The Effects of Multiple Exposures to Filmed Violence Against Women

by Daniel Linz, Edward Donnerstein, and Steven Penrod

Men who viewed five movies depicting violence against women came to have fewer negative emotional reactions to the films, to perceive them as significantly less violent, and to consider them significantly less degrading to women.

Much concern has been expressed over what is perceived to be an increasing trend toward the portrayal of brutality against women in the media. Some individuals contend that the continual portrayal of women in film and other mass media as victims of sexual assault and other violent acts encourages the battering and sexual harassment of women in real life (21). Laboratory investigations of the effect of media portrayals on aggression against women have generally shown that exposing men to such portrayals results in more negative attitudes about women and increases in aggression against them (24). The study reported in this article attempts to extend previous research by exposing men to five commercially released, feature-length, R-rated movies that depict vio-
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Malamuth (22) first pointed to the possibility that aggressive-pornographic stimuli might increase aggressive behavior against women. In his study, male subjects viewed aggressive or non-aggressive pictorials in *Penthouse* magazine that had been judged to be equally sexually arousing. The aggressive stimulus depicted the rape of a woman with some suggestion that the woman became sexually aroused by the rape. The non-aggressive stimulus depicted mutually consenting sex. Half the subjects were also given a communication designed to reduce inhibitions against aggression in which the experimenter said it was “okay” to behave as aggressively as they wished. Following exposure to these stimuli, subjects were insulted by a female confederate and then given the opportunity to give her an electric shock. Those males who were exposed to the aggressive pornography and also received the disinhibitory communication delivered significantly more electric shocks than the others.

Donnerstein (11, 12) conducted similar studies using short pornographic film clips. In one study (12), male subjects were either angered or treated in a neutral manner and then exposed to a non-aggressive pornographic film, an aggressive-pornographic film, or a neutral film. After viewing the films, subjects were given the opportunity to aggress against either a male victim or a female victim, both confederates of the experimenter. The results indicated that the combination of exposure to
aggressive pornography, a high level of pre-exposure anger, and pairing with a female victim resulted in the highest level of aggressive behavior. However, even non-angered male subjects exposed to violent pornography showed significantly higher levels of aggression when paired with a female victim. Additional experiments have demonstrated that exposure to aggressive-pornographic films with what has been characterized as a “positive” outcome (i.e., the victim apparently enjoys being roughed up or becomes sexually aroused while being raped) will increase subjects’ subsequent aggression against a female even when the subjects are not angered. Exposure to aggressive-pornographic depictions with “negative” outcomes (in which the victim is seen to abhor the experience) does not appear to result in greater levels of aggressive behavior against women by non-angered subjects, although the effect is still found for angered subjects.

Donnerstein (13) has also investigated the independent contributions of violent and pornographic content to aggressive behavior against women. Male subjects were angered by either a male or female confederate and exposed to one of four types of film: arousing non-aggressive-pornographic, aggressive-pornographic, aggressive only (in which a woman is taunted at gunpoint by a man, tied up, and slapped around), and neutral. Subjects’ self-reports and physiological data demonstrated that the aggressive film was seen as significantly less sexually arousing than either the pornographic or aggressive-pornographic films. For subjects whose inhibitions were lessened by their being angered by a female and then being presented with a female target to aggress against, the aggressive-pornographic film produced the highest level of aggressive behavior. It is interesting, however, that subjects exposed to the nonpornographic aggressive film also exhibited significantly higher levels of aggressive behavior than subjects who saw either the neutral or nonviolent pornographic films. But these effects, and similar effects reported elsewhere by Donnerstein (13), occurred only for males who were first angered by the experimenter.

These findings can be explained by two interrelated psychological processes: stimulus-response association and disinhibition.

Berkowitz (6, 7) has proposed a stimulus-response association model which assumes that the film viewer reacts “impulsively” to certain stimuli in the environment. Confronted with the appropriate stimuli, an individual who is predisposed to react aggressively—either because his inhibitions have been weakened due to his being angered first or because he has vicariously or directly learned that pleasures or rewards arise from his actions—will respond in an aggressive manner. In this view, pornographic and nonpornographic films or other stimuli that depict male aggression against females will become associated with
aggressive responses to which the individual is predisposed. When the individual is placed in a situation in which cues associated with aggressive responding are salient (i.e., a situation involving a female victim) and in which he is predisposed to aggress because he is disinhibited (i.e., angered), he will be more likely to respond aggressively because of the stimulus-response connection previously built up through exposure to the films.

This account is compatible with Bandura's explanation of aggressive behavior, which emphasizes factors other than anger as contributors to the disinhibition process (2). Emotional reactions that may inhibit an individual from engaging in a particular behavior can be eliminated in several ways. For example, an individual may learn vicariously through the observation of a model viewed in a violent film clip that aggressive acts do not result in negative consequences and may even lead to positive ones (1, 2). When males are exposed to positive-outcome aggressive-pornographic films that depict women becoming sexually aroused from violence, then, they may come to "learn" that women enjoy this type of treatment. This account would also explain why negative-outcome aggressive pornography does not result in aggressive behavior among non-angered or nonpredisposed subjects.

Research focusing on modeling suggests that disinhibition may occur despite the fact that a violent depiction is shown with a negative outcome. Subjects' emotional reactions to certain behaviors can be reduced or eliminated when they observe models engaged in those behaviors. In a clinical situation this may allow a patient to engage more easily in a previously anxiety-provoking activity (3, 4). To the extent that aggressing against another is anxiety-provoking (5, 19, 20), the negative emotional arousal associated with an aggressive response may inhibit subjects' behavior. Continued exposure to films depicting models engaged in aggressive behavior—in this case, violence against women—may lead to a reduction of this associated anxiety. By this reasoning we might expect that prolonged exposure to either negative- or positive-outcome aggressive pornography, or even to aggressive portrayals that are completely void of pornographic content, will result in greater aggressive behavior subsequent to film viewing. Thomas (31), for example, demonstrated that male subjects exposed to a 15-minute aggressive film subsequently delivered more electric shock to a confederate and exhibited lower average pulse rates than control subjects both before and after delivery of the shock.

Desensitization to filmed violence through repeated exposure may affect people in ways other than predisposing them to actual aggression. For example, adults and children exposed to a condensed version of a television detective program exhibited lowered emotional sensitivity (measured by galvanic skin response) to films of real-life aggression, as compared to control subjects (33). These findings are consistent with those of previous studies indicating that children exposed to an aggres-
sive television program were less likely than those who viewed an equally exciting control film to intervene in a fight between two other children (15, 32).

These studies suggest that one consequence of dampened emotional reaction to filmed violence is a failure to respond emotionally to, and perhaps a failure to intervene in, an actual aggressive situation.

This effect may be just as important as the reduction of inhibitions against personally engaging in an aggressive act. In the real world, aggression is a low-frequency event. In the typical grade-school classroom, for example, there may be one or two aggressive children, with the other class members either the victims of aggression or, more likely, bystanders to aggressive acts. As adults, although we may be unlikely to engage in aggressive acts ourselves, we may witness actual aggression (e.g., an entire apartment building may hear the husband in a single apartment physically abusing his wife), and we are sometimes asked to evaluate victims of aggression (e.g., we might be asked to serve as jurors in a case involving violent assault).

Most previous research on aggressive pornography (e.g., 11, 12, 13) has involved brief exposure to filmed violence. This exposure apparently has been lengthy enough to enable subjects to learn vicariously that women might enjoy sexual violence, if the outcome of the film is “positive,” but not if it is “negative.” After more lengthy or graphic exposure to negative-outcome aggressive-pornographic materials or to aggressive-nonpornographic materials, however, we might find a level of disinhibition equal to that found in subjects who either have been angered or have observed a model whose aggressive behavior is rewarded. The purpose of the study reported here was to expose subjects to a relatively large dose (approximately two hours a day for five days) of filmed aggression against women that had negative consequences, to see whether such a desensitization effect would occur and to test the possibility that it would “spill over” into subjects’ later reactions to a physically injured rape victim.

We hypothesized that male subjects’ prolonged exposure to filmed violence would result in a systematic reduction in emotional reactions to the violent films. On the first day of viewing, we expected subjects to indicate a high degree of anxiety and depression which would, by the last day of viewing, be significantly lower. We also hypothesized that, as subjects became less anxious and emotionally upset by the violent content of the films, they would report the films to be more entertaining and enjoyable, since they would no longer associate them with a negative state of arousal. Viewing extremely violent movies is probably a relatively novel behavior for most subjects, and so their attitudes toward such materials may be ill formed and rather ambiguous. As their initial
feelings of anxiety dissipate with each exposure, subjects may infer that they are enjoying the material more, because they are no longer negatively aroused. Once subjects are emotionally "comfortable" with the violent content of the films, they may evaluate the films more favorably in other domains as well. Thus, material originally found to be offensive or degrading to women may be evaluated as less offensive or degrading with continued exposure.

A reduction in the level of emotional arousal or anxiety should also blunt subjects’ awareness of the number of violent scenes or amount of violence in the films viewed. Rabinovitch, Markham, and Talbot (26), for example, found that children who had seen a violent television episode were less likely later to identify violent scenes in a set of stereoscopically presented slides containing pairs of violent and neutral scenes. We hypothesized that a reduction in anxiety should serve to dissipate sensitivity to emotional cues associated with each violent episode and thereby reduce subjects’ perceptions of the amount of violence in the films. Consequently, by the end of an extensive exposure period, subjects should perceive the films as less violent than they had initially.

Our final hypothesis was that the subjects’ judgments about a victim of violence in another context would be affected by their desensitization to filmed violence. Specifically, we expected that individuals who have been emotionally desensitized through prolonged exposure to films depicting violence against women should show less emotional reaction to the plight of an actual female victim of violence. Confronted with the victim of a violent rape, desensitized subjects should exhibit less sympathy toward her and judge her as less severely injured than a control group of subjects who have not been exposed to the violent films.

The experiment was conducted in four phases: an initial prescreening, a film viewing session, a simulated rape trial, and an extended debriefing.

Fifty-two males recruited from the engineering, computer sciences, and psychology departments at the University of Wisconsin—Madison completed the Symptom Checklist-90 (10) in the psychology department. The SCL-90 is a 90-item self-report symptom inventory designed to reflect the psychological symptom patterns of psychiatric and medical patients. Scores on the hostility and psychoticism subscales were used as screening variables to eliminate from the sample anyone suspected of a predisposition toward aggression. Since the second phase of the study involved prolonged exposure to violent materials over several days with no debriefing until the final day, we feared that overly aggressive subjects might ruminate over and perhaps imitate certain scenes from the films. Previous research (23) has suggested that individual predispositions toward hostility and psychoticism may be related to a stated willingness to rape among college-age males. Consequently, we decided
to accept no one for participation in our study unless his hostility score
was below 1.00 (a t-score of 65 for male nonpatients, or approximately
one and one-half standard deviations above the mean for male nonpa-
tients; [10]). Three males were eliminated from the original pool by
these criteria. The average hostility score for subjects who eventually
participated in our experiment was .24; the psychoticism subscale scores
for all subjects were extremely low, with nearly all subjects scoring 0.

The eligible males were then contacted by phone and told that a film
evaluation study was being conducted in the communication arts depart-
ment. They were informed that they would be required to view six films
over five consecutive days (two films on the last day) and would receive
a payment of $3.00 per film plus a bonus of $22.00 once all films had
been viewed and the debriefing session completed. Those who indicat-
ed that their schedules permitted them to attend all sessions were then
informed that they would be viewing commercially released R-rated
films that might contain explicit sex and/or violence. At that point they
were again given the opportunity to decline participation. It is important
to note that in all cases, subjects who declined to participate did so when
first informed about the time commitment involved rather than when
informed about the content of the films.

Twelve subjects from those interviewed were randomly assigned to
view the R-rated violent films.1 An additional twelve males were
recruited as control subjects from among those who had declined to
participate due to scheduling difficulties. The control subjects were
asked to report to the communication arts department for a single hour
session, which involved viewing a videotape and completing a question-
naire.

Subjects viewed five films, one per day, for five consecutive days.
Because we were interested in making comparisons between first-
and last-day reactions to the films, the twelve film-viewing subjects were
further divided into two groups. Seven of the subjects saw the first and
fifth films in one order, while the remaining five subjects saw them in
reverse order. The first group saw Texas Chainsaw Massacre on the first
day; the second group saw Maniac on the first day; on the fifth day the
two were reversed. The intervening films, presented in random order to
both groups, were I Spit on Your Grave, Vice Squad, and Toolbox

1 Two additional conditions were also included in this study—one in which eight
subjects viewed nonviolent pornographic X-rated films, and another in which ten subjects
viewed X-rated pornographic films portraying rape and sexual violence. The latter films,
while depicting violence against women, did not portray the violence in a particularly
graphic or gory fashion. In addition, the outcomes of the rape depictions were sometimes
ambiguous (the victim did not always express abhorrence or experience trauma as a result
of being raped). Because the theoretical focus of the present study is desensitization to
graphic presentations of violence against women (with no ambiguity about the victims'
abhorrence of the experience), results from these experimental conditions are not reported
here.
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Murders. All of these films have been commercially released, and some have been shown on campus or on cable television. Each film contains explicit scenes of violence in which the victims are nearly always female. While the films often juxtapose a violent scene with a sensual or erotic scene (e.g., a woman masturbating in the bath is suddenly and brutally attacked), there is no indication in any of the films that the victim enjoys or is sexually aroused by the violence. In nearly all cases the scene ends in the death of the victim.

After viewing each film, subjects completed the Multiple Affect Adjective Checklist (38), which yields anxiety, depression, and hostility or annoyance subscale scores. The MAACL consists of 132 adjectives describing an affective state. Subjects were directed to mark an “x” in boxes describing how they feel “now—today.” Next, subjects completed a questionnaire on which they rated, according to several scales, the extent to which the film they had viewed combined sex and violence, was violent (i.e., bloody, gory without being sexually violent), was degrading to women, and was enjoyable. Subjects were also asked to record the number of scenes they found to be offensive.

On the last day, after viewing the fifth film, subjects were informed that the sixth and final film had not arrived. They were then introduced to a representative from the law school who told them that members of their department were pretesting a rape trial documentary; since the film to be viewed by the subjects had not arrived, would they agree to watch the law school documentary? At that point the control subjects were brought into the room and were seated with the experimental subjects.

All subjects watched a videotaped reenactment of a complete rape trial, including all trial elements (opening statements, direct and cross-examination of witnesses, closing arguments, judge’s instructions.) The case, derived from the transcript of an actual rape trial, involved a man and woman who originally encountered one another in a bar. The man is claimed to have followed the woman from the bar in his car, pulled her car over on the road by impersonating a police officer, persuaded her to get into his car, and driven to an abandoned factory lot where the sexual assault allegedly occurred. During the course of the trial the victim alleged that the defendant had struck her in the face; this testimony was corroborated by a physician witness. After the trial, subjects completed a questionnaire on which they indicated their verdict and assessed the defendant’s intentions and the victim’s resistance, responsibility, sympathy, unattractiveness, injury, and worthlessness.

Next, those subjects who had viewed the five films were extensively debriefed, in two stages. First, subjects viewed a videotaped statement in which the first two authors explained the purpose of the study and alerted subjects to the possibility that they could become desensitized to the violent content of the movies. Second, it was pointed out that because many of the scenes in the films involved a juxtaposition of sex
and violence, subjects might begin to confuse the pleasurable reactions they had had to the sexual portion of the scene with the violent portion, with the result that their feelings about the violence might change in a more positive direction.

Finally, subjects were assured that in no way do women enjoy, seek, or deserve to be victims of sexual or nonsexual violence. The experimenters remained in the room for as long as necessary to answer questions about the study. Two days later subjects reported for a final debriefing session, participating in a group discussion led by a clinical psychologist in which they were encouraged to share their reactions to the movies and later meeting with a clinical psychologist to discuss their reactions to the films. Two months later, subjects completed a follow-up mailed questionnaire that again assessed their feelings about participation in the research and probed for any residual detrimental effects.

The comparison of subjects' moods and judgments about the films revealed a number of changes between the first and last days of film viewing.

As will be recalled, the presentation of the films had been counterbalanced on the first and last days, with the intervening films presented in random order. A repeated measures analysis of variance revealed significant differences between subjects' scores on the first and last day for the depression subscale of the MAACL (F(1, 11) = 6.49, p = .03, $\bar{x}$ = 21.42 and 18.50) and for the anxiety subscale (F(1, 11) = 7.29, p = .02, $\bar{x}$ = 12.91 and 9.75). The difference between first- and last-day scores on the hostility subscale was nonsignificant.2

Table 1 presents the items comprising each of the film evaluation scales, with the first- and last-day means, the item-to-total correlations, and the overall measure of internal consistency—Cronbach's coefficient alpha. As a conservative measure of reliability, coefficients were computed on scores from the first day rather than the last day, when subjects would presumably be more consistent in their evaluations of the films. Scales were derived for the first and last days, and mean differences were tested with a repeated measures analysis of variance. There were significant differences between subjects' scores on the first and last days for perceptions of violence (F(1, 11) = 17.71, p = .002, $\bar{x}$ = 45.00 and

2 Additional analysis was undertaken to examine the possibility that the repeated administration of the MAACL alone may have resulted in reductions in reported levels of anxiety and depression. A two-factor analysis of variance using groups (X-rated nonviolent, X-rated violent, R-rated violent) $\times$ test administration (days) was undertaken for anxiety and depression scores. The analysis revealed a significant groups $\times$ days interaction for both sets of scores, with the X-rated groups showing nonsignificant changes in depression and anxiety and the R-rated violent group's scores decreased significantly across days. This permits us to conclude that subjects in the R-rated group were not merely becoming desensitized to the testing.
Table 1: First- and last-day individual item mean scores, items-to-total correlations, and reliability coefficients of items contained in film evaluation scales (n = 10)

<table>
<thead>
<tr>
<th>First day</th>
<th>Last day</th>
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<tbody>
<tr>
<td>(n = 12)</td>
<td>(n = 10)</td>
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</tbody>
</table>

**Perception of sex and violence** (Cronbach's alpha = .63)
1. Overall to what extent did sex and violence occur together in this film? 
   \[ \hat{x} = 0.34, 2.58, 1.91 \]
2. Of the violent scenes (if any), how many also contained sexual content? (This may include intercourse, rape, simple nudity, or other suggestive scenes.) 
   \[ \hat{x} = 0.73, 2.45, 1.72 \]
3. How many scenes involved the rape (sexual assault) of a woman? 
   \[ \hat{x} = 0.12, 1.16, 1.25 \]
4. Did this film portray violence toward women in a sexual context? 
   \[ \hat{x} = 0.70, 2.08, 2.50 \]

**Perception of violence** (Cronbach's alpha = .79)
1. Overall how much violent behavior was portrayed in this film? 
   \[ \hat{x} = 0.57, 6.91, 6.16 \]
2. Thinking about the movie as a whole, how many violent scenes did the film contain? 
   \[ \hat{x} = 0.34, 4.42, 3.91 \]
3. How graphic was the violence in this film? 
   \[ \hat{x} = 0.57, 6.90, 5.45 \]
4. How bloody or gory was the violence in this film? 
   \[ \hat{x} = 0.33, 6.66, 4.83 \]
5. To what extent do you think the violence will come to mind in the next 48 hours? 
   \[ \hat{x} = 0.71, 4.17, 3.00 \]
6. To what extent did the scenes of violence in the film make you look away from the screen? 
   \[ \hat{x} = 0.15, 3.67, 3.16 \]
7. Did this film portray violence toward women but not in a sexual context? 
   \[ \hat{x} = 0.36, 6.58, 6.16 \]
8. Did this film portray violence toward men but not in a sexual context? 
   \[ \hat{x} = 0.72, 4.92, 4.83 \]

**Degrading to women** (Cronbach's alpha = .74)
1. How degrading is this film to women? 
   \[ \hat{x} = 0.59, 4.50, 2.41 \]
2. This movie was: (1) uplifting; (7) debasing. 
   \[ \hat{x} = 0.59, 5.75, 5.66 \]

**Enjoyment** (Cronbach's alpha = .52)
1. This movie was: (1) not entertaining; (7) entertaining. 
   \[ \hat{x} = 0.35, 2.25, 3.08 \]
2. Overall, do you enjoy this type of film? 
   \[ \hat{x} = 0.35, 1.64, 2.36 \]

38.54) and degradation of women (F (1, 11) = 5.09, p = .045, \[ \hat{x} = 10.25 \text{ and } 8.08 \]), and a marginally significant difference between their first and last days' scores for enjoyment (F (1, 11) = 3.49, p = .09, \[ \hat{x} = 3.90 \text{ and } 5.30 \]). There was no significant difference between their first- and last-day scores for perceptions of sex plus violence, although the means (8.25 and 7.33) were comparable to those above; the subjects' estimations of the number of offensive scenes did decline from the first
Table 2: Items-to-total correlations and reliability coefficients of items contained in rape trial scales (n = 12)

<table>
<thead>
<tr>
<th>Defendant intention (Cronbach’s alpha = .73)</th>
<th>Items-to-total correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Generally how responsible was (the defendant) for the sexual assault of (the victim)?</td>
<td>.41</td>
</tr>
<tr>
<td>2. (The defendant) pulled the victim’s car over with the intention of sexually assaulting her.</td>
<td>.71</td>
</tr>
<tr>
<td>3. (The defendant) deliberately followed (the victim) after she left the tavern with the intention of raping her.</td>
<td>.52</td>
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<table>
<thead>
<tr>
<th>Victim resistance (Cronbach’s alpha = .71)</th>
<th>Items-to-total correlation</th>
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<tbody>
<tr>
<td>1. (The victim) was found to have sexual intercourse against her will.</td>
<td>.55</td>
</tr>
<tr>
<td>2. The victim resisted (the defendant’s) advances.</td>
<td>.55</td>
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<tr>
<th>Victim responsibility (Cronbach’s alpha = .81)</th>
<th>Items-to-total correlation</th>
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</thead>
<tbody>
<tr>
<td>1. Generally, how responsible do you think (the victim) was for her own sexual assault?</td>
<td>.71</td>
</tr>
<tr>
<td>2. The defendant was only responding to (the victim’s) advances.</td>
<td>.66</td>
</tr>
<tr>
<td>3. (The victim) should have foreseen the possibility of danger by getting into (the defendant’s) car.</td>
<td>.35</td>
</tr>
<tr>
<td>4. (The victim) was responsible for her own sexual assault because she acted like she was personally interested in (the defendant).</td>
<td>.79</td>
</tr>
<tr>
<td>5. (The victim) was responsible for the incident because she did not resist when (the defendant) kissed her.</td>
<td>.52</td>
</tr>
<tr>
<td>6. (The victim) was responsible for her own sexual assault because she noticed (the defendant) in the bar in the first place.</td>
<td>.43</td>
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<table>
<thead>
<tr>
<th>Victim sympathy (Cronbach’s alpha = .57)</th>
<th>Items-to-total correlation</th>
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<tbody>
<tr>
<td>1. After hearing the facts of the case, I felt some pity for (the victim).</td>
<td>.81</td>
</tr>
<tr>
<td>2. I felt sorry for (the victim) at the conclusion of the trial.</td>
<td>.18</td>
</tr>
<tr>
<td>3. Hearing the facts of the case caused me to be very sympathetic toward (the victim).</td>
<td>.20</td>
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<tr>
<th>Victim unattractiveness (Cronbach’s alpha = .78)</th>
<th>Items-to-total correlation</th>
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<tbody>
<tr>
<td>1. I felt (the victim) was:</td>
<td></td>
</tr>
<tr>
<td>(1) likable; (9) unlikable</td>
<td>.28</td>
</tr>
<tr>
<td>(1) attractive; (9) unattractive</td>
<td>.66</td>
</tr>
<tr>
<td>(1) friendly; (9) unfriendly</td>
<td>.73</td>
</tr>
<tr>
<td>(1) pleasant; (9) unpleasant</td>
<td>.75</td>
</tr>
<tr>
<td>(1) appealing; (9) unappealing</td>
<td>.17</td>
</tr>
<tr>
<td>(1) an enjoyable person; (9) an unenjoyable person</td>
<td>.62</td>
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<tr>
<th>Victim injury (Cronbach’s alpha = .48)</th>
<th>Items-to-total correlation</th>
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<tbody>
<tr>
<td>1. Hearing the facts of the case led me to believe that (the victim) experienced severe emotional upset as a result of being sexually assaulted.</td>
<td>.20</td>
</tr>
<tr>
<td>2. How certain were you that (the victim) suffered a very severe injury to her face?</td>
<td>.34</td>
</tr>
<tr>
<td>3. In your opinion how severely was (the victim) injured?</td>
<td>.37</td>
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<table>
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<tr>
<th>Victim worthlessness (Cronbach’s alpha = .75)</th>
<th>Items-to-total correlation</th>
</tr>
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<tbody>
<tr>
<td>1. When thinking about (the victim) my thoughts are predominately: (1) very positive; (9) very negative.</td>
<td>.60</td>
</tr>
<tr>
<td>2. I felt (the victim) was: (1) valuable; (9) worthless.</td>
<td>.60</td>
</tr>
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</table>
to the last day, however \( (F(1, 11) = 14.4, p = .003, \bar{x} = 4.50 \) and 3.00).

Table 2 presents scores on the rape trial evaluation scales and the reliability coefficients for each scale. A repeated measures analysis of variance was also computed for each item. Compared to the twelve control subjects, the twelve subjects exposed to filmed violence against women judged the rape victim to be significantly less injured \( (t = 9.73, p < .005, \bar{x} = 11.08 \) and 16.50) and significantly less worthy \( (t = 2.65, p < .05, \bar{x} = 10.17 \) and 7.92). There was also a consistent, although nonsignificant, trend among the mean differences. The subjects who had viewed the films showed a tendency to assign greater responsibility to the victim for her sexual assault and to judge her as having resisted her assailant less. They also indicated slightly less sympathy for the rape victim than control subjects.

Table 3 presents the correlations between the final day's scores on the film evaluations, postfilm mood evaluations, and post-trial evaluations. As predicted, there was a significant relationship between the enjoyment ratings of the films and anxiety and depression scores: subjects who were less anxious and less depressed at the conclusion of the last film also rated the material as more enjoyable.

The pattern of correlations also revealed a high degree of association between how subjects perceived the films on the final day of viewing and their judgments of the rape trial. Subjects who perceived more

### Table 3: Correlations between final-day film evaluations, rape trial evaluation scales, and MAACL scores \((n = 12)\)

<table>
<thead>
<tr>
<th>Perception of violence</th>
<th>Enjoyment</th>
<th>Number of offensive scenes</th>
<th>Degrading to women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>.34</td>
<td>-.51*</td>
<td>.18</td>
</tr>
<tr>
<td>Depression</td>
<td>.26</td>
<td>-.69***</td>
<td>.22</td>
</tr>
<tr>
<td><strong>Rape trial evaluations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victim responsibility</td>
<td>-.65***</td>
<td>.40*</td>
<td>-.63***</td>
</tr>
<tr>
<td>Sympathy for victim</td>
<td>.61**</td>
<td>-.42*</td>
<td>.37</td>
</tr>
<tr>
<td>Victim injury</td>
<td>.58**</td>
<td>-.04</td>
<td>.32</td>
</tr>
<tr>
<td>Victim worthlessness</td>
<td>-.48*</td>
<td>.41*</td>
<td>-.54**</td>
</tr>
<tr>
<td>Defendant intention</td>
<td>.68***</td>
<td>-.45*</td>
<td>.22</td>
</tr>
<tr>
<td>Victim unattractiveness</td>
<td>-.23</td>
<td>.64***</td>
<td>-.43*</td>
</tr>
<tr>
<td>Victim resistance</td>
<td>.64***</td>
<td>-.28</td>
<td>.08</td>
</tr>
</tbody>
</table>

* \( p < .10 \)
** \( p < .05 \)
*** \( p < .01 \)

3 Error terms for t-tests are based on pooled groups including two other conditions \((n = 30)\) not included here (see footnotes 1 and 2).
violence in the films on the final day (subjects who were not as desensitized to the violence) attributed less responsibility to the victim for her own assault, showed her more sympathy, judged her to have made a greater attempt to resist her assailant, and ascribed more intentionality to the defendant. A similar pattern of associations can be observed between subjects’ last-day enjoyment of the films and their judgments of the number of offensive scenes with their perceptions of how responsible, worthwhile, and attractive the victim was.

Of the other correlations in Table 3, only the (negative) relationship between enjoyment and number of offensive scenes was even marginally significant (r = −.42, p = .10).

As we had predicted, prolonged exposure to filmed violence lowered emotional reactions to the material, with subjects significantly less depressed and anxious on the final day of viewing and more likely to enjoy the films.

Subjects’ perceptions of the violence portrayed in the films also changed over the five days. The films were perceived to be significantly less violent by the last day of viewing (although not significantly less violent sexually). Ratings of how degrading the film was to women and of its offensiveness were also significantly lower by the last day.

We also found a tendency for the desensitization to the filmed violence against women to “spill over” into subjects’ judgments of a female victim in another context. Men who were exposed to the large doses of filmed violence against women judged the victim of a violent assault and rape to be significantly less injured and evaluated her as generally less worthy than the control group of subjects who saw no films. Finally, subjects who rated the material as less offensive or violent and more enjoyable by the last day of viewing were much more

4 As noted earlier, there were also nonsignificant but consistent differences between subjects who had been exposed to the violent films and control subjects on judgments concerning the defendant’s intention and the victim’s resistance, responsibility, sympathy, and attractiveness. It is possible, as one reviewer has noted, that larger differences might have been found if the topic under study had been one in which subjects were less likely to be apprehensive about personal evaluations from the experimenters. Berkowitz and Donnerstein (9) have noted, for example, that the available empirical evidence (e.g., 34) on evaluation apprehension among subjects in the laboratory suggests that people taking part in psychological experiments are inclined to be restrained in attacking their victims if they suspect that the researcher is interested in their aggressive behavior. Because of this, whatever high levels of aggression are obtained often come about in spite of subjects’ attempts to present themselves favorably. In this study, subjects in the violent film condition may have been unwilling to make a socially undesirable evaluation of the victim, deliberately dampening their responses in expectation of the experimenter’s scrutiny—particularly if they suspected the real purpose of the rape trial task.
likely to judge the victim as more responsible for her own sexual assault and the defendant as less responsible. Subjects who reported seeing fewer offensive and violent scenes on the last day also judged the victim as offering less resistance to her assailant and felt less sympathy for her. Greater enjoyment of the material on the final day was also correlated with attributions of greater victim responsibility and less defendant intention and with a significant tendency to rate the victim as a less attractive and less worthy individual.

These findings add strength to the mounting evidence (15, 26, 32, 33) that sustained exposure to filmed violence may lower sensitivity to victims of violence in other contexts. The findings are also consistent with a more recent study (36) which suggests that, after reading a newspaper account of a convicted rapist, subjects exposed to relatively large amounts of pornography presenting women in degrading or demeaning circumstances recommended reduced sentences for rapists.

The expected positive intercorrelations between enjoyment of the films and perceptions of how degrading and violent they were did not emerge, however. Nor was emotional arousal (as indexed by anxiety and depression) a significant predictor of degradation scores or perceptions of violence. This suggests that changes in subjects' perceptions of violence over time may not be directly influenced by reduced anxiety and depression, as we had hypothesized. Nor were subjects' judgments about a rape victim directly moderated by these variables. On the other hand, this does not rule out the possibility of an indirect relationship between emotional desensitization and judgments of the victim that is moderated by enjoyment of the films. Indeed, the pattern of correlations (significant correlations between anxiety, depression, and enjoyment and a significant correlation between enjoyment and victim derogation in the rape trial) suggests that this may be the case. However, the small number of subjects in this study prohibits the use of a causal modeling approach that might elucidate these relationships.

The changes over time in subjects' perceptions of how violent and degrading the films were might be accounted for by a more fundamental process of classical conditioning. Nearly all the films used in this study contained scenes of violence against women in a sexual or erotic context. Immediately before a woman is brutally assaulted in many of the films, she is seen disrobing, masturbating, engaging in sexual intercourse, sunbathing, etc. During and after her assault, the cues associated with those presumably mildly arousing, pleasing scenes are juxtaposed with the violent images. For example, in one carefully crafted scene (from Toolbox Murders), the background music that accompanied a scene in which a woman masturbated is reintroduced during a violent assault scene. Additional cues, such as the victim's nudity as she attempts to escape the assailant after the first assault and the eroticized portrayal of the dead victim as a "pin-up" style photograph at the end of the scene,
may have the effect of classically conditioning sexual arousal to a violent scene. Previous research (27, 28) has demonstrated that sexual arousal can be conditioned to previously neutral stimuli (such as articles of clothing) by presenting photographs of the neutral articles immediately prior to sexually arousing photographs. More favorable evaluations of scenes of violence against women may have been created by presenting scenes of rape or other violence immediately prior to normally arousing scenes. A sufficient number of pairings of this sort, across a lengthy exposure period, may result in subjects' judging scenes previously rated as extremely violent or degrading as less so.

The increasingly positive evaluations of filmed violence that accompany prolonged exposure may also be moderated by a misattribution process. Studies of misattribution of arousal have pointed to the fact that labels for arousal may be quite malleable (29, 35). Subjects may become mildly sexually aroused by the erotic portion of the films and, while still experiencing residual arousal as the scene turns violent, misattribute this arousal to the violence. Subjects finding themselves in this state after several viewings may perceive the films to be less violent and less degrading to women.

In addition to conditioning and misattribution, a third process may account for changes in perceived violence and degradation with repeated measures. Berkowitz (8) has suggested that, as observers encounter violent scenes again and again, other related aggressive ideas are more likely to be activated. These newly activated ideas may either facilitate aggressive responding (i.e., ruminations involving situations in which aggression is rewarded or justified) or inhibit aggressive responding (i.e., thoughts about the negative or punishing consequences of aggression). Viewers' ratings of how enjoyable or degrading the films were may be influenced by the extent to which they perceived the film aggressors to be rewarded for or somehow justified in their violent behavior. If the female victims of violence are seen as deserving their plight (i.e., as sexually promiscuous or "too liberated"), other thoughts concerning justifiable aggression may be simultaneously activated, serving to move subjects' evaluation of the material in a positive direction. They may feel less anxious about the violence and evaluate it as less degrading to women because it is associated with other morally justified or otherwise positively portrayed acts of aggression.

Of course, these processes are not mutually exclusive. All or some of them could account for the desensitization effects found here, and future research could profitably be directed toward better understanding of these mediating processes.

Finally, it is necessary to mention several limitations of this study, some of which are endemic to all laboratory studies of aggression. First, subjects were asked to participate as mock jurors and evaluate the rape
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victim and her injury almost immediately after they had been exposed to the violent films. It is possible that the effects observed were only short-term ones. A longer time interval between the last film exposure and evaluations of the rape victim might attenuate the current findings. Indeed, some theorists (e.g., 8) have agreed that nearly all effects observed after exposure to violent media are short-lived, due to the temporary nature of related aggressive thoughts activated immediately after exposure. Future research should vary the time interval between movie viewing and dependent measure tasks.

Second, many laboratory studies of pornographic materials (including this one) employ procedures that may render findings inconclusive (16, 17, 25, 30, 37). It is possible that the cover story we provided subjects concerning their participation in the rape trial was not believed, particularly by students who had taken one or more psychology courses. Since only minimal precautions were taken to ensure that students did not talk to one another about the films they were viewing, it is possible that the findings were in some way invalidated. Little is known about the relationship between subjects’ naiveté and their responses in experiments. However, available research (18) suggests that greater knowledge of the experimenters’ intentions in laboratory studies of aggression actually serves to suppress aggressive responding rather than enhance it. Thus, our findings may actually underestimate the effect of the films. This, coupled with the fact that most of the subjects were not psychology students and may not have been acquainted with typical psychological laboratory procedures, suggests that our findings may be robust.

REFERENCES


