

Preventing Faking in Phallometric Assessments of Sexual Preference

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The measurement of penile responses to various sexually relevant stimuli has become a widely accepted method of determining the direction of male sexual interest.¹ It has been employed in many studies to determine preferred partner gender, preferred partner age, and degree of interest in coercive or sadistic sexual activities. Despite this wide and growing acceptance, however, it has been known for many years that some men can fake phallometric assessments of sexual preference; that is, to indicate that they prefer certain sorts of sexual partners or activities when their sexual histories provide strong evidence that they do not. Concern about the issue of sexual response faking has spawned a variety of strategies to minimize its effects or to eliminate it.

There have been a large number of studies that indicate that at least some (but certainly not all) men can both inhibit and enhance their penile responses to various stimuli in accord with instruction under various conditions.²⁻¹³ Although some of these studies have attempted to prevent penile response faking through the use of brief stimuli, trying various modalities of stimulus presentation, or the use of "priming" techniques (in which a stimulus that is preferred or said to be preferred by the subject is presented immediately before the stimulus of interest), none have been completely successful in eliminating instructional control or in preventing faking by motivated subjects.

The present study is a continuation of a line of research on the faking problem that was begun very early. Laws and Rubin¹⁴ reasoned that, if penile tumescence changes are partly "voluntary," subjects should be able to modify their responses in accord with instructions. Normal subjects were shown several ten-minute erotic films and were required to press a button when a light appeared at irregular intervals at the top or bottom of the viewing screen in order to ensure attention to the screen. Subjects were able to inhibit their responses to the films, and this inhibition was not due to fatigue or boredom with the film; they reported engaging in competitive cognitive tasks, such as mental arithmetic, to accomplish this inhibition. Subjects were less successful in developing and maintaining an erection when instructed to do so in the absence of any erotic stimulus.

Henson and Rubin¹⁵ observed that there was no guarantee in the above study that subjects actually attended to the relevant aspects of the stimulus; indeed, subjects reported using distracting cognitive tasks in order to prevent an erection. To circumvent this problem, Henson and Rubin required subjects to describe the activity on the film as the film was played. As in the first study, a ten-minute film was shown repeatedly.

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The conditions were: normal instructions (with the light vigilance task), inhibit instructions (with light), inhibit and describe instructions (without light), normal and describe instructions (without light), and normal instructions (with light). Briefly, the subjects could inhibit their erectile responses whenever asked. Neither the subjects nor the experimenters could explain how this inhibition was accomplished when the subjects were required to describe the story. In addition, observers could not differentiate between audiotapes of the subjects' descriptions generated in the inhibit and the noninhibit instructional conditions.

The investigators hypothesized that the "verbal description might have functioned as a competing behavior that resulted in reduction of penile erection." This hypothesis received some support in that the description task resulted in diminished erections even without inhibit instructions. Subsequently, it has been found that the amount of erection elicited by an erotic audiotape declines with the difficulty of a competing cognitive task.¹⁶

The above two studies indicate that the penile response is voluntary in the sense that it can be brought under instructional (or self-instructional) control. However, the reflexive link between erotic stimuli—if attended to—and penile tumescence has never been questioned. Subjects who intentionally influence their penile responses apparently do so by not attending to or not processing the erotic material that is presented to them, focusing their attention elsewhere. In order to prevent such intentional influence, therefore, it is necessary to ensure that the subject processes only the relevant information that is presented. It is clearly insufficient to ensure that the subject looks in the direction of a visual stimulus or attends to possibly irrelevant aspects of an auditory or visual stimulus and not to its sexual meaning. Unfortunately, it is not clear, even in the Henson and Rubin study,¹⁵ that subjects attended only to the sexual aspects of the stimulus; we know only that the subjects instructed to inhibit described the general activity shown on the film and that this description was not differentiable from that given by subjects who were not instructed to inhibit.

The approach taken in the present experiment was to examine instructional control in the context of a semantic task (c.f. References 17-19) of pressing a button during an auditory stimulus presentation whenever sexual material was described and a second button whenever violence was described (both buttons were to be pressed when violent sexual behavior was described). This kind of task ensures that, in order to be accurate, subjects must attend to the critical dimensions of the stimulus as they must process the very stimulus dimensions to which sexual arousal is to be measured. In addition, it was expected that the task would not be distracting since it involved focusing on the relevant stimulus dimensions and indicating this focus with a very simple motor response.

METHOD

Subjects

Fifteen male subjects were recruited from the local community through newspaper advertisements. They were paid a minimum of ten dollars per session for four sessions. None of these subjects had been tested in our laboratory before, and none admitted to previous convictions or sexual offences. One maximum security psychiatric insti-

tution patient with a history of economic offences was also recruited. The subjects' average age was 24.88 years ($SD = 5.69$). Four of the subjects were fully employed, 4 were employed part-time, and 8 were unemployed. They had completed an average of 12.13 ($SD = 2.75$) years of education.

Apparatus

The Sexual Behavior Laboratory was located at the end of a maximum-security psychiatric ward. Within the laboratory, subjects were seated in a reclining chair located in a sound-attenuated and electrically shielded room equipped with a one-way mirror and intercom. Penile responses were measured using a mercury-in-rubber strain gauge that the subject fitted on the shaft of his penis. The closed-loop gauge was periodically calibrated, and the relationship between circumference and deflection was found to be linear within the working limits 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; as well, penile responses were monitored on a digital voltmeter. Auditory stimuli were presented by a programmable tape recorder through a speaker in the subject's chamber. All programming and recording equipment (except the plethysmograph) was located outside the subject's chamber.

When the subject was seated and the gauge was in place, a plywood sheet was placed over the arms of the reclining chair so that the subject could neither see nor manipulate his penis. One button was located at the right side and another at the left side of the board.

Stimuli

The stimuli employed by Quinsey, Chaplin, and Varney²⁰ were used in the present study because we have had the most experience using this assessment tape with rapists, and the stimuli discriminate non-sex offenders from rapists quite well.

There were 18 stimuli in this set, each narrated by a male in the first person, present tense, and describing some interaction with an adult female. The stimuli averaged 100 sec in duration and were presented in a fixed random order, with the restriction that no more than two stimuli from the same category could be immediately adjacent. There were 4 categories of story: 3 neutral stimuli (involving a nonsexual interaction between a male and female), 5 consenting sex stimuli (explicit descriptions of sexual activity), 5 rape stories (involving brutal, forced sex with physical violence), and 5 nonsexual violence stories describing extremely violent mugging scenes. These stories are described in more detail by Quinsey, Chaplin, and Varney.²⁰

Procedure

Each subject participated in four sessions held on separate days. In each session the stimuli were the same. The first 8 subjects received the following sequence of

sessions: normal, fake, fake with buttons, and normal. The second 8 received a different sequence: normal, normal with buttons, fake, and fake with buttons. The sessions differed in one or both of two ways. First, they could differ as to whether normal or fake sets were given. To induce the normal set, a subject was instructed to relax, listen to the stimuli, and pretend that he was the person "saying it." These are the standard and vague instructions used in our laboratory (e.g., References 20 and 21).

To induce the fake set, subjects were instructed to appear as if they were sexually interested in rape and in nonsexual violence but not consenting sexual activity. Based upon the faking literature and our previous research, subjects were given some advice about how this faking might best be accomplished, although they were free to invent their own techniques if they wished. Thus, subjects were advised that they could think about something else when the stimulus was presented (sexually exciting or not, depending on whether they were trying to indicate arousal or not) or to concentrate only on sexually interesting or uninteresting aspects of the stimulus story.

Subjects were instructed before each session in which they were asked to fake preferences that they would be paid double for that session if they were successful.

The second way in which the sessions could differ was in whether the semantic tracking task was used. In the tracking task the subject was instructed to depress the right button (marked "S") whenever sexual activity was occurring in the story and the left button (marked "V") whenever violence was being described. Thus, neither, one, or both buttons could be pressed at a given time.

Only subjects who showed normal preferences (specifically, lower responses to the neutral category than to any of the sexual story categories and a rape index²⁰ of less than .85) and who produced a reasonable magnitude of response to the consenting sexual category in the first session were included in the study. Six other subjects did not meet these criteria.

Treatment of the Data

Penile data were analyzed in the form of raw scores (mm circumference change from story onset to the largest reading in the period from 2 sec after story onset to 30 sec after the story finished) and Z scores. The Z scores were calculated for each subject and for each session separately, based on the 18 responses for that session. As the results were essentially the same for both types of scores, only the Z scores are reported on in the principal analyses. The raw data did, however, indicate that there was no great decrease in overall responsiveness with repeated assessments or with the semantic tracking task. Among the first 8 subjects' raw scores there was no significant difference between the first and last session ($F(1,7) = 4.40, p < .10$) and no difference between sessions 1 and 2 for the second group of subjects ($F(1,7) = 2.25, p > .10$). Finally, for the entire group of subjects there were no differences among sessions in the raw scores when the normal instructions, fake, and fake with buttons conditions were compared ($F(2,30) = 1.46, p > .10$).

Prior to the principal analyses of variance, the two normal sessions for the first 8 subjects and the normal and normal-with-buttons sessions for the second 8 subjects were compared. The variables in these analyses were session and stimulus category; no simple effect of session was possible because of the Z-score transformation. Among the data from the first 8 subjects there was a large stimulus category effect ($F(3,21) = 193.24, p < .001$) and no significant interaction. The analysis comparing the normal instructions with and without the tracking task (for the second group of

subjects) yielded a large stimulus category effect ($F(3,21) = 115.07, p < .001$) and no session by stimulus category interaction. As these analyses indicated no differences between the sessions with normal instructions, these sessions were averaged for each subject. A repeated-measures analysis of variance was then computed for all 16 subjects using the variables session type (normal, fake, and fake with buttons) and stimulus category (neutral, consenting sex, rape, and nonsexual violence).

Four Wilcoxon Signed Ranks tests were computed for each subject separately. These tests employed Z scores and compared: (a) the first normal session with the last normal session for the first group of subjects and the first normal session with the second normal-with-buttons session for the second group; (b) the first normal session with the fake session; (c) the first normal session with the fake-with-buttons session; and (d) the fake session with the fake-with-buttons session. In these analyses the neutral stimuli were discarded, and the sign of change for the rape and nonsexual violence categories were reversed so that a faking change, if present, was in the same direction for all of the categories. A one-tailed test of significance at the .025 level was employed, because our laboratory uses this criterion for deciding whether a patient has successfully modified his phallometric responses during treatment.

The accuracy of subject tracking was evaluated by comparing it to the performance of 4 external male raters who completed the tracking task without undergoing penile plethysmography. Raters were carefully instructed and were allowed to listen to the tape as often as required. A template was constructed by marking "sex" or "violence" as occurring in the tapes whenever at least 2 raters indicated it was present. In order to calculate kappa coefficients, each second of each stimulus (excluding neutrals) was included as an observation for a given session. Violence was not scored for the consenting sex scenarios.

RESULTS

The principal results are shown in FIGURE 1. As can be seen in the figure, the two groups exhibited normal preferences during all nonfake sessions, were able to successfully fake preference for rape, and could increase their responses to nonsexual violence when there was no semantic task. The semantic task prevented faking. These effects are shown more clearly in the combined data of FIGURE 2.

The analyses of variance confirmed these visual impressions. There were significant effects for stimulus category ($F(3,45) = 59.93, p < .001$) and stimulus category by session ($F(6,90) = 67.14, p < .001$). Planned contrasts showed that subjects responded differently in the fake session than in the normal session for the consenting-sex ($F(1,90) = 224.10, p < .001$), rape ($F(1,90) = 51.78, p < .001$), and nonsexual-violence categories ($F(1,90) = 61.74, p < .001$). The fake session also produced responses different from those of the fake-with-button session for consenting sex ($F(1,90) = 143.82, p < .001$), rape ($F(1,90) = 49.42, p < .001$), and nonsexual violence ($F(1,90) = 24.63, p < .001$). The normal and fake-with-buttons sessions were not significantly different for the rape category ($F < 1$) but showed significant, although relatively small effects for the consenting sex ($F(1,90) = 8.87, p < .005$) and nonsexual violence categories ($F(1,90) = 8.38, p < .01$).

Of course, the data of individual subjects are of greater concern in actual clinical work. Wilcoxon Signed Ranks tests on individual subjects provide detailed support for the inferences drawn from the analyses of variance. There were no significant

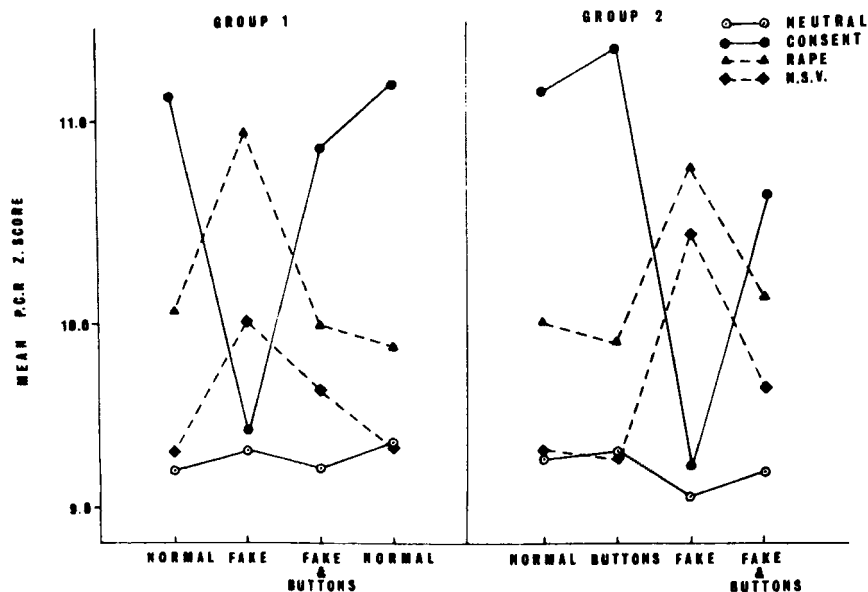


FIGURE 1. Mean penile circumference Z scores as a function of stimulus category and session for each group.

differences among the sessions with normal instructions for any of the subjects. Although 15 of the 16 subjects significantly altered their responses in the fake condition (p 's $< .05$), only 2 subjects in the second group succeeded in the fake-with-button session. The fake-with-buttons condition was significantly different from the fake session for 14 of the subjects. In summary, 12 of the 16 subjects were perfect: they each exhibited significant differences neither between the 2 normal instruction sessions nor between the normal and fake-with-buttons conditions, but did show significant differences between the normal and fake conditions and between the fake and fake-with-buttons conditions.

The subjects who could, or could almost, fake with the semantic task are of particular interest. Two subjects in the first group successfully earned their extra ten dollars in the fake-with-buttons condition (all subjects earned this money in the fake condition without the semantic task). For Subject 7 the shift was marginally significant with a Wilcoxon Signed Ranks test ($t = 26$, $n = 15$, $p < .05$, 1-tailed, as it was for Subject 8 ($t = 30$, $n = 15$, $p = .05$, 1-tailed). However, Subjects 12 and 15 in the second sequence significantly and clearly altered their responses during the fake-with-buttons session ($t = 3$, $n = 15$, $p < .001$ and $t = 12$, $n = 15$, $p < .005$, respectively, both 1-sided).

Subjects were asked to describe their strategies at the end of each faking session. During the faking sessions without the tracking task, all subjects reported using the suggested strategy of substituting their own fantasies for the auditory material; none of the subjects reported any difficulty in discriminating among the stimulus categories. All subjects reported that it was very difficult to fantasize about something else when required to press the buttons in order to track the stimulus content. The reports of the subjects who succeeded or nearly succeeded in faking during the fake-with-buttons session are illuminating. Subject 7 stated that he found a small nail on the board that

the buttons were on and jammed his finger into to it in order to "turn himself off" when the consenting sex stories were presented and that he concentrated on the sexual aspects of the rape stories in order to generate sexual arousal. Subject 8 commented that, although it was more difficult to fake when required to track the stimulus content, he was able to perform the task because he was trained as a pilot and was used to doing two things at once. Subject 12 memorized the stories (note that for the second group of subjects, the fake-with-buttons session was last), so that he knew when to press the buttons without having to attend very closely. Subject 15 also used a similar strategy, reporting that, since he knew "what was coming," he could block out the story. Based on the differential effectiveness of these 4 subjects, memorization of the stimulus material appears to be the best strategy; none of the other subjects reported using memorization to try to counteract the tracking task.

The analysis of the agreement data for the tracking task is hindered by missing data caused by the intermittent failure of the polygraph pen used to monitor the violence theme. Nevertheless, these preliminary data indicate that subjects showed modest but better agreement with the rater template in tracking the sex than in tracking the violence theme. There was no diminution of accuracy in the fake as opposed to the nonfake condition. The average kappas were as follows: Group 2, session 2 (nonfake instructions), $K(\text{sex}) = .56$, range .46 - .63, $n = 8$, and $K(\text{violence}) = .37$, range .34 - .43, $n = 3$; Group 1, session 3 (fake instructions), $K(\text{sex}) = .49$, range .27 - .63, $n = 7$, and $K(\text{violence}) = .29$, range .18 - .39, $n = 5$; Group 2, session 4 (fake instructions), $K(\text{sex}) = .55$, range .33 - .67, $n = 8$, and $K(\text{violence}) = .33$, range .16 - .47, $n = 3$. Of the two subjects who could successfully fake, Subject 12 showed as good agreement on both sex and violence in the fake as in the nonfake condition; Subject 15, however, showed a marked decrease in agreement for the sex theme under the fake condition (.63 to .33); no data were available for this subject on the violence theme because of pen failure.

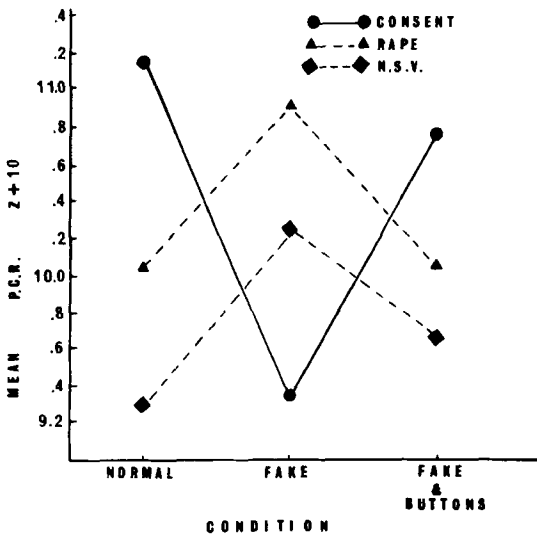


FIGURE 2. Mean penile circumference Z scores as a function of stimulus category and condition for both groups combined.

DISCUSSION

One of the most striking results of this study is how well subjects could fake an ordinary sexual preference assessment when given the expectation that they could do so and some advice about strategy. In our earlier faking research^{8,9} we gave our normal subjects no advice or expectations, and a substantial proportion of them did not fake successfully. The present results do not, of course, necessarily mean that paraphiliacs can produce a particular sexual preference profile at will, but they do indicate that subject naiveté might be related to more accurate results. Accuracy in this context is usually assessed by agreement with the subjects's sexual history. Clearly, however, paraphiliacs cannot always control their penile responses in phallometric assessment. As part of treatment efforts in our laboratory, even though rapists and child molesters are instructed to control their penile responses to visual stimuli and are given biofeedback in order to help them, few patients are successful with biofeedback alone.²² In addition, it is very common for pedophiles to deny any sexual interest in children but to exhibit plainly such a preference in phallometric testing (e.g., see Reference 23). Nevertheless, even though there is some reason to believe that paraphiliacs might have more difficulty than normals in faking their preferences, at least in the case of pedophiles tested with visual stimuli, the exquisite instructional control exhibited by these normal subjects raises grave questions about the accuracy of phallometric assessments of individuals who are highly motivated to fake and are housed in institutions where knowledge of faking strategies is widespread. Some patients from our institution have in fact been advised by other patients to adopt the strategies we coached our subjects to adopt in the present study. It is for this reason that most of our phallometric research is based on subjects new to the institution.

The semantic tracking task appears to be a promising method for minimizing the effects of faking in phallometric assessments of sexual preference that employ audiotaped stimuli. Presumably, it was more effective than the ongoing description of the stimuli employed by Henson and Rubin¹⁵ because the button pressing task is less effortful and focuses the subject's attention on the critical elements of the stimulus. While this approach requires extensive further testing and validation on paraphiliacs, the possible development of a method to prevent faking raises a number of ethical and theoretical questions.

One of the ethical questions has to do with the danger that sexual behavior laboratories will become more policelike in their functioning. While most person who perform phallometric assessments prefer to use them for research and treatment, there is pressure from others who, understandably, want assistance in making dispositional decisions relating to community security. The potential development of a fakeproof sexual preference assessment would undoubtedly increase this pressure.

To turn to theoretical issues, while nobody believes that penile tumescence *is* male sexual arousal or that relative penile responsiveness to sexual cues constitutes sexual preference, the discriminative power and face validity of phallometric technology make it easy to forget these distinctions, particularly inasmuch as paraphiliacs' reports of their sexual preferences are much more likely to be at variance with their actual histories of sexual behavior than are the results of phallometric assessments. The distinction between the phallometric measure of sexual preference and the psychological construct of sexual preference itself is of paramount importance in interpreting changes in sexual preference, reflected by penile measurements, that are occasioned by behavioral treatments. The question of whether these treatment-induced changes are due to faking can profitably be considered in this context. Of course, in order to conclude that treatment-produced changes are due to faking, one would have to

demonstrate that the client consciously set out to deceive the therapist. I rather doubt that this is invariably the case, although it certainly occurs. Nevertheless, the stimulus control acquired during behavioral treatment and that exerted by subjects in faking studies may well be very similar. According to this view, clients who improve as a result of a behavioral intervention should not demonstrate this improvement in phalometric assessments that employ a semantic tracking task.

Whether the acquisition of appropriate stimulus control via behavioral intervention is worthwhile, however, cannot be determined by finding out whether it is similar to faking but can be evaluated only through lengthy treatment outcome studies. It could well be that the only difference between faking and treatment lies in whether the client attributes the change to his ability to deceive or his ability to learn. Viewing the acquisition of stimulus control in treatment as similar to that involved in instructional control, however, has a number of merits. First, it means that we view stimulus control as something that the client actively performs. Second, it simplifies the issue of change, because change must be interpreted strictly behaviorally (i.e., its quality is not dependent on how it is produced). And, third, it emphasizes the artificiality of the treatment situation and focuses the therapist on issues of generalization—particularly, teaching the client to exert the control of the inappropriate sexual arousal that he has demonstrated in the laboratory in real-life situations. It could even be that new cognitive-behavioral interventions could be discovered through the investigation of instructional control paradigms.

SUMMARY

This study evaluated a method of preventing sexual preference faking in phalometric assessments employing audiotaped stimuli. The stimuli were stories describing neutral heterosocial interactions, consenting heterosexual activity, rape, and nonsexual violence. Sixteen normal heterosexual males were each tested with ordinary instructions, with fake instructions (i.e., to appear sexually interested in rape and nonsexual violence but not in consenting sex), and with fake instructions while performing a secondary semantic tracking task. The tracking task was to press one button whenever sexual activity was being described and another button whenever violence occurred. This simple task was designed to focus subjects' attention on only the critical elements of the stories. Group data indicated that subjects could fake inappropriate preferences when instructed to do so without the semantic tracking task but could not when the task was required. The implications of these findings for ethical practice and for the theoretical interpretation of phalometric assessment data were discussed.

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