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ABSTRACT

Ninety-six male undergraduate students participated in an experiment assessing behavioral aggression and addressing itself to the issue of specific versus general mediation of a hypothesized relationship between sexual arousal and aggression. Differing sources of arousal were experimentally crossed with the alteration of the aggressive cue properties of a behavior. Differential responses to different cue properties were observed in the sexual arousal conditions, but not in the other conditions. More specifically, subjects exposed to a sexually arousing film were less aggressive when the aggressive cues were made salient than when these cues were de-emphasized. On the other hand, subjects exposed to a film eliciting general excitation, as well as those exposed to a non-arousing film, evidenced no differential responsivity in relation to the aggressive cues. This pattern of data was observed in spite of the fact that the degree of "general arousal" remained constant in each of the exposure conditions. These results point to the significance of the source of arousal in terms of aggressive behavior. Alternate explanations were discussed for the finding that sexually aroused subjects to whom ain infliction was made highly salient showed reduced aggression. (Author)

EFFECTS OF SEXUAL VERSUS NONSEXUAL AROUSAL ON BEHAVIORAL AGGRESSION

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Abstract

96 male undergraduate students participated in an experiment assessing behavioral aggression and addressing itself to the issue of specific versus general mediation of a hypothesized relationship between sexual arousal and aggression. Differing sources of arousal were experimentally crossed with the alteration of the aggressive cue properties of a behavior. Differential responses to different cue properties were observed in the sexual arousal conditions, but not in the other conditions. More specifically, subjects exposed to a sexually arousing film were less aggressive when the aggressive cues were made salient than when these cues were de-emphasized. On the other hand, subjects exposed to a film eliciting general excitation, as well as those exposed to a non-arousing film, evidenced no differential responsivity in relation to the aggressive cues. This pattern of data was observed in spite of the fact that the degree of "general arousal" remained constant in each of the exposure conditions. These results point to the significance of the source of arousal in terms of aggressive behavior. Alternate explanations were discussed for the finding that sexually aroused subjects to whom pain infliction was made highly salient showed reduced aggression.

EFFECTS OF SEXUAL VERSUS NONSEXUAL AROUSAL ON BEHAVIORAL AGGRESSION

At the animal level, brain stimulation studies of neural structures (MacLean, 1965), endocrinological research on the effects of male and female sex hormones (Meyer, 1971; Barfield, 1971), ethological observations of mating behavior (Tinbergen, 1953) and behavioral investigations on the effects of painful electric shock (Caggiula & Eibergen, 1969) provide support for the idea that sex and aggression are often closely related. In humans, empirical research investigating the relationship between sexual arousal and aggression has been relatively sparse in spite of the fact that an intimate connection between the two has been assumed by leading personality theorists (Freud, 1905; Maslow, 1942), clinicians (Bach & Wyden, 1969), literary figures (Ellison, 1947; Caldwell, 1941) and the public at large. Pertinent psychological experimentation at the human level has been largely limited to fantasy aggression (Clark, 1952, 1953; Barclay, 1969, 1970, 1971; Barclay & Haber, 1965) although recently a number of investigations using behavioral indices of aggression have appeared (Zillmann, 1971; Jaffe et al. 1974). The present research assesses behavioral aggression in addressing itself to the question of the nature of the process mediating a relationship between sex and aggression.

The general finding that has emerged from the fantasy studies is that sexual arousal leads to increased aggressive fantasy and, conversely, aggressive arousal is associated with increments in sexual fantasy responses. Thy typical procedure utilized in these studies has been to expose subjects to sexually arousing stimuli and have them respond to Thematic Apperception Test pictures or anger subjects first and then ask for responses to the TAT. Studies focusing on behavioral aggression, as assessed by the administration of electric shocks, have similarly found that sexually aroused males and females delivered more intense electric shocks than nonaroused subjects.

A fundamental issue in this area is the nature of the apparent connection between sex and aggression; i.e., the relative contribution of specific vs. general factors. Observed increases in aggression subsequent to exposure to sexual stimulation may be explained on the basis of a specific linkage between sex and aggression (Barclay, 1971; MacLean, 1965) empahsizing the particular content of the arousing stimuli, or in terms of generalized arousal (Zillmann, 1971) akin to Hull's (1943) "D" and to Malmo's (1959) "activation." Tannenbaum (1970) has articulated the distinction between these two hypotheses in expressing his view that "many dramatic communications (such as erotic messages...) evoke varying degrees of general emotional arousal, and that it is the level of such nonspecific (to any emotional state) arousal, more than the specific content of the message, that determines the degree of subsequent behavior. (p. 236)".

The present study focuses on whether the effects of sexual arousal in relation to aggression are essentially identical to the effects of other sources of arousal and can thus be subsumed under the inclusive construct of general arousal. Differing sources of arousal are experimentally crossed with the alteration of the aggressive cue properties of a behavior. On the basis of a postulated specific connection between sex and aggression, it was hypothesized that altering the aggressive cue properties would have a significant effect on behavior under conditions of sexual excitation but not under conditions of arousal from a differing source, herein referred to as "general excitation." It is thus predicted that sexual stimulation will not function in the same manner as general excitation; the particular content of the arousal source is predicted to be of primary significance in determining subsequent behavior. This prediction differs, then, from the following one based on the general arousal hypothesis as expressed in the summary analysis by Berkowitz (1970): "This kind of phenomenon, in which sexual arousal functions like other arousal sources to facilitate aggressive responses to aggressive cues, could contribute to the apparent connection between sexual and aggressive motivation posited by some writers." (p. 123)

The experimental strategy adopted here attempts to differentiate the "specificity" and "general arousal" hypothesized mechanisms by varying the type of arousal and the nature of the dependent response. This approach is consistent with that proposed by Underwood (1957) for attempting to establish whether two constructs reflect the same processes; namely, ascertaining whether variables which influence one construct in a certain way influence the other in a similar manner.

Subjects

96 male undergraduate students from a large metropolitan university participated in the experiment in order to fulfill an introductory psychology course requirement.

Procedure

Upon entering the laboratory, Ss, joined by a confederate of the experimenter, were introduced to the experiment as a study on the effects of different kinds of emotions on ESP. Two females alternated in the role of confederate. Ss were told that if for any reason they desire to leave the experiment at any time they may do so without being penalized. The experimenter then conducted a "fixed" lottery in which the subject was assigned the role of the transmitter in the ESP Task while the confederate was to serve as the receiver.

Subjects were then assigned to one of 3 exposure conditions, two of which were designed to elicit arousal, whereas the other, a nonarousing exposure, served primarily as a comparison group providing data on the success of the arousal manipulations. One of the arousal conditions consisted of exposure to a sexually arousing color film featuring a nude female lying on a bed making suggestive movements and beckoning the observer to her. The other arousing condition employed a psychedelic color film accompanied by loud rock music. On the other hand, in the control condition, Ss viewed a nonarousing color travelogue of Norway.

After viewing a film for about five minutes, Ss recorded their present feelings

on ten, five-point mood scales. The mood items were designed to assess a wide variety of feelings and included items such as: "generally aroused," "sexually aroused," "frustrated," and "angry." The main function of the mood scales was to serve as a check on the arousal manipulations.

After completing the mood scales the subject was escorted to his station and instructed as to his role. On each trial, he was to concentrate on the name of a color of a specific card and attempt to transmit the name of the color to the receiver. The receiver (the confederate) was instructed to indicate her response to the transmitter by pressing one of four colored buttons on her panel. If the response was correct, the subject was to press a light signal button. If, on the other hand, she was incorrect, he was to choose one of five differing tone intensities and administer it to the confederate through a pair of earphones he earlier had witnessed her put on.

Subjects were randomly assigned to one of two tone instruction conditions designed to alter the aggressive cue properties of the response. Under a "punishment" condition they were told that the tone intensities are quite painful and should be administered as punishment for incorrect responses. In contrast, in the "stimulation" condition, Ss were told that they should use the tones as feedback for incorrect responses and that the tones are not painful. They were further told that ESP may be influenced by tone stimulation on neural synapses in the reticular formation of the brain. In both conditions, Ss were told that one of the interests of the study was to investigate the effects of different tone levels on ESP and that they should use their own judgment in choosing the tone levels to be administered to the receiver. At this point, after responding to any questions raised by the Ss, E instructed them to begin the ESP task.

There were twenty colored cards and thus twenty ESP trials in all. In the "Punishment" condition, a sign above the tone buttons read "punishment levels" as compared with a sign reading "stimulation levels" in the other condition. The confederate had been given previous instructions as to her responses, thus keeping

feedback constant for all Ss.

Following the completion of the ESP task, E debriefed the Ss, thanked them for their participation, and asked them not to discuss the experiment with potential subjects.

Results

Mood Scale

A 3-way, ANOVA were first run on the mood items. Since the responses to the mood scales preceded the instruction manipulation, the lack of differences for the instruction variable suggests that the intended randomization of subject assignment was successful. Also, the confederate variable yielded only negligible effects. A one-way ANOVA, assessing the effects of the film exposure, was therefore conducted on the data and is presented in Table 1. Significant main effects were obtained for the items "anxiety", "ability to think clearly", "sexual arousal" "frustration", "embarrassment" and "general arousal". Comparisons among individual cells by means of the Neuman-Keul's test (Winer, 1971), indicated that subjects exposed to the sexual material reported significantly more sexual arousal and embarrassment than subjects in the other conditions. Individuals in both of the arousal experimental cells reported more anxiety, frustration and general arousal than did Ss in the neutral condition, while participants in the control condition indicated a greater ability to think clearly than Ss in the arousal cells. The results obtained indicate that the exposure manipulation was successful in eliciting the intended differing states of arousal.

Insert Table 1 about here

Behavioral Aggression

Behavioral aggression was assessed by means of the tone intensity data. Scores were pooled across the confederate variable which showed only negligible effects in a three-way ANOVA. Mean tone intensity scores are presented in Table. 2. The instruction and exposure condition effects did not reach acceptable levels of signi-

ficance although the interaction between these two variables approached significance ($F=2.36$, $df=2/90$; $p < .10$).

Insert Table 2 about here

To test the central experimental hypothesis, individual comparisons by means of a-priori t tests were made on the arousal scores. As predicted, a significant difference ($t=2.61$, $df=30$, $p < .02$, two-tailed) was found between the scores observed under sexual excitation but not under "general excitation" ($t=.27$, $df=26$, p=n.s.). Surprisingly, however, under sexual arousal, subjects evidenced lower tone intensity scores when the aggressive response cues were made highly salient.

Discussion

As hypothesized, altering the aggressive cue properties of a response affected behavior in the sexual arousal conditions but not under the other arousal conditions, even though the levels of general arousal seemed comparable throughout. Apparently, for subjects exposed to an arousal of a nonsexual nature it did not matter whether the response required of them entailed more or less aggressiveness. Sexually aroused subjects, on the other hand, evidenced significantly different behavior in relation to the aggressive cues. This pattern of data suggests that in contrast to Tannenbaum's (1970) assertion, the content of the communication is of considerable significance, and contrary to Berkowitz's (1970) analysis, sexual arousal does not function similarly to other arousal sources with respect to aggressive responses to aggressive cues. The effects of sexual arousal are not readily subsumed under the construct of general arousal.

In this study, contrary to what would be expectd on the basis of previous findings, sexual arousal was associated with a decrement rather than an increment in aggression when pain infliction was made salient. The finding of reduced responsivity cannot be accounted for by general arousal mechanisms. Several alternative but not exclusive, explanations may be offered. The first places

emphasis on the contextual setting of the experiment. In the present study, the sexual stimuli resulted in high degrees of anxiety, frustration and embarrassment as evidenced by data presented earlier as well as highly significant correlational data. The pattern of findings may be interpreted as due to an evocation of inhibitory responses elicited by exposure to the erotic film which generalized to the behavior characterized by strong aggressive cue properties. Such an interpretation is consistent with the early studies of Clark (1952, 1953) who found that male students who viewed slides of nude females in their classroom incorporated less sex and aggression in their TAT stories than did students who viewed neutral slides, while the reverse was found when the same experiment was conducted in a fraternity beer party.

An alternate explanation places the emphasis on the aggressive properties of the required response. To sharpen the contrast between the two instruction conditions, the present experiment involved the accentuating of the painful aspects of an aggressive behavior to a greater extent than in previous investigations (e.g., Jaffe et al., 1974). The mutually facilitatory connection between sex and aggression may be restricted, for most individuals, to relatively mild and harmless aggression. With more extreme levels of aggression, an inverse relation may exist between sexual arousal and aggressive behavior.

A third explanation is similar to the second in focusing on the aggressive cue properties of the response, but involves considerable conjecturing about internal cognitive processes. Subjects aroused sexually and confronted with the opportunity for relatively severe aggression may have become aware of the social inappropriateness of their heightened aggressive tendencies and thereby exerted inhibition on their responsiveness. This interpretation seems plausible in light of the finding by Berkowitz, Lepinski and Angule (1969) showing significantly lowered levels of electric shock administered to a provoking target when the level of the subjects' provoked anger is self-perceived as inappropriately high.

Each of these alternative explanations are plausible and all three, in fact, may be simultaneously operating. In general, the connection between sex and aggression is likely to be a complex and intricate one, dependent on a variety of contextual and personality variables. Thus, any simple generalization regarding a sex-aggression relationship is likely to be misleading. The research task is to specify the conditions under which reciprocal facilitatory and inhibitory effects are obtained.

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TABLE 1

MOOD RATINGS FOR FILM-EXPOSURE CONDITIONS

Mood Items	FILM CONDITIONS			F
	Sex N=32	Excitement N=28	Neutral N=36	
1. Bored	1.97	1.67	2.17	1.65
2. Anxious	2.47^{a}	2.10^{ab}	1.80^{b}	4.54**
3. Think Clearly	3.62^{ab}	3.39^{a}	4.02^{b}	4.14*
4. Sexually Aroused	3.03^{a}	1.50^{b}	1.30^{b}	41.12***
5. Frustrated	2.03^{a}	1.85^{a}	1.33^{b}	5.34**
6. Generally Aroused	2.87^{a}	2.75^{a}	2.22^{b}	3.25*
7. Offended	1.25	1.21	1.08	1.14
8. Embarrassed	1.47^{a}	1.14^{b}	1.06^{b}	6.23**
9. Angry	1.18	1.50	1.19	2.63
10. Feel Positive	3.21	3.14	3.13	.07

*$p<.05$
**$p<.01$
***$p<.0001$

NOTE: For each item, cells having no letter in their subscripts in common differ significantly at $p<.05$ by the Neuman-Keuls Test.

TABLE 2

MEAN TONE INTENSITY AS A FUNCTION OF FILM-EXPOSURE CONDITIONS AND INSTRUCTIONS

Instruction	Film-Exposure Conditions		
	Sex Film	Excitement Film	Neutral Film
Pain-Punishment	2.43^{a} (N=16)	3.00^{b} (N=14)	2.66^{ab} (N=17)
Stimulation	3.07^{a} (N=16)	2.93^{b} (N=14)	2.69^{ab} (N=19)

NOTE: Cells having no letter in their subscripts in common differ significantly at p .05 by the Neuman-Keuls Test.