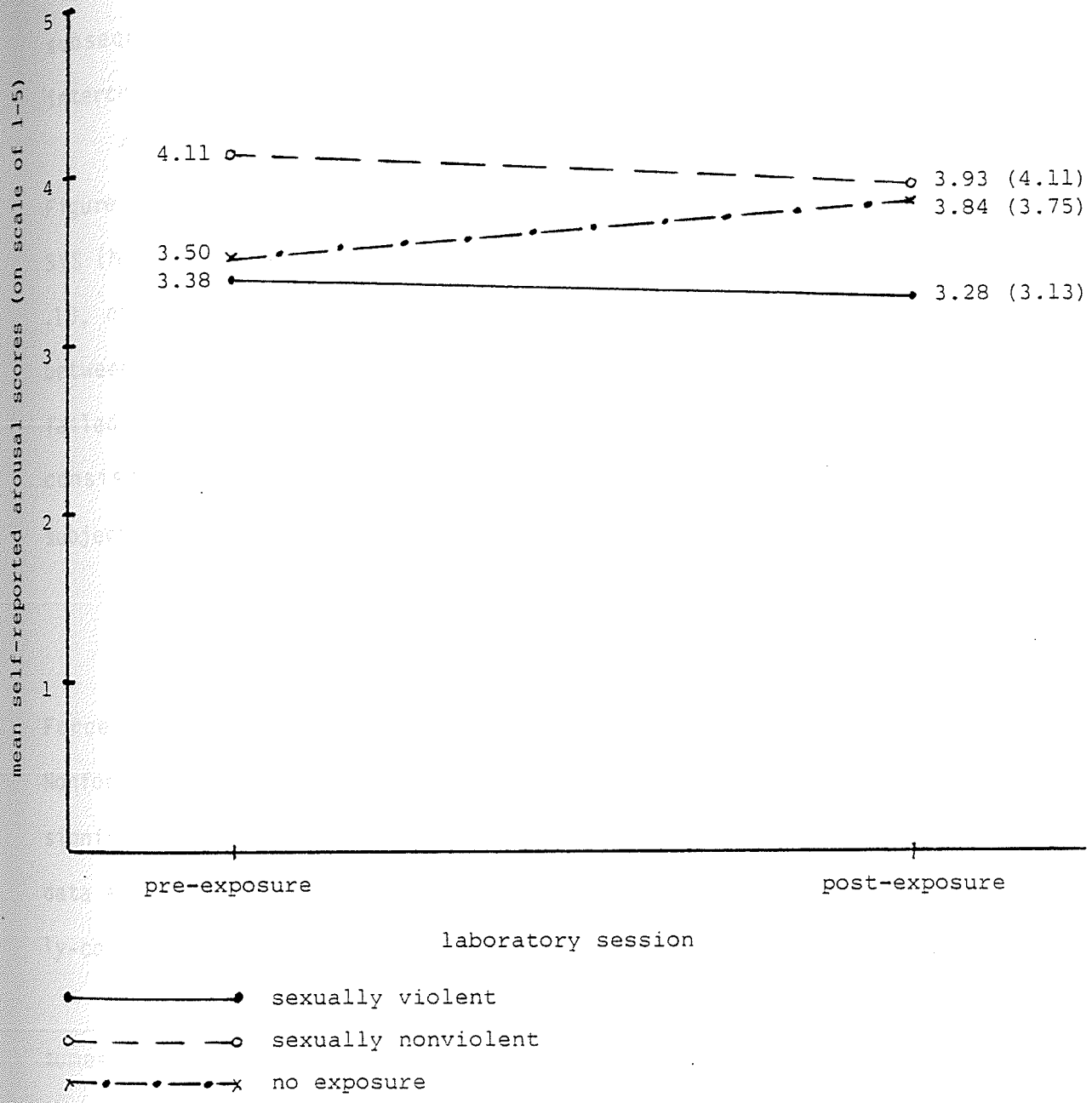

FIGURE 24. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Consenting-pictorial Depiction for Nonforce-oriented Subjects in each Exposure Condition

are consistent with the results of the other stories, thus providing collaborating evidence that, for Nonforce-oriented subjects, repeated exposure to sexually violent or nonviolent stimuli had no effect on subsequent arousal to sexually nonviolent (i.e., mutually consenting intercourse) stimuli.

For Unclassifiable subjects, comparisons on adjusted means (see Figure 25) yielded no significant differences between those exposed to SVS ($M = 2.50$) and those exposed to SNVS ($M = 2.67$), $F(1,59) < 1$, $p > .10$, or controls ($M = 3.14$), $F(1,59) = 2.55$, $p > .10$. The difference between subjects exposed to SNVS ($M = 2.67$) and controls ($M = 3.14$) also failed to achieve significance, $F(1,59) < 1$, $p > .10$. These results are consistent with the 'no effect' finding obtained for Unclassifiable subjects with the other three depictions.

Summary

A summary of the analysis of the sexual arousal data for the Force-oriented subjects is presented in Table 19. Similar tables for Nonforce-oriented and Unclassifiable subjects are not presented since no significant differences were obtained within these two groups. These data are summarized below. This summary focuses on the rape and mutually-consenting depictions.

(a) Rape depictions: The results of the rape stories on both tumescence and self-report analyses generally showed a satiation effect for Force-oriented subjects exposed to either sexually violent or nonviolent stimuli. Where the differences between those exposed to SVS/SNVS and controls did not achieve significance, they were in the direction suggestive of a satiation effect. For the Nonforce-oriented

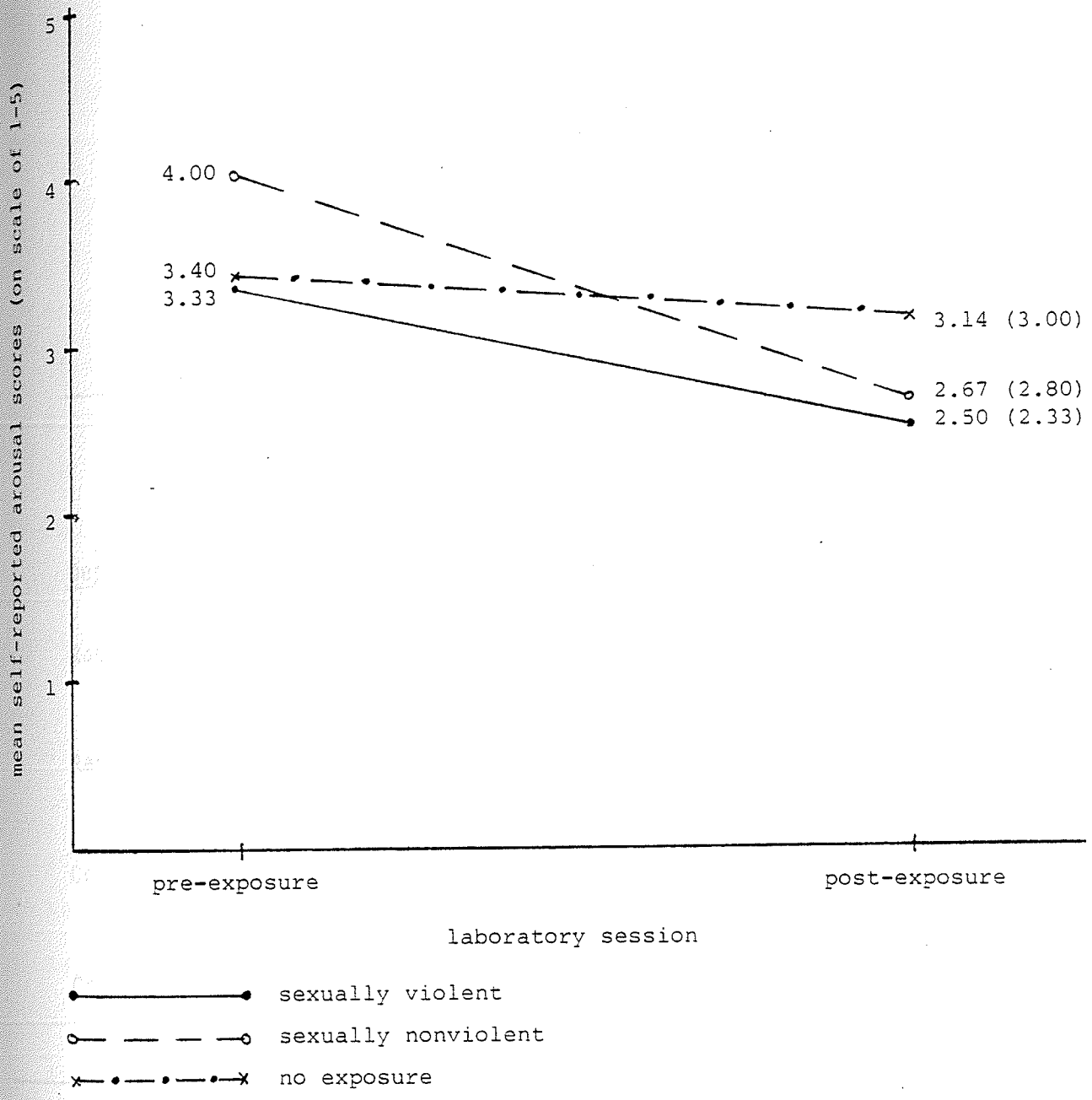

FIGURE 25. Mean Pre-exposure, Adjusted Post-exposure, and Unadjusted Post-exposure (in parenthesis) Self-Reported Arousal Scores of the Consenting-pictorial Depiction for Unclassifiable Subjects in each Exposure Condition

TABLE 19

Summary of ANCOVA and Contrast Results for the Penile Tumescence and Self-reported Arousal Analyses of the 4 Depictions for Force-Oriented Subjects

	Dependent Variable	
Depictions	Penile Tumescence	Self-Reported Arousal
Rape-written	S V < C* S < C*** S < S V	S V < C S < C S < S V
Rape-descriptive Pictorial	S V < C S < C ** S < SV	S V < C** S < C SV < S
Consenting-written	S V < C S < C S < S V	C < S V S < C S < S V
Consenting-descriptive Pictorial	S V < C S < C** S < S V	S V < C S < C*** S < S V

SV = Subjects exposed to sexually violent stimuli
S = Subjects exposed to sexually non-violent stimuli
C = control (no exposure)

No star = not Significant
* p < .05
** p < .017
*** p < .001
**** p < .000

group, there were consistently no significant differences between subjects exposed to SVS/SNVS and controls. This suggests that, for Non-force-oriented subjects, repeated exposure to sexually violent or nonviolent stimuli has no effects on subsequent arousal to rape stimuli. For Unclassifiable subjects, differences among the three Exposure conditions were generally not significant. Thus, it appears that, for Unclassifiable subjects, repeated exposure to violent or nonviolent erotica has no effect on arousal to rape stimuli. However, it should be noted that the difference between subjects exposed to SVS/SNVS and controls were in the same direction as those obtained for the Force-oriented subjects. It should also be noted that the cell sizes of 6 (subjects exposed to SVS), 5 (subjects exposed to SNVS) and 5 (controls) within the Unclassifiable group were relatively small and therefore would significantly reduce the power to detect an effect.

(b) Mutually-consenting depictions: The results of the analyses of tumescence and self-reports for the mutually-consenting stories showed few significant effects. One of these effects occurred in the penile tumescence analysis for the consenting-descriptive pictorial. More specifically, for the Force-oriented group, subjects exposed to SNVS were significantly less aroused than controls. The other effect occurred in the exploratory analysis of the self-report data of the interaction factor for the same consenting-descriptive pictorial. Again, it was the Force-oriented subjects who were exposed to SNVS who showed significantly less arousal than the controls. Since the two aforementioned differences were the only ones to achieve significance, it seems that the overall results suggest no effect of repeated exposure

to sexually violent or nonviolent stimuli on subsequent arousal to mutually-consenting depictions, regardless of one's Force-orientation. Nevertheless, it should be noted that the general pattern of lower arousal by subjects exposed to SVS/SNVS relative to controls within the Force-oriented group for the two consenting stories in both tumescence and self-report analyses is consistent with that obtained for the two rape portrayals. It is also interesting to note that the pattern of Unclassifiable subjects was also consistent with the general satiation pattern obtained for the Force-oriented subjects.

EFFECTS OF REPEATED EXPOSURE ON SEXUAL ACTIVITIES

Of the 69 subjects, 15 failed to submit their sexual activity data during various phases of the study. Three of these 15 subjects indicated that they had misplaced their pre-exposure data. Another 3 subjects did not hand in data for the duration of the study for confidentiality purposes. The other 9 subjects either lost their post-exposure activity sheets or left for the summer session without contacting the experimenter. Consequently, the analysis of the sexual activities was based on the data of the remaining 54 subjects. The new cell sizes are presented in Table 21.

Pre-Exposure Data

A 3(Force-orientation) x 3(Exposure) MANOVA with pre-exposure frequencies of necking, petting, oral sex, masturbation, coitus, sexually nonviolent fantasies, and sexually violent behaviors[16] as the depen-

[16] Sexually violent behaviors included sexually violent fantasies, forcing a female into sex, and sadomasochism. These behaviors were not analyzed separately because their very low frequency did not allow for statistical analysis.

dent variables was performed (see Table 20). Results revealed a significant multivariate effect for Force-orientation, $F(14,78) = 1.98$, $p < .0304$. Contrary to the Sexual Arousal data, this was not an "obvious" effect. The reader will recall that subjects were classified in terms of their Force-orientation on the basis of their sexual arousal and not sexual activities. In an effort to examine further this unexpected finding, it is important to turn to the univariate results.

Univariate analyses yielded significance for necking, $F(2,45) = 8.82$, $p < .0006$. and marginal significance for petting $F(2,45) = 3.14$, $p < .0528$. To pinpoint the source of the significant effect for necking, comparisons of the marginal means (Keppel, 1973) were performed. Results showed that subjects classified as Force-oriented engaged in significantly less necking ($M = 9.82$) than Unclassifiables ($M = 26.92$) during the 25-day pre-exposure period, $F(1,45) = 21.79$, $p < .017$. The lower frequency of necking of Nonforce-oriented subjects ($M = 14.90$) relative to that of Unclassifiable approached significance, $F(1,45) = 5.75$, $p < .021$. The lower frequency of Force-oriented subjects ($M = 9.82$) compared to that of Nonforce-oriented subjects ($M = 14.90$) did not achieve significance, $F(1,45) = 1.92$, $p > .10$.

Comparisons on the marginal means of petting showed that the difference between the lower frequency of Force-oriented subjects ($M = 6.14$) and that of Unclassifiables ($M = 14.42$) approached significance, $F(1,45) = 5.29$, $p < .025$. Significance was not achieved for the differences between Nonforce-oriented subjects ($M = 8.55$) and controls ($M = 14.42$), $F(1,45) = 2.74$, $p > .10$ or Force-oriented subjects ($M = 6.14$), $F(1,45) = .49$, $p > .10$.

The above comparisons on the marginal means of necking and petting

TABLE 20

MANOVA of Sexual Activities During the Pre-Exposure Period

	Force-Orientation		Exposure		Force-orientation x Exposure	
	F	P	F	P	F	P
Multivariate Factor	1.98	.0304	2.33	.0097	1.30	.1592
Univariates						
Necking	8.82	.0006	6.90	.0024	2.41	.0633
Petting	3.14	.0528	3.54	.0373	1.67	.1742
Oral Sex	2.08	.1365	1.37	.2635	.04	.9972
Masturbation	1.87	.1165	2.30	.1123	1.53	.2092
Coitus	.62	.5407	.43	.6552	.71	.5882
Sexually Nonviolent Fantasies	.81	.4500	1.08	.3466	.26	.8990
Sexually Violent Behavior	.07	.9307	.22	.8051	.69	.6036

showed a significant pattern of lower frequency for Force-oriented subjects relative to Unclassifiables. The reader will recall that Force-oriented subjects had comparable tumescence responses to the rape and nonrape depictions of 2 centimeters or greater in the pre-exposure session. Unclassifiables, on the other hand, showed arousal levels to both depictions less than 2 centimeters. It may be that one's arousal to erotica is related to the amount of sexual activities that he practices. From the direction of the significant differences in the above analyses, it seems that those who showed less arousal tended to engage in more sexual activities. Recent data by Malamuth and Check (1983) support this suggestion. They reported that subjects with less sexual experience were more aroused to rape depictions than those with greater sexual experience. In light of a potential relationship between arousal and activity, the significant main effect for Force-orientation is not surprising and it does not reflect a problem in random assignment.

It was surprising, however, to obtain a significant main effect for the Exposure factor at the multivariate level, $F(14,78) = 2.33$, $p < .0097$. Univariate analyses revealed significant Exposure effects for necking $F(2,45) = 6.9$, $p < .0024$, and petting, $F(2,45) = 3.54$, $p < .0373$, only.

To locate the source of significant Exposure effect for necking, comparisons of the marginal means (Keppel, 1973) were performed. Results yielded a difference between subjects exposed to SVS ($M = 9.10$) and those exposed to SNVS ($M = 20.76$) that approached significance, $F(1,45) = 5.07$, $p < .027$. No significant differences, however, were obtained between subjects exposed to SVS ($M = 9.10$) and controls ($M = 18.31$), $F(1,45) = 3.17$, $p < .09$, or between subjects exposed to SNVS (M

= 20.76) and controls (M = 18.31), F(1,45) = .22, p > .10.

Comparisons of the marginal means of petting were also conducted to pinpoint the source of the significant Exposure effect for this activity. Results yielded a difference between the lower frequency of subjects exposed to SVS (M = 5.52) and the controls (M = 12.69) that approached significance, F(1,45) = 3.98, p < .052. No significant differences were obtained between subjects exposed to SNVS (M = 9.41) and controls (M = 12.96), F(1,45) = .83, p > .10, or between subjects exposed to SVS (M = 5.52) and those exposed to SNVS (M = 9.41), F(1,45) = 1.17, p > .10.

Table showed that the interaction factor did not achieve significance at the multivariate level, F(28,142) = 1.30, p < .1592. Univariate analyses also revealed no significance for each of the sexual activities. These findings indicate that Force-orientation and Exposure did not interact in any fashion to affect subjects' sexual behaviors. However, in light of the significant Exposure effect obtained for both necking and petting, the interaction factor for these two activities was examined for exploratory purposes.

An analysis of simple effects (Keppel, 1973) on necking yielded no significance for Force-oriented subjects, F(2,45) = .32, p > .10, or Nonforce-oriented subjects F(2,45) = 1.68, p > .10. There was, however, a significant simple main effect for Unclassifiable subjects F(2,45) = 9.05, p < .001. Follow-up comparisons (Winer, 1971) of the means (see Table 2) among Unclassifiable subjects revealed that those exposed to SVS (M = 12.17) engaged in significantly less necking behavior than controls (M = 37.35), F(1,45) = 7.77, p < .017, or than those exposed to SNVS (M = 49.50), F(1,45) = 10.38), p < .001. The difference between

TABLE 21

Mean Frequencies of Sexual Activities
During the Pre-Exposure Period as a Function of
Force-Orientation and Exposure

Exposure	Sexual Activities	Force-Orientation: Force-Oriented	Nonforce Oriented	Unclassifiable
Sexually Nonviolent	necking	10.63	24.14	49.50
	petting	4.50	12.86	17.00
	oral sex	2.38	3.57	6.50
	masturbation	7.25	7.00	2.50
	coitus	2.38	5.14	3.50
	sexually nonviolent fantasies	4.50	2.43	2.50
	sexually violent fantasies	0.0	0.43	0.0
		(n=8)	(n=7)	(n=2)
Sexually Violent	necking	6.78	9.50	12.17
	petting	5.00	5.17	6.67
	oral sex	.56	1.00	3.33
	masturbation	23.11	3.83	9.67
	coitus	2.11	2.83	3.50
	sexually nonviolent fantasies	5.11	2.67	6.83
	sexually violent fantasies	.78	0.0	0.17
		(n=9)	(n=6)	(n=6)
No Exposure	necking	14.00	10.29	37.35
	petting	10.80	7.14	24.75
	oral sex	1.40	2.00	4.25
	masturbation	4.80	4.71	3.00
	coitus	3.60	1.86	8.00
	sexually nonviolent fantasies	3.60	1.14	1.25
	sexually violent fantasies	0.0	0.0	0.25
		(n=5)	(n=7)	(n=4)

those exposed to SNVS (M = 49.50) and controls (M = 37.75) did not achieve significance, $F(1,45) = .92$, $p > .10$.

As was the case with necking, an analysis of simple effects on petting revealed no significance for Force-oriented subjects $F(2,45) = 1.26$, $p > .10$, or Nonforce-oriented subjects $F(2,45) = 1.60$, $p > .10$, but significance for Unclassifiable subjects $F(2,45) = 8.47$, $p < .01$. Also, similar to the results of the necking data, follow-up comparisons of means among Unclassifiables (see Table 21) showed that subjects exposed to SVS (M = 6.67) engaged in significantly less petting than controls (M = 24.75), $F(1,45) = 8.41$, $p < .017$. In addition, frequency of petting for those exposed to SNVS (M = 17.00) did not differ significantly from either that of controls (M = 24.75), $F(1,45) = 1.55$, $p > .10$, or that of subjects exposed to SVS (M = 6.67), $F(1,45) = 2.75$, $p > .10$.

On the basis of the above findings on necking and petting activities, it appears that the significant differences which occurred are a function of initial differences among the Unclassifiable subjects, thus raising the question of random assignment for this group. However, as mentioned in the Sexual Arousal section, the relatively high number of comparisons that were examined to check for random assignment makes it highly probable that some significant effects may occur by chance alone (Keppel, 1973). Furthermore there was a high mortality rate of 15 subjects in terms of the sexual activity data submitted. This left only 12 subjects in the Unclassifiable category (2 in sexually nonviolent, 6 in sexually violent, and 4 in control), the same group which was primarily responsible for the significant initial differences. Thus, it is advisable to exercise caution in the interpretation of the results of

the Unclassifiable subjects. As was done in the Sexual Arousal section, separate MANOVAs were initially performed on the data for the during- and post-exposure periods to provide a general overview. Subsequently, ANCOVAs and planned comparisons on the adjusted means of sexually violent and nonviolent behaviors were performed in an effort to provide more stringent and reliable analyses of the data.

During-Exposure Data

A 3(Force-orientation) x 3(Exposure) MANOVA on sexual activities in the 4-week exposure period showed no significance for the multivariate Force-orientation factor $F(14,78) = 1.21$, $p < .2871$ (see Table 22). Univariate analyses revealed an effect for necking that approached significance, $F(2,45) = 3.00$, $p < .0596$. Comparisons of the marginal means showed that the Force-oriented subjects engaged in less necking behavior ($M = 12.05$) than Nonforce-oriented subjects ($M = 14.75$) or Unclassifiables ($M = 23.08$). The direction of these differences is consistent with the earlier suggestion that sexual arousal is inversely related to sexual activities and therefore the differences reflect consistency of behavior across time. No significance was obtained for the other behaviors.

A significant main effect for the Exposure factor occurred at the multivariate level, $F(2,45) = 2.28$, $p < .0114$. Univariate analyses yielded a significant Exposure effect for masturbation $F(2,45) = 3.43$, $p < .0411$, and an Exposure effect that approached significance for sexually nonviolent fantasies, $F(2,45) = 3.04$, $p < .0578$. Comparisons of the marginal means of masturbation showed that controls engaged in the least amount of this activity ($M = 2.94$), followed by subjects exposed to SNVS ($M = 4.82$) and those exposed to SVS ($M = 14.57$). Comparisons of the

TABLE 22

MANOVA of Sexual Activities in the During-Exposure Period

	Force-Orientation		Exposure		Force-orientation x Exposure	
	F	P	F	P	F	P
Multivariate Factor	1.21	.2871	2.28	.0114	1.41	.0980
Univariates						
Necking	3.00	.0596	2.30	.1121	1.44	.2371
Petting	.58	.5620	.24	.7846	.84	.5101
Oral Sex	.61	.5500	.62	.5419	.78	.5432
Masturbation	2.31	.1105	3.43	.0411	2.15	.0901
Coitus	.39	.6819	.27	.7629	.88	.4860
Sexually Nonviolent Fantasies	.88	.4221	3.04	.0578	.83	.5106
Sexually Violent Behavior	.15	.8599	1.84	.1710	.44	.7801

marginal means of sexually nonviolent fantasies showed a similar pattern with controls engaging in less of said activity (M = 1.25) than subjects exposed to SNVS (M = 4.82) or those exposed to SVS (M = 6.33).

The multivariate interaction factor did not achieve significance at the conventional .05 level $F(28,142) = 1.41$, $p < .098$. Univariate analyses revealed no significant interaction for any of the sexual activities.

As indicated earlier, the pre-exposure differences cast some doubt about the reliability of results based on the MANOVA. Consequently, the data were analyzed with ANCOVAs and comparisons based on the adjusted means. Sexually violent and nonviolent behaviors are examined separately.

(a) Sexually violent behaviors: A 2-way ANCOVA revealed no significant effects for the Force-orientation, $F(2,44) = .61$, $p < .5480$, Exposure, $F(2,44) = 2.07$, $p < .1385$, nor interaction, $F(4,44) = .46$, $p < .7652$, factors (see Table 23). The absence of any effects among the adjusted means of the various groups as presented in Table 24 suggests that, irrespective of Force-orientation, repeated exposure to sexually violent or nonviolent stimuli has no effect on sexually violent behaviors. It should be noted, however, that the very low frequency of sexually violent activities make it difficult to properly test and detect potential differences.

(b) Sexually nonviolent behaviors: Separate 2-way ANCOVAs for each of the sexually nonviolent activities revealed no significant Force-orientation, Exposure, nor interaction effects (see Table 25). Thus, for each of the sexually nonviolent behaviors, the adjusted means of the various groups as presented in Table 26 did not differ significantly.

TABLE 23

ANCOVA of During-Exposure Sexually Violent Behaviors (Sexually Violent Fantasies, Forcing a Female to Have Sex, Sadomasochism) as a Function of Force-Orientation and Exposure

Source	SS	DF	MS	F	P
Force-Orientation	.42	2	.21	.61	.5480
Exposure	1.43	2	.72	2.07	.1385
Force-Orientation x Exposure	.64	4	.16	.46	.7652
Covariate	15.63	1	15.63	45.18	.0000
Error	15.22	44	.35		

TABLE 24

Adjusted and Unadjusted (in parenthesis) Mean Frequencies of Sexually Violent Behaviors (Sexually Violent Fantasies, Forcing a Female to Have Sex, Sadomasochism) during the Exposure Period as a Function of Force-Orientation and Exposure

	Force-Orientation		
Exposure	Force-oriented	Nonforce-oriented	Unclassifiable
Sexually Violent	.25(.56)	.45(.33)	.86(.83)
Sexually Nonviolent	.12(0.0)	.32(.43)	.12(.0.0)
No Exposure	.12(0.0)	.12(0.0)	.23(2.5)

TABLE 25

Summary of ANCOVAs of During-Exposure Sexually Nonviolent Behaviors (Necking, Petting, Oral Sex, Masturbation, Coitus, Sexually Nonviolent Fantasies) as a Function of Force-Orientation and Exposure

SOURCE	Sexual Activities	DF	MS	F	P
Force-Orientation	necking	2	44.63	.41	.6686
	petting	2	30.73	.53	.5928
	oral sex	2	3.23	.36	.6970
	masturbation	2	13.31	.67	.5191
	coitus	2	1.96	.13	.8800
	sexually nonviolent fantasies	2	3.48	.20	.8187
Exposure	necking	2	116.19	1.06	.3559
	petting	2	79.16	1.36	.2664
	oral sex	2	15.50	1.74	.1868
	masturbation	2	27.14	1.36	.2679
	coitus	2	20.12	1.32	.2788
	sexually nonviolent fantasies	2	47.74	2.76	.0745
Force-Orientation x Exposure	necking	4	74.08	.67	.6133
	petting	4	63.35	1.09	.3728
	oral sex	4	16.04	1.80	.1450
	masturbation	4	14.33	.72	.5851
	coitus	4	9.74	.64	.6389
	sexually nonviolent fantasies	4	26.35	1.52	.2125
Covariate	necking	1	6057.23	55.15	.0000
	petting	1	2848.31	49.05	.0000
	oral sex	1	504.32	56.74	.0000
	masturbation	1	5877.18	293.98	.0000
	coitus	1	432.34	28.26	.0000
	sexually nonviolent fantasies	1	1305.42	75.37	.0000
Error	necking	44	109.84		
	petting	44	58.06		
	oral sex	44	8.89		
	masturbation	44	19.99		
	coitus	44	15.30		
	sexually nonviolent fantasies	44	17.32		

TABLE 26

Adjusted and Unadjusted (in parenthesis) Mean Frequencies of Sexually Nonviolent Behaviors as a Function of Force-Orientation and Exposure for the During-Exposure Period

Exposure	Sexual Activities	Force-Orientation: Force-Oriented	Force-Orientation: Nonforce Oriented	Force-Orientation: Unclassifiable
Sexually Nonviolent	necking	14.99(11.00)	17.20(24.29)	12.14(40.00)
	petting	9.79(6.25)	8.92(12.14)	6.92(13.5)
	oral sex	2.34(2.38)	4.43(5.43)	.13(3.50)
	masturbation	6.40(5.00)	7.21(5.57)	7.46(1.50)
	coitus	1.70(1.13)	4.69(5.71)	2.42(2.50)
	sexually nonviolent fantasies	-.25(.63)	2.18(1.14)	1.97(1.00)
Sexually Violent	necking	17.15(10.00)	17.75(12.83)	18.56(15.83)
	petting	8.91(5.78)	14.16(11.17)	11.95(10.17)
	oral sex	2.55(1.11)	3.41(2.33)	4.69(5.50)
	masturbation	11.59(25.44)	6.68(2.00)	9.91(10.83)
	coitus	4.17(3.44)	3.81(3.50)	5.42(5.50)
	sexually nonviolent fantasies	6.79(8.22)	1.99(1.17)	5.64(8.67)
No Exposure	necking	18.63(17.40)	11.13(6.86)	7.27(25.50)
	petting	11.84(13.40)	7.25(5.86)	2.66(15.50)
	oral sex	2.15(2.40)	.98(.71)	.95(2.50)
	masturbation	7.55(3.80)	6.84(3.00)	7.23(1.75)
	coitus	3.07(3.20)	2.31(1.43)	1.82(4.50)
	sexually nonviolent fantasies	2.36(2.40)	3.09(.86)	2.63(.50)

This finding suggests that regardless of one's Force orientation, repeated exposure to violent or nonviolent erotica has no effect on sexually nonviolent behavior (i.e., necking, petting, oral sex, masturbation, coitus, sexually nonviolent fantasies).

Post-Exposure Data

A 3(Force-orientation) x 3(Exposure) MANOVA on sexual activities during the 25-day post-exposure period revealed a significant multivariate effect for Force-orientation $F(14,78) = 2.29$, $p < .0110$ (see Table 27). Univariate analyses yielded a significant effect for necking only, $F(2,45) = 3.97$, $p < .0259$. Comparisons of the marginal means showed that Force-oriented subjects engaged in less necking behavior ($M = 9.91$) that Nonforce-oriented ($M = 11.20$) or Unclassifiable ($M = 18.42$) subjects. As was the case with the during-exposure data, the direction of these differences is consistent with the suggestion that sexual arousal may be inversely related to frequency of sexual activities and therefore it merely reflects consistency in behavior over time.

The multivariate effect for the Exposure factor also achieved significance, $F(14,78) = 2.74$, $p < .0024$. Univariate analyses of the Exposure variable yielded significance for necking only, $F(2,45) = 4.05$, $p < .0241$. Comparisons of the marginal means showed the subjects exposed to SVS engaged in less necking behavior ($M = 8.81$) than controls ($M = 12.94$) and those exposed to SNVS ($M = 15.94$).

A multivariate interaction effect was also obtained $F(28,142) = 1.67$, $p < .0274$. Univariate analyses revealed a significant interaction effect for necking only, $F(4,45) = 2.90$, $p < .0323$. The direction of differences among groups for this activity is presented in the corresponding ANCOVA below.

TABLE 27

MANOVA of Sexual Activities During the Post-exposure Period

	Force Orientation		Exposure		Force-orientation x Exposure	
	F	P	F	P	F	P
Multivariate Factor	2.29	.0110	2.74	.0024	1.67	.0274
Univariates						
Necking	3.97	.0259	4.05	.0241	2.90	.0323
Petting	.44	.6475	.37	.6908	.99	.4226
Oral Sex	.12	.8863	.04	.9603	1.00	.4183
Masturbation	1.53	.2275	2.49	.0946	1.99	.1115
Coitus	.15	.8618	.14	.8678	.57	.6867
Sexually Nonviolent Fantasies	.76	.4756	1.93	.1569	.49	.7451
Sexually Violent Behavior	.16	.8510	.90	.4155	.40	.8106

As was the case with the during-exposure analysis, the occurrence of pre-exposure differences (particularly among Unclassifiables) did not allow for reliable conclusions to be drawn from the results of the post-exposure MANOVA. The sole purpose of the MANOVA was to provide a general overview the post-exposure data. A more reliable analysis of the data was then done using ANCOVAs and comparisons (if necessary) on the adjusted means for both sexually violent and nonviolent behaviors.

(a) Sexually violent behaviors: A 2-way ANCOVA revealed no significant effects for the Force-orientation $F(2,44) = .51$, $p < .6065$, Exposure $F(2,44) = .86$, $p < .4305$, nor interaction, $F(4,44) = 1.22$, $p < 3142$, factors (see Table 28). These results indicate that differences between the adjusted means among the various groups as presented in Table 29 do not differ significantly. These findings are consistent with those obtained for the during-exposure data and they suggest that, regardless of Force-orientation, repeated exposure to sexually violent or nonviolent stimuli has no effect on sexually violent behaviors over a 25-day post-exposure period. Nonetheless, it should again be noted that the very low frequency of sexually violent activities during the post-exposure period makes it difficult to adequately test and detect potential differences.

(b) Sexually nonviolent behaviors: Separate 2-way ANCOVAs for necking, petting, oral sex, masturbation, coitus, and sexually nonviolent fantasies revealed no significant effects for the Force-orientation, Exposure, nor interaction factors (see Table 30). Thus, the adjusted means of subjects in the various groups (see Table 31) did not differ significantly. These findings are consistent with those obtained with the during-exposure analysis and they suggest that,

TABLE 28

ANCOVA of Post-Exposure Sexually Violent Behaviors (Sexually Violent Fantasies, Forcing a Female to Have Sex, Sadomasochism) as a Function of Force-Orientation and Exposure

Source	SS	DF	MS	F	P
Force-Orientation	.53	2	.27	.51	.6065
Exposure	.90	2	.45	.86	.4305
Force-Orientation x Exposure	2.58	4	.64	1.22	.3142
Covariate	31.27	1	31.27	59.39	.0000
Error	23.17	44	.53		

TABLE 29

Adjusted and Unadjusted (in parenthesis) Mean Frequencies of Sexually Violent Behaviors (Sexually Violent Fantasies, Forcing a Female to Have Sex, Sadomasochism) during the Post-exposure Period as a Function of Force-Orientation and Exposure

	Force-Orientation		
Exposure	Force-oriented	Nonforce-oriented	Unclassifiable
Sexually Violent	.24(.67)	1.00(.83)	.04(0.0)
Sexually Nonviolent	.17(0.0)	.02(1.4)	.17(0.0)
No Exposure	.17(0.0)	.17(0)	.23(.25)

TABLE 30

Summary of ANCOVAs of Post-Exposure Sexually Nonviolent Behaviors (Necking, Petting, Oral Sex, Masturbation, Coitus, Sexually Nonviolent Fantasies) as a Function of Force-Orientation and Exposure

SOURCE	Sexual Activities	DF	MS	F	P
Force-Orientation	necking	2	25.75	.28	.7548
	petting	2	21.04	.46	.6313
	oral sex	2	7.13	.85	.4363
	masturbation	2	5.55	.13	.8804
	coitus	2	16.15	.67	.5145
	sexually nonviolent fantasies	2	1.25	.11	.8942
Exposure	necking	2	31.96	.35	.7057
	petting	2	27.20	.60	.5527
	oral sex	2	1.55	.20	.8233
	masturbation	2	12.76	.29	.7470
	coitus	2	9.79	.41	.6667
	sexually nonviolent fantasies	2	20.54	1.85	.1693
Force-Orientation x Exposure	necking	4	114.24	1.26	.3017
	petting	4	23.19	.51	.7219
	oral sex	4	10.11	1.20	.3255
	masturbation	4	24.57	.57	.6891
	coitus	4	9.85	.41	.7922
	sexually nonviolent fantasies	4	5.29	.48	.7527
Covariate	necking	1	3182.29	34.98	.0000
	petting	1	1485.76	32.83	.0000
	oral sex	1	97.05	11.50	.0015
	masturbation	1	5746.42	132.23	.0000
	coitus	1	284.84	11.90	.0012
	sexually nonviolent fantasies	1	1163.03	104.73	.0000
Error	necking	44	90.97		
	petting	44	45.26		
	oral sex	44	8.44		
	masturbation	44	43.46		
	coitus	44	23.93		
	sexually nonviolent fantasies	44	11.10		

TABLE 31

Adjusted and Unadjusted (in parenthesis) Mean Frequencies of Sexually Nonviolent Behaviors as a Function of Force-Orientation and Exposure in the Post-Exposure Period

Exposure	Sexual Activities	Force-Orientation: Force-Oriented	Nonforce Oriented	Unclassifiable
Sexually Nonviolent	necking	10.77(7.88)	13.01(18.14)	20.31(40.50)
	petting	7.93(5.38)	5.10(7.43)	7.75(12.50)
	oral sex	2.11(2.13)	.85(1.29)	2.02(3.50)
	masturbation	1.59(1.13)	3.45(4.29)	2.44(2.5)
	coitus	5.26(3.87)	6.33(4.71)	8.90(3.00)
	sexually nonviolent fantasies	.18(1.0)	1.41(.43)	.92(0.0)
Sexually Violent	necking	12.85(7.67)	14.06(10.50)	10.81(8.83)
	petting	8.59(6.33)	10.83(8.67)	5.45(4.17)
	oral sex	2.63(2.00)	3.97(3.50)	.31(.67)
	masturbation	5.37(4.78)	4.25(4.00)	2.27(2.33)
	coitus	10.52(24.22)	5.96(1.33)	9.42(10.33)
	sexually nonviolent fantasies	3.64(5.00)	1.77(1.00)	4.14(7.00)
No Exposure	necking	18.09(17.20)	7.95(4.86)	8.54(21.75)
	petting	8.07(9.20)	5.29(4.29)	3.47(12.75)
	oral sex	3.33(3.00)	.98(.86)	1.32(2.00)
	masturbation	4.89(5.00)	3.00(2.29)	.57(2.75)
	coitus	7.11(3.40)	8.65(4.86)	6.42(1.00)
	sexually nonviolent fantasies	2.56(2.60)	2.53(.43)	2.41(.50)

irrespective of one's Force-orientation, repeated exposure to sexually violent or nonviolent stimuli had no effect on sexually nonviolent activities over a 25-day post-exposure period.

FANTASIES GENERATED IN THE LABORATORY

One Nonforce-oriented subject who was exposed to SVS did not produce fantasies in either pre- or post- exposure laboratory session. A second subject, who was exposed to SVS and classified as Force-oriented, did not generate a fantasy in the pre-exposure laboratory session. A third subject, who was exposed to SNVS and classified as Force-oriented, failed to product a fantasy in the post-exposure laboratory session. Consequently, the analysis of the fantasies generated in the two laboratory sessions was based on the data for the remaining 66 subjects.

Two judges, blind to the experimental conditions, evaluated the content of the fantasies in both pre- and post-exposure laboratory sessions as to whether they contained violence. There was 100% agreement between raters in designating 8 fantasies in the pre-exposure session and 3 in the post-exposure session as violent (see Table 32). Only one subject, who was exposed to SVS and classified as Unclassifiable, produced a sexually violent fantasy in both pre- and post-exposure laboratory sessions. In both instances he made no reference to any of the laboratory stories but only to bondage activity with an ex-girlfriend. Of the other 7 subjects who produced sexually violent fantasies in the pre-exposure laboratory session, 5 alluded to specific details of the rape stories in the laboratory session (e.g., "man coerced woman to have sex", "slapping her around", "gun", "calling her a bitch", "punishing her to ecstasy", "raping girl") while the other 2 subjects simply referred to one of the rape stories in terms of its sequential order.

TABLE 32

Frequency of Sexually Violent Fantasies Created in the Pre-Exposure and Post-Exposure Laboratory Sessions as a Function of Force-Orientation and Exposure

		Force-Orientation		
Exposure	Session	Force-oriented	Nonforce-oriented	Unclassifiable
Sexually Violent	Pre	1a	1c	0
	Post	1b	1d	0
Sexually Nonviolent	Pre	2e,f	1g	3h,i,j
	Post	0	0	1j
No Exposure	Pre	0	0	0
	Post	0	0	0

Each subscript represents a specific subject and the numerical value represents the number of subjects in the particular cell who created sexually violent fantasies. For example, within the sexually nonviolent category, 3 Unclassifiables created a sexually violent fantasy in the pre-session and 1 Unclassifiable in the post-session. Subject j created one both in the pre- and post-sessions.

For the other 2 subjects who reported sexually violent fantasies in the post-exposure laboratory session, one specified that he was aroused by the statement that "the bitch started to like it" while the other simply alluded to the rape-written story in terms of its sequential order.

The low frequency of sexually violent fantasies generated in either laboratory session is not amenable to statistical analysis and suggest that repeated exposure to sexually violent materials per se, or when considered with one's Force-orientation, does not stimulate sexually violent fantasies in the laboratory. However, this conclusion is highly tentative since the results may be clouded by the admission of many subjects in the debriefing session (to be discussed below) of their reluctance to disclose complete information regarding their fantasies and other sexual activities, especially those which may have involved "deviant" behavior.

EXPLORATORY ANALYSES

For exploratory purposes, the present study also examined several variables and their relationship to sexual arousal. These variables included sexual socialization experiences (SSE), sex attitudes (SA), evaluative ratings (ER), affective ratings (AR), likelihood to rape or force a female under certain circumstances (LR), and the validity and clinical scales of the Minnesota Multiphasic Personality Inventory (MMPI).

The SSE index, along a nonrestrictive-restrictive continuum, was created on the basis of items from the Sexual Background Questionnaire. More specifically, 61 logically related items were first selected from

the questionnaire. The scores of these items were then standardized and summed to form a total z-score. Two of the items assessing subjects' experience with films of photos portraying necking, however, were not included in the total z-score since their variance of 0 made it impossible to generate a z-score for them. To increase the homogeneity of items pertaining to the SSE factor, each of the remaining 59 items was subsequently correlated with the total z-score (Comrey, 1973). Of the 59 items, 40 were significantly correlated with the total z-score at the .05 level with correlations ranging from .21 to .52. Thus the value of the SSE index for each subject was the sum of his z-scores for each of the 40 items.

In creating the SA index, along a permissive-nonpermissive continuum, 25 logically related items were selected from the Sexual Background Questionnaire. They were then standardized and summed to form a total z-score. The z-score of each item was subsequently correlated with the total z-score. Results revealed significance at the .05 level for 21 items with correlations ranging from .20 to .68. Thus, the SA index for each subject consisted of the sum of his z-scores for each of these 21 items.

An ER index, along a nonpornographic-pornographic continuum, was created for each of the 4 depictions in both pre- and post-laboratory sessions. In each case the first 3 items of the corresponding Opinion Questionnaire were standardized and summed to form a total z-score. All 3 items correlated significantly with the total z-score at the .05 level with correlations ranging from .54 to .82. Thus, the ER index of each depiction for each subject consisted of the sum of the 3 individual z-scores.

Subjects' affective ratings for each of the depictions in the two laboratory sessions were based on several items from the corresponding Feelings Scale. The affective ratings were subdivided into 3 categories --positive affect, negative affect, and interest level. A subject's positive affect index was simply his response to an item assessing the depiction's entertaining value. Responses to items evaluating disgust, anxiety, anger, and nausea were combined to form the negative affect factor. The interest level index was based on subjects' ratings for boredom and curiosity.[17]

Intercorrelations among sexual socialization experience, sex attitudes, and evaluative and affective ratings of each depiction in both pre- and post exposure laboratory sessions are presented in Tables 33 and 34, respectively. The significant correlation between SSE and SAA, $r = .3543$, $p < .002$, indicates that those with more restrictive sexual socialization experiences tend to have less permissive sex attitudes.

Most of the evaluative ratings of the depictions in both laboratory sessions were significantly correlated with SSE and SA. The only correlations that did not achieve significance were between the evaluative ratings of the rape-written and sex attitudes in the pre-session and between sex attitudes and evaluative rating of the consenting-written in the post-session, though they both approached significance ($p < .06$ and $p < .08$, respectively). Collectively, the above findings suggest that subjects who rated the portrayals (rape and nonrape) more pornographic tended to have more restrictive backgrounds and less permissive sex

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[17] Note that the affective ratings were based directly on the raw data since, unlike the other indices, the items were on the same interval scale.

TABLE 33

Intercorrelations between Subjects' Indices of Sexual Socialization Experience (nonrestrictive-restrictive), Sex Attitudes (permissive-nonpermissive) and Evaluative (nonpornographic-pornographic) and Affective (positive, negative, interest) Ratings of the 4 Pre-exposure Laboratory Depictions

Indices		Indices					
		Sexual Socialization Experience	Sex Attitudes	Evaluative Ratings of Rape-written	Evaluative Ratings of Rape-pictorial	Evaluative Ratings of Consenting-written	Evaluative Ratings of Consenting-pictorial
Sexual Socialization Experience		--	.3543**	.3500**	.3736**	.3047**	.2726*
Sex Attitudes		.3543**	--	.2242	.2945**	.3150**	.3856**
Rape-written	Positive Affect	.0846	-.0277	.0007			
	Negative Affect	.1216	.2080	.2519*			
	Interest Level	.0703	.3589***	.0842			
Rape-Pictorial	Positive Affect	-.1129	-.1925**		-.0615		
	Negative Affect	.2051	.2950**		.4560****		
	Interest Level	.0707	.2644**		.0099		
Mutually Consenting-Written	Positive Affect	-.0002	-.0392			.3168**	
	Negative Affect	.0185	.0476			.2909*	
	Interest Level	-.0355	.0322			-.4053****	
Mutually Consenting-Pictorial	Positive Affect	.1420	.0481				.4255****
	Negative Affect	-.0742	.0502				.2340*
	Interest Level	-.1711	-.0183				-.2671*

n=69

* $p < .05$
** $p < .01$
*** $p < .001$
**** $p < .000$

TABLE 34

Intercorrelations between Subjects' Indices of Sexual Socialization Experience (nonrestrictive-restrictive), Sex Attitudes (permissive-nonpermissive) and Evaluative (nonpornographic-pornographic) and Affective (positive, negative, interest) Ratings of the 4 Post-exposure Laboratory Depictions

Indices		Indices					
		Sexual Socialization Experience	Sex Attitudes	Evaluative Ratings of Rape-written	Evaluative Ratings of Rape-pictorial	Evaluative Ratings of Consenting-written	Evaluative Ratings of Consenting-pictorial
Sexual Socialization Experience		--	.3543**	.3238**	.2425*	.3386**	.2907*
Sex Attitudes		.3543**	--	.2716*	.4039****	.2134	.3649**
Rape-written	Positive Affect	.1085	.0996	.1194			
	Negative Affect	.0523	.1683	.3418**			
	Interest Level	-.1229	-.0316	-.3437**			
Rape-Pictorial	Positive Affect	.1081	.0078		-.0279		
	Negative Affect	.0211	.2970**		.5582****		
	Interest Level	-.1279	.1691		-.1079		
Mutually Consenting-Written	Positive Affect	.2123	.0758			.3147**	
	Negative Affect	.0710	.3230**			.3107**	
	Interest Level	-.1696	.0031			-.2968**	
Mutually Consenting-Pictorial	Positive Affect	.1483	.0345				.2100*
	Negative Affect	-.0480	.2485*				.2496*
	Interest Level	-.2698*	-.0452				-.2465*

* p < .05
** p < .01
*** p < .001
**** p < .000

n=69

attitudes.

While affective ratings were consistently not correlated with SSE, there were some significant correlations between affective ratings and SA. More specifically, negative affect and SA were significantly correlated for the rape-pictorial in both pre- and post-sessions. A similar significant correlation was not obtained for the rape-written, though it approached significance ($p < .086$) in the pre-session only. Negative affect, however, was also significantly correlated with SA for the consenting-written and consenting-pictorial but only in the post-session. There was also a significant correlation between interest level and SA but only for the two rape depictions in the pre-session. These results do not provide a clear pattern but are nevertheless somewhat suggestive of a possible relationship between negative affect and sex attitudes, i.e., subjects who rated the depictions more negatively may be characterized as having less permissive sex attitudes.

Negative affect was significantly correlated with evaluative ratings for each depiction in both pre- and post-session, suggesting that subjects who rated the depictions more negatively tended to rate them as more pornographic.

The results of the relationship between positive affect/interest level and evaluative ratings differed between rape and nonrape portrayals. More specifically, positive affect rating was not significantly correlated with evaluative ratings for either rape depictions in both sessions. Significance, however, was achieved for the consenting-written in both sessions and for the consenting-pictorial in the pre-session. Although the correlation between positive affect and evaluative rating was not significant for the consenting-pictorial in the

post-session, it approached significance ($p < .084$). Therefore it seems that subjects who rated the nonrape depictions more pornographic tended to rate them as more positive.

Although interest level and evaluative ratings were significantly correlated in the case of the pre-session rape-written, failure to obtain significance for the other rape depictions in the two sessions suggest that there is no general relationship between these two variables. On the other hand, significant correlations were obtained in both sessions for the nonrape depictions. Therefore, similar to the results concerning positive affect, subjects who rated the nonrape depictions more pornographic tended to rate them more interesting (as well as more positive).

Correlations between each of the above variables and arousal (penile tumescence and self-reported) to the 4 depictions in the pre- and post-exposure laboratory sessions are presented in Tables 35 and 36, respectively. Although the relationship between SSE and self-reported arousal to the rape-pictorial in the pre-session approached significance ($p < .054$), the absence of significance for other depictions in either sessions suggests no relationship between SSE and arousal. Sex attitudes were also not significantly correlated with any of the 4 depictions in either session.

Correlations between evaluative ratings of and arousal to the rape depictions in both sessions did not achieve significance. There were, however, a few significant correlations in the case of the nonrape portrayals. More specifically, evaluative ratings of a self-reported arousal to the consenting-written in both sessions and to the consenting-pictorial in the pre-session achieved significance. Also, correla-

TABLE 35

Correlations between Sexual Arousal (Penile Tumescence and Self-Reported) to the 4 Depictions in the Pre-Exposure Laboratory Session and Subjects' Indices of Sexual Socialization Experience (nonrestrictive-restrictive), Sex Attitudes (permissive-nonpermissive), and Evaluative (nonpornographic-pornographic) and Affective (positive, negative, interest) Ratings

Arousal to Depictions	Indices					
	Sexual Socialization Experience	Sex Attitude	Evaluative Ratings	Positive Affect	Negative Affect	Interest Level
Rape-written (tumescence)	.0388	-.0061	.1245	.3659***	-.0567	-.2857**
Rape-written (self-report)	.1022	.1069	.1273	.6326****	-.1699	-.3257**
Rape-pictorial (tumescence)	.0879	-.0200	-.0186	.1627	.0596	-.2362**
Rape-pictorial (self-report)	-.2339	-.1989	-.1573	.4486****	-.1320	-.2753**
Consenting-written (tumescence)	.0365	-.0092	.2342	.4197****	.0917	-.5232****
Consenting-written (self-report)	.0044	.2055	.3596***	.6505****	.2068	-.5110****
Consenting-pictorial (tumescence)	.0831	.0696	.1526	.3044**	.0603	-.2698**
Consenting-pictorial (self-report)	.1092	.0492	.4070****	.6380****	.0845	-.4660****

* $p < .05$
** $p < .01$
*** $p < .001$
**** $p < .000$

TABLE 36

Correlations between Sexual Arousal (Penile Tumescence and Self-Reported) to the 4 Depictions in the Post-Exposure Laboratory Session and Subjects' Indices of Sexual Socialization Experience (nonrestrictive-restrictive), Sex Attitudes (permissive-nonpermissive), and Evaluative (nonpornographic-pornographic) and Affective (positive, negative, interest) Ratings

	Indices					
Arousal to Depictions	Sexual Socialization Experience	Sex Attitude	Evaluative Ratings	Positive Affect	Negative Affect	Interest Level
Rape-written (tumescence)	-.0677	.0877	.1806	.3579***	-.0091	-.4028****
Rape-written (self-report)	-.0724	.1765	.1156	.5629****	.0015	-.5494****
Rape-pictorial (tumescence)	-.1058	-.0989	-.0081	.3417**	-.0345	-.2640*
Rape-pictorial (self-report)	.1100	-.1661	-.1732	.5658****	.0190	-.4140****
Consenting-written (tumescence)	-.1697	-.0369	.1501	.3192**	.0933	-.3759**
Consenting-written (self-report)	.0509	.0810	.2471*	.5735****	.2183	-.4721****
Consenting-pictorial (tumescence)	-.1311	-.0444	-.1130	.2055	-.0588	-.0733
Consenting-pictorial (self-report)	.0832	.0654	.0216	.6272****	-.0140	-.4177****

* $p < .05$
** $p < .01$
*** $p < .001$
**** $p < .000$

tion between tumescence and evaluative ratings of the consenting-written in the pre-session approached significance ($p < .052$). Taken together, the results with the nonrape depiction do not suggest a general picture of any relationship between evaluative ratings and arousal, though a clear picture of no relationship emerged for the rape depictions.

Negative affect was not significantly correlated with arousal for any of the depictions in both sessions. In contrast, positive affect and interest level showed a general significant relationship with arousal in both sessions. Only the correlations between positive affect and tumescence for the consenting-pictorial in the post-session , between positive affect and tumescence for the rape-pictorial in the pre-session, and between interest level and tumescence for the consenting-pictorial in the post-session failed to achieve significance, though the former approached acceptable levels of significance ($p < .09$). Thus, subjects who were more aroused by the depictions tended to rate them as more positive and more interesting.

To recapitulate, SSE, SA, evaluative ratings, and negative affect do not appear to have any relationship with subjects' sexual arousal to rape and nonrape depictions. In contrast, there seems to be a positive relationship between arousal and positive affect (i.e., entertaining value) or interest level.

Another variable examined in this study was subjects' reported likelihood to rape or to force a female into sex if they were assured that they would not be caught and punished. Subjects' responses to 2 items --one concerning rape and the other forcing a female -- were used

to form this variable. Rather than examining these two items separately, it appears to be more useful to combine them to create one score for each subject (Briere and Malamuth, in press). If subjects indicated no likelihood to rape (score of 1 on a 6-point scale) and no likelihood to force a female (score of 1 on a 6-point scale) they were assigned a value of 1. If subjects indicated no likelihood to rape but some likelihood to force a female (i.e., score of 2 or more) then they were assigned a value of 2. If subjects indicated no likelihood to force a female but some likelihood to rape (i.e., 2 or more) or some likelihood to rape and force a female, then a value of 3 was assigned to them. Thus, whereas a value of 1 reflected no likelihood to either rape or force a female, 2 and 3 represented increasing likelihood to engage in such behavior. Since the two items that constituted the index were in both the pre-exposure Sexual Background Questionnaire and a post-exposure questionnaire, subjects' index of Likelihood to Rape or Force a Female for both the pre-exposure (pre-LRFF) and post-exposure (post-LRFF) periods were generated.

Table 37 shows the the pre-LRFF index was significantly correlated with self-reported arousal to the pre-session rape-written ($p. < .000$) and rape pictorial ($p < .006$). Significance was not achieved with pre-tumescence data for either pre-session rape depiction, nor for the consenting depictions. In the post-session, post-LRFF was significantly correlated with self-reported arousal to the rape-written ($p < .05$) but significance did not occur with self-reported arousal to the rape-pictorial ($p < .118$). Similar to the pre-exposure results, significance between post-LRFF and tumescence response to the rape-written and rape-pictorial did not occur, though the latter approached significance ($p <$

TABLE 37

Correlations between Pre- or Post-exposure Indices of Likelihood to Rape and/or Force a Female into Sex and Sexual Arousal (Penile Tumescence and Self-reported) to the 4 Depictions in the Corresponding Laboratory Session

	Likelihood to Rape and/or Force a Female into Sex	
Arousal to Depiction	Pre	Post
Rape-written (tumescence)	.1152	.0966
Rape-written (self-report)	.4324****	.2366*
Rape-pictorial (tumescence)	.0971	.2041
Rape-pictorial (self-report)	.3220**	.1897
Consenting-written (tumescence)	-.0467	-.0761
Consenting-written (self-report)	.1318	-.0014
Consenting-pictorial (tumescence)	.1212	.0522
Consenting-pictorial (self-report)	.1602	.1374

* $p < .05$
** $p < .01$
*** $p < .001$
**** $p < .000$

.092). Also, similar to the pre-session findings, there was no significance between post-LRFF and arousal to the nonrape depictions.

Taken together, the above results suggest that subjects who indicated greater LRFF tended to report greater arousal to the rape depictions. Although the results with the tumescence data generally showed a nonsignificant relationship with LRFF, it is interesting to note that the direction of the mean differences between subjects who reported the highest LRFF and those reported no LRFF in both sessions pointed to a similar pattern as with self-reported arousal. More specifically, in the pre-exposure session, tumescence mean of subjects who reported the highest LRFF was higher than that of subjects who reported no LRFF for both rape-written (4.41 and 3.30, respectively) and rape-pictorial (8.35 and 7.26, respectively). In addition, the direction of the differences was the same in the post-session for the tumescence responses to the rape-written (4.07 and 3.14, respectively), and rape pictorial (7.76 and 5.63, respectively). Thus, it seems that subjects who reported highest LRFF are generally more aroused by rape depictions than those who reported no LRFF.

To explore further the LRFF index, its relationship with some of the scales of the Minnesota Multiphasic Personality Inventory (MMPI) was examined. Three subjects failed to complete a MMPI while one obtained an invalid profile.[18] Consequently, these 4 subjects were not included in the subsequent analyses, leaving a sample size of 65.

Past research (Radar, 1977; Armentrout and Hauer, 1978) found that,

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[18] The MMPI profile for one subject was invalid since the difference between the two validity scales (F minus K) was greater than 11 and most of the clinical scales were above the T-score of 70 (Graham, 1977).

among rapists, scale Pd (psychopathy) tends to be primed (i.e., elevated above T-score of 70), often in conjunction with scale Sc (schizophrenia). Elevated Pd scores suggests an individual who is socially nonconforming, hostile, impulsive, pleasure-seeking, and unable to establish close emotional ties (Graham, 1977). Elevated Sc score reflects unconventional mentation, aloofness, and social alienation. Other scales which have shown occasional primed scores and/or which assess personality qualities that make sense intuitively as relevant for this study include F (validity scale: primed score suggests unusual or unconventional thinking and rebelliousness), Pa (paranoia: elevated score reflects suspicion, distrust, resentment, and hostility), and Ma (hypomania: primed score suggests maladaptive hyperactivity and agitation, irritability, and low tolerance for frustration). In light of the above, the focus will be on the F, Pd, Pa, Sc, and Ma scales.

The results of the MMPI were examined in terms of the differences between the groups expressing different levels of LRFF. Tables 38 and 39 present the means for pre-LRFF and post-LRFF, respectively. T-tests were performed in order to compare groups 1 (subjects who reported no LRFF), 2 (subjects who reported likelihood to force a female only), and 3 (subjects who reported likelihood to rape).

For the F scale, results revealed a significant difference between groups 1 and 3 when post-LRFF was the grouping factor ($t = 1.99$, $p < .05$) and a difference that approached significance when pre-LRFF was the grouping factor ($t = 1.21$, $p < .0965$). For the Sc scale, differences between groups 1 and 3 achieved significance when post-LRFF was the grouping factor ($t = 2.01$, $p < .048$) while it approached significance when pre-LRFF was the grouping factor ($t = 1.92$, $p < .0599$). For the Ma

TABLE 38

Means and Comparisons of Specific MMPI scales for Groups 1 (Subjects who reported no likelihood to rape or force a female), 2 (Subjects who reported some likelihood to force a female into sex), and 3 (subjects who reported some likelihood to rape) Using the Grouping Factor based on the Pre-questionnaire Items

Scales	Group 1 1	Group 2 2	Group 3 3	T-Tests 1 vs 3	1 vs 2
F	57.36	58.62	62.00	1.69*	.50
Pd	58.96	59.33	61.56	.88	.14
Pa	56.75	58.43	60.12	1.41	.86
Sc	60.68	62.90	67.90	1.92*	.68
Ma	65.79	65.62	71.62	1.88*	-.06

* $p < .10$

n in group 1 = 28
n in group 2 = 21
n in group 3 = 16

TABLE 39

Means and Comparisons of Specific MMPI scales for Groups 1 Subjects who reported no likelihood to rape or force a female), 2 (Subjects who reported some likelihood to force a female into sex), and 3 (subjects who reported some likelihood to rape) Using the Grouping Factor based on the Post-questionnaire Items

Scales	Group 1	Group 2	Group 3	T-Tests 1 vs 3	1 vs 2
F	56.37	58.87	61.27	1.99*	.87
Pd	57.50	61.20	60.92	1.30	1.21
Pa	55.29	60.00	59.12	1.56	1.66*
Sc	59.08	65.23	65.50	2.01*	1.67
Ma	65.62	68.13	68.04	.84	.75

* $p < .10$

n in group 1 = 24
n in group 2 = 15
n in group 3 = 26

scale, difference between groups 1 and 3 approached significance when pre-LRFF was the grouping factor ($t = 1.88$, $p < .0654$) but significance was not obtained when post-LRFF was the grouping factor ($t = .84$, $p < 41$). Differences between groups 1 and 3 and between 1 and 2 for the Pd and Pa scales did not achieve significance, though it is interesting to note that for both scales subjects who reported some likelihood to use force (i.e., groups 2 and 3) scored higher than those who reported no likelihood to use force (i.e., Group 1). In sum, although the absolute group scores of the five scales in question generally fell short of the "abnormal" or elevated range, the direction of the group differences revealed that those who reported the highest LRFF tended to have traits more similar to those of rapists than those who reported no LRFF. Thus, it appears that individuals who indicated the highest LRFF, relative to those who indicated no LRFF, tend to be more unconventional in their thinking (F, Sc), irritable (Ma), restless (Ma), hostile (Pd, Pa), and socially aloof (Sc).

DEBRIEFING SESSIONS

Subjects' responses to post-exposure questionnaires assessing their awareness of the purpose of the study showed that 7 of the 25 in the sexually violent condition, 7 of the 23 in the sexually nonviolent condition, and 6 of the 21 in the control group included some reference to sexual violence. During the actual discussions in the debriefing sessions, it was evident that some subjects were aware of the violent component in the study.

CHAPTER 4

DISCUSSION

SEXUAL AROUSAL

Overview of Findings

The pattern of the sexual arousal data in the present investigation suggested that, for subjects with a relatively high level of arousal to rape stimuli (i.e., Force-oriented subjects), repeated exposure to sexually violent or nonviolent materials may lead to satiation or decreased arousal to erotica with rape themes. In contrast, for both Nonforce-oriented and Unclassifiable subjects, repeated exposure to either sexually violent or nonviolent stimuli had no effect on subsequent arousal to rape stimuli.

The results also revealed that, irrespective of force-orientation, exposure to sexually nonviolent or violent materials had no effect on arousal to post-exposure nonrape (i.e., mutually consenting intercourse) stimuli. However, it should be noted that the direction of the differences among the Force-oriented subjects was suggestive of satiation for those exposed to either violent or nonviolent erotica.

At this point the reader is reminded that, while random assignment was successful with the Force-oriented and Unclassifiable subjects, there was some question of its success with the Nonforce-oriented subjects. Consequently, caution must be exercised in the interpretation of the results of the Nonforce-oriented group.

Comparisons to Previous Research

The present author is aware of only three studies which have

addressed themselves directly to the issue of repeated exposure effects (Howard et al., 1971; Schaefer and Colgan, 1977; Zillmann and Bryant, in press). The results of these studies will be compared to the findings of the present investigation, first to the nonrape data and then to the rape data.

Nonrape: As indicated in the preceding subsection, exposure to sexually nonviolent or violent stimuli had no effect on arousal to subsequent nonrape (i.e., mutually consenting intercourse) depictions for either Nonforce-oriented or Unclassifiable subjects. This finding is consistent with results reported by Schaefer and Colgan. In their study they also assessed penile responses and exposed subjects to diverse nonviolent erotica three times a week for two consecutive weeks.

The aforementioned 'no effect' finding, however, was inconsistent with the results reported by Howard et al. Since their study and the present investigation were similar in that they both examined tumescence scores and employed various nonviolent materials throughout the exposure period, it may be that the discrepant findings are a function of differences in frequency of exposure and/or interexposure interval. In the present investigation subjects were exposed to two different feature-length films per week for three consecutive weeks, as well as to four take-home depictions in the fourth week. In the Howard et al. study subjects were given access to pornographic films, stills, magazines, and novels for ninety minutes a day, five days a week for three consecutive weeks. During the first two weeks subjects were presented with the same set of pornographic materials in each session. In the third week the set was replaced by a new one. While it may be questioned whether the

nature of exposure utilized in the present study approximates the naturalistic situation even for "heavy" consumers of pornography, one can assert with greater confidence that the amount of exposure and interstimulus interval (i.e., interval between exposures) employed by Howard et al. (1971) is not analogous to the typical experience with erotica for most people. It seems safe to assert that such a bombardment of erotic stimuli would inevitably lead to boredom or satitation. In his critical review of the Commission studies, Cline (1975) also argued that the satiation effect reported by Howard and his associates was probably a function of overexposure, the effect being the same if one engaged in too much coitus, eating, or drinking.

The 'no effect' findings of the present study is also inconsistent with the satiation effect obtained by Zillmann and Bryant (in press). There are several methodological differences between these two studies which may account for the discrepant findings. First, Zillmann and Bryant employed general autonomic responses (i.e., heart rate, systolic blood pressure) to assess sexual arousal. In contrast, the present study used specific measures of sexual arousal (i.e., penile tumescence, self-reported arousal). Whether general measures provide an accurate assessment of sexual arousal is questionable. Second, Zillmann and Bryant used the same medium throughout their study (i.e., films). In contrast, the present study employed readings and descriptive pictorials in both pre- and post-exposure sessions. Furthermore, feature-length films, readings, and descriptive pictorials were used during the exposure period. It may be that the nature of medium presentation affects the type of exposure effects that occurs.

Up to this point the results of the Nonforce-oriented and Unclassi-

fiable subjects have been compared to earlier findings. Turning to the Force-oriented subjects, the results of these individuals also revealed no significant effects. However, it was interesting to note that the direction of the differences between those exposed to either sexually violent or nonviolent stimuli and controls was suggestive of a satiation effect. This (nonsignificant) data pattern of the Force-oriented subjects is consistent with the habituation effect obtained with sexually nonviolent stimuli by Howard et al. and Zillmann and Bryant. These other studies on repeated exposure effects did not examine individual differences such as force-orientation. Therefore, the fact that the (nonsignificant) satiation pattern was consistent with the results of the other two studies while the 'no effect' findings for Nonforce-oriented and Unclassifiable subjects was not suggests that the force-orientation factor may play some important role in repeated exposure effects on sexually nonviolent stimuli.

Rape: Neither Howard et al. (1971) nor Schaefer and Colgan (1977) employed sexually violent materials in their studies and, therefore, comparisons of their findings to those involving rape in the present study were not conducted. However, although Zillmann and Bryant (in press) utilized only sexually nonviolent stimuli (i.e., explicit heterosexual behaviors) during the exposure period, they employed a sexually violent stimulis (i.e., 8-minute film depicting sadomasochism and bestiality) in the post-exposure session. Consequently their result for this stimulus was compared to the rape data in the present study.

As mentioned earlier, in the present study, repeated exposure to sexually violent or nonviolent stimuli had no effect on subsequent

arousal to rape depictions for both Nonforce-oriented and Unclassifiable subjects. This result is consistent with the no effect finding reported by Zillmann and Bryant. However, in the present study, there was a satiation effect for the Force-oriented subjects and this is inconsistent with Zillmann and Bryant's results. There are two possible explanations for this inconsistency. First, Zillmann and Bryant assessed subjects' arousal to depictions of sadomasochism (and bestiality) whereas the present study evaluated arousal to rape stimuli. These two types of aggressive erotica may elicit different levels of sexual responsivity. Second, Zillmann and Bryant did not categorize subjects in terms of their force-orientation as was done in the present study. Consequently, the fact that Zillmann and Bryant's findings were inconsistent with those of the Force-oriented subjects but consistent with those of the other two groups suggests that individual differences variables may be critical determinants in exposure effects.

Theoretical Considerations

In dealing with such complex behaviors as the human sexual response, there are obviously numerous factors which interact to produce the net level of arousal. Some of these variables are likely to be cognitions, personality traits, contingencies and conditioning processes, and stimulus parameters.

Cognitions: It has been demonstrated that cognition can either hinder or facilitate the human sexual response (Geer and Fuhr, 1976; Heiman, 1975). Although these earlier studies employed a single session exposures, it follows that cognitive elements may also play a major role in repeated exposure effects. The present author is not aware of any

theory that specifically focuses on individual differences in cognitive functioning and how they relate to the effects of exposure to pornography. However, there is one theory that may provide a valuable theoretical framework from which to enhance our understanding of cognitive factors in exposure effects. This theory - Stimulus Comparative Model - was proposed by Sokolov (1963a, 1963b, 1969) to account for the elicitation and habitation of the Orienting Reflex (OR).

The potential relevance of this theory is attested by the following two reasons. First, it has evolved in large part from research on the Orienting Reflex of humans. Sokolov defines the OR as a generalized system of responses encompasssing autonomic, somatic, sensor, and electroencephalographic components. Since sexual responses such as tumescence are directly regulated by the autonomic nervous system (Eysenck and Nias, 1978), they are autonomic responses and therefore fall under the rubric of ORs. Also Sokolov (1963a) alludes to the sexual response as a OR. Second, as indicated earlier, individual differences in terms of cognitive functioning are likely to play some important role in exposure effects and the Stimulus Comparative Model concerns itself with one aspect of cognition (i.e., memory).

According to this model, the nervous system produces a stimulus or neuronal model in the cerebral cortex following exposure to a specific stimulus. The various parameters of the stimulus (e.g., duration, intensity) are encoded in this neuronal model. When one is presented with a subsequent stimulus, certain brain areas compare the incoming stimulus to the model. If there is a match (i.e., the stimulus parameters are identical to those in the neuronal model), the strength of the orienting response wanes and, with repetitive stimulation of the

same stimulus, response habituation ensues. If there is any difference between the incoming stimulus and the neuronal model, a mismatch occurs and the orienting response is then elicited. The strength of the OR following a mismatch is dependent on the amount of discrepancy between the stimulus and the neuronal model. More specifically, the greater the difference between the two, the larger the OR.

In defining the above relationship, Sokolov (1963a) stated that "the intensity of the orienting reflex is assumed to be proportional to the difference between the stimulus and the nervous model" (p. 561). This concept is equivalent to what is commonly referred to in Learning Theory as the stimulus generalization gradient (Millenson and Leslie, 1979). According to Learning Theory, this gradient, which is typically represented in graphic form, reflects response strength as a function of similarity between the original conditioned stimulus and other stimuli along certain dimensions(s) --the greater the similarity the larger the response. Sokolov (1963b) has presented experimental data demonstrating generalization gradients. That is, in several studies, he showed variable degrees of response strength to stimuli which varied in similarity to the original habituated stimulus.

The above notion of generalization gradients is based on the premise that subjects are first habituated to a specific stimulus following repeated exposures to that stimulus. Response strength of different stimuli are then examined in terms of their similarity to the stimulus to which subjects have habituated. However, in the present study, subjects were not initially exposed to the same stimulus for several sessions. Instead, they were presented with diverse stimuli which were

similar in themes across sessions. In light of this, how can Sokolov's theory apply to the methodology of the present study?

Although Sokolov is not explicit for these types of exposure conditions, he does state that "after repeated presentation of stimuli with characteristics varying within given limits, the nervous model is generalized to match the limits of stimulus variation" (1963a, p. 562). It is not clear what limits entail but the preceding statement seems to imply that repeated exposure to stimuli which are similar along some dimension(s) may generate a generalized stimulus model to which habituation may occur. If this is true, then response strength may be a function of the degree of similarity between the incoming stimulus and the generalized stimulus model along habituated elements.

Applying the above concepts to exposure to pornography, it may be that initial exposures to various pornograhic stimuli containing a common theme may generate a generalized stimulus model. With continuous exposure to variations of that theme (e.g., rape, group sex) over an extended period of time, habituation to that class of activities may ensue. Furthermore, since pornographic materials have the sexual element as a common denominator, erotica containing different themes may be similar to the habituated model in varying degrees. Consequently, repeated exposure to a specific theme may then affect not only arousal to subsequent identical themes but also to related ones, the effect depending on the degree of similarity between the stimuli.

On the basis of this reasoning, it can be argued that rape and sadomasochistic themes are related along certain dimensions (e.g., both involve violence). Consequently, it would be expected that subjects who were exposed repeatedly to sexually violent stimuli (i.e., rape and

sadomasochism) would show lower arousal level to the post-exposure rape portrayals than the controls. However, only the results of the Force-oriented subjects were consistent with this expectation. It can also be argued that diverse nonviolent erotica may be related in terms of some theme (e.g., mutually-consenting activities) and, therefore, repeated exposure to such stimuli would be expected to result in satiation to nonrape depictions. Again, however, a (generally nonsignificant) satiation effect was obtained only with Force-oriented subjects. Finally, it can be argued that rape and mutually-consenting themes may be related in some fashion (e.g., activity between adult male and female, etc.). Also, it makes good intuitive sense that the similarity between rape and consenting themes is less than that between various sexually violent depictions or between diverse sexually nonviolent portrayals. As a result, it would be expected that (1) subjects exposed repeatedly to sexually violent stimuli would show lower arousal to nonrape depictions than controls but greater than that of those exposed to nonviolent erotica and that (2) subjects exposed repeatedly to sexually nonviolent stimuli would be less aroused to rape portrayals than controls but more than those exposed to aggressive pornography. Of these two expectations, only part of the latter one was confirmed by the results and, again, it was only in the case of the Force-oriented subjects. More specifically, the Force-oriented subjects, those repeatedly exposed to sexually nonviolent stimuli showed less arousal to rape portrayals than the controls; however, the amount of "satiation" to the rape depictions shown by subjects exposed to sexually violent stimuli was not less than (but instead similar to) that of subjects exposed to sexually nonviolent

stimuli.

From the above it appears that the notions of generalization gradient and generalized stimulus model as suggested by Sokolov's theory may provide some basis for explaining the the results of the Force-oriented subjects. They fail, however, to account to any extent for the no effect exhibited by the Nonforce-oriented and Unclassifiable subjects for both rape and nonrape depictions. Consequently, it is highly probable that Sokolov's emphasis on the memory component of cognition may be too limited in scope for studying exposure effects with pornographic stimuli. There may be additional cognitive elements and other dimensions such as personality differences and conditioning processes which play some role in exposure effects.

Personality factors: It is highly probable that individual differences in terms of personality characteristics play some role in exposure effects. One theory that addresses itself to personality differences and how they relate to exposure effects is Eysenck's General Theory of Personality (1967). This theory describes personality in terms of three major dimensions -- neuroticism, psychoticism, and extroversion. These three dimensions are believed to have a physiological basis and to interact with environmental determinants to produce observable behaviors. Of these three dimensions, extroversion has received the most attention in terms of its role in mediating the effects of exposure to sexual stimuli. According to this theory, extroverts have low cortical arousal while introverts have high levels of cortical arousal, the level probably being mediated by the ascending reticular formation. Because of the differential levels of cortical arousal extroverts require greater external stimulation to achieve an optimal

level of arousal, condition less quickly, and extinguish faster than introverts. In a modification of the conditioning component, Gray (1970, 1972) suggested that extroverts condition quicker to stimuli associated with reinforcement. Introverts, on the other hand, condition better to stimuli associated with guilt, anxiety, frustrative nonreward, and/or punishment.

On the basis of the above, Eysenck and Nias (1978) predicted differential exposure effects between extroverts and introverts. More specifically, extroverts are expected to habituate more quickly and thoroughly with repeated exposure to sexual stimuli, and condition more quickly to stimuli paired with stimulating and sexually exciting events (e.g., orgasm). In contrast, extroverts are expected not to habituate as readily to sexual stimuli, but condition more quickly to sexual material which elicits negative emotional reactions.

The present study was not designed to examine the extroversion-introversion variable. However, Eysenck's theory provides an illustration of a model that could potentially be applied in understanding satiation effects. That is, intuitively, it may be expected that someone who is initially highly aroused to a certain type of stimulus would maintain that high arousal level longer and habituate less readily to it than an individual who found that same stimulus initially less arousing. However, the satiation pattern obtained with those who were initially more aroused to the rape stimuli (i.e., Force-

oriented subjects) is the opposite of the above expectation. Though this finding might strike some people as unusual, Eysenck's theory takes into account initial arousal level and exposure to sexual stimuli and makes predictions which are consistent with the obtained satiation pattern of the Force-oriented subjects.

It is interesting to note that the finding that subjects who were initially more aroused to the rape stimuli (i.e., Force-oriented subjects) satiated to them (whereas other subjects did not) is analogous to Eysenck's postulate about the effects with extroverts. While I am not suggesting that there is necessarily a link between the extroversion-introversion dimension and force-orientation, it may be that there are similar mechanisms underlying these initial differences and they may be in some way related to satiation. Thus, it is important that future research address this issue to determine if such mechanisms do exist.

Two personality variables which may also play some role in exposure effects are sex guilt and the erotophobe-erotophile dimension. Galbraith and Mosher (1968) and Pagano and Kirschner (1978) have demonstrated that high-sex guilt individuals are less sexually responsive to erotica than low-sex guilt individuals. Fisher and Byrne (1978) found that erotophobes (i.e., individuals who rated a sex film as relatively pornographic) increased their sexual activity during a 2-day period following exposure to the erotic film while erotophiles (i.e., individuals who rated the same sex film as relatively nonpornographic)

showed no appreciable changes. They did not find, however, any type of relationship between sexual arousal and the erotophobe-erotophile dimension. These studies involved only one session and the exposure stimuli were sexually nonviolent. In the present study, which included aggressively-toned pornography and several exposure sessions, only the erotophobe-erotophile dimension and its relationship to sexual arousal was examined. There was generally no association between this personality variable and arousal but since the analysis was conducted at an exploratory level the results are highly speculative. Thus, future research which would examine these two personality factors is required in order to enhance our understanding of the potentially mediating role of these variables in repeated exposure effects with pornographic stimuli (violent and nonviolent).

Conditioning processes: In delineating differential effects between extroverts and introverts, Eysenck and Nias (1978) and Gray (1972) alluded to what may be a very critical element in exposure effects (i.e., type of contingency -- reward, punishment, or frustrative nonreward. If this true, then it follows that conditioning or learning processes may be operating during repeated exposures to erotica. That this may be the case is suggested by two lines of research. First, using the operant conditioning model, Schaefer and Colgan (1977) found that exposure per se to sexually nonviolent stimuli lead to an overall satiation effect while enhancement of tumescence scores occurred when exposure was followed immediately and repeatedly by positive reinforcement (i.e.,masturbation). Although there were methodological and statistical diffi-

culties with this study (as outlined in the Introductory Chapter) and the stimuli employed were sexually nonviolent, the results point to the potential role of operant conditioning during exposures, whether it be with sexually nonviolent or violent stimuli.

Second, employing the classical conditioning paradigm, numerous studies have reported some success in the treatment of sexual aberrations (e.g., Brownell et al., 1977; Feldman & McCullough, 1971; Rooth & Marks, 1974). These investigators typically paired a deviant sexual object such as boots (Conditioned Stimulus or CS) with a noxious stimulus such as electric shock (Unconditioned Stimulis or UCS). After repeated pairings of the CS and UCS, sexual responsivity (i.e., Conditioned Response) to the deviant sexual object diminished. Thus, within the context of exposure to pornography, repeated pairings of violent or nonviolent erotica (CS) and punishment or reinforcement (UCS) may affect sexual arousal (CR) to subsequent erotica accordingly.

The above two areas of research suggest that conditioning processes may be operating during exposures. However, there are obvious ethical and practical issues which render implementation of conditioning procedures extremely difficult, especially when sexually violent or deviant behaviors are involved. Nonetheless, the issue of repeated exposure effects may be of sufficient importance to warrant attempts to address this area of concern.

Stimulus parameters: It is highly probable that stimulus parameters play some role in exposure effects. Unfortunately, none of the studies that have examined effects of repeated exposure to pornography on arousal (including the present one) examined the effects of stimulus characteristics. There is one area of research, however, that has

examined stimulus parameters extensively. This research investigated the phenomenon of habituation of human physiological responses following repeated exposure to various stimuli such as sound, light, and electrical and thermal stimulation to the skin (Graham, 1973; O'Gorman, 1977). The most commonly employed physiological responses included autonomic (i.e., electrodermal, cardiovascular) and electroencephalographic systems. In their reviews of studies in this area, Graham and O'Gorman both concluded that stimulus intensity and interstimulus interval (i.e., interval between stimulus exposure) were particularly salient in habituation effects. They reported that the effect of stimulus intensity was dependent on the response system studied and the measure of habituation employed. For interstimulus interval, they reported that more rapid habituation occurs with shorter interstimulus intervals.

Whether the above relationships hold in the context of exposure effects to pornography remains to be seen. The complexity of pornographic stimuli, which are loaded with affective, valuative, and attitudinal connotations, is obviously greater than stimuli such as sound and light. Similarly, the human sexual response is more complex than the response systems mentioned above. Nevertheless, at an intuitive level, it makes good sense that stimulus intensity and interstimulus interval may be critical determinants in the nature of exposure effects to pornography. Of these two variables, interstimulus interval strikes the present author as particularly pertinent and therefore deserves some brief discussion.

To date, the studies which investigated effects of repeated exposure to pornography (including the present one) employed interstimulus

or interexposure intervals ranging from one day to one week. But are these interexposure intervals comparable to those in subjects' natural setting? Although these are no empirical data concerning this question, it is likely that the average person experiences occasional exposures and at varying intervals. For example, one may read or view sexual materials on one or few consecutive days and then not have a subsequent exposure for days or weeks. With such exposure the individual is unlikely to reach a point at which habituation (particularly long-term) may occur.

If it is true that occasional exposure is the "typical" real-life "dosage level", then the interexposure intervals employed by the present study and earlier investigations on repeated exposure effects may be relatively short. Consequently, the satiation findings reported by these studies may be a function of the short intervals between exposures. The difference between the shorter intervals used in the studies and longer intervals in the natural environment may also account for the inconsistency between the general finding of satiation and the continued high rate of pornographic consumption (Target Group Index, 1979). Furthermore, with respect to aggressive pornography, the different interexposure intervals would explain the inconsistency between satiation effects and the findings of increased aggressive content in hardcore (Smith, 1976a, 1976b) and softcore (Malamuth & Spinner, 1980) pornography.

On the basis of the above reasoning, it may be suggested that satiation and interexposure interval are inversely related, the direction of this relationship being similar to the one that emerged from the reviews by Graham (1973) and O'Gorman (1977). To shed some

light on this potentially critical relationship, it is important that future research on the effects of repeated exposure to violent and nonviolent erotica employ interexposure intervals which approximate the naturalistic setting as much as possible.

Another stimulus parameter which may play a mediating role in repeated exposure effects is stimulus frequency. Zajonc's (1968) mere exposure or exposure-attitude hypothesis, which is a formalization of the familiarity-leads-to-liking phenomenon, gives this variable a central role in exposure effects. According to this hypothesis, mere repeated exposure to a stimulus is a sufficient condition for the enhancement of an individual's attitude toward it. "Mere" exposure refers to conditions which make the stimulus available to the subject. The exposure-attitude hypothesis does not preclude other bases for liking and it recognizes that under certain (unspecified) conditions liking can develop without repetitive exposure and that liking can be partially offset by other variables. Zajonc argued that the exposure-liking relationship is a positive, decelerating curve with attitude enhancement a function of the logarithm of stimulus frequency. Thus, the effect is most pronounced in the initial phase of exposure and after considerable experience with the stimulus increments in liking become successively smaller. Zajonc also asserted that "overexposure" is not possible and if there should be a decrease in the appeal of the stimulus it is a function of some variable(s) other than exposure per se.

Zajonc and his associates have provided experimental evidence for the proposed exposure-liking relationship with such stimuli as foreign words (Zajonc, Swap, Harrison, & Roberts, 1971; Zajonc & Rajecki, 1969), nonsense words (Zajonc, Shaver, Tavris, & van Kreveld, 1972), Chinese ideographs (Zajonc, Crandall, Kail, & Swap, 1974;Zajonc, Swap, Harrison,

& Roberts, 1971), photographs of men's faces (Moreland & Zajonc, 1982; Zajonc, Markus, & Wilson, 1974; Zajonc, Shaver, Tavris, & van Kreveld, 1972), and to a much lesser extent actual persons (Saegert, Swap, & Zajonc, 1973). However, in one study in which they used abstract paintings Zajonc, Shaver, Tavris, and van Kreveld (1972) found an inverted-U relationship. A number of other researchers (e.g., Berlyne, 1971) have proposed and also found evidence for this curvilinear relationship using stimuli similar or identical to those employed by Zajonc and his associates. These researchers argue that after a number of exposures liking wanes and satiation ensues. The research findings in this area are highly conflictual and since a review is beyond the scope of this discussion, the reader is referred to an excellent critical appraisal by Harrison (1977).

For our purpose it is suffice to state that although the mere exposure hypothesis merits some attention in the study of repeated exposure effects with pornographic stimuli, there are several potential problems. First, most of the research has employed foreign or nonsense words, paintings, and photographs of men's faces. Obviously such stimuli do not carry with them the complex cognitive and affective associations that pornographic stimuli (especially thosewith violent themes) possess. Thus, whether the mere exposure hypothesis with its emphasis on stimulus frequency is capable of explaining fully exposure effects is highly questionable. Second, the hypothesis refers to repetitive stimulation to the same stimulus and the subsequent effect on that stimulus. But in the present study different stimuli which were similar in theme were presented in each exposure session. The mere exposure hypothesis does not address the issue of stimulus generalization and it was difficult to extrapolate from it what could be expected with exposures to similar stimuli. Third, the hypothesis involves changes in attitude toward a

stimulus. The present study dealt with exposure effects on sexual arousal and activity. Obviously, changes in attitudes do not necessarily imply that there will be a change in sexual arousal or behavior.

SEXUAL ACTIVITIES

Nonlaboratory Activities

Analysis of the sexual behavioral data in the subjects' natural environment revealed that, irrespective of Force-orientation, repeated exposure to sexually nonviolent stimuli had no effect on sexually violent responses (i.e., sexually violent fantasies, forcing a female to have sex, sadomasochism) or sexually nonviolent responses (i.e., necking, petting, oral sex, masturbation, coitus, sexually nonviolent fantasies) during the 4-week exposure and 25-day post-exposure periods. These findings are consistent with results of Howard et al. (1971) and Mann et al. (1971, 1974), who were the only other two studies to directly examine repeated exposure effects on sexual behavior. Mann et al. also examined activities during a 4-week exposure and a 4-week post-exposure period while Howard et al. employed a 2-month post-exposure period.

Mann et al. also investigated for potential differences in frequency of activities between film-viewing and nonviewing days. They reported increases on each of the four exposure days but frequencies quickly returned to baseline levels on nonexposure days during the exposure period. This finding is consistent with other studies which employed only one exposure session and investigated behavioral changes in one to five days following exposure (e.g., Brown et al., 1976; Byrne

& Fisher, 1978; Byrne & Lambert, 1970). In these studies changes in activities usually occurred for some subjects and, as was the case in Mann et al's study, increases occurred only in activities which were already part of the subject's behavioral repertoire (e.g., masturbation, coitus). Since several subjects failed to specify some of the dates on which they viewed or read the pornographic materials, it was not possible to compare frequencies of sexual activities between exposure and nonexposure days in the present study. However, while earlier studies may suggest that there may be transitory increases in already established sexual patterns for some subjects, the more important results of the present study and that of the other repeated exposure studies (i.e., Howard et al., 1971; Mann et al, 1971, 1974) suggest that repeated exposure to sexually nonviolent materials has no impact on sexually nonviolent or nonviolent behaviors over a relatively long period of time (i.e., at least one month).

The present investigation also demonstrated that, irrespective of Force-orientation, repeated exposure to sexually violent stimuli had no effect on sexually violent or nonviolent behaviors during the 4-week exposure and 25-day post-exposure periods. Of the other studies on repeated exposure effects only Mann et al employed sexually violent materials during the exposure period. However, they used only one sadomasochistic stimulus. Nonetheless, their findings of no effects and the results of the present study suggest no lasting effects on sexually violent or nonviolent behaviors following repeated exposures to sexually violent stimuli.

There were, however, methodological and practical difficulties in

the present investigation which cast some serious doubts on the reliability of the above conclusions, especially in regards to sexually violent activities. First, only 11 subjects reported any type of sexually violent activities throughout the duration of the study. Of these subjects only 9 reported sexual behaviors involving some element of violence during the exposure period while 4 reported such behaviors during the post-exposure period. These low frequencies may be taken to suggest no exposure effects but there remains the question of subjects' willingness to disclose information regarding behaviors which are generally not socially acceptable. Indeed, during the debriefing sessions, subjects generally indicated that they were reluctant to report all their behaviors, especially those which may be considered deviant. They pointed out that despite the written guarantee for confidentiality they could not be absolutely certain that the data would not unwittingly fall into the wrong hands. To give an example, one subject who was classified as Force-oriented and who indicated that he planned to go into politics expressed concern that information on his sexual patterns may be damaging to his career if someone who was investigating his background somehow obtained the experimental data. Obviously, methods which instill a greater sense of trust in subjects need to be developed and employed in order to obtain an accurate and honest assessment of potential exposure effects on sexual activities, particularly those involving a violent component.

A second problem relates to the data gathering procedure. Each of the three phases in the study (i.e., pre, during, post) was approximately one month. Subjects were given a set of activity sheets

at the start of each phase and asked to return them at the end of that period. However, it became increasingly evident as the study progressed that not all subjects were recording their behaviors on a daily basis. Some of them submitted the sheets late, some lost data, and some indicated that they hadn't recorded their activities for several days or weeks. Also, during the debriefing sessions, most subjects stated that maintenance of a daily log was too laborious, often leading to frustration and failure to complete the forms. In light of these difficulties, it is essential that future studies employ more effective data-gathering methods. For example, subjects may be asked to return their take-home activity sheets every 3-4 days or they may be required to come to the laboratory twice a week to record their activities of the past few days.

A third problem was the high mortality rate of approximately 22% (15 of the 69 subjects) of subjects who failed to submit data on their sexual activities for large portions of the study. Obviously, this high loss may have had an important impact on the results in that they may not be an accurate reflection of repeated exposure effects. By implementing more effective data-gathering methods as indicated above, this problem may be eliminated in future research.

Activities in the Laboratory

Content analysis of the fantasies created in the post-exposure laboratory session revealed very small differences in frequencies of rape fantasies among subjects exposed to sexually violent materials, those presented with sexually nonviolent stimuli, and the controls, irrespective of Force-orientation. In fact, only three rape fantasies were created, indicating that repeated exposure to erotica does not stimulate such fantasies. This finding is inconsistent with the results

of Malamuth (1981). In that study Malamuth reported that subjects who were exposed to two rape stimuli created significantly more rape fantasies (5 out of the 14 subjects in the group) than those exposed to a nonrape and rape depiction (0 out of the 13 subjects in the group).

One possible explanation for the above discrepant findings is the difference of frequency of exposure. Malamuth employed a rather limited number of exposures to rape stimuli (i.e., 2) and both were within the same session. In contrast, the present study employed 6 separate exposures to sexually violent stimuli over a period of four weeks. Frequency of exposure may play some role in the nature of exposure effects. Another possible explanation is the difference in media presentation. Malamuth used audio-tapes and slides while the present study employed films, literature, and pictorials. Type of media presentation may also affect the nature of exposure effects.

Since the methodology of the present study is more analogous to the naturalistic setting than the one employed by Malamuth (1981), it is tempting to attach greater credibility to the present results and assert that repeated exposure to sexually violent or nonviolent stimuli does not stimulate rape fantasies. However, it is important to address two important issues which may strike the reader as critical in affecting the type of fantasies generated. First, were subjects aware of the true purpose of the study? While twenty subjects included some reference to sexually violent behavior on a post-experiment questionnaire assessing their awareness of the purpose of the study, none of them stated specifically that the purpose was to examine the effects of exposure to violent erotica. However, on the basis of discussions in the debriefing

sessions, it was evident that some subjects were aware of the study's focus on the violent component in pornographic stimuli. Unfortunately, subjects' awareness of the purpose of a study is a general problem in studies such as the present one which employ repeated exposures. One way to circumvent this difficulty may be first to present subjects with pornography in several sessions. Subsequently, the dependent variables (e.g., arousal, fantasies) can be assessed at a later exposure in a different context and seemingly (at least to the subjects) separate study.

Second, as discussed in the subsection on activities outside the laboratory, subjects indicated that they were reluctant to disclose fully all their behaviors, especially unconventional ones. Consequently, it is likely that some subjects who have generated sexually violent fantasies were not willing to disclose this information to the experimenter. Obviously, to arrive at more conclusive results it is important that future research employ more stringent methods to control for subjects' reluctance to report sexually violent fantasies.

AROUSAL CORRELATES

The present study found no significant correlation between subjects' sexual socialization experiences and arousal to rape or nonrape portrayals. These results for the nonrape depictions are consistent with those of Mosher (1971) but inconsistent with the positive relationship reported by Schmidt et al. (1969). This discrepancy may be a function of differences in culture and in subjects' age and marital status. German college student were used by Schmidt and his colleagues while North American college students were employed by the present study

(i.e., Canadian Students) and Mosher (i.e., American students). Also, subjects in the studies by Schmidt and his co-workers were older and more of them were married as compared to those in the other two studies.

The absence of any significant association with the rape stimuli is inconsistent with the inverse relationship reported by Malamuth and Check (1983), though a similar negative relationship was suggested by the marginally significant effect in the case of the self-reported data with the rape-pictorial. Nonetheless, the discrepant findings may be attributed to differences in instruments employed to assess sexual socialization experience, frequency of exposure, and media of presentation. Malamuth and Check used the Sexual Behavior Inventory developed by Bentler (1968) to assess sexual experience in conventional heterosexual activities. Sexual experience as defined by Malamuth and Check, however, is not necessarily equivalent to the sexual socialization experience index as employed in the present study. This index included not only conventional heterosexual acts but also unconventional behaviors (e.g., group sex, sadomasochism) and other sex-related experiences such as prior exposure to erotica, family discussion on sexual matters, and sources of sexual knowledge. In terms of exposure frequency, Malamuth and Check presented subjects with rape depictions in two separate sessions while the present study exposed subjects to eight different sexually violent stimuli over a span of six sessions. In respect to media presentation, Malamuth and Check employed audio-tape stimuli while the present study used written and visual materials.

On the basis of the above discussion, methodological differences between studies made it very difficult to arrive at any general conclusion concerning the relationship between sexual socialization exper-

iences and exposure effects. Whether the aforementioned variable plays some mediating role in exposure effects can only be answered by future research which would control for the methodological differences mentioned above.

Sex attitudes were also found to have no relationship with arousal to rape and nonrape depictions. These results are inconsistent with those of Schmidt et al. (1969). As was the case with the sexual socialization variable, the discrepant findings may be attributed to differences in subjects' culture, age, and marital status and in the measure used to represent sex attitudes. Although Schmidt et al indicated that sex attitudes were assessed in various areas such as premarital and extramarital sex and masturbation, they only presented the results involving attitudes toward premarital sex. In contrast, the sex attitude index employed in the present study included attitudes towards various issues such as premarital sex, homosexuality, contraceptives, censorship of pornographic materials, and the relationship between love and sex.

The present study did not find evidence that sex attitudes relate to exposure effects. This conclusion, however, should be considered tentative since attitudes towards a broad spectrum of sexual issues were lumped together to form a single index of subject' sex attitudes. It may be that there are separate attitudinal categories which may have differential mediating roles in exposure effects. Indeed, in respect to rape responses, Burt (1980) has conceptualized three separate attitudinal variables. These variables consist of Sexual Conservatism (i.e., restrictions on appropriateness of sex partners, sex acts, circumstances

surrounding sexual behavior, etc.), Adversarial Sexual Beliefs (i.e., expectations that sexual relationships are basically exploitative), and Acceptance of Interpersonal Violence (i.e., force and coercion as legitimate means to gain compliance in intimate and sexual relationships). Thus, to gain a better understanding of the role of sex attitudes in exposure effects (especially with sexually violent stimuli), it is important to take into consideration diverse sex attitude categories.

Evaluative ratings also showed no significant correlation with arousal to the rape and nonrape depictions. The results with the nonrape depictions are consistent with those of Fisher and Byrne (1978) but inconsistent with those of Amoroso et al. (1971). This discrepancy may be a function of the manner in which evaluative (i.e., pornographic) ratings were obtained. In the study by Amoroso et al., subjects were asked to indicate on a single 11-point scale the degree to which they found the sexual stimuli pornographic. Using identical questionnaires, the present study and Fisher and Byrne employed an evaluative index based on subjects' responses to three items assessing pornographic level, shock value, and expected explicitness.

No previous study has examined the relationship between pornographic ratings and arousal to rape stimuli and therefore, on the basis of the present results, it would seem that no relationship exists. However, in light of the above discussion on the nonrape depictions, the definition of "pornographic" employed may influence the nature of the relationship between pornographic ratings and arousal whether it be arousal to rape or nonrape stimuli. In addition, individuals may differ in terms of the connotations they attach to the term "pornographic" and

this may affect the reliability of the relationship obtained. It is therefore important that future research employ similar pornographic ratings indices and control for the various meanings that subjects may associate with the term "pornographic".

In the present study, positive affect and interest level were positively correlated with arousal with both rape and nonrape depictions. Interestingly, no relationship was obtained between negative affect and arousal for any of the portrayals. In earlier investigations, results showed a negative correlation between ratings of favorableness and arousal to nonviolent pornography (Colson, 1974; Schmidt and co-workers, 1969, 1970) and between favorableness and arousal to rape stimuli (Schmidt, 1975) and a positive correlation between favorableness and arousal to sadomasochistic materials (Schmidt, 1975). It is difficult, however, to compare these two sets of results due to differences in assessing affect. The earlier studies used a unidimensional response along a favorable-unfavorable continuum to assess positive and negative reactions. In contrast, the present study employed separate measures for positive and negative affect. It would appear to the present author that an individual might experience both feelings simultaneously at varying degrees and not necessarily in opposing directions. That is, one may feel both positive and negative affect concomitantly. Consequently, the use of a unidimensional variable to assess positive and negative affect may produce erroneous results. Indeed, a factor analysis of various affective responses, Byrne, Fisher, Lambert, and Mitchel (1974) demonstrated that negative and positive affect are separate dimensions highly independent of each other.

In light of the suggested superiority of analyses in which positive

and negative affect are considered as two separate variables, it can be argued that the results of the present study are more reliable than those of Schmidt and his colleagues. However, since affect was examined at an exploratory level in the present study, future research specifically designed to investigate affective variables is required before more conclusive statements can be made regarding the mediating role of affect in exposure effects.

Analyses of subjects' reported likelihood to rape and/or to force a female to have sex (LRFF) if guaranteed no punitive consequences revealed a positive relationship with their arousal to rape depictions but no relationship with their arousal to consenting portrayals. These findings are consistent with those of Malamuth and his colleagues (Malamuth and Check, 1980a, 1980b; Malamuth and Check, 1981; Malamuth Heim, and Feshback, 1980). Since there seems to be no association between LRFF and arousal to nonrape stimuli and the LRFF concept was created because of its hypothesized relationship with arousal to rape depictions, the following discussion involves only the data of the rape portrayals.

The consistent findings of a positive association between LRFF rating and arousal to rape depictions in various studies (including the present one) using different stimuli and diverse samples attests to the reliability of this relationship. But what about the predictive validity of LRFF as a measure of one's sexual aggressive tendencies? Obviously, it is not ethically or practically feasible to test for the relationship between LRFF and actually sexually violent behavior (e.g., rape) within an experimental setting. However, one alternative for

enhancing our understanding of the predictive validity is to examine for possible similarities along certain dimensions between rapists and subjects who report some LRFF. Indeed, it has been reported that rapists are more likely than nonrapists to hold callous attitudes about rape (Wolfe and Baker, 1980), to believe in rape myths (Field, 1978a, 1978b), and to show relatively high arousal to rape depictions (Abel et al., 1977). Subjects who indicated higher LRFF have also been found to hold more callous attitudes towards rape, to believe more in rape myths, and to be more aroused by rape stimuli than those with little or no LRFF (Malamuth, Haber, & Feshback, 1980; Malamuth & Check, 1980a; Tieger, 1981).

While the present study also found that subjects who reported greater LRFF tended to be more aroused to rape depictions than those who reported less LRFF, data on subjects' attitudes towards rape and beliefs in rape myths were not available. However, there was information regarding personality characteristics based on the MMPI which have not previously been examined by research in this area. Rader (1977) and Armentrout and Hauer (1979) have found that rapists score highest on the Psychopathic (assesses hostility, impulsivity, social nonconformity) and Schizophrenia (assesses unconventional mentation and social aloofness) scales with scores above the normal range (i.e., elevated or primed T-scores of 70 or above). Although subjects who reported the highest LRFF obtained scores in the high end of the normal range (i.e., 60 to 70) on the Psychopathic (Pd) and Schizophrenia (Sc) scales, they tended to score higher on these two scales than subjects who reported no LRFF. Examination of scales which have shown occasional elevated scores and/or which assess personality qualities that make intuititve sense as being

relevant to the psychological make-up of sexual aggressors showed a similar pattern. That is, scores on scales F (unconventional thinking, rebelliousness) Paranoia (resentment, distrust), and Hypomania (agitation, irritability) for subjects who indicated the highest LRFF fell in the 60-70 range and they were generally greater than the scores of those who reported no LRFF.

The above results suggest that rapist and individuals who indicated the highest LRFF may be similar along certain personality dimensions. However, this is not to suggest that one who indicates a high LRFF may commit rape. Nonetheless, these similarities between rapist and nonrapists point to the importance of future investigations of LRFF and personality variables to help enhance our understanding of the ingredients which may contribute to one's inclination to use force in sexual relations.

SOCIAL AND CLINICAL IMPLICATIONS

Social concern over the potentially harmful effects of pornography has witnessed a demarcation of opinions between those who argue that there is a satiation or no effect and those who insist that increased prurient interest for such materials may ensue. In terms of the growing concern over the increasing amount of aggressive pornography, many writers (especially feminists) have voiced protest over the portrayal of females in degrading and dehumanizing ways and how these types of portrayals encourage aggression towards women in intimate and sexual relations. The results of the present study showed that, for some individuals (i.e., Force-oriented subjects), exposures to sexually violent or nonviolent stimuli has a satiation effect on arousal to rape and nonrape

stimuli. One might be tempted to interpret these results as providing support for the position that exposure to pornography has no harmful effects. However, this interpretation might be highly misleading in light of other research on repeated exposure effects. More specifically, Zillman and Bryant (in press) found that repeated exposure to nonviolent heterosexual stimuli led not only to satiation but also to a reduction in repulsion and an increase in enjoyment to similar stimuli. The present study was not designed to examine changes in affect but, on the basis of Zillmann and Bryant's findings, it may be suggested that repeated exposure to sexually violent materials may have similar effects on affective reactions to similar materials.

Rather than viewing the reduction in arousal and potential decrease in affect as indicative of satiation effects, they may be seen as products of a desensitization process that occurred during the exposures. Systematic desensitization procedures are typically employed in a comfortable and relaxing clinical setting in an effort to reduce anxiety associated with specific stimuli (Walker, Hedberg, Clement, & Wright, 1981). With repeated exposure to pornography depicting aggressive content such as rape or sadomasochism, one may then be desensitized to this same material to the point where initial negative associations have been blunted. This, in turn, would have the effect of increasing tolerance for the depicted activity. An example of this increased tolerance is reflected in Zillmann and Bryant's finding that repeated exposure to pornography, relative to no exposure, led to the administration of less severe prison sentences in a simulated rape case.

From one standpoint, one may argue that greater tolerance would have a detrimental effect on an individual's moral character since he

may now be more willing to participate in the more tolerated activity. However, do changes in arousal, affect, and tolerance level lead to changes in actual behavior? The results of the present study would seem to suggest that there are no behavioral changes. However, the various methodological difficulties outlined earlier raise some serious questions about the reliability of the results. Thus, whether exposures lead ultimately to undesirable behavioral changes remains an open question.

All of the studies on repeated exposure effects (including the present one) have employed college students over the age of eighteen, thus limiting the generalizability of the results. It would seem to the present author that the two populations most susceptible to detrimental exposure effects are teenagers and individuals with serious psychological disturbances in the area of sex. The impact of exposure on teenagers is an especially major concern since individuals at this age are continuously modifying their values and attitudes. The environment or circumstances surrounding exposure are likely to shape their attitudes towards sex and women. These attitudes may be carried over into their adult life and affect the nature of their relationships with women. Social implications of exposure effects will therefore be more fully investigated with research that employs youths, as well as research on sexual deviates.

The results of the present study have potential clinical implications for the treatment of sexual aggression. The reader will recall that in the present study Abel et al.'s (1977) classification scheme was used to categorize subjects into the various force-orientation

groups. This scheme involved the assessment of a "rape index" (i.e., ratio of arousal to rape divided by arousal to mutually-consenting portrayals) which was developed from the findings that rapists show relatively high and comparable arousal to rape and mutually-consenting portrayals. Abel et al. reported that rapists in general have a rape index of .7 or greater and, on the basis of this, they asserted that an index of such magnitude would reflect a proclivity toward rape.

In the present study a rape and nonrape story from Abel et al. were employed to obtain subjects' rape index and those with a value of .7 or more were classified as Force-oriented. Thus, since subjects in this force-orientation group showed a satiation effect following repeated exposure, one may suggest that very "heavy dosages" of repeated exposure to rape materials may be one ingredient in clinical efforts to reduce sexual responsitivity of sex deviates to sexual aggression such as rape. However, mere repetitive exposures to sexually violent materials is not likely to permanently alter arousal patterns, let alone actual behavior. There are probably other factors which may need to be considered in conjunction with exposures in treating sexual aggression. For example, it has been suggested that fantasies and sexually reinforcing events (e.g., masturbation) may play an important role in arousal to and establishment of sexually deviant and nondeviant activities (Abel & Blanchard, 1974; McGuire, Carlisle, & Young, 1965). The results of two studies which have reported success in the treatment of a rapist (Marshall & Lippens, 1977) and two pedophiles (Marshall, 1979) also suggest the potential importance of these components. In these two studies the investigators used all of the ingredients mentioned above (i.e., repetitive stimulation, fantasies, masturbatory activity) in what they

referred to as "satiation therapy". It would therefore seem important for future research to examine the independent and interactive effects of these three elements using methods other than the clinical case.

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APPENDIX A

SIX DEPICTIONS EMPLOYED IN THE PRE-EXPOSURE LABORATORY SESSION

Not included due to copywright laws

Available upon request

APPENDIX B

SIX DEPICTIONS EMPLOYED IN THE POST-EXPOSURE LABORATORY SESSION

Not included due to copywright laws

Available upon request

APPENDIX C

TAKE-HOME MATERIALS FOR SUBJECTS IN THE SEXUALLY VIOLENT CONDITION

Not included due to copywright laws

Available upon request

APPENDIX D

TAKE-HOME MATERIALS FOR SUBJECTS IN THE SEXUALLY NONVIOLENT CONDITION

Not included due to copywright laws

Available upon request

APPENDIX E

PRE-EXPERIMENT QUESTIONNAIRES

Minnesota Multiphasic Personality Inventory

not included due to copywright laws

Sexual Background Questionnaire

1. Age _____

2. Current Marital Status

Single - Answer A & B _____
Married - Answer C & D _____
Separated _____
Divorced _____
Widowed _____

A. Are you currently engaged?

_____ Yes
_____ No

B. Do you have a steady girlfriend?

_____ Yes
_____ No

C. If married, would you rate your marriage:

_____ Very happy
_____ Happier than average
_____ Average
_____ A little unhappy
_____ Very unhappy

D. If married, how long have you been married to your current spouse?

_____ Years

3. What was the highest grade of formal school you completed?

_____ 8 grade or less
_____ Some high school
_____ High school graduate
_____ Some college
_____ College graduate
_____ Graduate or professional school

4. Size of community in which you were raised

_____ Less than 10,000
_____ 10,000 to 25,000

4. continued

_____ 26,000 to 100,000
_____ 101,000 to 500,000
_____ 501,000 to 1,000,000
_____ Over 1,000,000

5. Family Size

_____ No. of brothers _____ No. of sisters

6. What is your occupation _____.
If student, indicate year _____ and major _____.

7. Political preference

_____ Conservative
_____ Liberal
_____ NDP

_____ Other

8. Religious preference

_____ Catholic
_____ Protestant
_____ Jewish
_____ Agnostic
_____ Atheist
_____ Other

9. Frequency of church attendance.

_____ Weekly or more often
_____ Approximately every other week
_____ Approximately once a month
_____ Approximately once every two months
_____ Seldom
_____ Never

10. How closely do you think love and sex are linked?

_____ Sex and love are independent and sex should be enjoyed for its own sake.

_____ Love greatly enriches sexual relations, but is not necessary for enjoyment.

_____ Sexual intercourse without love is less enjoyable than intercourse with love.

_____ Sexual intercourse without love is not enjoyable.

10. continued

_____ Sexual intercourse is sacred and should be reserved for the expression of serious love.

11. What is your opinion about premarital sexual intercourse?

_____ It is all right for both young people and adults.
_____ It is all right for consenting adults.
_____ It is all right for couples who share affection.
_____ It is all right for couples who are in love.
_____ It is all right for couples who are engaged.
_____ It is wrong; couples should wait until they are married.

12. With how many persons, if any, have you had premarital intercourse.

_____ None
_____ One
_____ Two
_____ Three
_____ Four
_____ Five
_____ Six
_____ Seven or more

13. If you have had premarital sexual intercourse, how do you feel about it now?

_____ Very regretful
_____ Somewhat regretful
_____ No feelings
_____ Somewhat glad
_____ Very glad
_____ Never had premarital sexual intercourse.

14. How do you <u>personally</u> feel about extramarital sexual intercourse. (Extramarital is used to denote sexual activity with someone other than one's spouse.)

_____ It adds dimension to marriage, and there is nothing wrong with it.
_____ It is permissible if you and your spouse agree.
_____ It is all right for either partner as long as he/she doesn't talk about it.
_____ It is all right, but the consequences can be disastrous.
_____ It is all right for men, but not for women.
_____ It is allowable under very special or extreme circumstances.
_____ It is wrong whatever the reason.

15. With how many persons have you had extramerital sexual intercourse _____.

16. If you have had extramarital sexual intercourse, how do you feel about it now?

16. continued

_____ Very regretful
_____ Somewhat regretful
_____ No feelings
_____ Somewhat glad
_____ Very glad
_____ Never had extramarital sexual intercourse.

17. If you have engaged in sexual relations with a woman involving bondage (eg. typing up one of the sex partners), did you find it

_____ Very arousing
_____ Arousing
_____ Somewhat arousing
_____ Not arousing
_____ Never had such relations.

18. Sexual behavior should be judged by the quality of the relationship between people and not by whether they are married.

_____ I strongly agree
_____ I moderately agree
_____ I slightly agree
_____ I slightly disagree
_____ I moderately disagree
_____ I strongly disagree

19. Who should have access to explicit manuals of sexual intercourse?

_____ Anyone at all.
_____ Anyone over 18.
_____ Anyone over 21.
_____ Only couples who are about to be married.
_____ Only couples who are married.
_____ No one.

20. How comfortable do you generally feel when talking about sex?

_____ Comfortable
_____ Somewhat comfortable
_____ Somewhat uncomfortable
_____ Uncomfortable
_____ Never talk about it

21. The law has no business regulating sexual relations between consenting adults.

_____ I strongly agree
_____ I moderately agree
_____ I slightly agree
_____ I slightly disagree
_____ I moderately disagree
_____ I strongly disagree

22. Erotic material should be made freely available to adults.

_____ I strongly agree
_____ I moderately agree
_____ I slightly agree
_____ I slightly disagree
_____ I moderately disagree
_____ I strongly disagree

23. Erotic material should be made freely available to adolescents.

_____ I strongly agree
_____ I moderately agree
_____ I slightly agree
_____ I slightly disagree
_____ I moderately disagree
_____ I strongly disagree

24. What do you think are the effects of repeated exposure to pornographic or erotic material?

_____ Extremely harmful
_____ Harmful
_____ Slightly harmful
_____ Slightly beneficial
_____ Beneficial
_____ Extremely beneficial

25. What effect do you think recent Supreme Court decisions about censorship and pornography have had?

_____ Have seriously threatened moral standards
_____ Have somewhat threatened moral standards
_____ Have slightly threatened moral standards
_____ Have been slightly too restrictive
_____ Have been somewhat too restrictive
_____ Have been seriously too restrictive

26. I have had legal difficulties for sexually abusing others.

_____ Yes
_____ No

27. How much information about sex did you get from each of the following (while you were a youngster)?

	A Great Deal						None
Friends of the same age	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Older friends	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :

27. continued

	A Great Deal					None
Parents	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Sex education books	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Erotic or pornographic literature	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Course in school	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Church	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Doctor	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Other _____ (specify)	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :

28. Do you feel that you have been misled (or misinformed) about sexual information?

_____ Greatly misinformed
_____ Somewhat misinformed
_____ Not misinformed at all

29. How accurate or misleading was information about sex given to you by the following?

	Very Accurate					Very Misleading
Friends of same age	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Older friends	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Parents	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Sex education books	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Erotic or pornographic literature	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Course in school	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Church	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :
Doctor	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :	: ___ :

30. Do you feel that males and females are equally well informed about sex?

_____ Females much better informed
_____ Females more informed
_____ Females and males equally informed
_____ Males more informed
_____ Males much better informed

31. In general, women do not enjoy sex as much as men.

_____ I strongly agree
_____ I moderately agree
_____ I slightly agree
_____ I slightly disagree
_____ I moderately disagree
_____ I strongly disagree

32. Religious groups should not attempt to impose their standards of sexual behavior on others.

_____ I strongly agree
_____ I moderately agree
_____ I slightly agree
_____ I slightly disagree
_____ I moderately disagree
_____ I strongly disagree

33. How often was sex the subject of general family conversation while you were a child?

_____ Frequently
_____ Occasionally
_____ Seldom
_____ Never

34. How would you describe your political views?

_____ Very liberal
_____ Somewhat liberal
_____ Moderate
_____ Somewhat conservative
_____ Very conservative

35. A. Have you ever read anything (not including technical books) describing the following:

	No	Yes
Necking (deep kissing)	_____	_____
Petting	_____	_____
Oral sex	_____	_____
Heterosexual Intercourse	_____	_____
Lesbian acts	_____	_____

35. continued

	No	Yes
Male homosexual acts	____	____
Group sex	____	____
Sadomasochistic behavior (eg. whipping or spanking during sex)	____	____
Rape	____	____
Someone being forced to do something he/she didn't really want to do	____	____
Transvestism (wearing clothes of opposite sex)	____	____
Pedophilia (sex involving children)	____	____

B. IF YES TO ANY OF THE ABOVE:
Circle the numbers of <u>all</u> the words which describe your usual reaction about the behavior you have read about. More than one number may be circled in each case:

Necking (deep kissing)
1. Aroused
2. Indifferent
3. Disgusted
4. Uncomfortable

Petting
1. Aroused
2. Indifferent
3. Disgusted
4. Uncomfortable

Oral sex
1. Aroused
2. Indifferent
3. Disgusted
4. Uncomfortable

Heterosexual Intercourse
1. Aroused
2. Indifferent
3. Disgusted
4. Uncomfortable

Lesbian acts
1. Aroused
2. Indifferent
3. Disgusted
4. Uncomfortable

Male homosexual acts
1. Aroused
2. Indifferent
3. Disgusted
4. Uncomfortable

35. continued

B.

Group sex	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Sadomasochistic behavior	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Rape	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Someone being forced to do something he/she didn't really want to do	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Transvestism	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Pedophilia	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable

36. A. Have you ever seen any movies showing the following:

	No	Yes
Necking (deep kissing	____	____
Petting	____	____
Oral Sex	____	____
Heterosexual intercourse	____	____
Lesbian acts	____	____
Male homosexual acts	____	____
Group sex	____	____
Sadomasochistic behavior	____	____

36. continued

	No	Yes
Rape	____	____
Someone being forced to do something he/she didn't really want to do	____	____
Transvestism	____	____
Pedophilia	____	____

B. IF YES TO ANY OF THE ABOVE:
Circle the numbers of all the words which describe your usual reaction to watching movies about the behavior. More than one number may be encircled in each case.

Necking (deep kissing)	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Petting	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Oral sex	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Heterosexual intercourse	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Lesbian acts	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Male homosexual acts	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Group sex	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable

36. continued

B.

Sadomasochistic behavior	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Rape	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Someone being forced to do something he/she didn't really want to do	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Transvestism	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Pedophilia	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable

37. A. Have you ever seen any photos or pictures showing the following:

	No	Yes
Necking (deep kissing)	____	____
Petting	____	____
Oral Sex	____	____
Heterosexual intercourse	____	____
Lesbian acts	____	____
Male homosexual acts	____	____
Group sex	____	____
Sadomasochistic behaviors	____	____
Rape	____	____

37. continued

A.

	No	Yes
Someone being forced to do something he/she didn't really want to to	____	____
Transvestism	____	____
Pedophilia	____	____

B. IF YES TO ANY OF THE ABOVE:
Circle the numbers of all the words which describe your usual reaction when looking at such behavior. More than one number may be encircled in each case.

Necking (deep kissing)	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Petting	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Oral Sex	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Heterosexual intercourse	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Lesbian acts	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Male homosexual acts	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Group sex	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Sadomasochistic behavior	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable

37. continued
B.

Rape	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Someone being forced to do something he/she didn't really want to do	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Transvestism	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable
Pedophilia	1. Aroused 2. Indifferent 3. Disgusted 4. Uncomfortable

38. A. People frequently think about different sexual activities even if they never do them. For each kind of sexual activity listed, please indicate whether or not you have ever thought of trying that activity.

Activity	Have thought of it	Have never thought of it
Necking (deep kissing)	____	____
Petting	____	____
Oral Sex	____	____
Heterosexual intercourse	____	____
Male homosexual acts	____	____
Group sex	____	____
Sadomasochistic behavior	____	____
Rape	____	____
Forcing a female to do something she didn't want to do	____	____
Being forced to do something you didn't want to do	____	____

38. continued

A.

Transvestism	____	____
Pedophilia	____	____

B. Whether or not you had ever thought of it, do you find the idea:

	Very Attractive	Somewhat Attractive	Somewhat Unattractive	Very Unattractive
Necking (deep kissing)	____	____	____	____
Petting	____	____	____	____
Oral sex	____	____	____	____
Heterosexual Intercourse	____	____	____	____
Lesbian acts	____	____	____	____
Male homosexual acts	____	____	____	____
Group sex	____	____	____	____
Sadomasochistic behavior	____	____	____	____
Rape	____	____	____	____
Forcing a female to do something she didn't want to do	____	____	____	____
Being forced to do something you didn't want to do	____	____	____	____
Transvestism	____	____	____	____
Pedophilia	____	____	____	____

39. A. Have you ever tried any of the following activities?

Activity	Never tried it	Tried it
Necking (deep kissing)	____	____
Petting	____	____
Oral sex	____	____

continued

A.

Activity	Never tried it	Tried it
Heterosexual intercourse	____	____
Male homosexual acts	____	____
Group sex	____	____
Sadomasochistic behavior	____	____
Rape	____	____
Forcing a female to do something she didn't want to do	____	____
Transvestism	____	____
Pedophilia	____	____

B. If you have tried it, did you enjoy it:

	Very Much	Somewhat	Not too Much	Not at all
Necking (deep kissing)	____	____	____	____
Petting	____	____	____	____
Oral Sex	____	____	____	____
Heterosexual intercourse	____	____	____	____
Male homosexual acts	____	____	____	____
Group sex	____	____	____	____
Sadomasochistic behavior	____	____	____	____
Rape	____	____	____	____
Forcing a female to do something she didn't want to do	____	____	____	____
Transvestism	____	____	____	____
Pedophilia	____	____	____	____

39. continued

C. If you have never tried any of these activities, do you think you ever will?

	No	Yes
Necking (deep kissing)	___	___
Petting	___	___
Oral sex	___	___
Heterosexual intercourse	___	___
Male homosexual acts	___	___
Group sex	___	___
Sadomasochistic behavior	___	___
Rape	___	___
Forcing a female to do something she didn't want to do	___	___
Being forced to do something you didn't want to do	___	___
Transvestism	___	___
Pedophilia	___	___

40. If you could be assured that no one would know and you could in no way be punished for engaging in the following acts, how likely, if at all, would you be to commit such acts.

	Not at all				Very likely
anal intercourse	___	___	___	___	___
group sex	___	___	___	___	___
homosexuality	___	___	___	___	___
sadomasochism	___	___	___	___	___
pedophilia	___	___	___	___	___
rape	___	___	___	___	___
forcing a female to do something she really did not want to do	___	___	___	___	___
transvestism	___	___	___	___	___

41. How would you rate your own sexual attitudes as compared to those of the average person

_____ Very liberal
_____ Somewhat liberal
_____ Moderate
_____ Somewhat conservative
_____ Very conservative

42. Relative to all other activities in which you engage, how important is sex?

_____ Very important
_____ Important
_____ Neither important nor unimportant
_____ Unimportant
_____ Very unimportant

43. Presently, I ...

_____ Have a very serious relationship with a female

_____ Have a fairly serious relationship with a female

_____ Have a slightly serious relationship with a female

_____ Have no serious relationship with a female

44. How troubling have sexual problems been to you?

_____ Very troubling
_____ Moderately troubling
_____ Slightly troubling
_____ No significant sex problems

45. About how old were you when you first had a fairly accurate idea of

a) what masturbation is _____
b) what sexual intercourse is _____
c) what orgasm is _____
d) what oral sex is _____
e) the relationship between intercourse & pregnancy _____
f) what male homosexuality is _____
g) what lesbianism is _____
h) what sadomasochism is _____
i) what rape is _____

46. How old were you the first time you masturbated to orgasm?

____ 14 or younger
____ 15 - 16
____ 16 - 17
____ 17 - 18
____ 18 - 19
____ 20 - 21
____ 21 - 22
____ 22 - 25
____ 25 - 30
____ 30 or over
____ never masturbated

47. In the past year how often, on the average, have you masturbated to orgasm?

____ Daily or more often
____ Five or six times a week
____ Three or four times a week
____ Once or twice a week
____ Once every 2-4 weeks
____ A few times
____ Not at all

48. When you masturbated in the past year, was this something that you enjoyed.

____ all of the time
____ most of the time
____ some of the time
____ rarely
____ never

49. Do you enjoy masturbation more or less than you used to

____ more
____ some
____ less

50. How old were you at the time of your first heterosexual intercourse?

____ 14 or younger
____ 15 -16
____ 16 - 17
____ 17 - 18
____ 18 - 19
____ 19 - 20
____ 20 - 21
____ 21 - 22
____ 22 - 25
____ 25 - 30
____ 30 or over
____ never engaged in intercourse

51. Counting your first partner, how many different people have you had intercourse with.

____

52. In the past year how often, on the average, have you engaged in intercourse.

_____ Daily or more often
_____ Five or six times a week
_____ Three or four times a week
_____ Once or twice a week
_____ Once every 2-4 weeks
_____ A few times
_____ Not at all

53. In the past year how many different partners did you have when engaging in sexual intercourse.

_____ did not engage in intercourse
_____ One
_____ Two
_____ Three
_____ Four
_____ Five
_____ Six
_____ How many

54. When you had intercourse during the past year, was it something you enjoyed?

_____ All of the time
_____ Most of the time
_____ Some of the time
_____ Rarely
_____ Never

55. Do you enjoy intercourse more or less than you used to.

_____ More
_____ Same
_____ Less

56. If you have engaged in sexual relations with a woman that involved you inflicting pain (eg. using whip, spanking) on her, did you find it

_____ Very arousing
_____ Arousing
_____ Somewhat arousing
_____ Never had such relations

57. Have any of the following prevented you from freely expressing your sexuality?

	Very much prevented				Not at all
Fear of disease	_____	_____	_____	_____	_____

57. continued

	Very much prevented				Not at all
Social disapproval	____	____	____	____	____
Guilt feelings	____	____	____	____	____
Religious or other moral training	____	____	____	____	____
Problems in obtaining contraceptives	____	____	____	____	____
Problems with use of contraceptives	____	____	____	____	____
Lack of knowledge about contraceptive techniques	____	____	____	____	____
Other (specify) _____	____	____	____	____	____

58. How would you rate your sex life?

____ Very unsatisfactory
____ Unsatisfactory
____ Somewhat unsatisfactory
____ Somewhat satisfactory
____ Satisfactory
____ Very satisfactory

59. How important is sex in your relationships with the opposite sex?

____ Very important
____ Moderately important
____ Slightly important
____ Slightly unimportant
____ Moderately unimportant
____ Very unimportant

60. For unmarried couples, birth control should be primarily a responsibility of the: (check one)

____ Male partner
____ Female partner
____ A joint responsibility

61. How do you feel about birth control?

_____ Very much in favor of most birth control techniques.
_____ In favor of most birth control techniques.
_____ Mildly in favor of most birth control techniques.
_____ Mildly opposed to most birth control techniques.
_____ Opposed to most birth control techniques.
_____ Very much opposed to most birth control techniques.

62. How do you feel about abortion of an unwanted child (for whatever reason)?

_____ Very much in favor
_____ In favor
_____ Mildly in favor
_____ Mildly opposed
_____ Opposed
_____ Very much opposed

63. How do you feel about abortion for reasons of the mother's health?

_____ Very much in favor
_____ In favor
_____ Mildly in favor
_____ Mildly opposed
_____ Opposed
_____ Very much opposed

64. Which of the following reasons do you feel justify abortions? (you may choose more than one).

_____ Women's mental health
_____ Women's physical health
_____ Rape
_____ Incest
_____ Deformed child
_____ Unmarried
_____ Can't afford child
_____ Child unwanted
_____ Any reason whatsoever

65. Do you find such objects or materials as a woman's panties, stockings, leather boots, etc. to be sexual turn-ons when you are engaging in sexual relations with a woman

_____ Always
_____ Often
_____ Rarely
_____ Never

66. Which contraceptive techniques have you used or would you consider using? (May check more than one).

_____ Condom
_____ Sterilization

67. Do you and your partner discuss contraception openly?

_____ Not applicable (I have no sex partner)
_____ Never have
_____ Have, only superficially
_____ Have in some depth
_____ Have in great depth

68. How many children do you ultimately want to have?

_____

69. Would you consider sterilization after having this many children?

_____ Yes
_____ No

70. Would you consider sterilization for your spouse after having this many children?

_____ Yes
_____ No

71. During your first experience with sexual intercourse, did you personally use a contraceptive?

_____ Both myself and my partner used a contraceptive.
_____ I used a contraceptive.
_____ I didn't, but my partner did.
_____ No, neither myself nor my partner used a contraceptive.
_____ Not applicable.

72. How adequate is your knowledge of sex?

_____ Quite adequate
_____ Somewhat adequate
_____ Slightly adequate
_____ Slightly inadequate
_____ Somewhat inadequate
_____ Quite inadequate

73. How adequate is your knowledge of contraception?

_____ Quite adequate
_____ Somewhat adequate
_____ Slightly adequate
_____ Slightly inadequate
_____ Somewhat inadequate
_____ Quite inadequate

74. Do you (or would you) enjoy stimulating your partner's genitals orally?

_____ Very much enjoy
_____ Enjoy it
_____ Slightly enjoy it
_____ Slightly not enjoy it
_____ Not enjoy it
_____ Very much not enjoy it

75. Do you (or would you) enjoy your partner stimulating <u>your</u> genitals orally?

_____ Very much enjoy
_____ Enjoy it
_____ Slightly enjoy it
_____ Slightly not enjoy it
_____ Not enjoy it
_____ Very much not enjoy it

76. If you have engaged in sexual relations with a woman that involved her inflicting pain (eg. using whip, spanking) on you, did you find it

_____ Very arousing
_____ Arousing
_____ Somewhat arousing
_____ Not arousing
_____ Never had such relations

77. College clinics should make artificial means of birth control available to college students regardless of their marital status.

Strongly agree: ___ ___ ___ ___ ___ ___ ___ Strongly disagree

78. Sexuality is one of the most important factors in a satisfactory marriage.

Strongly agree: ___ ___ ___ ___ ___ ___ ___ Strongly disagree

79. Sexual offenders are usually antireligious.

Strongly agree: ___ ___ ___ ___ ___ ___ ___ Strongly disagree

80. How do you rate yourself in comparison with your age group's experience with sex?

Much more experienced: ___ ___ ___ ___ ___ ___ ___ Much less experienced

81. Masturbation for males is

Harmful: ___ ___ ___ ___ ___ ___ ___ Harmless

82. Masturbation for females is

Harmful: ___ ___ ___ ___ ___ ___ ___ Harmless

83. Personally, engaging in masturbation makes me feel guilty.

Strongly agree ___ ___ ___ ___ ___ ___ ___ Strongly disagree

84. Parents should not allow their children to masturbate.

Strongly agree ___ ___ ___ ___ ___ ___ ___ Strongly disagree

85. Modern methods of birth control are responsible for the increase in premarital sexual intercourse.

Strongly agree ___ ___ ___ ___ ___ ___ ___ Strongly disagree

86. Strong legal measures should be enforced against homosexuals.

Strongly agree ___ ___ ___ ___ ___ ___ ___ Strongly disagree

87. Homosexuals are mentally disturbed

____ Yes

____ No

88. I would remain as a friend or be friendly to someone I found to be homosexual.

____ Yes
____ No

89. Do you feel you have been able to be honest in answering this questionnaire?

____ Completely honest
____ Moderately honest
____ Moderately dishonest
____ Completely dishonest

APPENDIX F

QUESTIONNAIRES EMPLOYED IN LABORATORY SESSIONS

Code Name_____
Date_____

Feelings Scale

Please indicate how you felt while viewing this sexual story.

1. Sexually Aroused (check one)

_____Strongly aroused sexually
_____Aroused sexually
_____Moderately aroused sexually
_____Slightly aroused sexually
_____Not at all aroused sexually

2. Disgusted (check one)

_____Not at all disgusted
_____Slightly disgusted
_____Moderately disgusted
_____Disgusted
_____Extremely disgusted

3. Entertained (check one)

_____Not at all entertained
_____Slightly entertained
_____Moderatly entertained
_____Entertained
_____Quite entertained

4. Anxious (check one)

_____Not at all anxious
_____Slightly anxious
_____Moderately anxious
_____Anxious
_____Extremely anxious

5. Bored (check one)

_____Extremely bored
_____Bored
_____Moderately bored
_____Slightly bored
_____Not at all bored

6. Angry (check one)

_____Extremely angry
_____Angry
_____Moderately angry
_____Slightly angry
_____Not at all angry

7. Afraid (check one)

_____Extremely afraid
_____Afraid
_____Moderately afraid
_____Slightly afraid
_____Not at all afraid

8. Curious (check one)

_____Not at all curious
_____Slightly curious
_____Moderately curious
_____Curious
_____Extremely curious

9. Nauseated (check one)

_____Not at all nauseated
_____Slightly nauseated
_____Moderately nauseated
_____Nauseated
_____Quite nauseated

10. Depressed (check one)

_____Extremely depressed
_____Depressed
_____Moderately depressed
_____Slightly depressed
_____Not at all depressed

11. Excited

_____Quite excited
_____Excited
_____Moderately excited
_____Slightly excited
_____Not at all excited

Code Name_____
Date_____

Self-report of Sexual-Physiological Reactions

Males:

1. Did you experience any pre-ejaculatory emissions?

_____Yes _____No _____Don't Know

2. Did you experience an erection?

_____No _____semi-erection _____full erection

3. Did you experience ejaculation?

_____Yes _____No

4. Overall, to what extent were you physically excited or physically aroused by this sexual story?

_____Very much physically excited
_____Somewhat physically excited
_____Slightly physically excited
_____Very slightly physically excited
_____Not at all physically excited

Date_____ Code Name_____

Please check the answer most appropriate to you.

Opinion Questionnaire

1. Did you find the material pornographic?

Extremely so Not at all

_____ _____ _____ _____ _____ _____

2. Were any of the materials shocking to you?

Extremely Not at all

_____ _____ _____ _____ _____ _____

3. Were any of the materials surprising or more explicit than you expected?

_____Very much more than I expected
_____More than I expected
_____About what I expected
_____Less than I expected
_____Very much less than I expected

4. If you learned that someone in this community owned these types of materials which you were just shown and kept them in his home for private showings, what do you think the authorities should do?

_____Confiscate them
_____Criticize the individual
_____Do nothing about it

With respect to these materials and other like them, would you personally prefer to:

	Definitely	Probably	Possibly	Probably Not	Definitely Not
Forbid their production and sale entirely	_____	_____	_____	_____	_____
Forbid their public display or advertising	_____	_____	_____	_____	_____
Forbid their being shown to unmarried persons	_____	_____	_____	_____	_____
Forbid their being shown to teenagers	_____	_____	_____	_____	_____
Forbid their being shown to children	_____	_____	_____	_____	_____

Code name _____

Fantasy Measure

Indicate your level of sexual arousal during the last several minutes when you were instructed to try to get aroused without any outside stimulation.

0% 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100%

not sexually arousing — moderately arousing — extremely arousing

How were you able to get aroused?

What did you think about?

Did you use fantasy (a mental picture or image)? Briefly describe the fantasy.

Did you utilize any thoughts or fantasy about the scenes portrayed in the stories? Which stories? Please be as specific as possible.

APPENDIX G

MOVIE RATING FORM

Code name _____

Date _____

MOVIE RATING FORM

Please rate the film you just saw _____ on the
(title of film)
following dimensions. Please circle your response. This film was.....

1. Length

1	2	3	4	5	6	7	8	9	10
Too short in length				Appropriate length					Too long in length

2. Realism

1	2	3	4	5	6	7	8	9	10
Not at all realistic				Somewhat real					Very realistic

3. Sad

1	2	3	4	5	6	7	8	9	10
Not at all sad				Somewhat sad					Very sad

4. Humorous

1	2	3	4	5	6	7	8	9	10
Not at all humorous				somewhat humorous					Very humorous

5. Offensive

1	2	3	4	5	6	7	8	9	10
Not at all offensive				Somewhat offensive					Very offensive

6. Violence

1	2	3	4	5	6	7	8	9	10
Not at all violent				Somewhat violent					Very violent

7. Involvement

1	2	3	4	5	6	7	8	9	10
Not at all involving				Somewhat involving					Very Involving

8. Imagination

1	2	3	4	5	6	7	8	9	10
Unimaginative				Somewhat imaginative					Very imaginative

9. Sexually Arousing

1	2	3	4	5	6	7	8	9	10
Not at all sexually arousing				Somewhat sexually arousing					Very sexually arousing

10. Educational

1	2	3	4	5	6	7	8	9	10
Not at all educational				Somewhat educational					Very educational

11. Informative

1	2	3	4	5	6	7	8	9	10
Not at all informative				somewhat informative					Very informative

12. Interest

1	2	3	4	5	6	7	8	9	10
Not at all interesting				Somewhat interesting					Very interesting

THANK YOU FOR YOUR HELP.....

APPENDIX H

SEXUAL ACTIVITY RECORD SHEET

Code Name_____ SEXUAL ACTIVITY SHEET Date_____

Today I engaged in the following activities:	Not at all	Once	Twice	Three Times	Four or mor
1. Necking					
2. Petting, while clothed					
3. Petting, nude					
4. Manual,genital play,woman on man					
5. Manual,genital play,man on woman					
6. Mutual manual genital play					
7. Oral-genital contact, man on woman					
8. Oral-genital contact, woman on man					
9. Mutual oral-genital contact					
10. Masturbation					
11. Masturbating while looking at erotic pictures or literature Briefly state type of pictures or literature_____					
12. Fantasizing while masturbating If fantasized, briefly state content of fantasy_____					
13. Sexual intercourse If fantasized during intercourse, briefly state content_____					
14. Anal intercourse					
15. Forced a female to something sexually she didn't want to do					
16. Used spanks, whips, or leather during sexual activity					
17. Dreamed about sexual activity					
18. Talked about sexual matters					
19. Thought about sexual matters					
20. Read magazines or books dealing with sex					
21. Went to see an X-rated movie at the theater (exclude the experiment)					
22. Bought a magazine or book dealing with sex					

APPENDIX I

POST-EXPOSURE QUESTIONNAIRES

(Exposure Groups)

Post-Experimental Questionnaire

Code Name_____ Date_____

At this point of the experiment, I would like to get some information on your perceptions of the procedures used so far. Please answer the following questions as completely and precisely as possible.

1. What do you think was the purpose of this experiment (Be as specific as possible)?

2. If you have one or more hypotheses regarding the purpose of this study, indicate the time at which you formulated it (or them).

3. Why do you think you were exposed to sexual materials?

4. Why do you think you were exposed to both pictorials and written sex stories in the laboratory sessions?

5. Why do you think you were exposed to written and pictorial sex stories in the two laboratory sessions and to sex films in the six film sessions?

6. Why do you think you were given materials (i.e. the four sex stories) to take home?

7. What do you think was the purpose of the six film sessions?

8. What do you think was the purpose of the second session in the laboratory?

9. Why do you think you were asked to maintain a daily record of your sexual activities?

10. Why do you think you were asked to fantasize and indicate the content of your fantasy during the laboratory session?

(No Exposure Group)

Post-Experimental Questionnaire

Code Name_____ Date_____

At this point of the experiment, I would like to get some information on your perceptions of the procedures used so far. Please answer the following questions as completely and precisely as possible.

1. What do you think was the purpose of this experiment (Be as specific as possible)?

2. If you have one or more hypotheses regarding the purpose of this study, indicate the time at which you formulated it (or them).

3. Why do you think you were exposed to sexual materials?

4. Why do think you were exposed to both pictorials and written sex stories in the laboratory sessions.

5. What do you think was the purpose of the second session in the laboratory?

6. Why do you think you were asked to maintain a daily record of your sexual activities?

7. Why do you think you were asked to fantasize and indicate the content of your fantasy during the laboratory sessions?

Post-Experiment Questionnaire

1. Marital Status _____ Age _____ years

2. Birth Date _____ _____ _____ Sex _____
   year month day

3. Year in University _____ Major _____

4. Religious preference (check one)

   _____ Catholic
   _____ Protestant
   _____ Jewish
   _____ Agnostic
   _____ Atheist
   _____ Other (please specify) _____

5. Frequency of attendance of religious institution (e.g., church, synagogue, etc.)

   _____ Weekly or more often
   _____ Approximately every other week
   _____ Approximately once a month
   _____ Approximately once every two months
   _____ Seldom
   _____ Never

6. Size of community in which you were raised (check one)

   _____ Less than 10,000
   _____ 10,000 to 25,000
   _____ 26,000 to 100,000
   _____ 101,000 to 500,000
   _____ 501,000 to 1,000,000
   _____ Over 1,000,000

7. Family Size

   No. of Brothers _____ No. of Sisters _____

8. Political preference (check one)

   _____ NDP
   _____ Liberal
   _____ Conservative
   _____ Social Credit
   _____ Other (please specify) _____

9. What percentage of <u>males</u> do you think would find the following activities sexually arousing?

Necking (deep kissing)	0	10	20	30	40	50	60	70	80	90	100%
Petting	0	10	20	30	40	50	60	70	80	90	100%
Oral sex	0	10	20	30	40	50	60	70	80	90	100%
Heterosexual intercourse	0	10	20	30	40	50	60	70	80	90	100%
Anal intercourse	0	10	20	30	40	50	60	70	80	90	100%
Male homosexual acts	0	10	20	30	40	50	60	70	80	90	100%
Group sex	0	10	20	30	40	50	60	70	80	90	100%
Bondage	0	10	20	30	40	50	60	70	80	90	100%
Whipping, spanking	0	10	20	30	40	50	60	70	80	90	100%
Rape	0	10	20	30	40	50	60	70	80	90	100%
Forcing a female to do something she didn't want to do	0	10	20	30	40	50	60	70	80	90	100%
Being forced to do something he didn't want to do	0	10	20	30	40	50	60	70	80	90	100%
Transvestism	0	10	20	30	40	50	60	70	80	90	100%
Pedophilia	0	10	20	30	40	50	60	70	80	90	100%

10. What percentage of <u>females</u> do you think would find the following activities sexually arousing?

Necking (deep kissing)	0	10	20	30	40	50	60	70	80	90	100%
Petting	0	10	20	30	40	50	60	70	80	90	100%
Oral sex	0	10	20	30	40	50	60	70	80	90	100%
Heterosexual intercourse	0	10	20	30	40	50	60	70	80	90	100%
Anal intercourse	0	10	20	30	40	50	60	70	80	90	100%

continued

Male homosexual acts	0	10	20	30	40	50	60	70	80	90	100%
Group sex	0	10	20	30	40	50	60	70	80	90	100%
Bondage	0	10	20	30	40	50	60	70	80	90	100%
Whipping, spanking	0	10	20	30	40	50	60	70	80	90	100%
Rape	0	10	20	30	40	50	60	70	80	90	100%
Forcing a male to do something he didn't want to do	0	10	20	30	40	50	60	70	80	90	100%
Being forced to do something she didn't want to do	0	10	20	30	40	50	60	70	80	90	100%
Transvestism	0	10	20	30	40	50	60	70	80	90	100%
Pedophilia	0	10	20	30	40	50	60	70	80	90	100%

11. How sexually arousing do you think you would find the following sexual activities if you engage in them (even if you have never engaged in them)?

Necking (deep kissing)	0	10	20	30	40	50	60	70	80	90	100%
Petting	0	10	20	30	40	50	60	70	80	90	100%
Oral sex	0	10	20	30	40	50	60	70	80	90	100%
Heterosexual intercourse	0	10	20	30	40	50	60	70	80	90	100%
Anal intercourse	0	10	20	30	40	50	60	70	80	90	100%
Male homosexual acts	0	10	20	30	40	50	60	70	80	90	100%
Group sex	0	10	20	30	40	50	60	70	80	90	100%
Bondage	0	10	20	30	40	50	60	70	80	90	100%
Whipping, spanking	0	10	20	30	40	50	60	70	80	90	100%
Rape	0	10	20	30	40	50	60	70	80	90	100%

11. continued

Forcing a female to do something she didn't want to do	0	10	20	30	40	50	60	70	80	90	100%
Being forced to do something you didn't want to do	0	10	20	30	40	50	60	70	80	90	100%
Transvestism	0	10	20	30	40	50	60	70	80	90	100%
Pedophilia	0	10	20	30	40	50	60	70	80	90	100%

12. If you could be assured that no one would know and that you could in no way be punished for engaging in the following acts, how likely, if at all, would you be to commit such acts?

	Not at all				Very Likely
Anal intercourse	____	____	____	____	____
Group sex	____	____	____	____	____
Homosexuality	____	____	____	____	____
Bondage	____	____	____	____	____
Whipping, spanking	____	____	____	____	____
Rape	____	____	____	____	____
Forcing a female to do something she really didn't want to do	____	____	____	____	____
Transvestism	____	____	____	____	____
Pedophilia	____	____	____	____	____

13. Do you (or would you) enjoy stimulating your partner's genitals orally?

____ Enjoy very much
____ Enjoy it
____ Slightly enjoy it
____ Slightly not enjoy it
____ Not enjoy it
____ Not enjoy at all

14. Do you (or would you) enjoy your partner stimulating <u>your</u> genitals orally?

____ Enjoy very much
____ Enjoy it
____ Slightly enjoy it
____ Slightly not enjoy it
____ Not enjoy it
____ Not enjoy it at all

15. How do you rate yourself in comparison with your age group's experience with sex?

Much more experienced: ___ ___ ___ ___ ___ ___ ___ Much less experienced

16. Masturbation for males is

Harmful: ___ ___ ___ ___ ___ ___ ___ Harmless

17. Masturbation for females is

Harmful: ___ ___ ___ ___ ___ ___ ___ Harmless

18. Personally, engaging in masturbation makes me feel guilty.

Strongly agree ___ ___ ___ ___ ___ ___ ___ Strongly disagree

19. Parents should not allow their children to masturbate.

Strongly agree ___ ___ ___ ___ ___ ___ ___ Strongly disagree

20. Modern methods of birth control are responsible for the increase in premarital sexual intercourse.

Strongly agree ___ ___ ___ ___ ___ ___ ___ Strongly disagree

21. Strong legal measures should be enforced against homosexuals.

Strongly agree ___ ___ ___ ___ ___ ___ ___ Strongly disagree

22. Homosexuals are mentally disturbed

____ Yes

____ No

23. I would remain as a friend or be friendly to someone I found to be homosexual.

____ Yes
____ No

24. Do you feel you have been able to be honest in answering this questionnaire?

____ Completely honest
____ Moderately honest
____ Moderately dishonest
____ Completely dishonest

APPENDIX J

DEBRIEFING QUESTIONNAIRES

Date_____ Debriefing Questionnaire Code name 261

1. What did you learn from this study?

2. Do you feel that this study affected you in any way? If yes, please indicate how.

3. Are you glad you participated in this study?

0	1	2	3	4	5	6	7	8	9	10
not at all glad					indifferent					very glad

4. Do you have any suggestions regarding the procedures of this study?

Date_____ Debriefing Questionnaire Code name_____

Final Sheet

This study is one in a series of research projects at the University of Manitoba designed to examine how exposure to various types of pornography affects sexual responses and attitudes. I have attempted to show you as many different types of sexual activities as possible, though I was limited in terms of what is legally available in Canada. It should be pointed out that pornographic materials tend to present unrealsitic or distorted views of what women are like and what they desire. Some of the myths perpetuated by pornography include the ones which suggest that women enjoy pain while engaging in sex and that they have a desire to be forced or abused sexually. Some of this behavior, however, would constitute rape, a terrible crime which results in imprisonment for the assailant and severe psychological damage (as well as the more obvious physical harm) for the rape victim. It is because of distorted presentations that certain groups (eg. Women's Movement) have objected to pornography

In 1970 the Commission on Obscenity and Pornography in the U.S. conducted a series of studies to examine various issues surrounding pornography, including the issue that repeated exposure to pornography affects sexual behavior. Although the results generally indicated that exposure has little or no effects, the findings are questionable due to the various methodological difficulties and inconsistencies in some of the data. It is the purpose of this study to further examine the effects issue while precluding some of the earlier methodological problems.

In this study you were shown various types of sexual activities (eg. heterosexual intercourse, petting, group sex, lesbianism, sadomasochism, and forcible sex). Since it was not feasible to show all films to everyone, you were randomly assigned to one of three groups. The first two groups were shown two different sets of films, The third group saw no films. The purpose of the six films, including the home session, was to determine if repeated exposure to sexual activities had any effect on your sexual behavior or attitudes toward such behaviors. The data obtained in the second lab session, in comparing it with your pre-exposure data from the first lab session, will be used to see if any effects did occur. Finally, the data from the record sheets and fantasy phase (in the lab) will be used to examine if the exposures had any effect in these areas.

Because of the nature of this experiment, it is important that participants not enter the laboratory with specific expectations which may influence their responses. I thus ask you not to discuss the research wihh any potential subjects. If you are asked about your participation, please just indicate that you found the research interesting (and I'm sure you did).

If you have any concerns about the experiment (eg. possible effects on you), call me at 453-1555.

Thank you for your participation. If you have any comments that you feel might be helpful to the experimenter, I certainly would appreciate them.

COMMENTS:

_____

_____

_____

_____

(please continue on back if necessary)

APPENDIX K

GENERAL RELEASE FORM

GENERAL RELEASE

I,

hereby agree to submit to tests for the study of my reactions to various pornographic materials (i.e. magazines, stories, films), and I further understand and agree that I will also be subjected to various types of tests concerning my background and reactions to any stimuli involved.

KNOW ALL MEN BY THESE PRESENTS that I,

hereby remise, release and forever discharge the said UNIVERSITY OF MANITOBA - PSYCHOLOGY DEPARTMENT and JOSEPH CENITI, their heirs, executors, administrators and assigns, of and from all manner of liability, manner of action or actions, cause or causes or action, suits, dues, sums of money, claims, demands or damages whatsoever, at law or in equity, which I may hereinafter acquire as a result of participating directly or indirectly in the aforementioned study. It is further understood that the Waiver herein does not apply to any payment of monies owed to me as fees, salary or other as payment for participating in the project.

IT IS FURTHER UNDERSTOOD that all information given to any of the aforementioned parties is always to be kept confidential, and I further understand that I can stop participating in this project at any time at my own discretion without being subjected to any liability or legal action.

IN WITNESS WHEREOF I,

have hereunto set my hand and seal, this day of A.D. 1979.

SIGNED, SEALED AND DELIVERED)
)
in the presence of:)
)
_____)
)

_____

APPENDIX L

MEANS OF PRE-EXPOSURE TUMESCENCE SCORES FOR THE 4 DEPICTIONS AS A FUNCTION OF FORCE-ORIENTATION AND EXPOSURE

Means of Pre-Exposure Tumescence Scores for the 4 Depictions as a Function of Force-Orientation and Exposure (in centimeters)

Depiction	Exposure	Force Orientation		
		Force-Oriented	Nonforce Oriented	Unclassifiable
Rape-Written	Sexually Violent	7.06	1.76	.80
	Sexually Nonviolent	6.89	3.51	.48
	No Exposure	8.29	.85	.52
Consenting-written	Sexually Violent	6.08	8.36	.83
	Sexually Nonviolent	5.37	7.84	.80
	No Exposure	7.18	5.83	.72
Consenting-descriptive pictorial	Sexually Violent	9.00	11.00	3.73
	Sexually Nonviolent	10.18	10.24	6.90
	No Exposure	9.55	7.41	4.38
Rape-descriptive pictorial	Sexually Violent	9.18	9.03	3.72
	Sexually Nonviolent	8.64	9.31	4.16
	No Exposure	11.84	4.73	4.84

APPENDIX M

MEANS OF PRE-EXPOSURE SELF-REPORTED SCORES FOR THE 4 DEPICTIONS AS A FUNCTION OF FORCE-ORIENTATION AND EXPOSURE

Means of Pre-Exposure Self-Reported Scores for the 4 Depictions as a Function of Force-Orientation and Exposure (on a scale of 1-5)

Depiction	Exposure	Force Orientation		
		Force-Oriented	Nonforce Oriented	Unclassifiable
Rape-Written	Sexually Violent	2.91	1.50	1.67
	Sexually Nonviolent	2.78	1.89	1.80
	No Exposure	1.75	1.38	1.60
Consenting-written	Sexually Violent	2.82	3.00	1.67
	Sexually Nonviolent	2.67	3.44	2.40
	No Exposure	3.00	3.00	2.20
Consenting-descriptive pictorial	Sexually Violent	3.91	3.38	3.33
	Sexually Nonviolent	3.78	4.11	4.00
	No Exposure	3.75	3.50	3.40
Rape-descriptive pictorial	Sexually Violent	4.00	3.13	2.83
	Sexually Nonviolent	3.11	4.00	3.00
	No Exposure	4.00	2.13	3.60