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RESEARCH SYNTHESIS ESSAY

Enjoyment of Mediated Fright and Violence: A Meta-Analysis

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In this meta-analysis, we synthesized data from published journal articles that investigated viewers' enjoyment of fright and violence. Given the limited research on this topic, this analysis was primarily a way of summarizing the current state of knowledge and developing directions for future research. The studies selected (a) examined frightening or violent media content; (b) used self-report measures of enjoyment or preference for such content (the dependent variable); and (c) included independent variables that were given theoretical consideration in the literature. The independent variables examined were negative affect and arousal during viewing, empathy, sensation seeking, aggressiveness, and the respondents' gender and age. The analysis confirmed that male viewers, individuals lower in empathy, and those higher in sensation seeking and aggressiveness reported more enjoyment of fright and violence. Some support emerged for Zillmann's (1980, 1996) model of suspense enjoyment. Overall, the results demonstrate the importance of considering how viewers interpret or appraise their reactions to fright and violence. However, the studies were so diverse in design and measurement methods that it was difficult to identify the underlying processes. Suggestions are proposed for future research that will move toward the integration of separate lines of inquiry in a unified approach to understanding entertainment.

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Fright and violence have been featured in film and television since the early days of these media. For example, *The Cabinet of Dr. Caligari* (Pommer & Wiene, 1919) is viewed as a classic of cinematic horror, and the television series *Alfred Hitchcock Presents* (Hitchcock, 1955–1962) focused on "stories of terror, horror, suspense" (Brooks & Marsh, 1988, p. 24). Researchers have long been interested in why people apparently enjoy entertainment that features actual or threatened victimization of others. In this meta-analysis, we examined some of the reasons people enjoy this type of media content. Specifically, any media offerings described as frightening, horrifying, or violent were considered. Violent media generally depict characters being attacked or physically injured by others. Scary media and horror often feature violence as well but are designed to frighten or terrify audiences. Horror also typically involves supernatural or unnatural elements (Sapolsky & Molitor, 1996; Sparks & Sparks, 2000; Tamborini & Weaver, 1996). Although these types of content can be conceptually differentiated, they share key elements, most notably the depiction of actual or threatened physical harm to media characters, typically at the hand of external forces (e.g., other characters, natural disasters, supernatural events). Throughout this article, these different types of content are treated similarly, except when their unique characteristics become relevant to the discussion (cf. Sparks & Sparks, 2000).

Several traditional reviews have addressed the enjoyment of fright and violence. Although some reviews have considered a range of explanations for enjoyment (e.g., Cantor, 1998; Sparks & Sparks, 2000; Tamborini, 1991; Wober, 1988), many have focused on specific issues. For example, on the basis of his excitation-transfer paradigm, Zillmann (1980, 1996) developed a theory of suspense enjoyment, with *suspense* defined as audience members' "acute, fearful apprehension about deplorable events that threaten liked protagonists" (Zillmann, 1996, p. 208). In a recent book on horror films, several chapters were devoted to factors that affect the enjoyment of horror, notably sensation seeking and arousal needs (Lawrence & Palmgreen, 1996; Zuckerman, 1996), empathic responses to characters (Tamborini, 1996), and gender-role socialization (Zillmann & Weaver, 1996). Both Gunter (1994) and Fenigstein and Heyduk (1985) considered whether aggressive tendencies make violence more appealing.

As evidenced by the topics of these reviews, recent research and theorizing in mass communication has emphasized the need to consider individual differences in understanding responses to fright and violence. Another research approach has investigated the role of content factors in enjoyment, such as the presence of destruction or genderual imagery, the characteristics of victims, and the resolution of the storyline. However, a search of the literature revealed very little commonality across studies in terms of the content factors examined or how they were operationalized, which made a meta-analysis of these factors untenable. Thus, in this meta-analysis, we focused on the role of individual differences in the enjoyment of fright and violence. Specifically, the studies selected for the meta-analysis

(a) examined frightening or violent media content, (b) used self-report measures of enjoyment or preference for such content (the dependent variable), and (c) examined independent variables that had been given theoretical consideration in the literature and that were examined often enough in research to permit their inclusion in a meta-analysis. The independent variables included were negative affect and arousal during viewing, empathy, sensation seeking, aggressiveness, and the respondents' sex and age.

A review of the theoretical issues and research trends in each topic area is presented next. Many explanations for the enjoyment of fright and violence were derived from other fields of study (e.g., psychology) and were based on relatively little data pertaining to the mass media context. Although the research base is not extensive, it was deemed sufficient to justify a meta-analysis (e.g., Dillard & Spitzberg, 1984; Segrin, 1990). Hale and Dillard (1991) contended that when the number of available studies is not large, "meta-analysis is most useful *not* as a mechanism for determining the final word in an area of research, but rather as a means of taking stock and providing directions for future research" (p. 465). Thus, the goals of this project were to synthesize the existing data and provide guidelines for future research.

EMOTIONAL RESPONSES DURING VIEWING: NEGATIVE AFFECT AND AROUSAL

A common element in horror films and other genres that feature threatening situations or events is suspense, which arouses fear in audience members about potentially disturbing outcomes (e.g., Mikos, 1996). One explanation for why people enjoy such presentations relies on the conversion of negative affect to euphoria following a satisfying resolution to a threat. According to Zillmann (1996), suspenseful drama, in which liked characters experience or are threatened with victimization, arouses dysphoric emotional reactions or empathic distress. On the basis of his excitation-transfer theory, he argued that enjoyment of suspenseful drama is a function of both the level of negative emotional response produced during the program (characterized by subjective fear or distress and physiological arousal), and the viewer's affective reaction to the resolution. He contended that individuals cannot or do not perceive differences in the physiological arousal produced by different sources. Consequently, arousal from suspenseful scenes should carry over and intensify the viewer's positive response to a satisfying resolution, thus producing a rewarding, enjoyable emotional experience. Conversely, if the resolution is unhappy and produces sadness or disappointment, residual arousal from suspense should intensify viewers' dysphoria.

Few published studies have investigated the extent to which negative affective responses during viewing enhance the enjoyment of media presentations. Zillmann,

Hay, and Bryant (1975) showed children an animated adventure program that varied in level of suspense. They found that physiological arousal, facial expressions of both fearfulness and positive affect, and liking for the program increased as the degree of suspense increased, especially when the threat was successfully overcome. However, the study did not directly examine the relation between fear or arousal and liking for the program. More recent studies reported evidence that more negative affect is associated with greater enjoyment (Hoffner & Cantor, 1991a; Sparks, 1991; Zillmann, Weaver, Mundorf, & Aust, 1986), but this pattern occurred regardless of whether the threat was successfully resolved within the program.

Zillmann's (1996) model of suspense cannot easily account for the enjoyment of scary programs that do not end happily. Many current horror films show sympathetic characters undergoing severe trauma and dying in brutal, terrifying ways. Zillmann contended that "removal of the threat that produced empathic distress may be regarded [as] a minimal stimulus condition for the cognitive switch from dysphoria to euphoria" (p. 226). Thus, residual arousal can enhance enjoyment as long as viewers positively appraise their responses to the ending, even the simple termination of a threat (Tamborini, 1991). Other research has suggested that people like frightening films because they feature destruction or provide thrills, excitement, and unpredictability (Sparks, 1986; Tamborini & Stiff, 1987; Tamborini, Stiff, & Zillmann, 1987). It is also possible that some program elements that produce negative emotions elicit interest or enjoyment as well. In this meta-analysis, we examined whether negative affect and arousal during viewing were positively related to the enjoyment of programs featuring violence and fright.

PERSONALITY CHARACTERISTICS

Empathy

Many researchers have argued that empathy with characters' experiences is an important mediator of viewers' emotional responses to television and films (e.g., Oliver, 1993b; Tamborini, 1996). Empathy has been described broadly as an individual's reaction to the observed experiences of another person (Davis, 1994), but there has been much debate about the boundaries of this concept. However, there is a growing consensus that dispositional empathy is best conceptualized as a multidimensional construct that includes both cognitive and affective components (e.g., Davis, 1994; Stiff, Dillard, Somera, Kim, & Sleight, 1988). Perspective-taking, or sharing the viewpoint of another person, is the most often examined cognitive component of empathy. Affective components of empathy include sympathy or concern for another's welfare and the sharing of witnessed negative affect, although the definitions of specific components differ (e.g., Davis, 1994; Eisenberg & Fabes, 1990; Stiff et al., 1988).

Tamborini (1996) proposed a model of how individual differences in empathy are related to people's emotional responses to horror, although his model is relevant to any media presentation in which characters are threatened or victimized. He contended that cognitive components of empathy precede affective components, which directly impact on viewers' emotional reactions. The more the viewers tend to emotionally respond to or share the responses of others, the more negative affect they should experience while viewing horrifying presentations. Tamborini speculated that viewers who are highly empathic should dislike horror films as a result of their strong negative reactions to the pain and suffering of others.

Tamborini's (1996) proposed relation between empathy and enjoyment initially appears inconsistent with Zillmann's (1996) model, which contends that empathic distress should facilitate the liking of horror, at least after a satisfying resolution. In fact, Tamborini, Stiff, and Heidel (1990) argued that empathic distress should not readily intensify the enjoyment of horror, although enjoyment may be enhanced by arousal from other sources in a film. Two points can help to clarify this issue. First, as noted previously, many recent horror movies conclude with scenes of further terror and victimization. As long as viewers do not consider such conclusions satisfying, both models would predict that greater empathic response should be associated with less enjoyment. Second, perhaps what Zillmann referred to as empathic distress contributes to the enjoyment of successfully resolved horror for people who do not identify deeply with the suffering of victims. However, viewers who appraise their reaction to violence as intensely dysphoric may have difficulty shifting to a positive state following a successful resolution. This type of response seems likely for individuals who experience high levels of empathy, especially what Davis (1994) referred to as personal distress. Zillmann et al. (1986) advanced a similar rationale to account for the fact that distress did not enhance the enjoyment of horror among women in their study, despite a satisfying resolution. In this meta-analysis, we examined whether empathy was negatively related to enjoyment of violence and fright.

Sensation Seeking

Sensation seeking is another personal characteristic that is believed to contribute to viewers' enjoyment of violence and fright. Zuckerman (1994) defined sensation seeking as a trait characterized by "the seeking of varied, novel, complex, and intense sensations and experiences, and the willingness to take physical, social, legal, and financial risks for the sake of such experience" (p. 27).

In Zuckerman's (1979) original conceptualization, sensation seeking was viewed as related to an individual's optimal level of arousal, with high sensation seekers feeling better at higher than at lower levels of stimulation and arousal. From this perspective, high sensation seekers enjoy stimuli that elicit negative

emotions, such as fear, because the intensity of these emotions helps them reach their optimal level of arousal. However, more recent evidence suggests that arousal in brain structures associated with positive affect provides rewards to high sensation seekers (Zuckerman, 1996). Zuckerman (1996) reconciled their taste for stimuli that induce fear and shock by suggesting that high sensation seekers may interpret the experience of these emotions positively, whereas low sensation seekers regard them as unpleasant. Moreover, high sensation seekers may also be less likely to imagine themselves as personally vulnerable to threats depicted in horror and violent media (Franken, Gibson, & Rowland, 1992). This may enable them to better enjoy such presentations as a form of entertainment.

Zuckerman and Litle (1986) found that sensation seeking was positively related to frequency of attendance at horror films, but the enjoyment of such content was not assessed. Two studies reported in book chapters (Edwards, 1991; Lawrence & Palmgreen, 1996) found strong evidence that sensation seeking and need for arousal are associated with a preference for horror. Although the importance of sensation seeking in comparison to other predictors of enjoyment has been questioned, there may be methodological reasons that sensation seeking has not been a stronger predictor in some studies (see Lawrence & Palmgreen, 1996; Zuckerman, 1996). In this meta-analysis, we examined the evidence for a positive correlation between sensation seeking and the enjoyment of fright and violence.

Aggressiveness

It is often suggested that aggressive individuals are attracted to entertainment that features violence and brutality. The long line of research on televised violence has been primarily concerned with how viewers are affected by exposure to violent portrayals. However, early on, researchers also recognized that a correlation between viewing violence and aggressiveness might reflect not only the effects of violence but also selective exposure, with more aggressive individuals choosing more violent media. Numerous surveys in the 1970s found that more aggressive children watched more violent television, although the causal direction of the relation was difficult to establish in correlational research (Fenigstein & Heyduk, 1985; Gunter, 1983; Wober, 1988). However, longitudinal studies with panel designs have provided evidence for selective exposure to violence by more aggressive children (e.g., Atkin, Greenberg, Korzenny, & McDermott, 1979; Huesmann, Lagerspetz, & Eron, 1984).

Fenigstein and Heyduk (1985) contended that individuals who are preoccupied with aggressive thoughts and fantasies are more interested in viewing violence performed by others. The processes that may lead aggressive individuals to enjoy such content have received little research attention. According to Atkin (1985), "some persons with aggressive attitudes and behavior patterns … may exalt in viewing content glorifying the acts that they commit, or they may feel satisfaction when

characters express the sentiments that they value" (p. 76). In addition, aggressive individuals may like violent content because it enables them to justify their own behavior and feel less guilt about their actions (Atkin, 1985). In this meta-analysis, we examined the evidence that aggressiveness is associated with greater enjoyment of fright and violence.

DEMOGRAPHIC CHARACTERISTICS

Gender Differences

Numerous studies have noted that, compared to female viewers, male viewers tend to view more violent television, attend horror films more frequently, and report that they enjoy such presentations more. This pattern may derive from gender-role socialization of behavior and affect expression (Cantor, 1998; Oliver, 2000; Zillmann & Weaver, 1996). According to Fenigstein and Heyduk (1985), men are more likely than women to behave aggressively and to have aggressive fantasies, due in part to the process of socialization. Cantor argued that boys might be attracted to violence because they learn that such behavior is typically masculine and distinguishes them from girls.

Zillmann and Weaver (1996) developed a gender socialization theory to explain gender differences in the appeal of horror films. Research suggests that boys are socialized to avoid the outward expression of fear and distress and may experience social disapproval for doing so, whereas girls are permitted or even encouraged to express these emotions (e.g., Saarni, 1989; Zaslow & Hayes, 1986). Zillmann and Weaver contended that in today's society, there are few circumstances where youth can develop and demonstrate mastery of gender-appropriate emotional behaviors. They suggested that horror films provide such a context for adolescents, in which boys can "prove to their peers, and ultimately to themselves, that they are unperturbed, calm, and collected in the face of terror," and girls can "demonstrate their sensitivity by being appropriately disturbed, dismayed, and disgusted" (p. 83). In part, then, gender differences in the enjoyment of horror may reflect the internalization of social expectations for male viewers and female viewers. This view suggests that gender differences in the enjoyment of fright and violence may increase from childhood through adolescence.

An interesting pattern of findings related to gender differences was first reported by Zillmann et al. (1986). Consistent with Zillmann's (1996) model of suspense enjoyment, the study found a positive association between distress and the enjoyment of horror among male viewers. However, no such relation was observed among female viewers. As noted earlier, the authors speculated that women who were intensely distressed by the horror film may have had difficulty reappraising their arousal as positive, despite an apparently successful outcome. In this meta-

analysis, we examined the evidence that male viewers enjoy fright and violence more than female viewers. In addition, in this study, we assessed whether negative affect and arousal enhanced enjoyment to a greater extent for male viewers than for female viewers.

Age Differences

Researchers have considered whether the enjoyment of violence and frightening media changes developmentally (Cantor, 1998). The literature on emotional development, especially in the area of emotion regulation, suggests that the ability to enjoy fear-arousing experiences develops with age. Campos and Barrett (1984) argued that the development of coping skills "can help children transform negative emotions into pleasurable feelings of efficacy" (p. 251). It may be that adolescents can enjoy the experience of viewing fright and violence because they have better resources for coping with negative affect and can, therefore, feel satisfied with their ability to withstand vicarious terrors. In addition, there is some evidence that the cognitive switch from fear to happiness may not occur as readily among children as it does among older individuals (Barden, Garber, Leiman, Ford, & Masters, 1985; Hoffner & Cantor, 1990).

Twitchell (1989) argued that interest in violent media peaks during adolescence, when teens, especially male adolescents, are struggling to deal with aggressive impulses (Cantor, 1998). If this is true, a curvilinear relationship should exist between age and liking for violence and fright, with an increase during childhood, a peak in adolescence, and a decline thereafter. However, Cantor contended that interest in violence at different ages varies by program genre, with certain types of child-oriented violence (e.g., action cartoons) appealing especially to younger children. She argued that children (particularly boys) in preschool and early elementary school enjoy such fare because they too are experiencing changes in their impulses and physical capabilities. In this meta-analysis, we sought to determine whether there was a curvilinear relation between age and the enjoyment of violence and fright (as described previously) and whether this pattern differed for child-oriented programs.

METHOD

We collected the literature by searching four computer databases that index research in communication and psychology (ComAbstracts, PsycINFO, Social Science Index, and Sociological Abstracts). In an effort to identify all relevant articles, the search process used multiple search terms related to three basic concepts: media type (*film, mass media, motion picture, television, TV*), frightening or violent content (*fright, frightening, horror, scary, violence, violent*), and enjoyment or

positive affective response (*affect, appeal, enjoy, enjoyment, entertainment, like, liking*). All of the abstracts were reviewed, and any articles that appeared relevant were obtained and examined. We identified additional articles by examining the references of all of the selected articles and the references in relevant books, book chapters, and review articles. The meta-analysis included only studies that were published in scholarly journals in 2002 or earlier.

Selection of Studies

To be included in the meta-analysis, a study needed to meet several requirements. First, the study had to examine frightening or violent entertainment and be written in English. Reality-based messages such as news and sports were excluded.[1] The content examined in each study was classified as (a) scary media, (b) horror, or (c) violent media. The classifications were made on the basis of the labels used and the descriptions of the media content in the studies.

Second, a self-report measure of enjoyment or preference for fright or violence had to be used as a dependent variable. Three primary types of dependent measures were evident in the research: (a) enjoyment of or liking for a genre of programming (e.g., horror films, violent content); (b) enjoyment of or liking for a specific program, usually viewed in a laboratory setting; and (c) an expressed preference for viewing programs or films (e.g., on the basis of film synopses). Measures of exposure (e.g., amount of violent television viewing) were not examined.[2]

Third, the study had to include at least one of the independent variables of interest. These variables were selected because of theoretical interest and because they were examined most often in the published literature (in at least four studies with useable data for the meta-analysis). The independent variables were negative affect and arousal during viewing, empathy, sensation seeking, aggressiveness, and gender and age of respondent.[3]

Fourth, sufficient information to compute an effect size had to be provided in the study or be available from the authors.[4]

The literature search found 47 journal articles that included both independent and dependent variables of interest. Of these, 11 articles were excluded because effect sizes could not be computed from the available data or the effects associated with the specific variables of interest were not reported and could not be obtained from the authors (Berry, Gray, & Donnerstein, 1999; Blanchard, Graczyk, & Blanchard, 1986; Botha & van Vuuren, 1993; Diener & Woody, 1981; Hansen & Hansen, 1990; King, 2000; Mundorf, Weaver, & Zillmann, 1989; Weiss, Imrich, & Wilson, 1993; Wober, 1997; Zillmann et al., 1975; Zillmann & Mundorf, 1987). Another study (Wilson, Hoffner, & Cantor, 1987, Study 1) was excluded due to problems with the data from young children. Finally, one article (Lynn, Hampson, & Agahi, 1989) was excluded due to its unusually large sample size of 2093.[5] Hunter, Schmidt, and Jackson (1982) indicated that this is one way to avoid skew-

ing the meta-analysis results toward the findings of one large-sample study. Thus, this meta-analysis was based on data from 35 journal articles (reporting 38 different studies).

Analysis

To compute a meta-analysis, the results of all studies need to be converted into a common effect-size metric. The correlation coefficient was chosen for this study because it is widely used and easily interpreted. If data were reported in some other format (e.g., *t* test), techniques described in Hunter and Schmidt (1990) were used to convert the effects into their correlational equivalent. Because many studies used either single-item measures or did not report reliabilities, correlations were not corrected for measurement error in the meta-analysis.

When a study included multiple measures of the same variable with the same mode of operationalization (e.g., respondents rated their enjoyment of two specific films), correlations involving those measures were combined (cf. Allen, Emmers, Gebhardt, & Giery, 1995; Segrin, 1990) using the *r*-to-*z* transformation (Corey & Dunlap, 1998).[6] However, three studies measured two different types of dependent variables (in all cases, enjoyment of a genre and enjoyment of a specific film). Each of these studies contributed separate correlations for the two types of dependent variables. When correlations were reported or could be computed only for separate subgroups (e.g., male viewers and female viewers), we computed the correlation for the total sample by combining the correlations for the subgroups (Hunter & Schmidt, 1990) using the *r*-to-*z* transformation.

The meta-analysis was conducted with procedures described by Hunter and Schmidt (1990). For each independent variable, the correlations were weighted by sample size, and a mean correlation and confidence interval were calculated. To determine the likelihood that moderator variables were present, the chi-square test for homogeneity of variance and the percentage of the variance attributable to sampling error were computed. A significant chi-square indicates real variation among sample correlations, which suggests the presence of a moderator variable, whereas a nonsignificant chi-square indicates that differences among correlations are probably due to sampling error. An alternative approach recommended by Hunter and Schmidt is the 75% rule, which says that if at least 75% of the variance among correlations is due to sampling error, it is likely that the remaining 25% is due to uncorrected artifacts, and thus, no moderator is present.

RESULTS

Table 1 lists the correlations and other descriptive information for each of the studies, and Table 2 presents the results of the initial meta-analysis for each independ-

TABLE 1
List of Effects for the Association of Each Independent Variable With Enjoyment

Independent Variable and Study	*Date*	*r*	*N*	*Dependent Variable*		
				Type[a]	*Content*[b]	*Age Level*[c]
Negative affect during viewing						
Hoffner and Cantor	1991a	.32	186	Enjoy program	Scary	7–11 years
Sparks	1991					
Study 1		.24	110	Enjoy program	Scary	Undergraduates
Study 2		.42	44	Enjoy program	Scary	Undergraduates
Zillmann, Weaver, Mundorf, and Aust	1986	.32	72	Enjoy program	Horror	Undergraduates
Arousal during viewing						
Hoffner and Cantor	1991a	.07	173	Enjoy program	Scary	7–11 years
Sparks, Study 2	1991	.42	44	Enjoy program	Scary	Undergraduates
Sparks and Spirek	1988	.00[d]	59	Enjoy program	Scary	Undergraduates
Tamborini, Stiff, and Heidel	1990	–.26	95	Enjoy program	Horror	18–22 years
Empathy						
Empathic concern						
Harris et al.	2000	–.05	233	Enjoy genre	Scary	Undergraduates (M age: 19.2)
Hoekstra, Harris, and Helmick, Study 2	1999	–.12	136	Enjoy genre	Scary	Undergraduates (*M* age = 20.1)
Hoffner	1995	–.08	228	Enjoy genre	Scary	Grades 9–10 (*M* age = 15.0)
Johnston	1995	–.40	220	Enjoy genre	Horror	13–16 years
Raney	2002	–.05	139	Enjoy program	Violent	Undergraduates
Tamborini et al.	1990	–.17	95	Enjoy program	Horror	18–22 years

(continued)

TABLE 1 *(Continued)*

Independent Variable and Study	*Date*	*r*	*N*	*Dependent Variable*		*Age Level*[c]
				Type[a]	*Content*[b]	
Personal distress						
Harris et al.	2000	–.09	233	Enjoy genre	Scary	Undergraduates (*M* age = 19.2)
Hoekstra et al., Study 2	1999	–.07	136	Enjoy genre	Scary	Undergraduates (M age: 20.1)
Hoffner	1995	–.25	228	Enjoy genre	Scary	Grades 9–10 (*M* age = 15.0)
Tamborini et al.	1990	–.22	95	Enjoy program	Horror	18–22 years
Sensation seeking						
Aluja-Fabregat and Torrubia-Beltri	1998	.25	470	Enjoy genre	Violent	Grade 8 (*M* age = 13.6)
Harris et al.	2000	.07	233	Enjoy genre	Scary	Undergraduates (*M* age = 19.2)
Hirschman	1987	.24	364	Enjoy genre	Horror	20% undergraduates and 80% nonstudents
Neuendorf and Sparks	1988	.16	121	Enjoy program	Horror	Undergraduates
Tamborini and Stiff	1987	.19	155	Enjoy genre	Horror	15–45 years
Tamborini, Stiff, and Zillmann	1987	.16	94	Preference	Horror	Undergraduates
Aggressiveness						
Bjorkvist and Lagerspetz	1985	.50	87	Enjoy program	Violent	5–9 years
Cantor and Nathanson	1997	.22	285	Enjoy genre	Violent	Parents of 5- to 10-year-olds
Diener and DeFour, Study 2	1978	–.05	54	Enjoy program	Violent	Undergraduates
Fenigstein	1979					
Study 1		.33	45	Preference	Violent	Undergraduates
Study 2		.50	64	Preference	Violent	Undergraduates
Haridakis	2002	.15	296	Enjoy genre	Violent	Undergraduates (*M* age = 20.5)
Langley, O'Neal, Craig, and Yost	1992	.55	20	Preference	Violent	Undergraduates
Walker and Morley	1991	.42	332	Enjoy genre	Violent	High school students (*M* age = 16.5)

Sex of respondent						
Aluja-Fabregat and Torrubia-Beltri	1998	–.38	470	Enjoy Genre	Violent	Grade 8 (*M* age = 13.6)
Apanovitch, Hobfoll, and Salovey	2002	–.21	188	Enjoyprogram	Violent	Undergraduates (*M* age = 19.4)
Bahk	2000	–.49	185	Preference	Violent	Undergraduates (*M* age = 21.1)
Bjorkvist and Lagerspetz	1985	.00[d]	87	Enjoy program	Violent	5–9 years
Cantor and Nathanson	1997	–.21	285	Enjoy genre	Violent	Parents of 5- to10-year-olds
Cantor and Reilly	1982	–.23	232	Enjoy genre	Scary	Grades 6 and 10
Cantor, Ziemke, and Sparks	1984	–.26	43	Enjoy genre	Scary	Undergraduates
		.00[d]	43	Enjoy program	Scary	
Fenigstein, Study 1	1979	–.56	87	Preference	Violent	Undergraduates
Haridakis	2002	–.01	296	Enjoy genre	Violent	Undergraduates (*M* age = 20.5)
Harris et al.	2000	–.19	233	Enjoy genre	Scary	Undergraduates (*M* age = 19.2)
Hoekstra et al.	1999					
Study 1		–.24	202	Enjoy genre	Horror	Undergraduates (*M* age = 19.0)
Study 2		–.09	136	Enjoy genre	Scary	Undergraduates (*M* age = 20.1)
Hoffner	1995	–.13	228	Enjoy genre	Scary	Grades 9–10 (*M* age = 15)
Hoffner and Cantor	1991a	–.08	186	Enjoy genre	Scary	5–11 years
		.02	186	Enjoy program	Scary	
Jablonski and Zillmann	1995	.00[d]	87	Enjoy program	Violent	Undergraduates
Johnston	1995	–.32	220	Enjoy genre	Horror	13–16 years
Koukounas and McCabe	2001	–.73	40	Enjoy program	Violent	University sample (*M* age = 26.4)
Neuendorf and Sparks	1988	–.20	121	Enjoy program	Horror	Undergraduates
Oliver	1993a	.04	96	Enjoy program	Horror	Grades 9–12 (*Mdn* age = 16)
Oliver	1994	–.21	189	Enjoy genre	Horror	17–27 years
		–.23	189	Enjoy program	Horror	
Sparks	1986	–.13	220	Enjoy genre	Scary	Undergraduates
Sparks	1991					
Study 1		–.28	110	Enjoy program	Horror	Undergraduates
Study 2		–.07	44	Enjoy program	Horror	Undergraduates

(continued)

TABLE 1 *(Continued)*

Independent Variable and Study	*Date*	*r*	*N*	*Dependent Variable*		
				Type[a]	*Content*[b]	*Age Level*[c]
Tamborini and Stiff	1987	–.12	155	Enjoy genre	Horror	15–45 years
Valkenburg and Janssen	1999	–.48	200	Enjoy genre	Violent	6–11 years
Wakshlag, Vial, and Tamborini	1983	–.33	84	Preference	Violent	Undergraduates
Zillmann et al.	1986	–.40	72	Enjoy program	Horror	Undergraduates
Age of respondent						
Bjorkvist and Lagerspetz	1985	.43	87	Enjoy program	Violent	5–9 years
Cantor and Nathanson	1997	–.22	285	Enjoy genre	Violent	Parents of 5- to10-year-olds
Cantor and Reilly	1982	.00[d]	232	Enjoy genre	Scary	Grades 6 and 10
Hoffner and Cantor	1991a	.27	186	Enjoy genre	Scary	7–11 years
		–.31	186	Enjoy program	Scary	
Koukounas and McCabe	2001	.28	40	Enjoy program	Violent	University sample (*M* age = 26.4)
Palmer, Hockett, and Dean	1983	.23	89	Enjoy genre	Scary	Grades 2 and 6
Tamborini and Stiff	1987	–.20	155	Enjoy genre	Horror	15–45 years
Valkenburg and Janssen	1999	–.01	200	Enjoy genre	Violent	6–11 years
Wilson, Hoffner, and Cantor, Study 2	1987	.05	115	Enjoy genre	Scary	4–11 years

[a]Three primary types of dependent variables were used in the sample of studies: (a) enjoy genre, or the enjoyment of or liking for a particular genre or type of programming; (b) enjoy program, or the enjoyment of or liking for a specific program or film; (c) preference, or the expressed preference for programs or films based on brief descriptions. [b]The studies examined three basic types of content: (a) scary media, (b) horror, and (c) violent media. [c]The age range of respondents is listed if this information was provided in the article. If no age information is listed, none was reported. [d]This was a nonsignificant finding; the actual effect size was not reported and was not available from the authors.

TABLE 2
Initial Meta-Analysis Results for the Association of Independent Variables With the Enjoyment of Fright and Violence

Independent Variable	*K*	*r*	*95% Confidence Interval*	*N*	χ^2	*Variance Attributable to Sampling Error (%)*
Responses during viewing						
Negative affect	4	.31	.22 to .40	412	1.33	100
Arousal	4	.02	–.18 to .21	371	14.78*	27
Empathy						
Empathic concern	6	–.15	–.26 to –.04	1051	19.51*	31
Personal distress	4	–.16	–.24 to –.08	692	4.62	87
Sensation seeking	6	.20	.15 to .25	1437	5.53	92
Aggressiveness	8	.29	.19 to .40	1183	32.20*	25
Sex of respondent	30	–.22	–.27 to –.16	4914	130.05*	23
Age of respondent	10	–.02	–.15 to .12	1575	74.73*	13

Note. Sex of respondent was coded as 0 (*male*) or 1 (*female*).
*$p < .001$.

ent variable. The initial meta-analyses were followed by a search for moderators if warranted by theoretical concerns or significant variation in correlations across samples. These results are reported in Table 3. The conclusions about significance were based on confidence intervals.

Negative Affect and Arousal During Viewing[7]

Negative affect during viewing was defined as the subjective experience of a negative emotional state, such as fear, anxiety, or distress, and was measured by self-reports in all studies. Consistent with Zillmann's (1996) model of suspense enjoyment, there was a significant positive correlation between enjoyment and negative affect during viewing. As Table 2 shows, correlations across the studies were homogeneous. The type of conclusion presented in the programs ranged from the defeat of the antagonist to an ongoing pursuit, but there was no indication that this factor played a role.

When male viewers and female viewers were considered separately, the correlation with negative affect was significantly stronger for male viewers than for female viewers. However, negative affect was associated with greater enjoyment for both groups. Again, the subsamples themselves were homogeneous.

Arousal during viewing was measured by various physiological measures, including skin conductance, skin temperature, and heart rate, with all data coded so that higher scores reflect more arousal. There was no support for Zillmann's (1996) model in the analysis of arousal, either overall or for male viewers and fe-

TABLE 3
Meta-Analysis Results Associated With Moderator Variables

Independent Variable and Subgroup	*K*	*r*	*95% Confidence Interval*	*N*	χ^2	*Variance Attributable to Sampling Error (%)*
Negative affect during viewing						
Male viewers	4	.44	.32 to .56	185	1.89	100
Female viewers	4	.20	.07 to .32	227	1.47	100
Arousal during viewing						
Male viewers	2	.18	–.08 to .44	131	3.66	55
Female viewers	2	.10	–.07 to .27	99	1.45	100
Aggressiveness						
Enjoy genre	3	.27	.14 to .40	913	14.43*	21
Preference	3	.45	.31 to .59	129	1.54	100
Enjoy program	2	.29	–.08 to .64	141	11.84*	17
Sex of respondent						
Enjoy genre						
Horror or scary media	11	–.18	–.22 to –.14	2044	11.40	96
Violence	4	–.27	–.43 to –.10	781	41.21*	10
Preference	3	–.47	–.56 to –.37	356	4.32	69
Enjoy program						
Blood and gore						
Extreme	4	–.24	–.32 to –.16	570	2.48	100
Moderate or minimal	7	–.04	–.12 to .04	653	7.94	88
Age of respondent						
Enjoy genre						
Horror or scary media						
Children	3	.20	.09 to .30	390	3.83	78
Adolescents	1	.00	–.13 to .13	232	—	—
Adults	1	–.20	–.35 to –.05	155	—	—
Enjoy children's media	4	–.11	–.33 to .11	758	39.03*	10

Note. Sex of respondent was coded as 0 (*male*) or 1 (*female*).
*$p < .001$.

male viewers examined separately. The heterogeneity in correlations could not be accounted for by any moderator. However, because there were so few studies and because they used different measures of arousal, such an outcome was not surprising.

Empathy

The six studies that examined empathy used a variety of different self-report scales, but all measured one or more affective component of empathy. All of the

studies measured sympathy or concern for others' welfare (i.e., empathic concern, emotional empathy, humanistic orientation), and four of the studies measured the tendency to share witnessed emotional states (i.e., personal distress, emotional contagion). For the purpose of the meta-analysis, these two components are referred to as *empathic concern* and *personal distress.*[8]

Both empathic concern and personal distress were negatively correlated with the enjoyment of fright and violence. The correlations with personal distress were homogeneous across studies, but those with empathic concern were not.

An examination of the studies suggested that the nature of the media content might account for the lack of homogeneity in the correlations with empathic concern. The two studies that reported the strongest negative correlations both examined the enjoyment of horror films. Specifically, one examined the enjoyment of graphic violence such as torture (Johnston, 1995), and the other investigated the enjoyment of violent horror clips that concluded with brutal murders and no satisfactory resolution (Tamborini et al., 1990). In other words, these studies specifically focused on the enjoyment of victimization. When these two studies were eliminated, the average correlation in the remaining four studies did not differ significantly from zero ($r = -.07$), and the correlations were homogeneous, $\chi^2(3) = 0.51$, *ns* (100% of the variance attributable to sampling error). These studies measured enjoyment of scary films as a genre, with no specification of the content, with the exception that one study (Raney, 2002) examined responses to a violent drama with a likable victim but a satisfactory resolution: retribution against the villain.

Sensation Seeking[9]

There was a significant positive correlation between sensation seeking and enjoyment of fright and violence. The distribution of correlations across the studies was homogeneous.

Aggressiveness

The analysis of aggressiveness showed a moderate positive correlation with the enjoyment of violence (the type of content referred to in all of these studies), but the correlations were not homogeneous.

The type of dependent variable was considered a possible moderator variable because perceptions of program genres may differ greatly from responses to specific media offerings, which vary widely. When the studies were subdivided on this basis, correlations for the studies that examined enjoyment of the genre (in this case, violent media) were not homogeneous. However, all three surveys (individually) reported significant positive correlations between aggressiveness and enjoyment of violence, and the difference in magnitude may have been due to a variety of methodological factors, such as the fact that the three studies examined three

different age groups. The two studies examining responses to specific programs were also not homogeneous, undoubtedly because of methodological differences (i.e., children's responses to violent cartoons vs. adult's responses to a violent TV drama).

The possible role of gender in the differences among studies could not be fully examined because only two studies (Deiner & DeFour, 1978; Fenigstein, 1979, Study 1) reported data that could be used to calculate the association between aggressiveness and the enjoyment of violence separately for male viewers and female viewers. When the data for these two studies were combined, the average correlation for male viewers was positive ($r = .46$, $N = 48$) and was significantly greater than the average correlation for female viewers ($r = –.20$, $N = 51$), which did not differ from zero. The correlations were homogeneous for both male viewers, $\chi^2(1) = 2.68$, *ns*, and female viewers, $\chi^2(1) = 1.81$, *ns*, with 100% of variance in both groups attributable to sampling error. However, the sample sizes were so small that the findings should be treated with great caution.

Gender of Respondent

The analysis showed that male viewers enjoyed fright and violence more than female viewers, but the correlations were not homogeneous across studies. The type of dependent variable was again considered as a possible moderator variable, especially because it seemed likely that gender differences might vary depending on the content features of specific programs.

The analysis of enjoyment of the genre of fright or violence yielded a significant negative correlation ($r = –.22$, $N = 2825$), with more enjoyment among male viewers, but the studies were not homogeneous, $\chi^2(14) = 57.21$, $p < .001$. The studies were further divided on the basis of whether they examined the enjoyment of scary media and horror or the enjoyment of violence. Table 3 shows that the correlations for the enjoyment of scary media or horror were homogeneous, with more enjoyment among male viewers than female viewers. The correlations for the enjoyment of violence as a genre were not homogeneous, perhaps because three studies involved children (and reported significant negative correlations) and the other involved adults (and reported a near-zero correlation).

The three studies that measured preference for or choice of a program in a laboratory setting found a much stronger gender difference than that observed for the liking of horror or violence as a genre. The distribution of correlations across the studies was homogeneous, as based on chi-square.

The analysis of liking for specific programs produced a significant negative correlation ($r = –.15$, $N = 1223$), but the studies were not homogeneous, $\chi^2(11) = 37.36$, $p < .001$. This variation could be due to the various content features of the specific programs that were used. One such content feature was the visual depiction of blood and gore. Programs were classified as depicting extreme, moderate, or minimal blood and gore on the basis of descriptions in the studies or the evalua-

tions of the authors.[10] When studies with programs classified as extreme were compared to the others, meta-analyses yielded two homogeneous subsets of studies with significantly different average correlations. For the studies that used very graphic stimuli, male viewers reported significantly more enjoyment than female viewers, whereas the gender difference was not significant for programs with less graphic depictions.

To examine the possibility that the gender difference in enjoyment of the genre (fright or violence) changed with age, an additional analysis was conducted to compare age groups on this dependent variable. The resulting average correlations (which all differed significantly from zero on the basis of confidence intervals) were as follows: children, $r = -.25$ ($N = 671$; $K = 3$); adolescents, $r = -.29$ ($N = 1150$; $K = 4$); and adults, $r = -.14$ ($N = 1474$; $K = 8$).[11] The correlations for adolescents and adults were homogeneous, but those for children were not. The correlation for adults was significantly smaller than the correlations for children and adolescents (which did not differ from each other), which reflected a smaller gender difference among adults than among younger individuals.

Age of Respondent

The average correlation between enjoyment and age did not differ significantly from zero, but the sample was heterogeneous, which was not surprising because the age level of the participants varied widely.

As noted earlier, a curvilinear relationship between age and the enjoyment of fright and violence was proposed, with enjoyment increasing during childhood, peaking during adolescence, and declining thereafter. Cantor (1998), however, argued that this pattern varies by genre, with the preference for violent children's media declining during childhood. To investigate these possibilities, the effects were first subdivided into those that examined the enjoyment of violent children's media (e.g., cartoons, a Disney sequence) and those that did not. This latter group, reflecting the enjoyment of scary media or horror as a genre, was further separated on the basis of the age level of participants (children, adolescents, or adults).[12]

Despite the very small number of studies, the data in Table 3 are somewhat consistent with both of the proposals outlined previously. For the studies that examined enjoyment of horror or scary media as a genre, the pattern across age levels was consistent with the curvilinear hypothesis. For the three child samples (preschool through Grade 6), the correlation was positive; for the adolescent sample (Grades 6 to 10), the correlation was approximately zero; and for the community sample of adults, the correlation was negative.[13] For the four studies dealing with children's media, age was not consistently related to enjoyment. However, the studies operationalized enjoyment in a variety of ways. Two studies measured children's overall enjoyment of violent children's television genres (e.g., cartoons) or a Disney film sequence, and both reported significant negative correlations with age (Cantor & Nathanson, 1997; Hoffner & Cantor, 1991a). The other two studies spe-

cifically assessed enjoyment of the violence in children's TV programs and found either no age difference (Valkenburg & Janssen, 1999) or an increase in enjoyment with age (Bjorkvist & Lagerspetz, 1985).

DISCUSSION

In this meta-analysis, we synthesized research from published journal articles that investigated viewers' enjoyment of fright and violence. Given the long-term interest in many of the explanations examined, it is surprising that so few relevant studies have been published. Yet in discussing the uses of meta-analysis, Hale and Dillard (1991) contended that knowledge claims are stronger if they are based on observations combined across even a few studies rather than on only one study involving a single sample. Given the limited research, this meta-analytic review should be primarily regarded as a way of summarizing the current state of knowledge and developing directions for future research.

The results of this meta-analysis reveal that negative affect during viewing was associated with a greater enjoyment of fright and violence. Although this pattern was consistent with an explanation based on the excitation-transfer theory and Zillmann's (1996) model of suspense enjoyment, more research is needed to clarify certain issues. First, the lack of a similar pattern for physiological arousal presents a problem, although the limitations of physiological measurement must be recognized (Hoffner & Cantor, 1991a). Second, the research did not demonstrate that negative affect enhances the enjoyment of a program to a greater extent when the threat is successfully resolved, as predicted by Zillmann's model. In fact, Hoffner and Cantor (1991a) manipulated the resolution and found that the contribution of negative affect to program enjoyment was similar for the resolved and unresolved versions. Of course, very few published studies have reported data relevant to this issue. Zillmann (1996) noted that episode resolutions within a program may contribute to positive affect, and the simple termination of the threat may be regarded as satisfying by some viewers. However, there does not appear to be any evidence on these points. Laboratory research needs to more thoroughly examine how narrative structure interacts with affective responses and arousal during viewing.

In the meta-analysis, we found some evidence that empathy is associated with less enjoyment of fright and violence. Some insight into the underlying processes may be gained by considering empathy in relation to Zillmann's (1996) model of suspense enjoyment may yield some insight into the underlying processes. The self-focused nature of personal distress suggests that this component of empathy should be associated with less enjoyment of horror, regardless of the outcome of the program. In other words, those who tend to share the negative emotions of others should strongly dislike any depiction of violence or character endangerment. In contrast, empathic concern reflects an other-oriented focus of concern and caring

for others (Davis, 1994). In accordance with Zillmann's model, this type of response may not reduce (and may even enhance) the enjoyment of fright and violence but only if threatened characters successfully escape or triumph. With no satisfactory resolution, the concern for suffering characters should result in much less enjoyment. The meta-analysis results are basically consistent with these interpretations. However, there was no direct evidence regarding Tamborini's (1991) contention that empathy interferes with enjoyment primarily by producing an aversive emotional response to pain and suffering. Clearly, there is a need for more studies that examine how empathy influences the way viewers' respond to particular depictions of violence and victimization (cf. Raney, 2002). For example, individuals could view a film sequence that has been manipulated so that the emotional responses of the victim, such as facial and vocal expressions of pain, are either included or edited out, and a resolution in which the victim escapes from the attacker is either included or excluded. This type of research could begin to identify the process by which empathy (and associated negative affect) influences the enjoyment of fright and violence and how this process varies according to the narrative structure of the program.

Evidence also emerged that sensation seeking is associated with a greater enjoyment of fright and violence, which was consistent with other research reported in book chapters (Edwards, 1991; Lawrence & Palmgreen, 1996). The sensation-seeking scale includes four dimensions (thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility), but only three studies in this meta-analysis examined separate dimensions of the scale (Aluja-Fabregat & Torrubia-Beltri, 1998; Harris et al., 2000; Tamborini et al., 1987). Two of these studies, and other evidence, suggested that disinhibition (i.e., preference for a hedonistic lifestyle) was more strongly associated with interest in and exposure to fright and violence than the other dimensions (Zuckerman, 1996). This pattern awaits confirmation in further research that will examine the separate dimensions of sensation seeking.

The reasons that high sensation seekers enjoy fright and violence also require further analysis. For example, do high sensation seekers actually enjoy the experience of fear? If these individuals tend to see themselves as personally invulnerable to threats (Franken et al., 1992), they may also be less likely to experience lingering fright reactions to horror, such as fears about personal safety (Sparks, Spirek, & Hodgson, 1993). This may enable them to enjoy temporary states of fear without expecting long-term negative consequences. There was also limited evidence regarding the specific types of content that sensation seekers enjoy. If high sensation seekers interpret even aversive arousal positively (Zuckerman, 1996), these individuals should enjoy of any type of content that contributes to fear or arousal, including suspense, destruction, action, violence, and death, to a greater extent than low sensation seekers. The role of these components could be examined in surveys in which respondents rate the appeal of different kinds of content or rate their expected enjoy-

ment of film synopses featuring different content elements. However, it should be noted that almost all of the studies in this meta-analysis examined sensation seeking with survey methodology. Thus, there was little evidence regarding how sensation seeking affects the enjoyment of specific frightening or violent presentations. Experimental research would be ideal for assessing responses to particular content elements and would clearly be the best way to examine the impact of production elements, such as sound and visual effects (e.g., screams, rapid editing, music), that may contribute to the appeal of fright and violence among high sensation seekers. Finally, research should examine the combined role of empathy and sensation seeking in enjoyment. It seems likely that individuals low in empathy and high in sensation seeking would enjoy fright and violence the most and that those high in empathy and low in sensation seeking would enjoy such content the least (Tamborini, 1991).

The meta-analysis produced some evidence that violence was enjoyed more by aggressively inclined individuals. This association was quite strong for studies that examined a preference for violent media in a laboratory setting and that manipulated aggressive thoughts and fantasies. Surveys also showed that enduring aggressive tendencies were associated with a greater liking for violent media as a genre. However, there was little research regarding the reasons for this, such as whether more aggressive individuals enjoy seeing behavior like their own depicted as normative and appropriate (Fenigstein & Heyduk, 1985). Researchers need to probe aggressive and nonaggressive viewers' perceptions of violent content and their affective reactions in response to different types of violent depictions. Studies examining responses to specific programs in a laboratory setting may be able to obtain a more precise understanding of the elements of violent portrayals that aggressive individuals find appealing. The meta-analysis also revealed a positive association between aggression and enjoyment for male viewers but not for female viewers. However, the two studies for which data were available for both genderes were conducted in the 1970s. It may be that changes in gender roles within society and an increase in powerful, aggressive female characters on TV—for example, the leads in *Alien* (Shusett & Scott, 1979) and *Buffy the Vampire Slayer* (Whedon, 1997–2003)—have reduced or eliminated any gender differences in the association between aggression and the enjoyment of violence. If such a difference does still exist, the reasons for it (e.g., socialization processes, gender of the aggressors and victims in films) need to be explored.

The meta-analysis confirmed that enjoyment of fright and violence was higher for male viewers than female viewers, particularly for the preference for violence in a laboratory setting. In addition, there was clear evidence that male viewers enjoyed horror and scary media as a genre more than did female viewers. Zillmann and Weaver (1996) proposed that this pattern reflects the influence of gender-role socialization. Although there was little direct evidence of this process, Zillmann et al. (1986) found that viewers enjoyed a horror film more when an opposite-gender coviewer expressed gender-appropriate reactions to the film. If the gender differ-

ence in enjoyment is due at least partially to socialization, the difference should increase with age, at least through adolescence. The meta-analysis did not reveal any evidence to support this view. In fact, the meta-analysis showed that the gender difference in the enjoyment of the genre of frightening and violent media was smaller among adults than among younger individuals. However, the age groupings were very broad, and the number of studies involving children and adolescents was relatively small. Research should examine how the gender difference in the enjoyment of fright and violence changes across the life span and should further investigate the role of socialization processes. This type of data could come from survey research that explores individuals' viewing motivations (cf. Johnston, 1995) and assumptions about gender-appropriate viewing behaviors at different ages, as well as from observational studies of children, adolescents, and adults watching scary or violent programs in same-gender and mixed-gender groups.

Program content was identified as a significant moderator of gender differences in liking for particular programs. Specifically, the gender difference was greater if the blood and gore in the program was judged to be extreme rather than mild or moderate. In a related finding, negative affect was more strongly related to enjoyment for male viewers than for female viewers. What can account for these results? One possibility is the fact that empathy is typically higher for female viewers than for male viewers (Eisenberg, Fabes, Schaller, & Miller, 1989). Perhaps female viewers tend to dislike extreme violence because they are more likely than male viewers to empathize with the victims. As suggested earlier, female viewers may have more difficulty interpreting responses to horror as positive in the aftermath of empathic distress (Sparks, 1991; Zillmann et al., 1986). Research that probes the cognitive and emotional responses of male viewers and female viewers to different types of violent and frightening portrayals and that also measures relevant personal characteristics on which male viewers and female viewers typically differ (e.g., empathy, sensation seeking, aggressiveness) may provide some insight into the reasons for the gender difference.

With regard to age differences, there was limited support (on the basis of very few studies) for the curvilinear hypothesis that the enjoyment of violence and fright increases during childhood, peaks during adolescence, and declines thereafter. It should be noted that the observed pattern of correlations did not actually demonstrate that enjoyment was higher among adolescents than among individuals who were younger or older. More direct evidence for a curvilinear pattern would come from research involving people across the life span. For example, in their book chapter, Lawrence and Palmgreen (1996) obtained a strong negative correlation between age and liking for horror films in a sample ranging in age from 18 to 82. If a similar study extended the age range to include children, a curvilinear pattern might emerge. Longitudinal data showing a change within individuals as they mature would provide even stronger support. Future research also needs to consider explanations for age differences. One possibility is that the preference for fright and violence paral-

lels age-related changes (possibly biologically based) in sensation seeking, which have been shown to follow a similar curvilinear pattern (Zuckerman, 1994).

On the basis of this meta-analysis and the preceding discussion, some general guidelines for future research can be suggested. The meta-analysis revealed differences between the enjoyment of fright or violence as a genre and the enjoyment of specific programs. The reasons for these differences need to be explored. For example, reports of genre enjoyment undoubtedly reflect the elements that are typically featured in that genre and the social context in which it is usually viewed. In contrast, the enjoyment of specific films depends on a wide variety of unique program characteristics; in addition, the experimental context in which such research is usually conducted overlooks the influence of social factors. Nonetheless, more experimental research is needed to examine the specific elements within programs that contribute to the enjoyment of fright and violence, such as character portrayals (e.g., hero, villain), the type of threat or violence, the narrative structure, the type of resolution, and aesthetic elements such as music. Clearly, these factors have been examined (e.g., Hoffner & Cantor, 1991a; Raney, 2002; Zillmann et al., 1975), but much more research is needed. For example, the meta-analysis revealed a gender difference in the enjoyment of fright and violence primarily for more graphic depictions, but there was not enough evidence to examine the role of content features in most analyses. Further research should examine not only how various content features contribute to the enjoyment of fright and violence but also how they interact with personal characteristics, such as empathy, sensation seeking, and gender, to influence enjoyment.

Related to the need for greater attention to content elements, more research needs to consider predictions derived from disposition theory (e.g., Zillmann, 1996), which focuses on the audience's judgments of and responses to characters in media entertainment. Although disposition theory has been used to explain audiences' enjoyment of many forms of entertainment, including humor, sports, and drama, relatively few empirical investigations have applied this perspective to enjoyment of fright and violence (e.g., Hoffner & Cantor, 1991a; King, 2000; Oliver, 1993a; Raney, 2002; Raney & Bryant, 2002). Disposition theory can help researchers identify the elements of narrative structure and character portrayals that are likely to facilitate or minimize the enjoyment of a frightening or violent presentation, although the influence of other factors (e.g., action, aesthetics) should be recognized as well (McCauley, 1998). The role of empathy (as a personal characteristic) in mediating responses to fright and violence could be productively examined within this theoretical framework (cf. Raney, 2002). Surprisingly, virtually no research on the enjoyment of fright or violence seems to have examined dramas featuring known characters, such as those on familiar television series. Given that parasocial relations can mediate viewers' responses to characters' experiences (Hoffner & Cantor, 1991b) and that audiences' affective responses to characters and evaluation of their behaviors play a key role in enjoyment of narratives, these are important factors to consider.

One issue that emerged in the literature within several different theoretical contexts was the importance of considering how viewers interpret or appraise their reactions to violence and fright. For example, Zuckerman (1996) argued that high sensation seekers may interpret fear-arousing experiences positively, whereas low sensation seekers regard them as aversive. A concept relevant to this position is the meta-experience of an emotion (Mayer & Gaschke, 1988; Oliver, 1993b). Mayer and Gaschke contended that an emotion can be experienced not only directly but also at a reflective level, which involves feelings and impressions about the emotion (i.e., the meta-experience). Within the domain of mass communication, Oliver (1993b) argued that "viewers may enjoy sad films not necessarily because the films ultimately succeed in evoking positive affect but, rather, because the experience of sadness itself is perceived as gratifying" (p. 319). By explicitly considering the meta-experience of fear and distress, researchers may gain a better understanding of individual differences in response to entertainment featuring terror and brutality.

Limitations to this meta-analysis should be acknowledged. As already noted, relatively few published studies have investigated the variables of interest. Thus, the conclusions reported here should be regarded with caution. In addition, the limited research prevents sophisticated tests of moderator variables, such as type of research design, demographics of respondents, and specific program characteristics. For example, although individual studies have examined the role of content features, such as genderual portrayals in the enjoyment of horror (e.g., Oliver, 1993a), the uniqueness of individual programs suggests the need for multiple messages (Jackson & Jacobs, 1983). Given the impracticality of including several examples of complex media messages within individual studies (Hewes, 1983), one of the values of meta-analysis is the opportunity to uncover the effects of message features that vary across a sample of studies. The available data were rarely adequate for this type of analysis.

This meta-analysis summarized the research on the relation between the enjoyment of fright and violence and several affective, personality, and demographic variables. Evidence for basic linkages among these variables is accumulating, but less is known about underlying processes, and more research support is needed for the various theoretical accounts. As suggested previously, there is also a need to more thoroughly examine interactions between personality factors and program features, such as graphic violence and narrative structure. We hope that this meta-analytic review will stimulate theoretically based research that addresses these issues and that moves toward an integration of separate lines of inquiry in a unified approach to understanding entertainment.

NOTES

[1]It is common for scholars to treat news media and sports as distinct from non-reality-based entertainment (e.g., Guttmann, 1998; McCombs & Reynolds, 2002). Fictional media offerings, for example, are staged for the purpose of entertainment, and framing a presentation as fiction changes the ways in which audience members respond (McCauley, 1998). Certainly news and sports may be violent, fright-

ening, or both and are often entertaining, but these genres each have a unique structure and purpose. News is primarily intended to inform rather than entertain, although the line between these two functions has been blurred in recent years. Sporting events often involve aggression but without the intent to inflict injury or death (except in rare cases, e.g., boxing), as is typical in narrative depictions of violence. Thus, in this meta-analysis, we focused on non-reality-based media presentations in which characters are threatened or involved in violence.

[2]Enjoyment of content that was not clearly identified as frightening or violent (e.g., action–adventure programs) was excluded. Studies that measured violence in favorite television programs (usually weighted by frequency of viewing) were also excluded because this variable reflects both exposure and liking. Moreover, studies with this measure typically examined the link with aggressiveness, which presents the problem of directionality, because violent favorite programs may exert a strong influence on aggressiveness (Gunter, 1983).

[3]In this meta-analysis, we examined all of the individual difference characteristics for which sufficient data were available. Several other personal characteristics were identified in the literature search (e.g., psychoticism, previewing anxiety, apprehension, gender-role identity), but either fewer than four studies were located that examined the characteristic or the information needed to calculate an effect size could not be obtained for at least four studies.

[4]Several articles reported nonsignificant effects but provided no statistical information. In other cases, significant results were reported, but additional information was needed to estimate a correlation between the variables of interest. Additional statistical analyses or information were supplied for several studies (Cantor & Reilly, 1982; Harris et al., 2000; Hirschman, 1987; Hoekstra, Harris, & Helmick, 1999; Hoffner, 1995; Hoffner & Cantor, 1991a; Jablonski & Zillmann, 1995; Johnston, 1995; Oliver, 1993a; Raney, 2002; Valkenburg & Janssen, 1999). If the author could not be located, did not respond to the request, or did not have the information available, effects specifically reported as nonsignificant were treated as $r = .00$. This occurred in five instances. Other effects were excluded from analysis.

[5]In a study of children ages 3 to 11, Wilson et al. (1987, Study 1), reported no age difference in liking for scary programs (answered *yes* or *no*). However, there was a strong tendency toward yea-saying among preschoolers on many questions, which, the authors argued, compromised the accuracy of the data. Thus, this study was excluded. In Study 2, they avoided this problem by having children rate their liking for scary programs. Lynn et al. (1989) surveyed adolescents and used a self-report scale of enjoyment of TV violence. The study reported correlations that were similar to those in the meta-analysis for aggressiveness ($r = .35$) and age ($r = .01$) but stronger for gender ($r = –.46$). However, the large sample size of 2093 greatly affected homogeneity of variance. Thus, we deemed it best to eliminate this study from further consideration.

[6]In all except two cases, the correlations that were combined involved multiple measures of the same type of dependent variable (e.g., enjoyment of two specific horror films, enjoyment of several violent TV genres). The other cases involved multiple measures of the same independent variable: (a) two types of physiological arousal (Hoffner & Cantor, 1991a) and (b) four dimensions of the sensation seeking scale (Tamborini et al., 1987), which were combined so that the results would be comparable to the other studies that used a measure of total sensation seeking. In one study, aggressiveness was manipulated in two ways, but the effect of one manipulation was available for only a subset of the sample (Fenigstein, 1979, Study 2). The correlation for the total sample was included in the meta-analysis.

[7]Koukounas and McCabe (2001) also measured negative affect (anxiety, disgust, anger) and subjective arousal in response to violent film content. However, because they used a randomly ordered series of 2-min clips of violent and neutral scenes rather than a developed narrative sequence, the data are not relevant to Zillmann's (1996) model of suspense enjoyment. Thus, this study was excluded from analyses involving negative affect and arousal.

[8]Other aspects of empathy (e.g., perspective taking, fantasy empathy) were reported in two or fewer studies and, thus, were not included in the meta-analysis.

[9]Johnston (1995) also measured sensation seeking, but only two short subscales were reliable (Proclivity for Substance Abuse and Adventure Seeking). Because these subscales were not comparable to the entire sensation seeking scale used in other studies, the study was excluded from this analysis.

[10]One study was excluded because the violent program content was not described in sufficient detail to assess the degree of blood and gore (Koukounas & McCabe, 2001).

[11]Tamborini and Stiff (1987) included mostly adults (*M* age = 21), but some were as young as 15. These results were essentially unchanged when this study was eliminated from the analysis of adults.

[12]The Enjoy Program effect from Hoffner and Cantor (1991a) was included with violent children's media because it involved responses to a sequence from a Disney film that could be considered violent (a boy being attacked by a snake). The Koukounas and McCabe (2001) study was excluded from further analysis of age differences for two reasons: (a) It was the only study not focusing on children's media that examined responses to specific programs, and (b) the age range for the sample was not reported, which made it difficult to interpret the correlation with age.

[13]The correlation for adolescents was reported as nonsignificant, but the actual statistic was unavailable. However, it should be noted that the large-sample study by Lynn et al. (1989) reported a similar correlation with age ($r = .01$) among adolescents ages 11 to 16.

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