Selecting Films For Sex Research -- 1

Running head: SELECTING FILMS FOR SEX RESEARCH

Selecting Films For Sex Research:

Gender Differences in Erotic Film Preference

Erick Janssen, Ph.D.

The Kinsey Institute for Research in Sex,

Gender, and Reproduction

Indiana University

Bloomington, Indiana

Deanna Carpenter, B.A.

Department of Psychology

Indiana University

Bloomington, Indiana

Cynthia A. Graham, Ph.D.

Gender Studies

The Kinsey Institute for Research in Sex, Gender, and Reproduction

Indiana University

Bloomington, Indiana

CORE

Abstract

The aim of this study was to explore gender differences in sexual responsiveness to erotic films that had been selected for their differential appeal for men and women. A secondary objective was to identify variables that influence sexual arousal, and explore whether these variables differ for men and women. Fifteen men (mean age = 26) and 17 women (mean age = 24) were presented with 20 heterosexual film clips, half of which were selected by female, and the other half by male, research assistants and were asked to rate the clips on a number of dimensions. Overall, men found the film clips more arousing than women. Gender differences in arousal were negligible for female-selected clips but substantial for male-selected clips. Furthermore, men and women experienced higher levels of sexual arousal to clips selected by individuals of their own gender. Cluster regression analyses, explaining 77% of the variance for male and 65% for female participants, revealed that men's sexual arousal was dependent upon the attractiveness of the female actor, feeling interested, and both 'imagining oneself as a participant' and 'watching as an observer'. For women, with all variables entered, only 'imagining oneself as a participant' contributed to sexual arousal ratings. The findings suggest that how films are selected in sex research is an important variable in predicting levels of sexual arousal reported by men and women.

Keywords: SEXUAL STIMULI; EROTIC FILMS; SEXUAL AROUSAL; GENDER DIFFERENCES

Selecting Films For Sex Research:

Gender Differences in Erotic Film Preference

Research has demonstrated the effectiveness of erotic films in eliciting sexual arousal and consistently shown that they induce higher levels of arousal than stories, slides, or fantasy instructions (Graham, Janssen, & Sanders, 2000; Heiman, 1980; Julien & Over, 1988; Koukounas & Over, 1997; Laan & Everaerd, 1995a; Smith & Over, 1987). Also, both men and women report greater arousal in response to explicit sexual stimuli compared to stimuli with more romantic and less explicit content (e.g., Heiman, 1977; Schmidt, 1975). For these reasons, along with the advantages of being commercially available and easily duplicated, edited, and standardized, erotic films are widely used in psychophysiological studies on sexual arousal (see Cranston-Cuebas & Barlow, 1990; Janssen & Everaerd, 1993; Laan & Everaerd, 1995b; for reviews), orgasm (e.g., Exton et al., 1999, 2001; Rowland & Slob, 1997), sexual preferences and orientation (e.g., Chivers, Reiger, Latty, & Bailey, 2002, Sakheim, Barlow, Beck, & Abrahamson, 1985; Steinman, Wincze, Sakheim, Barlow, & Mavissakalian, 1981), and sexual dysfunction (e.g., Berman et al., 2001; Boolell et al., 1996; Janssen, Everaerd, Lunsen, & Oerlemans, 1994; Meston, 2000; Rowland, Cooper, & Heiman, 1995).

A recurring finding in research using erotic films has been that men and women differ in their responses to such stimuli. In a meta-analytic review of 46 studies comparing responses of men and women to sexual stimuli (including films), Murnen and Stockton (1997) concluded that men reported more arousal than women, although the overall effect size was small to moderate (\underline{d} =.31). A number of explanations, reflecting a range of possible social and biological influences, could account for this finding. To begin with, women may report lower arousal in response to erotic films as a result of social desirability biases or, conversely, men may over

report their arousal for similar reasons. Alternatively, perhaps because many women in our culture are aware that erotica exists that is violent or degrading to females, they may have developed a negative attitude towards sexually explicit films, shaping their responses to them, even when the films viewed are neither degrading nor coercive. Of course, gender differences could also reflect the influence of biological factors. Evolutionary psychologists have argued that men are biologically "wired", or predisposed to, a greater appreciation of visual sexual stimuli (Bailey, Gaulin, Agyei,& Gladue,1994).

Another explanation for why men and women differ in their responses to erotic stimuli has been that most of the available erotica is produced by men for male audiences (Laan, Everaerd, van Bellen, & Hanewald, 1994). Consistent with this argument, some studies have found that women do indeed report greater subjective sexual arousal to "women-centered" stimuli, compared to erotica targeted to men. Heiman (1977) found that women reported higher levels of sexual arousal to audiotapes that described interactions that were female-initiated (e.g., the female was more active than the male in initiating and acting out sexual activities) and female-centered (e.g., description focused on the female's responses, enjoyment, and genitals), as compared to more male-centered and male-initiated stimuli. More recently, Laan and colleagues (1994) replicated this finding: women reported significantly more sexual arousal during the presentation of a woman-made, female-centered erotic film than in response to a typical mainstream (e.g., man-made, male-centered) film clip. Women also reported more positive and less negative affect to women-centered films, in comparison with films produced for a male audience. Interestingly, genital responses to the woman-made and man-made films did not differ. Mosher and MacIan (1994) found that college-aged women reported more arousal to woman-made films than to conventional X-rated films. In addition, women in this study reported

experiencing more interest and enjoyment, and less disgust, anger, shame and distress in response to the woman-made films.

Even in studies that use women-focused erotica, women still tend to report lower levels of sexual arousal than men. One potentially relevant factor that has not as yet received much attention is the possible influence of the selection process itself. When published papers do provide information about how erotic films are selected (which is seldom the case), they have typically been selected by the researchers. In their meta-analysis, Murnen and Stockton (1997) did not include any variables related to how or by whom sexual stimuli were selected (e.g., by a man, a woman, by both, a group of men and women, etc). Yet this information is relevant as it may partially explain the differences between men and women's responses to erotic stimuli.

The primary aim of the present study was to examine gender differences in sexual responsiveness to erotic films. A secondary objective was to identify variables that influence sexual arousal, and explore whether these variables differ for men and women. Laan and Everaerd (1995b) found that the appraisal (i.e., positive or negative evaluation) of erotic stimuli explained more of the variance in subjective sexual arousal than women's level of genital arousal, age, or experience with erotic films. However, apart from how male- or female-centered a sexual stimulus is, other factors that may affect appraisal of sexual stimuli in men and women remain largely unexplored. We looked at how characteristics of film clips (e.g., attractiveness of actors, setting, soundtrack), as well as how individuals process sexual stimuli (e.g., identify vs. objectify), might influence appraisal of sexual stimuli.

Method

Participants

Participants were 15 men (mean age=25.6, SD=6.10, range=20-40) and 17 women (mean age=24.0, SD=4.14, range=19-34) recruited from undergraduate and graduate psychology and sociology classes. Men and women were not significantly different in age (p>.4). Fifteen participants were graduate students and 17 were undergraduates. All 15 male participants and 15 of the female participants reported a heterosexual orientation. One woman described herself as bisexual, and another was "undecided." The sample was almost exclusively white (94%). Ten male (67%) and fourteen female (75%) participants reported being currently involved in a relationship ($\chi^2=1.1, p>.5$). With the exception of one man, all participants (97%) had engaged in sexual activity with a partner, and all women and 12 men (80%) had experienced vaginal intercourse. Within the past year, participants reported having engaged in sexual activity (defined as manual stimulation, oral-genital sex, and/or intercourse) with a mean of 2.1 (SD=1.8) and 1.6 partners (SD= 1.7), respectively. Men and women did not differ in the number of reported sexual partners. Men, however, reported more frequent masturbation (assessed using a five-point scale with possible answers ranging from 'not once' to 'four times a week or more'; $\chi^2 = 4.58$, p < .03), as well as greater consistency of orgasm with masturbation (assessed using a six-point scale with possible answers ranging from 'never' to 'on most/all occasions'; $\chi^2 = 8.28$, p < .01).

Film Clips

Selection Method. Five male and six female research assistants working in the psychophysiology laboratory at The Kinsey Institute for Research in Sex, Gender, and Reproduction previewed in total approximately one hundred full-length, commercially available adult films to compile a set of candidate clips. The research assistants selected and previewed

films individually, and with only two selection criteria: 1) the movies should allow the selection of three-minute clips that depict consensual heterosexual petting (kissing, genital and nongenital touching), oral sex, and intercourse between one man and one woman, and 2) they should not include S&M or other fetishistic activities, nor the use of sex toys such as dildos and vibrators, etc. Apart from these guidelines, the research assistants were simply asked to select film segments that they personally found to be highly sexually arousing. This relatively unstructured protocol was utilized in order to ensure that the selected clips would reflect a range of different men and women's personal preferences.

Both male and female previewers used a number of resources in selecting potential videos for screening, including recommendations from catalogues (e.g., The Good Vibrations' Guide to Adult Videos), websites (e.g., those maintained by "Adult Video News", "Adam and Eve", and "Videogold"), best seller/rental lists at local video stores, and the Kinsey Institute's film collection. Female previewers searched catalogues and the Internet for recommendations of "women-centered" films. Among these suggestions were the names of several actresses and directors (including Candida Royalle, Toni English, and Kim Wilde), as well as a few film production companies (such as Femme) with reputations for producing erotica specifically for female audiences. Each previewer selected two to eight 5-10 minute film segments, from any of the above resources, that they personally found to be highly arousing. This process resulted in 32 sexually explicit film clips, 15 chosen by women and 17 by men. The female and male teams of research assistants then met separately, on one occasion, to view and rate the arousability of these clips. Clips were viewed in random order. All ratings on the 7-item questionnaire (see Measures) were independent and anonymous. Following these sessions, the male- and femalegenerated unedited film clips were separately rank-ordered using the previewers' ratings. Based

on these sexual arousal ratings, the seven clips that the women found most arousing, as well as the seven clips rated most highly by the men, were selected for the study.

An additional two 'male' and two 'female' clips that had been recommended by other psychophysiological sex researchers were included (female clips #5 and #7 and male clips #11 and #13, see Figure 2), as well as one male and one female clip that had been used in the Kinsey Institute's laboratory (clips #6 and #16). The final 20 clips were edited to control for clip length and the types of sexual activities depicted. The editing process involved transforming each raw 5-10 minute film segment into a 3-minute clip consisting of 1 minute of kissing and petting, 1 minute of oral sex (preferably both given and received by each partner), and 1 minute of vaginal intercourse.

The edited clips were presented to participants individually in random order; each clip was followed by a 2-minute pause to allow for subjective arousal ratings.

Measures

Clip Ratings. The research assistants' evaluations of the 32 unedited film clips were quantified using a 7-item, 10-point Likert-type scale ranging from 1 (not at all) to 10 (very strongly). Seven dimensions of the film stimuli were rated: the attractiveness of the male and female actors, as well as how sexually arousing, interesting, repulsive, and male- or female-oriented they found the clips. The rating sheets also provided a space for other comments about the clips, although it was specified that providing such additional information was optional.

The participants' responses to the 20 edited film clips were measured using an expanded version of the clip rating form used by the research assistants. In addition to the first five of the seven items described above, subjects provided ratings on the following 10 dimensions: how arousing they thought the clips would be for other men and women, to what extent they imagined

themselves as a participant and/or as an observer, how much they identified with the male and/or female actors, how much attention they paid to the male and/or female actors, and how much they liked the setting and soundtrack of each clip. This questionnaire also provided space for comments regarding the most exciting and distracting details of each clip, and what (if anything) was missing from the clips.

Procedure

Study approval was obtained from the Indiana University Bloomington Campus Committee for the Protection of Human Subjects. Participants were paid \$10. After giving informed consent, participants were situated in a private, temperature-controlled testing room furnished with a recliner and a color television monitor. A female experimenter tested the women, while a male experimenter tested the men. Participants were informed that the purpose of the study was to select erotic film excerpts that would be used in other Kinsey Institute research projects and that their participation would involve viewing such film excerpts. They were assured that all of their responses would be kept strictly confidential, and that they would have complete privacy for viewing and evaluating the film stimuli. After giving their informed consent, participants completed the study questionnaire, after which the experimenter left the testing room and operated the videotape equipment from an adjacent chamber. All instructions during the video screenings were delivered over an intercom. Following the presentation of each clip, the experimenter asked the participant to complete a rating form for the video clip just viewed. Once the participant had completed the ratings, s/he used an intercom signal to cue the experimenter to begin the next presentation. This procedure was repeated until all 20 clips, which were presented in random order, had been rated. Following the video screening, the experimenter debriefed and paid the participants.

Results

Clip Ratings

Sexual Arousal – Self. A 2 (Gender: male, female) x 2 (Clip Type: male, female) mixed between– and within–subjects ANOVA on the sexual arousal ratings revealed a significant main effect of Gender, F(1,30) = 10.84, p<.003. Overall, men rated the film clips as more arousing than did the women (men: mean=6.1, SD=2.4; women: mean=4.1, SD=2.4). In addition, there was a significant interaction of Gender X Clip Type (F(1,30)=32.53, p<.0001; Huhn-Feldt corrected). Post-hoc contrast analyses (simple mean comparisons) revealed that in response to the *female*-selected clips, men and women's reports of sexual arousal did not differ; however, their arousal ratings for the *male*-selected clips were significantly different (F(1,30)=19.06, p<.0001). Furthermore, men and women experienced higher levels of sexual arousal to clips selected by individuals of their own gender; men reported significantly higher levels of arousal to the male-selected films (F(1,14) = 32.99, p < .0001), and women to the female-selected clips, although for women this difference was not as large (F(1,16) = 7.10, p < .02).

Insert Table 1 about here

Sexual Arousal – Others. In addition to one's own sexual arousal, analyses were run for the two items that asked participants to estimate how arousing the clips would be to other men and women. Men and women did not differ in their assessment of how arousing other men would find the clips and these estimates were not different from men's reports about their own levels of arousal (see Table 1). A significant effect of Clip Type was found (F(1,29) = 36.05, p < .0001), indicating that both men and women believed that the male-selected film clips would lead to the highest levels of arousal in men. No other main or interaction effects were found.

Men and women also did not differ in their ratings of how arousing the clips would be for other women (F(1,28) = 1.26, p > .25). In contrast with the estimates for other men, and with women's ratings of their own sexual arousal, no significant effect of Clip Type was found. No other main or interaction effects were observed.

Predictors of Clip Ratings

Table 2 presents the correlations between the degree of sexual arousal experienced and a) the participants' ratings of a number of clip characteristics and b) how they viewed the film clips. The majority of correlations were higher in men than in women. [.....]

In addition, the correlation between the 'participant' and 'observer' items was +.32 in men (r=-.15 in women). Imagining being a participant while watching the clips was strongly related to how much one identified with the same-sex actor (men: r=+.88, women: r=+.80) and the attractiveness of the opposite-sex actor (men: r=+.64, women: r=+.39; these were the highest intercorrelations for this item). For both men and women, watching as an 'observer' was most strongly related to how much attention the participants paid to the *female* actor (men: r=+.64, women: r=+.42).

Insert Table 2 about here

Cluster regression analyses. Instead of using an average or single score for each participant as our dependent variable, as is done in multiple regression analysis, cluster regression procedures (Huber, 1967; Rogers, 1993) were used to allow the inclusion of all 20 arousal ratings and with these a number of associated variables characterizing each of the 20 film clips (e.g., attractiveness of the actors, soundtrack, etc.). Cluster regression is a form of multilevel or hierarchical analysis that takes into account that observations are not independent for a given individual. This approach was chosen because we were less interested in predicting a participant's average response to film clips than in examining how our predictor variables would be related to *variability* in arousal ratings. Because a number of the predictor variables were interrelated, regression analyses were run in several steps. All twenty arousal ratings were used in every analysis, but at each step a different set of predictor variables was added.

First, an analysis was run with those variables that most clearly reflected the content or characteristics of the film clips: attractiveness of the male and female actors, and quality of the setting and soundtrack. For the male participants, 62% of the variance was accounted for, with only the attractiveness of the female actor reaching statistical significance ($\beta = +.78$; p < .001). The regression equation for the female participants accounted for 32% of the variance, with attractiveness of both the male ($\beta = +.20$; p < .001) and female ($\beta = +.21$; p < .003) actors being positively related to sexual arousal ratings. In addition, the effect of soundtrack quality was marginally significant ($\beta = +.13$; p < .06).

Next, the two items reflecting aspects of the participants' affective responses to the film clips (the experience of repulsion and interest) were added in a second analysis. For males, the explained variance increased to 69% and both the attractiveness of the female actor ($\beta = +.67$; p < .001) and feelings of interest ($\beta = +.35$; p < .004) were positively related to the sexual arousal

ratings. For women, the repulsion, but not the interest item, turned out to be (negatively) related to sexual arousal ($\beta = -.21$; p < .02), and this reduced the effect of the female actors' attractiveness ($\beta = +.13$; p < .06). The attractiveness of the male actor remained a significant variable ($\beta = +.11$; p < .01; $R^2 = 39\%$).

Finally, the participant and observer items were added. The explained variance further increased to 77% for the male participants. In addition to the attractiveness of the female actor (β = +.45; *p* < .001) and feeling interested (β = +.21; *p* < .007), imagining oneself as a participant (β = +.25; *p* < .02) and watching as an observer (β = +.22; *p* < .006) *both* contributed to the regression equation. For women, the explained variance increased substantially, to 65%, even though only one predictor variable was significant: imagining oneself as a participant (β = +.54; *p* < .001).

These last analyses were repeated, but this time separately for the male- and femaleselected clips. Although the general pattern of results remained the same, some interesting differences were found. For the female-selected clips, sexual arousal ratings in men were now also related to the attractiveness of the *male* actor, although negatively ($\beta = -.21$; p < .03; $\mathbb{R}^2 =$ 77%). For women, 'feeling interested' was an additional predictor of sexual arousal ratings ($\beta = -.21$; p < .05; $\mathbb{R}^2 = 62\%$). The same predictors of male arousal to all 20 clips (reported above), emerged as predictors of just the 10 male-selected clips.

Individual Variability

To evaluate whether gender differences existed in the variability of arousal ratings, standard deviations were computed for each individual's ratings for the male- and femaleselected clips. While most participants' responses had a range of at least 5 and included at least one rating greater than 5, one female participant gave all 20 clips a rating of either 1 or 2 (resulting in an outlying SD). Excluding this one outlier, a 2 (Gender: male, female) x 2 (Clip Type: male, female) mixed between– and within–subjects ANOVA was run on the standard deviations. Both the main effect of Gender (men: mean=1.5; women: mean=2.0; F(1,29) = 8.4, p<.007) and Clip Type (male-selected clips: mean=1.6; female-selected clips: mean=1.9; F(1,29) = 8.4, p<.008) were significant. While women generally varied more in their arousal ratings than men, both men and women showed more variability in their ratings of female- than male-selected film clips.

Although on average men responded more strongly to the 20 clips, approximately onethird of the women (35%) responded more strongly on average to all clips than one-third of the men (33%). Also, although women generally gave higher arousal ratings to female-selected clips, four women (24%) experienced higher levels of arousal in response to male-selected, than to female-selected films. This was in contrast to the men who without exception gave the highest mean ratings to the male-selected clips.

Discussion

The main goal of this study was to explore gender differences in sexual responsiveness to erotic films that had been selected for their differential appeal for men and women. Female participants reported sexual arousal to the film clips, they found the female-selected clips significantly more arousing than the male-selected ones. The male participants, while reporting considerable levels of arousal to all erotic clips, experienced higher levels of sexual arousal in response to the male-selected clips. This suggests that both men and women agreed more with members of their own gender on what factors contribute to a more or less arousing sexually explicit film. This is an interesting finding, considering that the women and men who selected the clips were asked to avoid films with elements of obvious sexual coercion or degradation, and that the clips were standardized for the activities depicted, the amount of time devoted to foreplay, oral stimulation and intercourse, and the number and gender of actors participating in each of those activities.

Despite our best efforts to include film clips that would be arousing to a female audience, women did not report arousal levels comparable to those of the men. Whether this means that women tend to respond less to visual erotic stimuli than men, or whether other (e.g., social) factors prevent women from feeling or reporting higher levels of sexual arousal, remains to be determined. Alternatively, the film selection criteria, which required that all clips depict heterosexual sexual interactions between one man and one woman, may have limited the possible range of responses in women. However, the same constraints applied to the male clips; had we used a more liberal selection procedure, the male assistants might also have located clips that would have induced higher levels of sexual arousal in men. Koukounas and McCabe (1997) found that while men showed a preference for scenarios portraying three-somes, women preferred depictions of vaginal intercourse between a man and a woman.

The largest differences in male and female arousal ratings were found for the maleselected film clips. No significant gender differences were found for the female-selected clips, although on average they were associated with lower levels of sexual arousal in men than maleselected clips. There were some notable exceptions to this finding, with men and women responding with relatively high levels of sexual arousal to some of the clips selected by previewers of the other gender (e.g., for women, the second highest arousal rating was for a clip that was selected by men). But, overall, women, in response to male-selected clips, gave the lowest sexual arousal ratings. Genital response measures were not included in the present study because current psychophysiological instrumentation does not allow comparison of absolute response levels in men and women (Janssen, 2001). It is conceivable, however, that women and men responded with equally strong genital responses to the male film clips. In support of this possibility is the finding by Laan and colleagues (1994) that while women reported significantly more sexual arousal during the presentation of a woman-made, female-centered erotic film compared with a man-made, male-centered film clip, their genital responses to the two films did not differ.

Correlations between sexual arousal and ratings of clip characteristics and how the participants processed them tended to be higher in men than in women. This may be a consequence of our clip rating measure, which was somewhat limited in scope. Variables relating to the narrative structure (storyline) or the interaction between the actors might be important in predicting sexual arousal (perhaps more so for women than for men). These variables were not included in the present study. Nevertheless, even with our limited predictor variables, the regression analyses explained comparable amounts of variance in men and women's ratings. For men, most of the variance was explained in the first of the cluster analyses, with the attractiveness of the female actor emerging as the most important predictor; the additive value of entering more predictors in the analyses for men was minimal. For women, the explained variance increased dramatically after a larger number of variables were included.

In men, both 'watching as an observer' and 'imagining yourself as a participant' predicted sexual arousal to the film clips, whereas in women only the latter variable was related. Apparently, for men 'watching as an observer' and 'imagining yourself as a participant' are not conflicting or incompatible ways of processing a sexual stimulus. Related to this intriguing finding, for both men and women, watching as an observer was strongly related to how much attention was paid to the *female* actor. This suggests that, in contrast to women, the amount of attention (heterosexual) men allocate to the female actor, the object of their attraction, contributes to their sexual response independently from the degree to which they feel 'pulled' into a sexual situation in which a female actor is depicted.

Other researchers have speculated about possible gender differences in the processing of sexual stimuli. For example, Money and Ehrhardt (1972) made a distinction between 'identification' and 'objectification' and hypothesized that the former would be more relevant to women and the latter to men. According to these authors, when a man watches a woman engaged in sexual behavior, he will see her as a sexual object and, in imagery, "takes her out of the picture and has a sexual relationship" (p. 262). A woman, in contrast, would be more likely to identify with the female actor, such that "she herself becomes the sexual object" (p. 262). Our results provide only partial support for Money and Ehrhardt's distinction; they suggest that whereas women may indeed be more likely to identify with female actors, men seem equally likely to 'objectify' *and* 'identify' when presented with visual sexual stimuli.

Although this study revealed some interesting gender differences in the predictors of selfreported sexual arousal to erotic film clips, it should be emphasized that our understanding of how sexual arousal is activated in response to sexual stimuli remains cursory. We should be cautious in inferring any causal relationships between the predictor and outcome variables explored in this study. While it is possible that the experience of sexual arousal may indeed depend on the degree to which a viewer feels immersed in a film clip, it is also conceivable that imagining oneself as a participant in a depicted scene occurs as a result of feeling sexual aroused. Also, it is tempting to conclude, on the basis of our findings, that imagining oneself as a participant is a proxy for sexual arousal; Koukounas and McCabe (1997) found similarly high correlations between feeling 'absorbed' and sexual arousal. However, this would imply that feeling immersed in a scene is associated with a specific emotional state. This is unlikely; one can feel equally immersed in an erotic film or in a thriller, while experiencing different emotions. The question of whether the experience of feeling immersed is the result of being in a certain emotional state, or whether they are both the outcome of some other underlying process, is intriguing. Cognitive, emotion, and psychophysiological studies, as well as the models of sexual arousal based on them, have pointed to the crucial role of attention in the activation and modulation of sexual arousal (Barlow, 1986; Dekker & Everaerd, 1988; Geer & Fuhr, 1976; Janssen et al., 2000, Laan & Everaerd, 1995b). Dekker and Everaerd (1988) found that both men and women reported stronger arousal during sexual imagery when they paid particular attention to sexual stimuli, sensations, and physiological responses one might experience in the imagined situation. Others have shown that distraction, or the allocation of attention *awav* from the sexual content of a stimulus, whether it is externally (e.g., Geer and Fuhr, 1976) or internally (Barlow, 1986) generated, is detrimental to sexual arousal. However, the factors that determine and control attentional focus have only begun to be explored (Janssen et al., 2000).

What can we learn from this study about how to best select film clips for sex research? Our findings suggest that the preferred approach depends on whether one wants to maximize individual responses or induce comparable levels of subjective sexual arousal in men and women. Presenting women with film clips initially selected by men will likely lead to lower levels of sexual arousal, compared with female-selected films, and larger gender differences in arousal. Therefore, to maximize responses in women, film clips are probably best selected by women. The recommendation to let same-gender individuals select film clips to induce the strongest possible responses, seems even more relevant to men, as they responded much stronger to male- than female selected clips. However, if the goal is to induce comparable levels of arousal in men and women, it seems more appropriate to have women than men select the films clips for all subjects (although lower levels of arousal for men than if they were presented with male-selected films).

Surprisingly little attention has been paid to the selection of films for sex research nor on how aspects of the erotic film, as well as how they are processed, influence positive or negative appraisal of the stimuli. Limitations of the current study include the fact that it was a small sample of young, well-educated volunteers. Our findings suggest that how films are selected in sex research is an important variable in predicting levels of sexual arousal reported by men and women.

References

Abascus Concepts (1989). *SuperANOVA software for Macintosh*. Berkeley, CA: Abacus Concepts Inc.

Bailey, J. M., Gaulin, S., Agyei, Y., & Gladue, B. A. (1994). Effects of gender and sexual orientation on evolutionarily relevant aspects of human mating psychology. *Journal of Personality and Social Psychology*, *66*, 1081-1093.

Barlow, D.H. (1986). Causes of sexual dysfunction: The role of anxiety and cognitive interference. *Journal of Consulting and Clinical Psychology*, *54*(2). 140-148.

Berman, J. R., Berman, L. A., Lin, H., Flaherty, E., Lahey, N., Goldstein, I., & Cantey-Kiser, J. (2001). Effect of sildenafil on participative and physiologic parameters of the female sexual response in women with sexual arousal disorder. *Journal of Sex and Marital Therapy*, *27*(5), 411-420.

Boolell, M., Allen, M. J., Ballard, S. A., Gepi-Attee, S., Muirhead, G. J., Naylor, A. M., Osterloh, I. H., & Gingel, C. (1996). Sildenafil: an orally active type 5 cyclic GMP-specific phosphodiesterase inhibitor for the treatment of penile erectile dysfunction. *International Journal of Impotence Research*, *8*, 47-52.

Chivers, M.L., Reiger, G., Latty, E., & Bailey, J.M. (2002). Sex differences in the target specificity of sexual arousal. In preparation.

Cranston-Cuebas, M. A., & Barlow, D. H. (1990). Cognitive and affective contributions to sexual functioning. *Annual Review of Sex Research*, *1*, 119-161.

Dekker, J., & Everaerd, W. (1988). Attentional effects on sexual arousal. *Psychophysiology*, *25*(1):45-54.

Exton, M. S., Bindert, A., Kruger, T., Scheller, F., Hartmann, U, & Schedlowski, M.

(1999). Cardiovascular and endocrine alterations after masturbation-induced orgasm in women. *Psychosomatic Medicine*, *61*(3), 280-289.

Exton, M. S., Kruger, T. H., Bursch, N., Haake, P., Knapp, W., Schedlowski, M., &

Hartmann, U. (2001). Endocrine response to masturbation-induced orgasm in healthy men

following a 3-week sexual abstinence. World Journal of Urology, 19, 377-382.

Geer, J.H., & Fuhr, R. (1976). Cognitive factors in sexual arousal: The role of distraction. *Journal of Consulting and Clinical Psychology*, *44*(2), 238-243.

Graham, C., Janssen, E., & Sanders, S.A. (2000). Effects of fragrance on female sexual arousal and mood across the menstrual cycle. *Psychophysiology*, *37*, 76-84.

Heiman, J. R. (1977). A psychophysiological exploration of sexual arousal patterns in females and males. *Psychophysiology*, *14*(3), 266-274.

Heiman, J.R. (1980). Female sexual response patterns. *Archives of General Psychiatry*, *37*(11), 1311-1316.

Huber, P. J. (1967). The behavior of maximum likelihood estimation under nonstandard conditions . *Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability*, 1, LeCam, L. M. and Neyman, J. Editors. University of California Press, pp. 221-233

Janssen, E. (2001). Psychophysiological measures of sexual response. In M. W.

Wiederman & B. E. Whitley (Eds.), *Handbook for conducting research on human sexuality*. Mahwah, NJ: Erlbaum, 139-171.

Janssen, E., & Everaerd, W. (1993). Determinants of male sexual arousal. *Annual Review* of Sex Research, 4, 211-245.

Janssen, E., Everaerd, W., Lunsen, R. H. W., & Oerlemans, S. (1994). Validation of a psychophysiological Waking Erectile Assessment (WEA) for the diagnosis of male erectile disorder. *Urology*, *43*, 686-695.

Janssen, E., Everaerd, W., Spiering, M., & Janssen, J. (2000). Automatic Processes and the Appraisal of Sexual Stimuli: Toward an Information Processing Model of Sexual Arousal. *Journal of Sex Research*, *37*(2), 8-23.

Julien, E., & Over, R. (1988). Male sexual arousal across five modes of erotic stimulation. *Archives of Sexual Behavior*, *17*(2), 131-143.

Koukounas, E., & Over, R. (1997). Male sexual arousal elicited by film and fantasy matched in content. *Australian Journal of Psychology*, *49*(1), 1-5.

Laan, E., & Everaerd, W. (1995a). Habituation of female sexual arousal to slides and film. *Archives of Sexual Behavior*, *24*(5), 517-541.

Laan, E., & Everaerd, W. (1995b). Determinants of female sexual arousal: Psychophysiological theory and data. *Annual Review of Sex Research*, *6*, 32-76.

Laan, E., Everaerd, W., Bellen, G., & Hanewald, G. (1994). Women's sexual and emotional responses to male- and female produced erotica. *Archives of Sexual Behavior*, *23*(2), 153-170.

Lang, P. J. (1979). A bioinformational theory of emotional imagery.

Psychophysiology, 16, 495-512.

Meston, C. M. (2000). The psychophysiological assessment of female sexual function. *Journal of Sex Education and Therapy*, *25*(1), 6-16. Money, J. & Ehrhardt (1972). Man & woman, boy & girl: The differentiation and dimorphism of gender identity from conception to maturity. Baltimore, MD: Johns Hopkins' University Press.

Mosher, D.L., & MacIan, P. (1994). College men and women respond to X-rated videos intended for male or female audiences: Gender and sexual scripts. *The Journal of Sex Research*, *31*(2), 99-113.

Murnen, S.K., & Stockton, M. (1997). Gender and self-reported sexual arousal in response to sexual stimuli: A meta-analytic review. *Sex Roles, 37* (3-4), 135-153.

Rogers, W. (1993). Regression standard errors in clustered samples. *Stata Technical Bulletin*, *13*, 19-23.

Rowland, D. L., Cooper, S. E., & Heiman, J. R. (1995). A preliminary investigation of affective and cognitive response to erotic stimulation in men before and after sex therapy. *Journal of Sex and Marital Therapy*, *21*(1), 3-20.

Rowland, D.L., & Slob, A.K. (1997). Premature ejaculation: Psychophysiological considerations in theory, research, and treatment. *Annual Review of Sex Research*, 8, 224-253.

Sakheim, D. K., Barlow, D. H., Beck, J. G., & Abrahamson, D. J. (1985). A comparison of male heterosexual and male homosexual patterns of sexual arousal. *The Journal of Sex Research*, *21*(2), 183-198.

Schmidt, G. (1975). Male-female differences in sexual arousal and behavior during and after exposure to sexually explicit stimuli. *Archives of Sexual Behavior*, *4*(4), 353-365.

Smith, D., & Over, R. (1987). Correlates of fantasy-induced and film-induced male sexual arousal. *Archives of Sexual Behavior*, *16*(5), 395-409.

StataCorp (2001). *Stata Statistical Software: Release* 7.0. College Station, TX: Stata Corporation.

Steinman, D. L., Wincze, J. P., Sakheim, D. K., Barlow, D. H., and Mavissakalian, M.

(1981). A comparison of male and female patterns of sexual arousal. Archives of Sexual

Behavior, 10(6), 529-547.

Author Note

We thank Jamie Eisenberg, Jessica Feder, Jennie Finkel, David Goodrich, Matt Hebert, Amy Lykins, Sean Munnelly, Nicole Prause, Sara Upchurch, and Zoran Vukadinovic for their help during various phases of the study reported in this paper.

The titles of the erotic films from which the clips were taken can be obtained from the authors.

Correspondence concerning this article should be addressed to Erick Janssen, The Kinsey Institute for Research in Sex, Gender, and Reproduction, Indiana University, Morrison Hall 313, 1165 East Third Street, Bloomington, IN 47405-2501; phone: 812-855-7686; fax: 812-855-8277; e-mail: ejanssen@indiana.edu.

Table	1
-------	---

Sexual Arousal Ratings by Film Typ	e and Gender
<u></u>	

	Women Sel other	Men
Male-Selected Clips	4.41	5.55
Female-Selected Clips	3.87	6.56

<u>Note</u>.

Table 2

Correlations Between Sexual Arousal & Other Ratings

	Sexual Arousal	
	Women (N=17)	Men (N=15)
Imagined Being a Participant	+.75	+.71
Watched as an Observer	+.04*	+.58
Identified with Actor of Own Gender	+.64	+.68
Attractiveness of Male Actor	+.46	+.34
Attractiveness of Female Actor	+.44	+.77
Attention Paid to Male Actor	+.27	+.40
Attention Paid to Female Actor	+.19	+.83
Liked the Clip Setting	+.42	+.51
Liked the Soundtrack	+.37	+.44
Interested	+.48	+.65
Repulsed	40	25

Note. *All correlations except this one (p>.6) were p<.001.