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Sexual Arousal and Aggression: Recent Experiments and Theoretical Issues

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Despite considerable theorizing on the subject, empirical research focusing on hypothesized links between sexual arousal and aggression has been slow to follow. Recent studies have found that under differing experimental conditions there are both mutually facilitative and inverse relationships between sex and aggression. Available models designed to account for these findings are examined. An alternative model is proposed incorporating distinctions between hostile and assertive aggression and placing emphasis on the role of discriminative inhibitory and disinhibitory cues. Some implications and possible applications of this model for human sexual behavior are considered.

Research focusing on the possible areas of interconnectedness between sex and aggression should help clarify significant questions concerning human sexuality. At one level, sex and aggression are both fundamental biosocial motivational systems and, under some circumstances, may function conjointly in fostering human adaptation and species survival. At another level, aggression connotes a form of social interaction that may conflict with responses governed by sexual feelings. But as both popular lore and some experimental data indicate, aggression can also facilitate

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sexual responses. An understanding of the paradoxical relationship between aggression and sex—the circumstances under which aggression may diminish and under which it may enhance sexual behavior—should further our understanding of the complicated system of feelings, attitudes, and behaviors designated by the phrase "human sexuality."

It is important to note that this paper is not addressed, except peripherally, to a class of phenomena in which aggression and sexuality are obviously intimately related, namely sadism and masochism. For the purposes of the present analysis, we will generally eschew those special circumstances under which aggression and sexuality have become intimately fused, and consider the more general issue of the relationship and interaction between sex and aggression as largely separate behavior systems; that is, we will not focus here upon the conditions under which or population for whom the infliction of pain is in itself erotically gratifying and the goal of the sexual act. However, we are quite clearly interested in the possible role of aggression (e.g., as a source of arousal, disinhibition, conflict, etc.) in affecting sexual behavior in the general population. We will consider here data bearing upon the empirical relationships between aggression and sex, and discuss possible mechanisms or processes that may serve to link these two domains of behavior.

Theoretical Formulations

Although references to a link between sex and aggression may be found in varied sources, it was in the writings of Sigmund Freud that the existence of such a relationship was first made most explicit from a psychological standpoint. In the seminal paper, "Three Contributions to the Theory of Sex," for example, Freud theorized that "the sexuality of most men shows an admixture of aggression, of a desire to subdue. . . . Sadism would then correspond to an aggressive component of the sexual instinct which has become independent and exaggerated" (1938, p. 659). While Freud in his later writings distinguished between the aggressive and sexual instincts, they nevertheless remained closely connected within the id system, largely unconscious and regulated by the pleasure principle. In general, his instinct theory posits a biological origin in which erotic and aggressive instincts are "alloyed" and function interdependently.

Subsequent animal and human research has provided limited empirical support for Freud's speculations regarding the relation-

ship between sex and aggression. However, in evaluating these data and in extrapolating from laboratory to naturalistic contexts one must keep in mind that human sexuality and aggression are extraordinarily complex systems of behavior. Sexual behavior encompasses not only biological acts that may take many different forms and are comprised of several states and elements, but it is also a social act which has important cognitive components. Aggression is certainly as diverse in its content, embracing the jostling of aggressive play, the forceful assertion and imposition of one's wishes, expressions of hatred and of anger, verbal criticisms, and extreme acts of violence and destruction.

It is quite possible, even likely, that relationships between sex and aggression will differ depending upon the type of behaviors involved. At the least, aggressive behaviors with hostile or injurious components should be distinguished from assertive behaviors (Feshbach, 1970). In fact, according to Fromm (1973), hostile aggression is incompatible with sexual arousal, whereas self-assertive aggressivity, involving the reduction of inhibition, is mutually facilitative with sexuality. From an evolutionary perspective, it may be conjectured that the elicitation of the forceful, uninhibited pursuit of sexual ends served survival purposes, but that evolutionary forces favored the inhibition of hostile, destructive tendencies during the close physical proximity and associated vulnerability involved in copulation (Lorenz, 1966; Fromm, 1973). Fromm strongly objects to the fact that "it has become quite fashionable among some politically radical thinkers, such as Herbert Marcuse, to praise sadism as one of the expressions of human sexual freedom" (p. 314). Interestingly, Fromm's analysis suggests that, depending upon their origin, similar aggressive manifestations may have very differing relationships with sexual arousal, e.g., fighting instigated by the desire to harm may be incompatible with sexuality but sexual arousal may reduce inhibitions and consequently lower the threshold for the instigation of fighting responses and retaliation to provocation.

While there clearly are additional dimensions of major importance, such as sex identity and sex roles, it is beyond the scope of this paper to consider all the issues bearing upon a comprehensive analysis of the relationship between sex and aggression. Furthermore, inferences from the data to be reviewed are limited by the specific operations by which aggression and sex are assessed and by the context in which the data are obtained. In spite of these limitations, we believe the experimental data constitute a

significant start toward the understanding of the role of aggression in sexual behavior.

Infrahuman Data

Available infrahuman studies—which we will mention only in passing—have not always yielded consistent results, with some naturalistic, physiological, and experimental investigations indicating a mutually facilitative sex-aggression link (Ford & Beach, 1951; Kahn, 1961; Caggiula & Eibergen, 1969; Edwards, 1971) while other studies point to an inverse or to little relationship (Lagerspetz & Hautojarvi, 1967; Hautojarvi & Lagerspetz, 1968). Varied procedural differences may help account for these conflicting findings but as yet the discrepancies remain unresolved.

Research on the effects of injecting androgens (male hormones) into female monkeys aptly serves to illustrate the complexity of much of the data in this area. Herbert (1970) found that the administration of a small dose of testosterone (an androgen) to ovariectomized females resulted in a very substantial increase in sexual behavior. Larger doses of testosterone, however, reduced sexual behavior and induced aggressive responses. Subsequent research (Everitt & Herbert, 1970) strongly implicated the female monkey's own endogenous production of androgen as largely responsible for her sexual drive, a finding that parallels human clinical evidence presented by Money (1961).

Lagerspetz & Lagerspetz (1975) recently injected testosterone into strains of female mice selectively bred for aggressiveness or nonaggressiveness. On the basis of their findings, they concluded that while aggressiveness and male sexual behavior may be independently determined, aggressiveness may facilitate the display of sexual behavior as reflected in greater persistence in attempts at mounting. This conclusion bears some similarity to Fromm's theorizing regarding the mutually facilitative link between assertive aggression and sexuality.

Human Studies

Projective and Fantasy Responses

Although early descriptive data had been provided by anthropologists (Malinowski, 1929; Holmberg, 1946), experimental data directly bearing upon the hypothesized relationship between sex and aggression were first reported in a series of studies using

the Thematic Apperception Test (TAT). With this projective measure, increased sexual and aggressive motivation was found in angered (Barclay, 1969, 1970; Barclay & Haber, 1965) and in sexually aroused subjects (Barclay, 1971). The fact that for male subjects the frequency of TAT sexual motives was associated with variations in the levels of urinary acid phosphatase, a potential physiological indicator of sexual arousal in males, lends validity to the findings obtained with the TAT (Barclay, 1970, 1971).

Perhaps the most straightforward explanation of such a link between sex and aggression is in terms of general arousal processes. According to interpretations based on one model of arousal as a mediator, any drive or dominant environmental response may be energized by any source of arousal. Such explanations are prevalent in psychology and are akin to Hull's (1943) construct of a "generalized drive" and Lindsley's (1951) "activation" concept.

Although theoretically compelling, such a "general arousal" explanation has been contradicted by the data of two of the TAT studies cited above. While Barclay (1970) found an increase in sexual and aggressive motives in angered subjects, no parallel changes were evident for achievement or affiliation motives. Further, Barclay (1971) found that as compared to subjects exposed to a nonarousing videotape, only those who viewed a sexually arousing rather than an anxiety- or laughter-arousing videotape wrote more aggressive TAT stories, although subjects in all the arousal conditions reported a comparable level of general arousal.

Studies employing projective techniques have generally indicated that the relationship between sexual and aggressive imagery does not differ in the responses of men and women (Barclay, 1970, 1971). In certain instances, though, the use of female-dominant stimuli was associated with increased aggressive imagery (Barclay, 1971) and dominance reversal whereby the male was reported to be the more dominant (Barclay, 1970). Interestingly, males who had been aggressively aroused evidenced the highest levels of sexual arousal in response to the female-dominant stimuli, while females who had similarly been aroused responded with somewhat more sexual arousal to the male-dominant pictures (Barclay, 1969).

The issue of dominance and sexuality has been more fully explored by investigators who interviewed normal women about their sexual fantasies (Maslow, 1942; Hariton & Singer, 1974). A high percentage of those interviewed reported frequent fantasies involving being overpowered by "congenial assailants," forced to surrender, and being dominated by a man. These investigators imply, and Johnson and Goodchilds (1973) directly suggest, that such fantasies may be due to the traditional woman's role in our culture which encourages the attribution of power and dominance to the woman's lover, thereby permitting her to yield and enjoy sex without conflicts.

Behavioral Aggression-Facilitation

Since discrepancies between TAT results and behavioral measures of aggression are often evident (Feshbach, 1970), several experiments have been conducted to determine whether sexual stimulation affects overt aggressive responses in a manner similar to that observed with the TAT. Zillmann (1971) and Meyer (1972) found that male subjects who had been first provoked by a confederate and then exposed to an erotic film devoid of aggressive elements administered stronger shocks to the confederate than subjects who had viewed a neutral film following the confederate's provocation. Similarly, Zillmann, Hoyt, and Day (1974) exposed previously provoked subjects to a neutral, aggressive, violent, or erotic film, following which all subjects viewed a noninvolving nonaggressive communication and were then given the opportunity to administer electric shock to the provoking agent. The results indicated that only the sexual stimuli significantly increased aggressiveness.

Jaffe, Malamuth, Feingold, and Feshbach (1974) found that unprovoked college students who had read erotic literature devoid of aggressive content chose to deliver higher levels of electric shock than did those who had read neutral materials. In this study, the aggressive effect of sexual arousal was evidenced by both males and females, irrespective of the victim's or the experimenter's gender. Similarly, Fisher and Harris (1976) recently found that both male and female sexually aroused subjects, regardless of whether they had first been provoked or not, evidenced increased aggression in questionnaire responses as compared to a neutral exposure, as well as to an aggressive communication.

Some investigators (Berkowitz, 1971; Meyer, 1972) have sought to explain these facilitative effects in terms of the general arousal processes outlined above. To provide evidence bearing upon this hypothesis, Jaffe (1975) assessed aggression after a 20-minute delay period, in which subjects were engaged in a problem-solving task, subsequent to erotic exposure. Since physiological arousal effects clearly dissipated during the delay period,

a general arousal hypothesis would predict the mitigation or elmination of arousal-facilitative effects on aggression if a delay is interposed between sexual arousal and the measure of aggressive behavior. As Figure 1 indicates, however, Jaffe observed that following the delay period differences in aggression between sexually aroused and control subjects were very evident and in fact tended to be greater than immediately following erotic exposure.

The arousal model outlined above has been recently termed

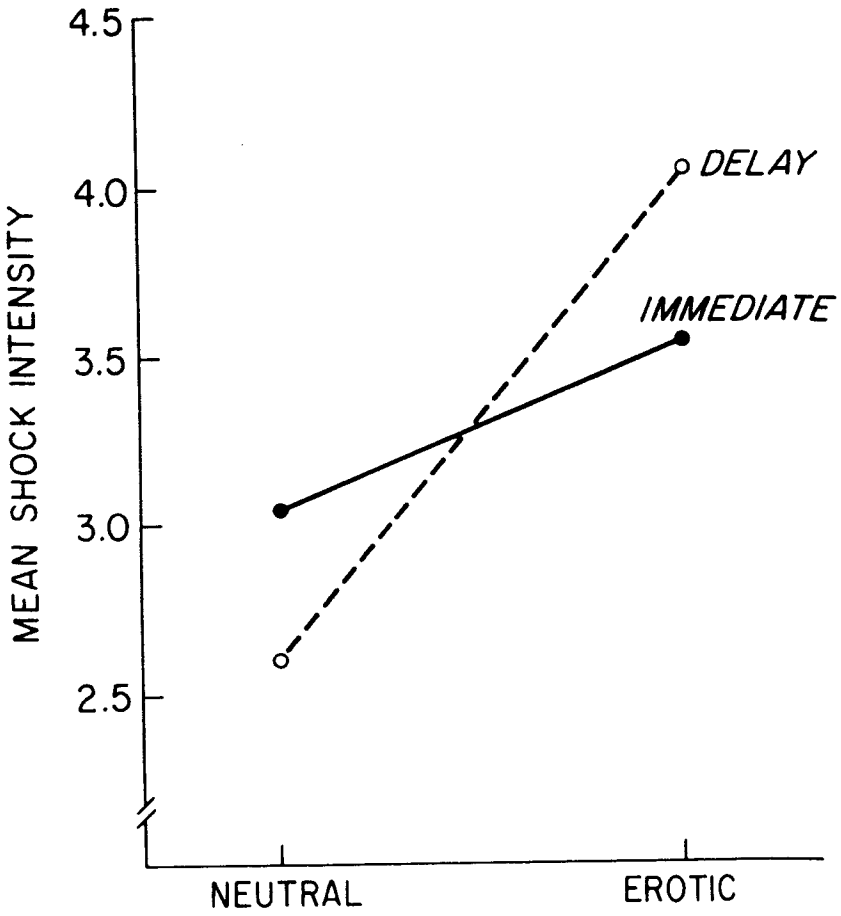

FIGURE 1.
Mean shock intensity as a function of exposure and interposed delay between exposure and assessment of aggression (Jaffe, 1975).

by Tannenbaum and Zillmann (1975) the Elementary Arousal Model, which they contrast with a more sophisticated Two-Factor Formulation. The latter model incorporates the interaction between arousal and cognitive components a la Schachter and Singer's (1962) concept of emotional labelling of nonspecific physiological arousal. While Tannenbaum and Zillmann provide a strong case for the utility of this model in accounting for much of the data in the area of communication effects, the model is clearly inadequate in its current formulation to encompass some of the findings described here. In particular, the Two-Factor Formulation posits some initial instigation to aggression against a specific target, such as an insult or provocation by a confederate who becomes the victim of aggression, as an essential component: "However, if the individual is confronted with a person who has never provoked him in any way, aggression is not likely to result . . . (one could argue that, if anything, prevailing arousal should facilitate nonaggressive behavior)" (Tannenbaum & Zillmann, 1975, p. 179). Since studies such as those of Jaffe et al. (1974), Fisher & Harris (1976), or Jaffe (1975) involved no provocation or instigation, mechanisms other than those included in the Tannenbaum and Zillmann formulation must be operating.

Behavioral Aggression-Inhibition

Several experiments have recently revealed that sexual arousal may be associated with reduced, rather than enhanced, aggressivity. In a study reported by Baron (1974a), male subjects treated in a hostile or neutral manner by a confederate and then exposed to either neutral or erotic pictures were subsequently given the opportunity of administering electric shocks to the confederate. In contrast to earlier findings, the results revealed that erotic exposure reduced the level of aggression evidenced by subjects initially treated in a hostile fashion.

Malamuth, Jaffe, and Feshbach (Note 1) similarly found that unprovoked male subjects exposed to a sexually arousing film behaved less aggressively when it was strongly emphasized that the administration of loud tones to a female confederate constituted severe "punishment" as compared to a condition in which the identical response was labelled as "stimulation." No differential responsivity was evidenced by subjects who were aroused by a nonsexual film. In a second experiment, this finding was successfully replicated with very similar procedures except that the source of nonsexual arousal was physical exercise rather than a film.

In a second experiment reported by Jaffe (1975), sexually

aroused and nonaroused subjects were offered a choice between a highly aggressive response (administration of a strong electric shock) and a prosocial action (showing the correct response). The data indicated that aggression was lower among sexually stimulated than nonstimulated subjects. These results are particularly revealing since the stimuli used in this second experiment were identical to those which in the first Jaffe experiment, when only differing levels of electric shock could be used as feedback, elicited a facilitative effect of sexual arousal on aggression.

Facilitation vs. Inhibition

It is apparent that sexual arousal may inhibit as well as facilitate aggressivity. In an attempt to reconcile the seemingly discrepant findings, Baron (1974b) suggested that the magnitude of sexual arousal may be a critical factor. According to this explanation, studies reporting a facilitative effect used highly arousing stimuli (such as films portraying sexual intercourse), causing subjects to experience frustration and irritation; whereas studies reporting an inhibitory effect of sexual arousal employed mildly arousing stimuli (nude photographs) which were associated with positive affect.

A somewhat similar but considerably more complex two-component model (arousal and distraction) has been recently proposed by Donnerstein, Donnerstein, and Evans (1975). These investigators suggest that while sexual arousal may facilitate aggression, stimuli that are absorbing "can shift the individual's attention away from previous anger instigation, thus allowing for the dissipation of anger arousal and, consequently, of aggressive responses" (p. 238). Mildly erotic stimuli are therefore hypothesized to distract the attention of an angered subject, but highly arousing stimuli are hypothesized to leave residual arousal which may come to be labeled as anger, thereby intensifying the aggressive response.

On the basis of their model, Donnerstein et al. predicted that when a subject is first exposed to sexual stimuli (there being no distraction from anger) and subsequently angered, both mild and highly arousing stimuli would facilitate aggression. When, on the other hand, a subject is first angered and then exposed to mildly erotic stimuli, a distraction would occur, resulting in reduced aggression. No clear-cut prediction was made for the highly arousing stimuli presented following the anger arousal.

To test their predictions the investigators manipulated the nature of the sexual stimuli (moderate or high arousal) and the sequence order of exposure to these stimuli (preceding or following an insult by a confederate). When the insult preceded the presentation of erotic stimuli, mildly erotic stimuli had an inhibiting effect on aggression whereas highly arousing sexual stimuli had only a negligible effect. When the insult followed sexual arousal, on the other hand, highly erotic pictures increased aggressiveness whereas mildly arousing sexual stimuli did not have a significant effect. These data served partially to confirm the predicted effects and thereby integrate previous findings.

The Donnerstein et al. study highlights the importance of the type of sexual stimulus used and the sequence order of anger arousal and exposure to sexual stimuli. However, in direct contrast to earlier findings (Zillmann, 1971; Zillmann et al., 1974; Meyer, 1972), the highly arousing sexual stimuli presented following anger arousal did not facilitate aggression. While Donnerstein et al. suggest a plausible basis for the discrepancy with the Zillmann study, the contradiction with the findings of Meyer and of Zillmann et al. remains unexplained. In addition, the data reported by Fisher and Harris (1976) whereby the presentation of mildly arousing erotic material following anger arousal increased aggressivity are also inconsistent with the Donnerstein et al. findings. Their model is, nevertheless, an intriguing one, but, as might be expected with diverse studies conducted with a variety of stimuli and procedures, some inconsistency remains.

Both the Baron and the Donnerstein et al. proposals are not sufficiently comprehensive to account fully for the series of studies conducted in our laboratory. The sexual stimuli we have employed (prose passages and films) seem to have generated substantial degrees of sexual arousal, as indicated by both self-report and physiological data (Jaffe, 1975). Contrary to Baron's proposal, these stimuli have often been associated with increased positive affect and aggressiveness (Jaffe et al., 1974). The distinguishing characteristic of these studies, as pointed out earlier, has been the absence of any insult or anger induction. There would thus not seem to be any opportunity for the attention distraction processes proposed by Donnerstein et al.

An Alternative Formulation

It appears that any attempt to integrate the existing data must account for considerable complexity and that several differing processes may be operating. It is essential to ascertain the nature of the responses elicited within the context of the laboratory

and to consider the potential contributions of biological and learning factors.

Feshbach (1964) emphasized the need to distinguish among varied forms of aggressiveness that may overtly resemble one another. According to these distinctions, *instrumental* aggression is directed toward the achievement of nonaggressive goals, whereas *hostile* aggression is "motivated by a desire for a noxious outcome [for which] the goal response is injury to some object" (p. 258). An additional aggressive manifestation is characterized by impulsive responsivity, that is, rapid and relatively involuntary responses (Feshbach, 1970; Berkowitz, 1974).

Our attempt to integrate the research data has been based on the above distinctions in the context of Fromm's (1973) contention that sexual arousal in both males and females is biologically incompatible with hostile aggression, but enhances and is enhanced by "assertive aggression"—the "moving forward toward a goal without hesitation, doubt or fear" (p. 214). Assertive aggression, we believe, subsumes instrumental and impulsive elements and may also include status seeking or dominance tendencies. As noted earlier, however, the disinhibition produced by sexual arousal may reduce the threshold for the elicitation of fighting responses to provocation.

The above distinctions may account for the dramatic order effect reported by Donnerstein et al. The disinhibition associated with sexual arousal may have produced the observed sharp rise in aggression when the provocation followed exposure to erotic stimuli. Presenting sexual stimuli to an already angered subject may have, on the other hand, reduced aggression due to the matching of incompatible responses—hostility and sexual arousal. The fact that other studies reported the reverse effect may be attributed to the different aggression-arousal procedures used. Whereas Donnerstein et al. had the confederate insult the subject, in studies yielding contrary data the confederate administered high electric shocks to the subject. More direct data are needed to determine whether one type of provocation is likely to elicit hostile aggression while the other may elicit assertive tendencies.

While evolutionary forces may have provided a biological basis for a link between sex and aggression, it is our contention that learning variables may accentuate or attenuate this relationship. We hypothesize that in human beings the biological link plays a relatively minor role and that to a large extent the relationship between sexual arousal and aggression is mediated by learned inhibitory and disinhibitory cues. In particular, we

would argue that such factors are relevant in accounting for the findings of those studies that did not involve any provocation of the subject. These studies are, though, quite compatible with Fromm's model, since subjects were asked to administer shocks that might facilitate performance and contribute to the experiment's purposes, a behavior quite likely to be associated with assertiveness.

Learning factors may link sexual and varied aggressive manifestations by virtue of the fact that both are taboo responses, strongly restricted by societal prohibitions. Discriminative stimuli which provide information concerning the acceptability or unacceptability of a particular taboo behavior may have corresponding effects in generalizing to other responses similarly labeled. This analysis suggests that the presentation of sexually arousing materials within the context of the laboratory (e.g., Jaffe et al., 1974; Jaffe, 1975) may serve as a discriminative cue informing the subject that taboo responses are admissible in this context, thereby sanctioning the manifestation of a biological disinhibition. Furthermore, the differing sexual stimuli employed in the experimental studies (e.g., pictures of nudes as compared with films explicitly depicting intercourse) may not only have elicited varied degrees of arousal, as suggested by other investigators, but may have been associated with differing communications regarding the admissibility of socially restricted biological drives or, more generally, taboos. Thus the presentation of more blatant, evocative stimuli, in addition to their arousing effects, may also have significant cue properties connoting that responses that are ordinarily socially prohibited in a particular context (e.g., sex and aggression) are now acceptable. Such effects occurring on a more general level and not restricted to a particular context are reminiscent of the fears of "moral degeneracy" resulting from "sexual permissiveness" that have been loudly voiced by some groups.

Whereas some discriminative stimuli may serve to communicate the acceptability of generally prohibited responses, additional stimulus configurations may alert the subject to the inappropriateness of such behaviors and to their potential punishment. We would suggest that exposure to stimuli that may stimulate prohibited behaviors is associated with increased sensitization to other discriminative cues signaling whether such responses are likely to be met with punishing or reinforcing consequences. A subject who has been exposed to an initial set of stimuli that suggests the possibility of engaging in taboo behaviors (e.g., sexual stimuli) would therefore be expected to show a more pronounced

reaction to other contextual discriminative cues, rather than performing at a level comparable to subjects who had not earlier been confronted with such a communication. This model would suggest, then, that the showing of sexual materials in the context of discriminative cues that indicate that it is acceptable to engage in prohibited responses would be likely to have the opposite effect of showing the same film within the context of cues that point to the unacceptability of such behaviors.

A series of experiments by Clark (1952), using the TAT, seems compatible with this analysis in that the studies highlighted the effects of contextual stimuli—under the disinhibiting conditions of a beer party, male subjects exposed to slides of nude females responded to the TAT with greater sexual imagery than nonaroused subjects; when the experiment was conducted in the classroom, however, the sexually aroused students expressed less sexual imagery than their nonaroused counterparts. It would seem that the discriminative cues in the class context actually inhibited sexual imagery following exposure to erotic stimuli, rather than simply eliminating the differences between the experimental and control groups.

Similarly, the accentuation of the punishing aspects of the response in the Malamuth et al. study (Note 1) may have functioned as a discriminative cue reminding the subject of the inappropriateness of taboo responses. This interpretation is consistent with the finding that, following exposure to sexual stimuli, subjects reported increased anxiety, which may reflect increased sensitization to discriminative inhibitory cues. Clark (1952) likewise reported increased guilt associated with increased sexual arousal. Furthermore, the highlighting of the harmful aspects of the aggressive response in the Malamuth et al. study may have altered its perception as more akin to hostile aggressiveness (which may also arouse inhibitory tendencies in addition to being incompatible with sexual arousal). Also, the juxtaposition of a strong aggressive response with a prosocial reaction in the second Jaffe experiment (1975) may have accentuated the inappropriate aspects of the aggressive alternative, to which the sexually aroused subject was particularly susceptible.

Given that learned discriminative cues may serve to link responses by virtue of their sharing taboo properties, the question arises as to why sexual and aggressive behaviors would be more inclined to be associated than other socially constrained behaviors. There are at least three factors that may contribute to a unique association between these behaviors. First, there are many physiological similarities between sex and aggression. In the well-known Kinsey studies (Kinsey, Pomeroy, Martin, & Gebhard, 1953) it was first noted that in both males and females as many as fourteen of the eighteen physiological changes that occur in sexual responses also accompany aggressive responses. Many other taboo behaviors—such as stealing, inappropriate dress, picking one's nose, etc.—do not share such physiological similarities with sexual responses. Secondly, there are overt behavioral similarities in features of sexual and aggressive behaviors, e.g., an intense physical embrace and wrestling. Thus, as psychoanalysts have noted, a young child observing adults copulating may mistake the sexual act for an aggressive assault. It may well be that inhibitions associated with engaging in behaviors such as squeezing, screaming, clawing, or grunting in the context of an aggressive act generalize to similar behavioral manifestations within the context of sexual acts. A third element in the relationship between sex and aggression is that they are frequently connected in the public domain. They often are linked together as central themes in literature, drama, and the media in general. In many cultures, the extent and degree of societal concern about the suppression of one of these activities parallels the other.

To recapitulate, then, the model we propose incorporates Fromm's distinctions between hostile and assertive aggression and the role of discriminative inhibitory and disinhibitory cues. The relevance of autonomic arousal, misattribution of residual arousal, or distraction processes is not negated and a theory that would fully encompass all of the relevant literature would most likely need to incorporate these concepts as well. But according to the present model, evolutionary forces resulted in a mutually facilitative link between sexual arousal and assertive aggression, and a mutually inhibitory relationship with hostile aggressiveness. More importantly, learning experiences have led the individual to become aware of discriminative cues that convey whether the expression of prohibited behaviors (e.g., assertive aggression) is likely to be met with punishing or rewarding consequences. The presentation of sexual materials by the experimenter may function as a discriminative cue connoting that taboo behaviors might be acceptable, but it also results in increased sensitization to other contextual inhibitory and disinhibitory cues. Depending upon the degree of disinhibition generated by the sexual materials and the presence of other discriminative cues, subjects may behave in a manner quite consistent or inconsistent with societal taboos. Sex and aggression may be uniquely linked taboos on the basis

of shared peripheral physiological cues and behavioral manifestations and because in many cultures they are depicted together and are the object of shared concern.

Disinhibitory Effects of Discriminative Cues

To examine more directly the role of inhibitory and disinhibitory cues linking sex and aggression, a number of experimental studies have been recently undertaken. Most of the human experimental studies that have been reviewed so far have examined the influence of sexual arousal upon aggressive behavior. Although it has been maintained that the relationship between sex and aggression is reciprocal (so that the effects of aggression on sexual responses will under similar conditions be comparable to the effects of sex on aggression), specific questions regarding human sexuality acquire sharper focus when sexual rather than aggressive feelings and behaviors are the dependent variable. Based upon the theoretical position outlined herein, we hypothesized that aggressive cues could be used to reduce sexual inhibitory restraints, that is, to serve as a "turn off" of inhibition, thus facilitating sexual arousal, rather than as a "turn on" of sexual feelng. We will consider here the results of two quite different experimental paradigms that have in common variations in aggression as the independent variable and changes in reported sexual arousal as the dependent measure. Both approaches yield comparable experimental results, suggesting that the presentation or evocation of aggression in a socially approved manner serves as a discriminative cue connoting a socially permissive or acceptable situation for the evocation and expression of other feelings and behaviors that are ordinarily taboo.

In the first of these studies, Feshbach, Malamuth, & Drapkin (Note 2) inhibited or disinhibited aggressiveness in order to determine whether these effects would generalize to sexual responsiveness. After participating with a male or female confederate in a nonhostile exercise similar to a pillow fight, male subjects were given the opportunity of administering electric shocks to the confederate with instructions varying in only one short paragraph. The inhibitory instructions cautioned the subject against allowing the earlier exercise to influence his decision concerning selection of shock level, while the disinhibitory instruction suggested that the subject not hesitate to choose any shock level he felt was appropriate. The shock levels served to validate the success of the manipulation. After having administered the shocks, all subjects were exposed to the identical erotic stimuli and their self-reported sexual arousal served as the central dependent variable. These data indicated that the instruction effects on aggression generalized to sexual responsiveness, with aggressively inhibited subjects reporting the least sexual arousal and disinhibited subjects reporting the highest levels of sexual responsiveness. Additional correlational analyses within experimental cells revealed a positive correlation between aggression and sexual arousal following the disinhibitory instructions; this correlation significantly differed from the very small negative correlations found in the inhibition and "no instruction" control cells. Taken as a whole, these data suggest that the presence of disinhibitory cues regarding aggressiveness increases sexual responsiveness.

It might be argued that subjects' reports of sexual arousal are not necessarily very accurate indices of their actual states of arousal. However, previous research has often shown a strong correlation between physiological indices and self-report (Davis & Braucht, 1971; Abel, Barlow, Blanchard, & Guild, in press). Secondly, with respect to the Feshbach et al. study, differences in reporting sexual arousal alone support the hypothesis that disinhibiting a taboo has generalizing effects—subjects became more willing to reveal their sexual responsiveness, i.e., reporting sexual arousal may be perceived as a taboo behavior. Nevertheless, physiological measures of sexual arousal would certainly provide additional useful data.

In a series of three studies, Malamuth, Feshbach, Kunath, and Fera (Note 3) varied the aggressivity of a few selected words within erotic prose passages to create two versions of the stories. Ratings by independent judges validated the manipulation of aggressivity, although this variation may be conceptualized as manipulating assertive rather than hostile aggression. The first experiment included male and female participants in a UCLA Extension course, half of whom first engaged in a discussion which consisted of the females revealing what they considered sexual "turn ons" and "turn offs" while the male participants listened. After completing an Aggression-Anxiety Scale (Feshbach & Singer, 1971) subjects read in their classroom one of two versions of the sexual passage—in which 10 of 204 words differed—and then reported their feelings on a mood questionnaire. The data showed that the more aggressive version resulted in enhanced sexual arousal for both high and low aggression-anxious subjects, but this effect was by far most pronounced for those female

subjects who had earlier discussed their sexual responsivity. It would seem that these females had become disinhibited by their earlier discussion and consequently were highly responsive to the juxtaposition of aggressive and sexual content.

For the second experiment, conducted in a local (Hollywood) bookstore, male subjects who were scanning "adult" magazines and books were individually approached and asked to participate in the evaluation of erotic passages on behalf of a publishing company. Subjects were randomly given one of two versions of an erotic passage very similar to that of the first study. Those who read the more aggressive version reported feeling more sexually sensuous than those who had read the less aggressive version, thereby replicating the main effect of the first experiment in a field setting.

In the third experiment, male and female undergraduate students were run individually in a laboratory setting. Only fifteen words within a 1058-word passage were manipulated. In this study, the Aggression-Anxiety Scale was administered last, following the reading of either version of the passage and the completion of the mood questionnaire. A main effect approaching significance ($p < .10$) was obtained for sexual arousal, indicating that the more aggressive version was, once again, more sexually stimulating. In addition, a similar trend on the Aggression-Anxiety Scale revealed that reading the more aggressive version resulted in less aggression-anxiety. These data are consistent with the proposition that the reduction of inhibitory tendencies is the mediating mechanism linking sexual arousal and aggression.

Aggression and Pornography

While as noted, the aggressive content manipulated in the studies described above was not of a hostile nature, there is much aggressive material in the pornographic literature, particularly that describing rape scenes, that seems to reflect hostile aggressivity. In a recent *Time* magazine cover story ("The Porno Plague," 1976), it was reported that in many areas of the popular media, including such magazines as *Vogue*, "the taboo currently under the heaviest assault is sadomasochism—sexual pleasure derived from dominating and inflicting pain on a partner or from being hurt" (p. 61). On the basis of such observations some psychoanalytic investigators have suggested that "hostility, overt or hidden, is what generates and enhances sexual excitement, and its absence leads to sexual indifference and boredom. . . . The same sorts

of dynamics, though in different mixes and degrees, are found in almost everyone, those labeled perverse and those not so labeled" (Stoller, 1976, p. 903).

The suggestion that hostility constitutes a fundamental element in sexual arousal contradicts the theoretical position outlined herein. To empirically identify the effects of hostile aggression on sexual responsiveness, Heim, Malamuth, and Feshbach (Note 4) manipulated the content of an erotic passage, varying whether the sexual encounter was mutually desired or a hostile rape. Undergraduate male and female subjects indicated their responses to either of the sexual passages. It was found that the rape encounter elicited much less sexual arousal than the nonrape. Very similar results have been reported by Abel et al. (in press), who found that describing a sexual interaction as a rape inhibited the sexual arousal of male nonrapists, as reflected in both self-reports and direct physiological measures of erection. Male rapists, however, were highly sexually aroused by the rape scene.

These data would seem to support the conclusion that, as far as normal subjects are concerned, hostile aggressive content inhibits sexual arousal. Yet, in light of the fact that fantasy rape scenes have been very prevalent in erotic literature (McConahay & McConahay, Note 5) and are even recommended by some sex therapists (Heiman, LoPiccolo, & LoPiccolo, 1976), the findings of these studies seem somewhat perplexing. A second experiment by Heim et al. (Note 4) was designed to clarify this matter. Careful examination of the materials used in the first experiment and those of Abel et al. suggested that the differences between the nonrape and rape stories were not only in whether the female was a willing participant but also in a number of other dimensions, including whether the female was described as enjoying the experience. In the second study this variable was systematically manipulated by altering one sentence of an approximately 300-word rape story. A very clear effect emerged: Both males and females were quite aroused sexually when the female victim was described as having become sexually aroused, whereas little subject arousal was reported when the female victim was disgusted by the experience, as had been the case in the descriptions in the previous studies.

If a pleasurable outcome for the victim is a highly potent factor affecting subjects' sexual arousal, then it would seem inappropriate to consider fantasy rape stories as necessarily reflecting hostile aggression, the desire for a noxious outcome for which the goal is injury. The rape depictions of most popular

erotic materials accentuate the sexual arousal of the victim (McConahay & McConahay, Note 5), and it is this kind of material that seems to be sexually stimulating to many males and females. It should be noted, however, that even this type of rape fantasy may have undesirable effects, such as the perpetuation of sex stereotypes (Johnson & Goodchilds, 1973; Brownmiller, 1975), although this issue has not, as of yet, been properly addressed empirically.

The thesis we have been proposing with regard to the role of inhibitory and disinhibitory factors may be extended to account for the prevalence of fantasized rape themes in erotica. If an individual is depicted as overpowering another, he may be perceived as not having to be concerned with rejection, with performance, with being overwhelmed by the other person, or with saying or doing the wrong thing. The fantasized assault may enable those who identify with the assailant to enjoy the vicarious experience without being inhibited by their own evaluation anxieties. Similarly, the fantasized victim who is forced to participate in a sexual act may also be released from guilt and conflicts (Johnson & Goodchilds, 1973), as well as from evaluation anxiety. While subjects may not be inhibited by their own anxieties and evaluation concerns as long as the victim is depicted as being sexually aroused, the depiction of disgust may arouse inhibitory tendencies by accentuating the inappropriateness of the act and its hostile elements, as well as by raising evaluation anxiety.

Implications and Applications

Presently available empirical data, on the whole, are consistent with the popular stereotype that the male who is aggressively (assertively) uninhibited is also likely to be more sexually responsive than his more aggressively inhibited counterpart. However, contrary to the popular image, this relationship holds for the female no less than the male; that is, a reduction in restraints, in this instance aggressive restraints, facilitates sexual arousal in both sexes. In addition, while the sexual response may appear to be vulnerable to inhibitions applied to other behavior domains, it is also responsive to reductions in inhibition of other taboo behaviors, notably aggression.

Clinically, this relationship suggests that one therapeutic approach to clients suffering from orgasmic dysfunction, impotence, and other forms of sexual inhibition may be through the relaxation of "taboo" inhibitions. Lobitz and LoPiccolo (1972) have

disinhibited inorgasmic women by having them role-play "a gross exaggeration of orgasm with violent convulsions and inarticulate screaming." Moreover, LoPiccolo and Miller (1975a, 1975b) report that at the onset of their sexual enrichment programs for normal couples they utilize a disinhibiting session in which participants utter taboo words, using vulgar phrases. Similarly, Bach and his associates (Bach & Deutsch, 1970; Bach & Goldberg, 1974) are currently using their "creative aggression" training exercises with couples with sexual problems.

The analysis of the empirical data also points to specific difficulties that can arise in these clinical applications. If aggression is stimulated rather than inhibition reduced and if hostility is aroused, the effect may be to exacerbate the sexual problem rather than alleviate it. Furthermore, it may be more useful to teach clients that their sexual responses do not reflect the unleashing of aggressive tendencies despite overt similarities, rather than to emphasize the connection between sex and aggression. The person who is clearly aware that his/her intense sexual responses are not akin to hostile aggressivity can be truly uninhibited sexually and even enhance sexual responsivity via assertive aggression.

There is clearly a need for controlled evaluative research in this clinical area, as well as for additional research bearing on the effects of traditional societal gender roles, aggression in pornography, permissiveness to responses previously treated as taboo, etc. Researchers must, though, clearly specify the categories of aggressive and sexual behaviors that are being varied and assessed. Hostility is functionally distinct from instrumental, assertive aggressive behaviors. The aggression required to overcome a barrier can sharply differ from intentionally inflicting pain. The fantasized aggression in a "benign rape" is a far cry from the actual act or even from a fantasized rape involving harm and suffering to the victim. Sexual behavior is multifaceted, entailing varying degrees of intimacy, types of gratification, and periodicities. Consequently, the nature of the aggressive and sexual responses elicited may be critically relevant in determining the type of sex-aggression link observed.

The relationships between sexuality and aggression found in the empirical studies we have reviewed may be a function of the biological tendencies of the species interacting with mitigating or enhancing internal and environmental factors. We have suggested that while human biology may have provided a predisposing mutually facilitative link between sexual arousal and certain forms of aggression, the primary basis of the relation lies in their

common inhibitory taboo properties. Thus, existing societal practices may have resulted in a situation whereby the reduction of constraints for one of these inhibited responses will similarly affect the other. We would suggest, however, that it should certainly be possible through appropriate socialization practices and experiences to establish a clear discrimination between sex- and aggression-related cues so that inhibition and facilitation of one of these domains has little generalized effect upon the other. More broadly, we are suggesting that for human beings biological variables exert a relatively minor influence on the relationship between sex and aggression and, moreover, that there is no inherent psychological relationship between these two systems. It is society and socialization processes that create a common taboo that helps link sex and aggression, and it is this same process that can serve to separate them.

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