



## Trait aggressiveness, media violence, and perceptions of interpersonal conflict

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### Abstract

This study explores the short-term impact of exposure to violent mass media content while accounting for personality (i.e. trait-aggression) and situational factors (e.g. responsibility for actions). Following exposure to either a violent or nonviolent movie, participants reported their perceptions of violent interpersonal incidents described in four written scenarios. The findings revealed that respondents' aggressive dispositions and sex mediated the impact of media violence on subsequent perceptions of violent, interpersonal conflicts. Specifically, high trait-aggressive individuals generally displayed more callous and hostile tendencies in their perceptions of interpersonal conflicts than low trait-aggressive individuals. Moreover, high trait-aggressive males were found to be most extreme in reporting aggressive thoughts and actions. Surprisingly, the data did not support the hypothesis that exposure to a violent movie would have a negative impact on viewers. Berkowitz's cognitive-neoassociationistic theory [Berkowitz, L. (1984). Some effects of thoughts on anti-social and prosocial influences on media effects: a cognitive-neoassociation analysis. *Psychological Bulletin*, 95, 410–427; Berkowitz, L. (1990). On the formation and regulation of anger and aggression: a cognitive-neoassociation analysis. *American Psychologist*, 45, 494–503; Jo, E. & Berkowitz, L. (1994). A priming effect analysis of media influences: an update. In J. Bryant & D. Zillman, *Media effects: advances in theory and research* (pp. 43–60). Hillsdale, NJ: Erlbaum] is employed to account for this discrepancy. Suggestions for future research are provided. © 2001 Elsevier Science Ltd. All rights reserved.

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## 1. Introduction

The phenomenon of media violence is one of the most extensively studied issues in the social sciences, spanning more than 1000 publications in recent years (cf. Geen, 1994; Hogben, 1998; Zillmann & Weaver, 1999). Despite this large body of research, certain aspects of the phenomenon are still in need of further inquiry. One such area concerns the neglect of individual difference variables in media violence research (cf. Zillmann & Weaver, 1997). The purpose of this study is to extend the literature by examining the impact of individuals' trait-aggressiveness on the effects of exposure to media violence.

A review of the literature reveals that most contemporary social scientists agree that, under certain conditions, exposure to media violence is causally related to subsequent aggression in humans (cf. Cantor, 2000; Geen, 1994; Roberts & Maccoby, 1985; Zillmann & Weaver, 1997, 1999). The strongest support for the conclusion that media violence is a significant contributor to aggressive behavior is provided by recent meta-analyses (e.g. Hogben, 1998; Paik & Comstock, 1994). From an analysis combining more than 200 correlational and experimental studies, for instance, Paik and Comstock concluded that "the findings obtained in the last decade and a half strengthen the evidence that television violence increases aggressive and antisocial behavior, this to a varying degree, depending on the choice of the variables considered" (p. 538). At the same time, however, media violence research has been repeatedly criticized because of its focus on short-term effects, its lack of external validity, and its failure to account for individual differences (cf. Freedman, 1988).

Interestingly, most aggression theories (e.g. Bandura, 1973; Berkowitz, 1974; Zillmann, 1979) do not consider the potential impact of individual differences. An exception to this scheme is Bushman's (1995, 1996) work, which represents an extension of Berkowitz's (1984, 1990; Jo & Berkowitz, 1994) cognitive-neoassociationistic aggression model. In his theory, Berkowitz argues that, for a short time after exposure, mass-mediated messages activate ideas with similar meanings in receivers and that these ideas can stimulate other semantically associated ideas and action propensities.

Bushman (1995, 1996; also see Zillmann & Weaver, 1997, 1999) has extended Berkowitz's theory by advancing the notion that personality variables moderate the effects of violent stimuli on the activation of concepts related to aggression. He proposes that: (1) individuals with highly aggressive predispositions should possess more extensive cognitive-associative networks related to aggression than those with less aggressive predispositions and, consequently, (2) that violent stimuli should be most likely to prime aggressive concepts in aggressively predisposed individuals. Moreover, (3) because a person's inclination toward aggression is conceptualized as a trait it is deemed accessible to quantitative analysis by means of self-report inventories such as the Buss-Perry Aggression Questionnaire (BPAQ; Buss & Perry, 1992). Inventory scores serve as an indirect measure of trait-aggressiveness, that is, "the extent and development of an individual's aggressive cognitive-associative network. People with high scores on trait-aggressiveness inventories should have more extensive aggressive associative networks than those with low scores" (Bushman, 1996, p. 812). Indeed, Bushman (1995, 1996), in a series of interrelated experiments, found substantial support for the notion that high trait-aggressive individuals possess more developed aggressive cognitive-associative networks, and are therefore more likely to evidence aggressive affect or behavior due to exposure to aggressive or ambiguous stimuli. Most importantly, he suggested

that the development of such networks in high trait-aggressive individuals might be partially the result of habitual exposure to television violence.

In order to assess the usefulness of personality variables in media violence research, we conducted an experiment that tested the hypotheses detailed below. Notably, these hypotheses account for sex differences because of the well-known fact that females are generally found to be less violent than males (e.g. Eagly, 1987; Eagly & Steffen, 1986; Geen, 1998).

### *1.1. Hypothesis 1*

Trait-aggressiveness: violent stimuli will have a stronger impact on high trait-aggressive (HTA) than on low trait-aggressive (LTA) individuals. It is thus hypothesized that LTA viewers, when compared to their HTA counterparts, will be more disturbed by the violence depicted (Hypothesis 1a). Moreover, HTA individuals should evidence more disdainful attitudes toward victims than LTA individuals (Hypothesis 1b). Finally, HTAs should report more favorable perceptions of the perpetrators than LTAs (Hypothesis 1c).

### *1.2. Hypothesis 2*

Interaction between sex and trait-aggressiveness: because: (1) males are generally more violent than females and (2) personality plays an important role with regard to aggression, an interaction effect between respondents' sex and trait-aggressiveness is expected. Hypothesis 2a asserts that greater differences between high trait-aggressive females and males are expected as compared to low trait-aggressive females and males (with males being more vicious). We also expect that the interaction between being male and evidencing high trait-aggressiveness is very potent in yielding stronger expressions of hostile tendencies than any other interaction between respondents' sex and trait-aggressiveness (Hypothesis 2b).

### *1.3. Hypothesis 3*

Type-of-Movie: respondents exposed to a violent movie will express more callous, aggression supportive tendencies in their judgments of violent interpersonal conflicts than those exposed to a nonviolent movie.

## **2. Method**

### *2.1. Sample and procedure*

Data were collected from 268 undergraduate students (118 females and 150 males) who participated in extra credit activities at a university in the southeastern United States. The students were enrolled in an introductory-level professional communication course, that drew students from a variety of interests and disciplines.

At the beginning of the academic term, students' dispositions toward aggression were assessed by means of a self-administered questionnaire. The BPAQ (Buss & Perry, 1992) was incorporated

with several other self-perception inventories. Participation in the survey was a voluntary in-class exercise. Respondents not able to participate in the in-class administration were offered several alternative opportunities to complete the questionnaire during the following week. In all, 648 individuals completed the questionnaire. Approximately 6 weeks later, students were given an opportunity to participate in an extra credit project entitled “Movie Study.” At the beginning of each of four sessions, one of two movies was shown. The movie presentation was followed by the self-administration of a questionnaire, in which respondents indicated how much they enjoyed the film, and then assessed four scenarios.

## 2.2. *Trait aggressiveness*

The BPAQ encompasses 29 items that constitute four combinable subscales: Physical Aggression, Verbal Aggression, Anger, and Hostility. Responses to each item were recorded on a five-point scale ranging from “extremely uncharacteristic of me” (0) to “extremely characteristic of me” (4). In accordance with Buss and Perry (1992), four subscales — physical aggression ( $M=13.84$ ,  $S.D.=8.34$ ), verbal aggression ( $M=10.37$ ,  $S.D.=4.04$ ), anger ( $M=10.39$ ,  $S.D.=5.94$ ), hostility ( $M=13.06$ ,  $S.D.=6.61$ ) — and an overall index of aggressiveness ( $M=47.65$ ,  $S.D.=19.53$ ) were computed. Subscale Cronbach’s alphas (ranging from 0.78 to 0.92) and intercorrelations ( $0.34 \leq r \leq 0.60$ , all  $P < 0.0001$ ) were quite consistent with normative data (Buss & Perry, 1992).

A  $2 \times 2$  (Sex  $\times$  Participation) factorial design was used to test the hypotheses of differences between the four aggression scores of those students who participated in the extra credit project and of those who did not. In all four models, the univariate analyses of variance for the participation main effect and the sex by participation interaction yielded nonsignificant variation only ( $F \leq 3.11$ ;  $P > 0.05$ ).

Respondents were then classified according to their level of self-reported trait aggressiveness using the following procedure. First, respondents’ scores on each aggression subscale were standardized within each sex ( $M=0$ ,  $S.D.=1$ ) and summed into a trait-aggressiveness index. Respondents were then ranked into three mutually exclusive groups (low, medium, or high) based on their trait-aggressiveness score. Finally, only those who were either HTA or LTA were retained for subsequent analyses; thus reducing the number of subjects from 268 to 178 (i.e. 78 females and 100 males). More precisely, there were 39 HTA females ( $M=3.84$ ,  $S.D.=1.57$ ) and 39 LTA females ( $M=-3.44$ ,  $S.D.=0.99$ ), as well as 50 HTA males ( $M=3.29$ ,  $S.D.=1.50$ ) and 50 LTA males ( $M=-3.39$ ,  $S.D.=1.63$ ).

## 2.3. *Movies*

Participants saw either the nonviolent movie “Postcards from the Edge” (a comedy/drama; Postcards hereafter) or the violent movie “Excessive Force” (an action thriller; Force hereafter). The movie plot of Postcards revolves around an actress (Meryl Streep) who is struggling to overcome a drug problem while at the same time trying to deal with her dominant and famous mother (Shirley MacLaine). In all, Postcards is a touching “feel-good movie” with a happy ending. In contrast, Force is a grim and action-packed martial arts movie. The movie plot portrays Thomas Ian Griffiths as a revenge-seeking cop who finally overcomes a crime syndicate that is corrupting a major city in a big showdown.

In order to validate the violent or nonviolent character of the two movies, a content analysis was conducted following a procedure outlined in Zillmann and Weaver (1997). The analysis showed that Force contained many portrayals of severe violence including torture and sadistic violence. In contrast, Postcards was almost void of any violence at all. The intercoder reliability for the content analysis was  $Pi=0.84$  (Scott, 1955). The analysis also showed that Postcards mainly featured female characters, whereas male actors overwhelmingly dominated Force.

#### 2.4. Scenarios of interpersonal conflicts

Respondents indicated their perceptions of four written scenarios that dealt with violent interpersonal conflicts. The first and the fourth scenarios involved situations that featured unprovoked violence. The first scenario, labelled Exam-struggle, portrays a husband (John, the aggressor) being mad at his wife (Karen, the victim) because she puts off typing an important paper for him. Eventually, John slaps her hard across the face. As a result, Karen's face is swollen for two days, and a bruise is still visible a week later. In the fourth scenario, named Abusive-husband, a wife (Julie, the victim) is badly battered by her husband (Darryl, the aggressor). Julie went out dancing without him and Darryl suspects her of cheating on him. When Julie returns home, he beats her up until she lays limp and bleeding on the floor. Julie suffers from a concussion, several bruised ribs, and a cut on her cheek that leaves a permanent scar.

The second and third scenarios involved violent conflicts that were triggered by provocation (i.e. unauthorized use of property and credit card abuse). The second scenario, labelled Borrowed-car, depicts a fight between two roommates (Jim, the victim, and Carl, the aggressor). The conflict arises because Jim uses Carl's car against Carl's explicit will. While using it, one car door gets scratched, and when Carl finds out, he beats Jim up. Jim suffers a broken nose, two blackened eyes, and a loose tooth. For two weeks, bruises and discoloration mark his face. The third scenario, named Credit-fight, features a boyfriend (Matt, the aggressor) battering his girlfriend (Sarah, the victim) because she spent money that was meant for paying his college tuition. When he learns that Sarah misused his credit card against his explicit will to buy a pair of diamond earrings, he beats her up and breaks her right arm. As a consequence, Sarah has to wear a cast for the next eight weeks.

Following each scenario, respondents were asked to indicate their perceptions of the events described in the scenario by means of a standard set of nine questions. The nine variables assessed respondents' perceptions regarding their *disturbance*, *sympathy for the victims*, *blame of the victims*, *sympathy for the aggressors*, *blame of the aggressors*, *hurting of the victims*, *suffering of the victims*, *aggressors' overreaction*, and *justification of aggressors' actions*. Questions were assessed by using a scale ranging from "not at all" (0) to "extremely" (4).

### 3. Results

#### 3.1. Overview

The perceptions of the scenarios were examined with a  $2 \times 2 \times 2$  (Sex  $\times$  Aggressiveness  $\times$  Type-of-movie) mixed-measures analysis of variance. In this model, respondent sex (male, female),

trait-aggressiveness (low, high), and type-of-movie (nonviolent, violent) were the independent-measures factors and the four scenarios were levels of a repeated measures factor. In order to account for problems related to sphericity, univariate analyses of variance (ANOVAs) computed for each dependent measure were adjusted using Huynh–Feldt's estimate of Box's epsilon (Huynh & Feldt, 1970). Subsequent post-hoc mean comparisons were computed using the Student-Newman-Keuls *t* test.

### 3.2. *Perceptions of scenarios*

For the sake of clarity, ANOVA results for the between-subjects effects are presented before those for the within-subjects effects. In order to enhance readability, this section focuses mainly on discussing post-hoc mean comparisons while details pertaining to test statistics (e.g. *F*-values, effect sizes) are summarized in Table 1.

### 3.3. *Between-subjects effects*

#### 3.3.1. *Aggressiveness*

Examination of the between-subjects univariate tests for the aggressiveness main effect revealed significant differences across the four scenarios for seven of the nine perception measures (Table 1). Inspection of the means (Table 2) associated with these main effects revealed that, overall, HTA respondents expressed more hostile and callous tendencies than their LTA counterparts. These findings are consistent with the first set of hypotheses. More specifically, LTA participants reported being more disturbed by the violent stories than HTAs (Hypothesis 1a). Furthermore, LTA individuals expressed more sympathy for victims, and they perceived victims as having suffered more (Hypothesis 1b). LTA viewers indicated that the aggressors had overreacted more, and they blamed the aggressors more. In contrast, HTA viewers had more sympathy for aggressors. For them, the aggressors' behaviors were also more justified (Hypothesis 1c).

#### 3.3.2. *Sex by aggressiveness interaction*

The between-subjects interactions for overreaction and justification-of-aggressors' behavior were significant (Table 1). Scrutiny of the means (Table 2) associated with the two perception measures, computed across the four scenarios, lent some support to the second set of hypotheses. The results tend to be consistent with Hypothesis 2a, which suggested greater differences between HTA females and males than between LTA females and males with regard to their expression of hostile and callous tendencies. Likewise, Hypothesis 2b — which predicted that HTA males should evidence the most violent tendencies — was partially supported.

#### 3.3.3. *Type-of-movie*

The tests for the type-of-movie main effects were significant for all perceptions of the scenarios but for the disturbance and victims'-suffering measures (Table 1). The corresponding means (Table 2) showed that overall, respondents who watched the nonviolent movie (Postcards) exhibited more hostile and callous tendencies than respondents who viewed the violent movie (Force). These results ran counter to the third hypothesis, which had predicted the opposite effect. However, the specific results showed that respondents who saw the violent movie expressed more

Table 1  
Summary of mixed-measures analysis of variance for the perceptions of scenarios dependent measures<sup>a</sup>

Variable	Between-subjects effects				Within-subjects effects		
	Main effects			Interaction effects	Main effect	Interaction effects	
	Sex (A) <i>F</i> (1, 170)	Movie (B) <i>F</i> (1, 170)	Aggressiveness (C) <i>F</i> (1, 170)	Interaction A×C <i>F</i> (1, 170)	Scenario (D) <i>F</i> (3, 510)	Two-way Interactions <i>F</i> (3, 510)	Three-way Interactions <i>F</i> (3, 510)
Disturbance	25.84*** (0.132)	3.33, n.s. ( <i>P</i> = 0.069)	16.27*** (0.087)		74.57*** (0.305)	D×C: 2.78* (0.016)	
<i>Victim</i>							
Sympathy-for-victim	9.17** (0.051)	6.22* (0.035)	5.13* (0.029)		104.21*** (0.380)		
Victim's-hurting	11.95** (0.066)	5.41* (0.031)	1.83, n.s. ( <i>P</i> = 0.178)		55.43*** (0.246)		
Victim's-suffering	7.08** (0.040)	2.38, n.s. ( <i>P</i> = 0.125)	4.98* (0.028)		39.43*** (0.188)	D×B: 2.91* (0.017)	D×A×B: 5.63** (0.032)
Victim's-blame	12.10** (0.066)	22.15*** (0.115)	1.56, n.s. ( <i>P</i> = 0.214)		118.23*** (0.410)	D×A: 3.04* (0.018)	D×A×B: 3.15* (0.018)
						D×B: 7.84*** (0.044)	
<i>Aggressor</i>							
Sympathy-for-aggressor	5.64* (0.032)	15.32*** (0.083)	5.21* (0.030)		66.39*** (0.281)		
Overreaction	15.58*** (0.084)	6.92** (0.039)	8.05** (0.045)	A×C: 6.24* (0.035)	46.96*** (0.216)	D×A: 3.41* (0.020)	
Aggressor's-blame	3.30, n.s. ( <i>P</i> = 0.071)	6.06* (0.034)	9.63** (0.054)		66.58*** (0.281)***	D×C: 2.70* (0.016)	
Justification-of-aggressor's-behavior	4.19* (0.024)	9.82** (0.055)	5.38* (0.031)	A×C: 4.38* (0.025)	43.72*** (0.205)		

<sup>a</sup> Values in parentheses are  $\eta^2$  unless otherwise stated. *n* = 178. \**P* < 0.05.

\*\**P* < 0.01.

\*\*\**P* < 0.0001.

Table 2

Mean scores for perceptions of interpersonal conflict as a function of aggressiveness, or movie, or participant sex and aggressiveness interaction<sup>a</sup>

Perceptions of	Participant sex	Aggressiveness		Movie	
		Low	High	Nonviolent	Force
Disturbance		3.25 b	2.84 a	2.95	3.14
<i>Victim</i>					
Victim's-hurting		3.30	3.19	3.15 a	3.34 b
Victim's-suffering		3.23 b	3.04 a	3.07	3.20
Victim's-blame		1.87	2.00	2.17 b	1.70 a
Sympathy-for-victim		2.87 b	2.66 a	2.65 a	2.88 b
<i>Aggressor</i>					
Sympathy-for-aggressor		1.22 a	1.46 b	1.55 b	1.13 a
Aggressor's-blame		3.07 b	2.75 a	2.79 a	3.04 b
Overreaction		3.42 b	3.18 a	3.19 a	3.41 b
Sex×Aggressiveness Interaction for Overreaction	Male	3.36 b	2.90 a		
	Female	3.49 b	3.46 b		
Justification-of-aggressor's-behavior		0.72 a	0.99 b	1.04 b	0.67 a
Sex×Aggressiveness Interaction for Justification	Male	0.72 a	1.24 b		
	Female	0.72 a	0.75 a		

<sup>a</sup> For each dependent measure, comparisons are within aggressiveness, respondent sex, or movie. Means not sharing a letter differ at  $P < 0.05$ .  $n = 178$ .

sympathy for victims than the ones who watched the nonviolent film. Moreover, the violent film viewers thought that the victims had been hurt more. While viewers of the nonviolent film blamed the victims more, watchers of the violent film blamed the aggressors more. Respondents who saw the nonviolent movie perceived aggressors with more sympathy, and evaluated the aggressors' behavior as more justified. Respondents who saw the violent movie perceived aggressors as having overreacted more.

### 3.4. Within-subjects effects

The results pertaining to the within-subjects effects are presented in the following sequence: first, findings for the disturbance dependent measure are presented. Then, the results for the dependent measures related to the victims are reported, followed by the results for the perceptions of the aggressors. Due to space constraints, only results for the highest-order interactions found are presented and discussed.

#### 3.4.1. Disturbance

The univariate tests of the within-subjects effects yielded significant results for the scenario main effect and the scenario by aggressiveness interaction effect (Table 1). The means associated with both the main and the interaction effect are presented in Table 3. As can be seen, the Borrowed-car (BC) scenario is perceived as less disturbing than the Credit-fight (CF) and the Exam struggle (ES) scenarios which, in turn, are regarded as less disturbing than the Abusive-husband (AB)



Table 3

Mean scores for perceptions of interpersonal conflict as a function of scenario or of sex and scenario<sup>a</sup>

Perceptions of	Participant Sex	Scenario			
		Borrowed car	Credit fight	Exam struggle	Abusive husband
Disturbance		2.46 a	3.10 b	3.01 b	3.49 c
<i>Victim</i>					
Sympathy-for-victim		1.90 a	2.68 b	2.94 c	3.43 d
Victim's-hurting		2.85 a	3.26 c	3.10 b	3.67 d
Victim's-suffering		2.79 a	3.13 b	2.99 b	3.56 c
Victim's-blame		2.80 c	2.48 b	1.39 a	1.21 a
Sex×Scenario interaction for victim's blame	Male	2.93 e	2.68 de	1.38 b	1.44 b
	Female	2.59 d	2.24 c	1.38 b	0.84 a
<i>Aggressor</i>					
Sympathy-for-aggressor		1.87 c	1.74 c	1.20 b	0.65 a
Aggressor's-blame		2.17 a	2.87 b	3.19 c	3.41 d
Justification-of-aggressor's-behavior		1.47 c	0.92 b	0.61 a	0.52 a
Overreaction		2.72 a	3.29 b	3.50 c	3.60 c
Sex×Scenario interaction for over reaction	Male	2.43 a	3.24 bc	3.38 c	3.46 cd
	Female	3.07 b	3.37 c	3.67 de	3.78 e

<sup>a</sup> For each dependent measure, comparisons are across the four levels of scenario (horizontal). Means not sharing a letter differ at  $P < 0.05$ .  $n = 178$ .

scenario. Furthermore, the means pertaining to the scenario by aggressiveness effect (Table 4) reveal a convergent interaction. Specifically, the pattern of the means across the scenarios is the same as that for the scenario main effect with the exception that HTA individuals report significantly less disturbance than LTA individuals. The difference between the two levels of aggressiveness is greatest for the BC scenario and smallest for the AB scenario.

#### 3.4.2. *Sympathy-for-victim*

This measure produced a significant scenario main effect only (Table 1). The respective means (Table 3) indicate that all four scenarios yield significantly different ratings of sympathy for the victim.

#### 3.4.3. *Victims'-hurting*

Solely the scenario main effect was significant (Table 1). The corresponding means (Table 3) show that all four scenarios give rise to significantly different ratings for the victims'-hurting measure.

#### 3.4.4. *Victims'-suffering*

Univariate tests revealed a significant scenario main effect and significant scenario-by-movie and scenario by sex by movie interactions (Table 1). The means associated with the scenario main effect (Table 3) show that the ratings of victims'-suffering for the BC scenario are significantly less than those for the CF and ES scenarios, which in turn are less than the rating given for the victim in the AB scenario. Table 5, exhibiting the means for the scenario by sex by movie interaction,

Table 4

Mean scores for perception of interpersonal conflict as a function of aggressiveness and scenario<sup>a</sup>

Perceptions of	Aggressiveness	Scenario			
		Borrowed car	Credit fight	Exam struggle	Abusive husband
Disturbance	Low	2.80 b	3.34 c	3.23 c	3.64 d
	High	2.17 a	2.94 b	2.82 b	3.42 c
Aggressor's-blame	Low	2.48 b	3.04 c	3.22 c	3.55 d
	High	1.85 a	2.73 b	3.12 c	3.31 cd

<sup>a</sup> For each dependent measure, comparisons are computed for the eight means resulting from the cross-tabulation of aggressiveness and scenario. Means not sharing a letter differ at  $P < 0.05$ .  $n = 178$ .

Table 5

Mean scores for perceptions of interpersonal conflict as a function of participant sex, movie, and scenario<sup>a</sup>

Perceptions of	Participant Sex	Scenario			
		Borrowed car	Credit fight	Exam struggle	Abusive husband
Movie					
<i>Victim's-suffering</i>					
Nonviolent	Male	2.64 a	3.06 abcd	2.89 abcd	3.34 defg
Nonviolent	Female	3.03 abcd	3.16 bcdef	2.72 ab	3.68 gh
Violent	Male	2.62 a	3.20 cdef	2.83 abc	3.57 fgh
Violent	Female	2.96 abcd	3.14 bcd	3.54 efgh	3.77 h
<i>Victim's-blame</i>					
Nonviolent	Male	3.06 e	2.74 de	1.68 b	1.77 b
Nonviolent	Female	2.56 cde	2.38 cd	2.09 bc	1.07 a
Violent	Male	2.80 de	2.61 cde	1.09 a	1.12 a
Violent	Female	2.63 cde	2.09 bc	0.67 a	0.61 a

<sup>a</sup> For each dependent measure, comparisons are computed for the sixteen means resulting from the cross-tabulation of movie, sex, and scenario. Means not sharing a letter differ at  $P < 0.05$ .  $n = 178$ .

reveals that the interaction stems from an elevated perception of the victim's suffering in the ES scenario by females who saw Force.

### 3.4.5. *Victims'-blame*

The following effects were identified as being significant: scenario main effect and scenario by sex, scenario by movie, and scenario by sex by movie interactions (Table 1). Table 3 shows the means for the scenario main effect. Reversing the pattern of the other dependent variables, respondents blame the victim in the BC significantly more than the one in the CF, which in turn is blamed more than the victims in both the ES and AB scenarios. The means for the scenario by sex interaction are displayed in Table 3 (means for the scenario by movie interaction are omitted). The means for the scenario by sex by movie interaction (Table 5) show that both females and males blame the victims in the unprovoked scenarios significantly less than the victims in the provoked scenarios. No difference emerged for the ES scenario between females and males who

saw the nonviolent movie, and between females and males who watched the violent movie, respectively. However, significant differences emerged between males who watched either the nonviolent or violent movie, and between females who saw either film, respectively. Moreover, females who watched the violent movie blame the victim in the AB scenario significantly less than males who saw the nonviolent film.

#### 3.4.6. *Sympathy-for-aggressor*

A significant scenario main effect was found (Table 1). The corresponding means (Table 3) reveal that the ratings of sympathy for the aggressors in both the BC and CF scenarios are significantly greater than the rating for the perpetrator in the ES scenario, which in turn is greater than the sympathy rating in the AB scenario.

#### 3.4.7. *Overreaction*

A significant scenario main effect and scenario by sex interaction effect emerged (Table 1). For the scenario main effect (Table 3), the mean for the BC scenario is significantly less than the mean for the CF scenario, which in turn is significantly less than both the means for the unprovoked scenarios (i.e. ES and AB). Table 3 also displays the means for the scenario by sex interaction. It shows that females tend to perceive greater overreaction on part of the aggressors than males, with the exception of the CF scenario where female and male perceptions are equal. Moreover, both females and males perceive the aggressors in the provoked scenarios (i.e. BC and CF) as having overreacted less than the ones in the unprovoked scenarios.

#### 3.4.8. *Aggressors'-blame*

Tests yielded a significant scenario main effect and significant scenario by aggressiveness interaction effect (Table 1). The means for the scenario main effect (Table 3) show that all four scenarios yield significantly different ratings of aggressor's blame. The means for the scenario by aggressiveness interaction (see Table 4) reveal that the interaction results from HTA individuals blaming the aggressors in the provoked scenarios (i.e. BC and CF) significantly less than the perpetrators in the unprovoked scenarios (i.e. ES and AB). No differences emerge between LTA and HTA respondents for the unprovoked scenarios.

#### 3.4.9. *Justification-of-aggressors'-behavior*

Solely the scenario main effect was significant (Table 1). Table 3 shows the corresponding means. The mean for the BC scenario is significantly less than the mean for the CF scenario, which in turn is significantly less than both the means for the unprovoked scenarios (i.e. ES and AB).

## 4. Discussion

In short, the findings show that respondents' sex and aggressive dispositions moderate the impact of violent and nonviolent media fare on subsequent perceptions of violent, interpersonal conflicts. Moreover, respondents' perceptions of the individuals depicted in such conflicts seem to depend on situational factors that pertain to the stimulus materials (i.e. characteristics of the scenarios).

Consistent with the first set of hypotheses and findings in the literature (e.g. Bushman, 1995, 1996; Zillmann & Weaver, 1997), high trait-aggressiveness individuals generally displayed more callous and hostile tendencies than low trait-aggressiveness individuals in their perceptions of violent, interpersonal incidents.

The data lend some support to the second set of hypotheses: an interaction effect between sex and trait-aggressiveness emerged for the dependent measures of aggressor's overreaction and justification thereof. While significant differences appear between high trait-aggressiveness males and females, no significant differences between low trait-aggressiveness males and females emerge for the two measures (Hypothesis 2a). In particular, males evidencing high trait-aggressiveness are found to express the most callous and hostile tendencies (i.e. perceive the aggressors as having overreacted less and more justified in their behaviors) of all respondents (Hypothesis 2b). These findings tie in with results from earlier research pertaining to trait-aggressiveness that established a positive link between psychoticism and aggression. Lynn, Hampson and Agahi (1989), for instance, reported a causal relationship between the amount of violence viewed and subsequent aggression only among individuals who are high-psychoticism genotypes. These individuals seem to be predisposed to adopting violent media characters as role models. Similarly, Zillmann and Weaver (1997) concluded from their research that males high on psychoticism are affected by exposure to gratuitous violence to the extent that it fostered greater acceptance of violence as a means of conflict resolution. The question remains, however, of why sex-by-trait-aggressiveness interaction effects emerge only in circumstances focusing on the aggressors' overreactive behavior and justification thereof.

One explanation might lie in the fact that high trait-aggressiveness individuals maintain a unique perspective on some aspects of the aggressors' actual behavior. On one side, they might differ in the processes involved in encoding violent stimuli. It seems conceivable that individuals who perceive themselves as "aggressive" possess very particular cognitive schemes with which they process violent cues (Taylor & Crocker, 1981). Consequently, high trait-aggressiveness males may be more perceptive of cues that seem to justify violence, while being less perceptive of cues that indicate overreactive behavior. On the other side, high trait-aggressiveness individuals may conclude that the aggressors had actually not overreacted or that hostile and violent behaviors are "normal" and justified reactions to interpersonal conflict. In other words, individuals who evidence high trait-aggressiveness — possibly as the result of a more extensive cognitive-associative network pertaining to aggression (Berkowitz, 1984, 1990; Bushman, 1996; Jo & Berkowitz, 1994) — may be more accustomed to aggressive thoughts and actions.

A further issue emerging from this account centers on the question of "how much" violence is necessary to activate aggression-related concepts in respondents. One answer to this comes from findings by Zillmann and Weaver (1997). Their results show that prolonged exposure to movies featuring gratuitous violence over four days has a significant impact on respondents, particularly on males high on psychoticism. Alternatively, the data of this study indicates that prolonged exposure might not be necessary in order to activate aggression-related concepts in respondents; short-term exposure (and the accumulation thereof) might work as well (cf. Anderson, 1997). It should be noted, however, that there is a major difference between the work of Zillmann and Weaver and the present study. While the former assessed the impact of exposure to gratuitous violence within a delayed-measurement paradigm, the present study measured the impact of the movie instantly after exposure to it.

Another intriguing question concerns the observed interaction effects between participant sex and trait-aggressiveness. Specifically, the data at hand revealed that only high trait-aggressiveness males, but not their female counterparts, reported callous reactions to the scenarios of interpersonal conflict. Considerations of traditional gender role prescriptions offer a possible explanation. That is, because female gender-roles project nonviolent forms of behaviors as socially desirable (cf. Eron, 1980; White, 1983), females may have experienced inhibitions that impacted their responses. In the future, however, we speculate that society will become more tolerant toward violent behavior exhibited by females and the sex differences observed in this study will not be replicable. Such a trend becomes rather evident from recent media fare portraying more and more female heroines that employ aggression to resolve interpersonal conflicts. For instance, a current top-rated syndicated TV show in the United States — “Xena: Warrior Princess”—depicts a very violent female protagonist (Zuritsky, 1997; also see contemporary movies such as “Natural Born Killers,” the TV show “La Femme Nikita,” and computer games such as “Mortal Combat,” or “Tomb Raider,” all starring violent female role-models). In fact, many of these new fictional female “role models” behave in violent ways that were previously thought of as being the exclusive province of males. To this effect, future research should explore the impact of stimuli involving violent female protagonists on the thoughts and actions of both female and male consumers.

The data at hand led to the rejection of the third hypothesis, which had stated that exposure to a violent movie (“Excessive Force”) would have a negative impact on respondents’ subsequent judgments. Instead, in this study it was participants exposed to the nonviolent movie (“Postcards from the Edge”) who expressed the most callous and hostile reactions to the scenarios of interpersonal conflict. Berkowitz’s cognitive-neoassociationistic theory (1984, 1990; Jo & Berkowitz, 1994) is employed to account for this discrepancy. The theory contends that exposure to violent cues — e.g. watching a violent movie — increases the likelihood that other concepts associated with aggression will be activated in individuals. However, the stimuli in this study strongly emphasize the grave consequences of violence for victims (e.g. bruises, scars, fractures). Hence, there seems to be an overall tendency in respondents to exhibit aggression-related concepts that favor victims and, in turn, disfavor aggressors.

An interesting phenomenon emerges in context with the four written scenarios: they allow for very specific accounts about which conditions might facilitate the activation and expression of callous and hostile tendencies. We argue that respondents’ perceptions of victims and aggressors are influenced by situational factors. The following example illustrates this phenomenon. Generally, victims are perceived as being more worthy of sympathy the more they are suffering from the actions of the aggressors. However, this seems to be contingent on whether the victims violated any explicit agreements that had been made earlier with the persons subsequently turned aggressors. In fact, the data support a classification of the four scenarios into two groups: in the scenarios-involving-provocation group, encompassing the BC and CF scenarios, the victims break an explicit agreement (i.e. although they are not supposed to, Jim takes Carl’s car, and Sarah misuses Matt’s credit card). In the scenarios-involving-no-provocation groups, encompassing the ES and AB scenarios, the victims do not break any agreement (i.e. Karen has to suffer for John’s incompetence, and Julie for Darryl’s jealousy). The proposed classification is consistent even when moderating factors such as sex differences are considered. For example, both females and males blame the victims in the scenarios-involving-provocation groups more than in the scenarios-involving-no-provocation groups.

Finally, several caveats must be recognized. Probably the foremost limitation lies in various shortcomings of the stimulus materials. For instance, there is a lack of violent female role models in the movies shown to the respondents, and the involved parties in the scenarios are not balanced with regard to their genders. Furthermore, the scenarios are biased in that they strongly emphasize the grave consequences of violence for victims. In addition, the scenarios lack coherence regarding the amount and type of violence exerted upon the victims. Future investigations might consider to better control for the type and severeness of violence incorporated in the stimulus materials.

However, the ultimate question in this study seems to be the one of how much violence is needed in order to activate aggression-related concepts in respondents? The data of this study indicate that a single exposure to violent media fare impacts respondents' perceptions of aggressors and victims. This finding holds true especially for high-aggressiveness males. This group is least disturbed by the violent incidents in the stimulus materials, expresses the least concerns for the victims, and yet is most sympathetic toward the aggressors.

In sum, the data at hand highlight: (1) the importance of including individual difference variables (i.e. aggressive dispositions) in media aggression research; (2) the impact of short-term exposure to violent media fare; (3) the impact of situational factors on respondents' perceptions of interpersonal conflicts; and (4) the necessity to closer scrutinize females' reactions to media depictions of violence in future research.

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