

Sexual Arousal to Nonsexual Violence and Sadomasochistic Themes Among Rapists and Non-Sex-Offenders

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Twenty heterosexual rapists, 10 non-sex-offender patients from the same maximum security psychiatric institution, and 10 men with low socioeconomic status recruited from the local community were presented with audiotaped narrations while their penile tumescence was measured. The story categories were as follows: female victim/partner (neutral situation, consenting sex, rape, nonsexual violence, consenting bondage and spanking, masochistic bondage and spanking, and nonconsenting bondage and spanking) and male victim/partner (neutral situation, consenting sex, rape, and nonsexual violence). There were no differences between the two non-sex-offender groups, and they were combined. Rapists showed more sexual arousal to rape descriptions and less to consenting sex stories than the control subjects. As predicted, rapists were sexually aroused by stories involving nonsexual violence with female but not male victims. Surprisingly, there were no differences between rapists and control subjects in their responsiveness to the spanking and bondage stories. It was concluded that the amount of violence in the rape descriptions is critical in differentiating rapists from non-sex-offenders.

A number of investigators have shown that rapists' sexual arousal patterns are different from those of non-sex-offenders (Abel, Barlow, Blanchard, & Guild, 1977; Barbaree, Marshall, & Lanthier, 1979). These differences are shown most clearly by a measure of the relative amount of penile tumescence increase elicited by audiotaped descriptions of rape and descriptions of consenting sexual intercourse. Relative responsiveness to these two stimulus categories is expressed by the rape index, the average response to the rape category divided by the average response to the consenting sex category. Rapists typically show higher rape indexes than non-sex-offenders.

In our laboratory, we have replicated this basic finding using different subjects and stories by demonstrating that rapists are differentiable with the rape index from (a) non-sex-offender patients from the same maximum security psychiatric institution and (b) normal control subjects with low socioeconomic status

given regular instructions, or instructions indicating that sexual arousal to "unusual" stimuli was expected (Quinsey & Chaplin, 1984; Quinsey, Chaplin, & Varney, 1981). In addition, we have found (Quinsey & Chaplin, 1982), as have Abel and his associates (1977), that some rapists are sexually aroused by audiotaped descriptions of nonsexual violence. In our study, a ratio formed by dividing average penile responses to nonsexual violence by responses to consenting sexual activity was significantly related to whether the victim of the index offense was injured (Quinsey & Chaplin, 1982).

The interpretation of the sexual arousal occasioned by violent nonsexual stimuli is unclear because the nonsexual violence category involves both females and violence. One hypothesis is that it is the violence in itself that is sexually arousing; alternatively, it could be argued that nonsexual violence is not sexually arousing in itself but elicits sexual arousal because its description involves elements shared with sadomasochistic and violent sexual fantasies. On this second interpretation, the context of the violence is critical. If the first hypothesis, that violence per se is sexually arousing, is correct then rapists should be equally aroused regardless of victim characteristics; specifically, heterosexual rapists should show

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equal amounts of arousal to stories involving nonsexual attacks on male or female victims. If the second hypothesis is correct, however, heterosexual rapists should respond only to nonsexual violence involving females, and their responses to nonsexual violence and rape should be positively correlated, provided both involve female victims.

Because it appears on the basis of interviews and phallometric assessment that some rapists entertain extremely sadistic fantasies, it might be expected that they would be aroused by the various sadomasochistic themes found in pornographic literature. Rapists have been found to masturbate to a variety of sadomasochistic themes, to be aroused by descriptions of a variety of inappropriate sexual behaviors, and to have been charged with a variety of sex offenses (Abel, Becker, & Skinner, in press; Freund, Scher, & Hucker, 1983; Langevin, 1983; Quinsey, in press). But responsiveness to sadomasochistic themes is not unusual in the general population as well if the types of available pornography are any guide (Deitz & Evans, 1982), and real life sadomasochistic activities may or may not be a legal or clinical problem depending on whether real damage is done to the victim/partner and whether the victim/partner consents. With respect to arousability to sadomasochistic cues, therefore, rapists may differ from non-sex-offenders either in their responsiveness to sadomasochistic themes in general or only in instances where the victim does not consent or is physically damaged. To examine the consent issue in the present study, heterosexual bondage and spanking stories in which the victim/partner consented or did not consent were included as stimuli. The physical damage issue was not included in the bondage and spanking stories as it was covered in the rape and nonsexual violence stimuli.

The final topic addressed by this research is a comparison of various methods of computing relative arousal to rape cues and consenting sex cues. As mentioned earlier, Abel, Barlow, Blanchard, and Guild (1977) have used a ratio measure, the rape index, for this purpose. Other investigators have employed a difference score that would be expected to show less variability (Malamuth & Check, 1983); difference scores have also been used in studies of child molesters to express relative age pref-

erences (Quinsey, Steinman, Bergersen, & Holmes, 1975). In the present research, a variety of ways of expressing relative preference were compared in order to determine which accounted for the greatest percentage of variance in contrasts between rapists and non-sex-offenders.

In summary, the purposes of the present investigation were (a) to test the hypothesis that rapists respond sexually to nonsexual violence involving females but not males; (b) to determine whether rapists are more aroused than non-sex-offenders to stories involving bondage and spanking, particularly when the partner/victim does not consent; and (c) to compare various methods of expressing relative preference for consenting sex and rape in the differentiation of rapists from non-sex-offenders.

Method

Subjects

All subjects were male and none had been tested in our sexual behavior laboratory before. Eighteen subjects had been charged with rape, attempted rape, or indecent assault involving a female victim of 16 years of age or older, and 2 further subjects had been charged with homicide that occurred as part of a sexual assault. All rapists were held in the Oak Ridge maximum security psychiatric institution for assessment or treatment, all were diagnosed as personality disordered, and all reported themselves to be exclusively heterosexual, save 4 who claimed to be predominantly or mainly heterosexual. Two of the rapists were receiving major tranquilizers. The rapists averaged 28.6 years of age ($SD = 9.13$). They had been charged with 3.55 ($SD = 4.41$) counts of a sexual crime and had been arrested on sexual charges on an average of 1.6 ($SD = 1.6$) separate occasions, including the index offense or offenses.

Ten subjects from the same institution with no history of sex offenses served as the institutional control group. Eight were diagnosed as psychotic, 1 as personality disordered, and 1 as having a chronic brain syndrome. All 10 were receiving major tranquilizers. They averaged 25.8 years of age ($SD = 5.59$) and all reported exclusive heterosexual experience, save 3 who claimed predominantly heterosexual experience. Ten additional control subjects from the local community were recruited by newspaper or through local employment agencies. Most of these men were unemployed. Their average age was 24.6 ($SD = 5.82$). Nine reported exclusively heterosexual experience and 1 reported predominant heterosexual experience. None of the community control subjects reported having been arrested (with the exception of one drunk-driving charge).

Apparatus

Subjects were seated in a reclining chair located in a sound-attenuated and electrically shielded room equipped

with a one-way mirror and intercom. Skin resistance was recorded but not scored. Penile responses were measured using a mercury in rubber strain gauge that the subject fitted on the shaft of his penis. The strain gauge was periodically calibrated and the relationship between circumference and deflection was found to be linear within the working range of the gauge. The leads from the gauge were connected to a Parks Electronics Model 270 Plethysmograph. Penile responses were recorded at two levels of amplification on a Beckman R511A Dynograph. Auditory stimuli were presented by a programmable tape recorder through a speaker in the subject's chamber. All programming and recording equipment was located outside the subject's chamber.

Instructions

Rapists were instructed that we were interested in finding an assessment technique that might be helpful in treating Oak Ridge sex offenders. Non-sex-offenders were told the same, but it was added that we had to find out how non-sex-offenders reacted to our procedure. Patients were paid \$4 for participating, and nonpatients \$40 for their participation. Complete confidentiality was promised to all control subjects but not to rapists. After a brief explanation of the apparatus, all subjects were told: "During this session, which will last approximately one hour, you will hear a number of situations described on tape. I want you to listen closely to what is said and imagine you are the person saying it." The instructions were read and all testing was performed by one of two male research assistants who each ran approximately half of the subjects in each group.

Stimuli and Procedure

There were 40 audiotaped stories that were each narrated by a male in the first person. These stories were of 10 types of categories with four stories per category. The categories were as follows: neutral situation, consenting sex with a female partner, rape with a female victim, nonsexual violence with a female victim, consenting sex with a male partner, rape with a male victim, nonsexual violence with a male victim, consenting bondage and spanking with a female partner, masochistic consenting bondage and spanking with a female partner (where the male was tied up and spanked), and nonconsenting bondage with a female victim. Representative transcripts follow that illustrate the gruesome nature of the violent episodes, the types of differences between story categories, and the offensiveness of some of the material.

Neutral situation with a female

The laundromat is humming with activity as people do their washing. An attractive woman with long blonde hair is folding her clothes. Selecting the two washing machines beside hers, I begin sorting my clothes and distributing them between the two machines. Once they are loaded I add powdered soap. I notice that I do not have enough change. "Excuse me, do you have change for a dollar," I ask. The woman searches in her change purse and offers me 4 quarters. I thank her, take the change and insert the quarters in the machine. I relax and wait as the washer begins filling with hot water. A while later the machine gradually comes to a stop, having

completed the wash and rinse cycles. I carefully remove the damp clothes and place them in an empty dryer. "That machine is not working," advises the woman. I thank her, and move my clothes to another machine. Selecting the hottest temperature to dry my clothes, I insert some dimes and push the start button.

Consenting sex with a female partner

I was lying in bed in the morning with my girlfriend. Only the sheet covered the seductive curves in her sensuous body. She rolled towards me and slipping her warm hand under the sheet began to caress my stomach. She started to fondle my hardening prick and pubic hair at the same time she slid her hot darting tongue into my mouth, she whispered "I want you right now. I'm going to do it to you. I want you so bad." She began to explore my body with her tongue as I hungrily sucked her engorged nipples and my fingers probed the slippery folds of her cunt. Rising up she straddled me and lowered herself over me, enveloping my cock with her warm wet cunt. "Oh yes, I love it. I want you so bad," she moaned. She rose and fell over me panting in ecstasy and straining her thighs apart engulfing me further inside her. Her breasts bounced provocatively and her breath came in short gasps of pleasure as she furiously pumped towards a fiery climax.

Rape with a female victim

The apartment hallway is quiet and dim. I wait at the stairway. The elevator door opens and a woman with long slender legs exits. She walks to her door and fumbles with her keys. As the door opens I rush up behind her, grab her around the throat, and push her inside. She begins to struggle and attempts to break free. I squeeze her throat tightly with both hands which temporarily quiets her. Quickly I lock the door and begin tearing off her clothes. "Don't hurt me, please leave me alone," she gasps as I yank off her bra, exposing her creamy white breasts. I begin biting and licking her warm soft skin. As my tongue surges into her cunt she tenses and tries to push my head away. With anger I punch her a few times in the stomach. Then, grabbing her hair, I batter her head against the floor. As I ram my hard cock into the moistness of her warm snatch, she screams in pain. "Oh no, that hurts, that hurts." Undaunted I fuck her with deeper and deeper strokes.

Nonsexual violence with a female victim

It was dark and deserted as I waited in the alley. There she was—slim and pretty, and obviously rich. I needed money for a fix. This broad should be worth lots. As she passed I reached out and grabbed her by the throat, dragging her into the alley. "Give me your money, bitch." "Take my money, but leave me alone. Please don't hurt me," she whimpered. I shoved her against the wall, grinding her face into the bricks and with one hand I wrenched her purse from her grip. She began to struggle so I punched her hard in the head, knocking her to the pavement. I kicked her several times in the ribs as she writhed in agony. "Please stop. Let me go. You're hurting me," she sobbed. Grabbing her by the hair I dragged her further into the alley and rammed her head against a wall. I ground my heel into her hand hearing the crunch of the bones, then kicked her again before running with her purse.

Consenting bondage and spanking
with a female partner

My girlfriend and I are alone in her room necking. She has soft brown hair and a very appealing figure. She asks me if I will play a little game with her. I say "O.K." She hands me some rope and says "Tie me up and spank me. Be mean and hurt me. I really like that. It turns me on!" I order her to strip. She looks excited and horny as she quickly removes her clothes. I tie her hands behind her back and force her into a kneeling position with her ass high in the air and her face near the floor. I grab a large flat hair brush and begin to spank her really hard. She begins to cry and says, "Please, please hit me some more." Her body begins to tremble with excitement as I continue to spank her. Her hips are writhing and wriggling with each smack of the brush. She sobs and moans in ecstasy as she begs me to hit her again and again.

Nonconsenting bondage and spanking
with a female victim

I am necking with my girlfriend alone in my room. Her slender body is tanned a beautiful golden brown. I ask if she will play a little game with me. She says "no." I take some rope and say "I'm going to tie you up and spank you, be mean and hurt you." She says she really doesn't like that, it turns her off. I order her to undress. She looks frightened and unhappy as she disrobes. I tie her hands behind her back and force her into a kneeling position with her ass high in the air and face near the floor. I grab a large flat hair brush and begin to spank her really hard. She begins to cry and says "Please, please stop hitting me." Her trembling body begins twisting to avoid the blows as I continue to spank her. Her flesh reddens with each loud smack of the brush. She sobs and moans in discomfort as she pleads with me to stop hitting her.

Story duration varied between 45 and 55 s and the largest magnitude penile response in the 2- to 90-s interval following stimulus onset was recorded. There was a 30-s period between the end of each scoring interval and the beginning of the next story, but, if necessary, the next story was delayed until the subject's penile response returned to baseline.

Each sexual story consisted of approximately 150 words: 10 words set the scene; 10 words described the victim/partner; approximately 15 words described the approach and the intention of the narrator; 25 words described the victim/partner's responses; approximately 45 words dealt with sexual contact, if any, and the victim/partner's response or resistance; and approximately 40 words described continuing contact and response. All partners/victims were described as attractive.

Testing occurred on two occasions during adjacent working days. The order of narratives was randomly determined, with the restriction that half of the stories from each category occurred in the first session. There were two orders of stories and a randomly determined half of each group heard one of these two sequences.

Treatment of the Data

Each subject's data were analyzed in terms of raw scores (mm of penile circumference change) and *z* scores. The

z scores for each subject were based on his 40 responses to the individual stories. Both raw and *z* scores were averaged within each subject and stimulus category before further analysis. Rape indexes were calculated for each subject as ratios and difference scores for both raw and *z* scores. In addition, nonsexual violence indexes were computed after Quinsey and Chaplin (1982) in an analogous manner (mean response to nonsexual violence with a female victim divided by mean response to consenting sex with a female partner).

Rapists' histories of sex offenses were quantified as the total number of sex offenses and the number of occasions the offender was charged for a sexual offense or offenses. In addition, the maximum amount of damage inflicted by each offender on a victim was rated, following Quinsey and Chaplin (1982), on a 7-point scale: 1 = *no damage*, 2 = *slight damage with no weapon*, 3 = *slight damage with weapon*, 4 = *victim treated and released*, 5 = *victim at least one night in hospital*, 6 = *victim death*, and 7 = *victim death with postdeath mutilation*.

Results

The two control groups responded very similarly. An analysis of variance (ANOVA), using group assignment (community or hospital control subjects), victim sex, and stimulus category (consenting sex, rape, and nonsexual violence) as independent variables, yielded no significant effects involving group assignment with raw or *z* scores. Further analysis (Group Assignment \times Stimulus Category—consenting bondage, masochistic bondage, and nonconsenting bondage) showed no significant effects. These results indicate that neither institutionalization nor psychotic/nonpsychotic status were important in the present study, and the two control groups were combined in further analyses.

These ANOVAs were repeated comparing the rapists with the control subjects. Figure 1 indicates the nature of the differences between groups. In the first analysis (Group \times Sex \times Category), all effects and their interactions were significant in the *z* score data and all but the group effect and Sex \times Group interaction in the raw score data. The effect sizes were larger in the *z* score data; in the *z* scores, all effects were significant beyond the .001 level with the exception of group assignment ($p < .05$), as would be expected because the *z* transformation removes differences in overall responsiveness. Planned contrasts with the *z* scores using a pooled within-cells error term (Winer, 1971, p. 530) showed that rapists responded less to the consenting sex with a female partner category than control subjects, $F(1, 103) =$

37.52, $p < .001$, but more to the rape with a female victim category, $F(1, 103) = 20.70$, $p < .001$, and the nonsexual violence with a female victim category, $F(1, 103) = 55.52$, $p < .001$. None of the group contrasts involving male stimuli were significant. Surprisingly, in the analyses of the bondage and spanking stories, there were no significant effects involving group assignment in either the raw or z scores.

The ability of various methods of computing the rape index to differentiate rapists from nonrapists was compared using the Omega² statistic. The ANOVAs showed that rape indexes for each subject, computed as the average raw response to rape stimuli divided by average raw response to consenting stimuli, accounted for 7%, the raw difference score for 13%, the z score difference for 50%, and the z score ratio for 51% of the between-groups variance. The z score methods of computing the rape

index owed their great superiority to the reduction in the size of the error term, which in turn was a result of the removal of individual differences in responsivity. The number of subjects correctly classified was necessarily the same with all of these methods of computation: All of the 20 non-sex-offenders and 16 of the 20 rapists were correctly classified. A cutoff between 0.98 and 1.00 was optimal for the z score ratio method.

In order to interpret the sexual arousal to nonsexual violence, additional analyses of the z scores were employed. Nonrapists did not respond more to nonsexual violence involving female victims than to neutral stories, whereas rapists did respond more, $F(1, 38) = 38.75$, $p < .001$.

Stepwise regression analyses using z score data were used to predict the responses to female rape depictions from the responses to

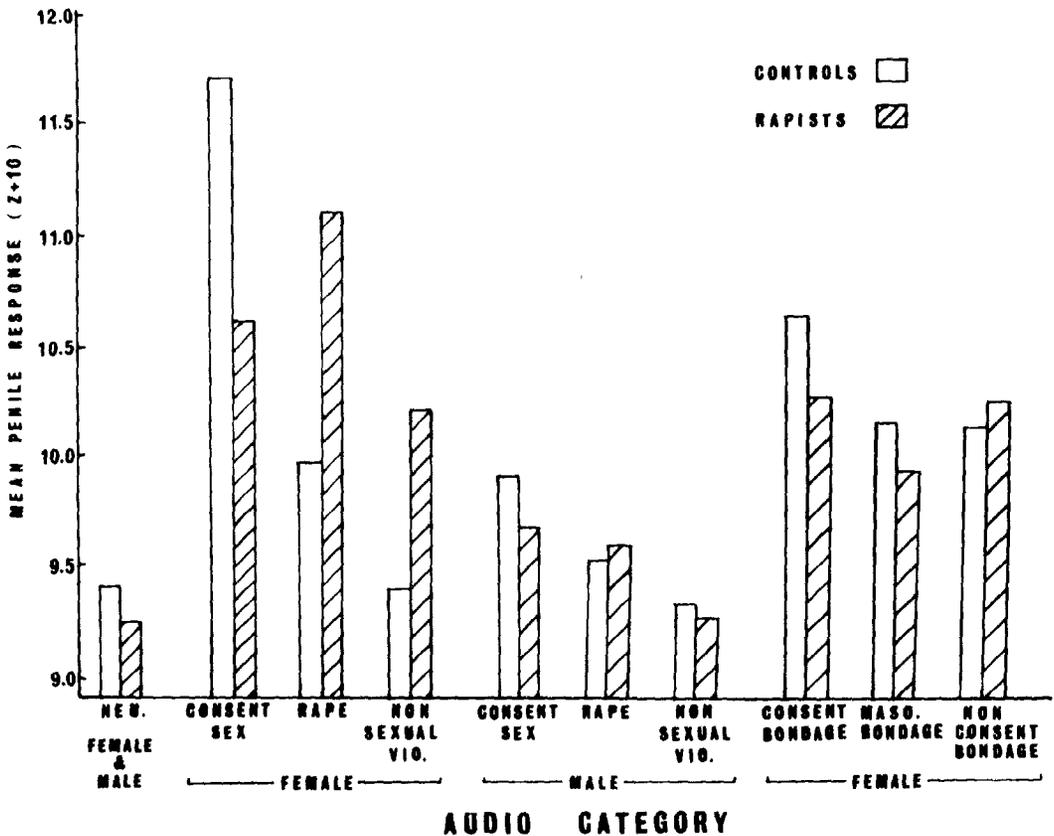


Figure 1. Average penile (z scores + 10) responses of rapists and control subjects to the stimulus categories. (Neu = neutral; vio = violence; maso = masochistic.)

Table 1
Correlations Between Heterosexual
Stimulus Categories

Stimulus	Combined		Rapists		Nonrapists	
	NSV	CS	NSV	CS	NSV	CS
Rape	.59*	-.72*	.34	-.69*	-.06	-.36
NSV		-.61*		-.58*		-.14

Note. NSV = nonsexual violence; CS = consenting sex.
* $p < .01$, two-tailed.

stories involving consenting sex with a female partner and nonsexual violence with a female victim. Raw score data were not used in these correlational analyses because the raw score correlations chiefly reflected differences in responsiveness. In the combined sample, the multiple squared correlation was .55 ($p < .001$); the standardized beta weights were $-.57$ and $.24$ for consenting sex and nonsexual violence, respectively. Results were similar for the rapists ($R^2 = .48$, $p < .01$); the standardized beta weights were $-.74$ for consenting sex and $-.09$ for nonsexual violence. Responsiveness to rape was not well predicted in the non-sex-offender sample ($R^2 = .14$). The zero-order correlations are shown in Table 1.

As in our earlier study (Quinsey & Chaplin, 1982), a ratio was formed by dividing the average response of each subject to nonsexual violence with a female victim by consenting sex with a female partner. Unlike our earlier study, however, the nonsexual violence ratios in the present study were based on z , not raw, scores. The correlation among the rapists between the nonsexual violence ratios and offense history variables was not significant for number of sexual assaults, number of arrests for sexual crimes, and amount of victim damage in the most serious offense. However, the correlation between nonsexual violence ratios and a dichotomized victim damage variable (victim remains in hospital at least one night, victim death, or victim death with postdeath mutilation vs. lesser or no damage) was significant, $r(df = 18) = .42$ ($p < .05$, one-tailed).

Discussion

Rapists were differentiable from nonrapists on the basis of their relative responsiveness to

rape cues and consenting sex cues. Although this result is in accord with our earlier results and those of other investigators, the finding that rapists responded more to rape stimuli than to consenting sex stimuli is not in agreement with our previous work (Quinsey, Chaplin, & Varney, 1981). The finding that rapists, as a group, showed substantial arousal to nonsexual violence, is also not in accord with our previous research (Quinsey, Chaplin, & Varney, 1981), although we expected a number of individual rapists to become aroused by this material. Several explanations for these discrepancies appear plausible: sampling error (i.e., chance inclusion of more sadistic individuals) and the use of shorter and more strictly controlled stimuli. The present data offer no way of testing these or perhaps other alternatives.

The comparison of different computations of the rape index clearly supports the use of z over raw scores. Other methods of controlling for overall responsiveness, such as percentage of full erection, may share this virtue of z scores. Although these computational methods do not, of course, affect the number of classification hits and misses, the z score transformation greatly reduces error variance and is to be preferred when attempting to discriminate rapists from nonrapists.

The finding that rapists respond to nonsexual violence involving female but not male victims suggests that sexual arousal to descriptions of nonsexual violence occurs because the descriptions resemble violence in a sexual context. The positive correlations between stories involving nonsexual violence with a female victim and rape with a female victim found among the rapists and in the total sample support this interpretation (cf. Abel, Barlow, Blanchard, & Guild, 1977). The correlation of response to nonsexual violence with victim damage underscores the importance of this measure.

An interesting opportunity arose to gather further validity data on the test stimuli when 2 subjects reported a substantial amount of homosexual experience. These subjects were not included in the study proper but were tested anyway. The first subject, an Oak Ridge non-sex-offender patient, showed the highest response to consenting sex with a male partner and the second highest to consenting sex with

a female partner; rape stories elicited little response and nonsexual violence, none. A profile such as this would be expected on the basis of the patient's nonaggressive bisexual history. The second subject had been charged with a sexual assault on a female victim. This subject showed high sexual arousal to nonconsenting bondage with a female victim; rape with a female victim, and rape with a male victim. Somewhat less arousal was occasioned by nonsexual violence with a female victim and consenting sex with a male partner. Nonsexual violence with a male victim elicited little arousal and consenting sex with a female partner even less. As this patient's history involved both homosexuality and heterosexual sexual assault, the responsiveness to homosexual and heterosexual rape stimuli would be expected.

Rapists did not respond more than non-sex-offenders to the sadistic or masochistic bondage and spanking stories; perhaps more surprisingly, rapists did not respond differently than normal subjects according to whether the victim/partner consented or not. Although the fact that the bondage and spanking stories involved girlfriends and the rape stories involved strangers may explain these results, we prefer, at present, to explain these data in terms of our earlier finding (Quinsey & Chaplin, 1984) that non-sex-offenders' sexual arousal is inhibited by victim pain, whereas rapists' arousal is not. Inspection of Figure 1 indicates that rapists responded about as much to the bondage/spanking themes as they did to nonsexual violence. Non-sex-offenders, on the other hand, appear to respond less to nonsexual violence with a female victim and rape with a female victim than to the bondage and spanking stories. A simple interpretation of these results is that non-sex-offenders are inhibited by descriptions of violence and victim injury, whereas rapists are not. Only stories that involve vicious attacks and victim injury, furthermore, differentiate rapists from nonrapists. On this interpretation, the bondage and

spanking stories are simply not cruel enough to obtain group differentiation, even though some involve nonconsenting victims.

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