Judging the Degree of Violence in Media Portrayals: A Cross-Genre Comparison

Karyn Riddle, Keren Eyal, Chad Mahood, and W. James Potter

This study tests the relative importance of different factors of television narratives in how they influence people's judgments of how violent those narratives are. After watching 1 of 3 videotapes of a violent narrative, 99 college students answered a series of questions about their interpretations of the violence. It was found that participants' judgments about the degree of violence in the narratives were more strongly associated with their perceptions of the graphicness of the violent acts and the harm to the victims than with other factors such as the number of violent acts or the seriousness of those acts. Thus, people's judgments of the degree of violence in television programs differs from researchers' conceptualization. Implications of these differences are discussed.

Ever since the rise in popularity of television in American households from the 1950s and continuing to today, the public has been complaining that there is too much violence in TV programming. In fact, the public has continually been putting pressure on Congress and the television industry to reduce the amount of violence (Potter, 2003; Rowland, 1983). During those five decades, social scientists have been conducting analyses of the violent content on television to document the amount of violence and to try to inform public debate about this issue. However, there is reason to believe that much of what social scientists carefully measure and report in their results is not what generates the complaints among the public. That is, there is a growing line of research indicating that the public perceives media violence in a different manner than do media researchers. The public's way of making interpretations about

Karyn Riddle *(M.A., University of California, Santa Barbara) is a doctoral candidate in the Department of Communication at the University of California at Santa Barbara. Her research interests are long-term media effects.*

Keren Eyal *(Ph.D., University of California, Santa Barbara) is an Assistant Professor in the Department of Communication at the University of Arizona. Her research interests focus on media content and effects.*

Chad Mahood *(M.A., Pennsylvania State University) is a doctoral candidate in the Department of Communication at the University of California at Santa Barbara. His research interests include traditional media effects and video game effects.*

W. James Potter *(Ph.D., Indiana University) is a Professor in the Department of Communication at the University of California at Santa Barbara. His research interests are mass media effects, content, and literacy.*

 Journal of Broadcasting & Electronic Media 50(2), 2006, pp. 270–286

the degree of violence in particular shows is very different than the way social scientists have operationalized the degree of violence on shows.

This discrepancy between the public's and scholars' definitions of violence in the media is important to examine because it has significant implications for how useful these content analyses are for the public and for policymakers. It also has important implications for media effects. Researchers have been identifying the role of contextual elements in the media effects process. The public's lack of association of these elements with problematic outcomes such as antisocial behaviors may lead to increased effects due to decreased critical consumption of such violent televised content.

This study is designed to contribute to this line of research examining how the public makes its interpretations of the degree of violence in television programs. It tests the robustness of findings in previous studies on this topic by conducting an experiment to test whether those interpretations differ across several genres of violent programs. Before presenting the details of the study, the researchers will first contrast the way social scientists and the public make their interpretations about the degree of violence on television.

Researchers' Definitions

The literature of content analyses of violent content on television is fairly large, with more than 60 published scientific studies over the past 50 years (see Potter, 1999, for a list). This literature is dominated by two large scale analyses—the University of Pennsylvania's Cultural Indicators Project and the National Television Violence Study (NTVS). In the early 1970s, Gerbner and his colleagues at the University of Pennsylvania began conducting yearly analyses of violence on television and continued for more than two decades. They counted the number of violent acts using the definition, "the overt expression of physical force, with or without weapon, against self or other, compelling action against one's will on pain of being hurt or killed, or actually hurting or killing" (Gerbner, Gross, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1978, p. 179). Furthermore, they required that the violence be plausible and credible, which rules out idle threats, verbal abuse, or comic gestures with no credible violent consequences. The violence may be intentional or accidental. In addition, violent accidents, catastrophes, and acts of nature are included. Signorielli (1990) clarifies:

> Any act that fits the definition, regardless of conventional notions about types of violence that may have "serious" effects, is coded. This includes violence that occurs in realistic, serious, fantasy, or humorous contexts. "Accidental" violence and "acts of nature" are recorded because they are always purposeful in fiction, claim victims, and demonstrate power. (p. 89)

The NTVS (1996) analyzed more than 10,000 hours of television programming across 23 channels over 3 years using the definition of violence as

> an overt depiction of a credible threat of physical force or the actual use of such force intended to physically harm an animate being or group of beings. Violence also includes certain depictions of physically harmful consequences against an animate being or group that occur as a result of unseen violent means. (p. I-48)

Each of the remaining studies in the content analysis literature of violence on television has its own definition, and those definitions exhibit minor variations from one another. However, what all the studies in the literature have in common is the practice of summing the number of coded acts of violence to arrive at totals for each program, then norm for length of program by computing hourly rates. This summation practice is based on the assumption that programs with higher hourly rates are more violent than programs with lower hourly rates. Thus, degree of violence is operationalized as a simple quantitative summation, and each act is regarded as equally important in the summation.

Public's Definition

There is reason to believe that the public is concerned much more with the *way* violence is portrayed much more than *how often* it is presented. This is the finding of several research studies over the past few decades, but this information has had little impact thus far on analyses of violent content. For example, researchers have found that there are several contextual factors in the portrayals that get the attention of the public when they see something that could be considered violent in the media. One of these studies (Forgas, Brown, & Menyhart, 1980) reported that these characteristics were (a) the probability of occurrence (likelihood of the act happening in everyday life), (b) justifiableness (degree to which sympathy lies with the aggressor or the victim), (c) provocation (degree to which the aggressor performed a premeditated first strike or was responding with an emotional reaction), and (d) control (the degree to which the act was officially sanctioned or evoking punishment). These authors conclude that "perceived severity is not the most important attribute of aggressive incidents" (p. 225) and that people are more sophisticated in their judgments, taking contextual characteristics into consideration when judging the degree to which a particular act is aggressive.

The work of Gunter (1985) supports a similar conclusion. He found viewers' ratings of seriousness to be related to four major factors: realism of setting, physical forms of the violence, degree of harm to victims, and physical setting of the violence. First, Gunter found that viewers' ratings of the seriousness of violent acts were higher as the fictional settings were closer to everyday reality in terms of time and location. In contrast, "violence depicted in clearly fantastic settings such as cartoons or science-fiction were perceived as essentially non-violent, non-frightening and non-disturbing" (p. 245). He found ratings of seriousness to be related to portrayals that featured shootings and stabbings (Gunter & Furnham, 1984) and those acts that took place in contemporary compared to noncontemporary or fantasy settings (Gunter & Furnham,

1983). Greenberg and Gordon (1972) found that weapon-induced violence was regarded as more violent. Second, violent acts that portray stabbings and shootings are rated more serious than portrayals of either more minor forms (such as fistfights) or more major forms (such as cannon fire). Third, degree of harm to victims was found to be related strongly and consistently to ratings of seriousness. Interestingly, the most serious of acts were the nonfatal harm followed closely by killings. And fourth, with the physical setting of the violence, indoor violence was rated as more serious than outdoor violence.

There are also many other contextual factors in the portrayals of violence that have been shown to be related to subsequent effects on viewers. For example, research on the public's conception of violence has shown that rewards and punishments to perpetrators of violence provide important information to viewers about which actions are acceptable (Comstock, Chaffee, Katzman, McCombs, & Roberts, 1978; Comstock & Strasburger, 1990). Media research has shown that viewers who watch mediated models being rewarded for performing violent acts are more likely to experience a disinhibition effect and behave in a manner similar to the models (Bandura, Ross, & Ross, 1963; Liebert & Baron, 1973). Effects have also been attributed to participants' identity with characters in the narrative (Cantor, 1994; Paik & Comstock, 1994), realism (Gunter, 1985; Howitt & Cumberbatch, 1974), and humor (Baron, 1977; Berger, 1988; Zillmann, 1979). The assumption here is that viewers must be paying attention to these contextual factors because these factors are related to subsequent behavioral and emotional effects. The question then becomes: Do viewers pay attention to all these contextual factors equally, or do viewers focus their attention on one or two as being the most important when they make their judgments about how violent a program is?

In a test of which contextual factors people found most important in their judgments of the degree of violence in a program, Potter, Pashupati, Pekurny, Hoffman, and Davis (2002) conducted an experiment and found that participants' interpretations of the graphicness in a program were most highly related to their judgments about how violent the program was. They also found that not only were perceptions of the frequency of violent acts in a program not related to the judgment about degree of violence but that their participants were largely oblivious to much of the violence in their treatments, which were edited versions of *Walker, Texas Ranger*. One of those treatment conditions, which was the broadcast version of the episode, contained 62 acts of violence. The other two versions differed from the broadcast version by having some of the violent acts edited out: One version contained 47 acts, and the low-violence version contained 13, which was the greatest reduction of violent acts that could be achieved without rendering the plot senseless. Participants in the high-violence condition, which presented 62 acts of violence using the NTVS definition of violent acts, displayed a range of estimates from 1 act to 14 acts, with a mean of 3.48 acts. The middle-level treatment (43 acts on screen) displayed a range of 1 to 4 acts, with a mean of 2.42; the low-level treatment (13 acts on screen) displayed a range of 0 to 6 acts, with a mean of 1.96 acts.

Several patterns emerge from the results of these studies. First, it appears that viewers are not anywhere nearly as analytical as researchers are in their content analyses. Viewers appear to consistently underestimate the number of violent acts in a program by a large factor. Second, when viewers are asked to estimate the number of violent acts in a show, they can do so, but those estimates are related only weakly to their judgments of the degree of violence in that show. Third, viewers' judgments about the degree of violence in a program are related strongly to their perceptions of the contextual elements in the program. Fourth, among those contextual elements, the characteristics of graphicness, explicitness, and harm to characters seems to be related most strongly to judgments of overall violence. Other factors such as perceptions of characters (hero status, attractiveness, motives, justification for action, etc.) seem much less important to viewers in making their judgments of degree of violence. If indeed the number of acts of violence portrayed on television and the characters that engage in such behaviors are important for media effects as suggested by researchers, the fact that the public does not perceive these as indicators of violence is important in and of itself.

Rationale

Because there appear to be major differences between researchers and viewers in the way they make judgments about the degree to which a program is violent, it is important to test the robustness of this difference by continuing to examine how the public constructs its judgments. The purpose of this study is to extend this line of research by running an experiment that adds three new features to the test of viewer perceptions of degree of violence.

The first of these added features was designed to focus viewer attention more on the number of acts of violence in order to test the robustness of viewers ignoring quantitative counts of violence and instead using their judgments of context to arrive at their interpretations of the degree of violence in a program. As stated earlier, Potter et al. (2002) found that their participants greatly underestimated the number of violent acts in each of the three treatment conditions. Furthermore, people not only underestimate counts of violence, their estimations are not related to their overall judgments of degree of violence. Instead, ratings of graphicness tend to be strongly related to people's judgments about how violent the program was. Thus, the following is hypothesized:

H_1: Participants' ratings of the overall degree of violence in the program will be related more strongly to their judgments about graphicness than their estimations of the number of violent acts.

In order to "stack the deck" against finding support for this hypothesis, however, the participants were told to pay attention to the number of violent acts in the program they were about to see. Each participant was also given a handheld device to rate the degree of violence as they watched the stimulus materials. Perhaps if participants were pointedly asked to keep track of the number of violent acts in a program, their

estimates would more accurately reflect the number of acts appearing on the screen. Also, perhaps when they consciously engage in this task of noticing each individual act, they will be more likely to use this quantitative information as a basis for their judgments of the degree to which the program is violent.

The second added feature of this study is to test the use of context over number of acts across different genres of programming. Potter et al. (2002) used only one program—*Walker, Texas Ranger*—as the stimulus material and edited the violent acts to vary the number. Perhaps the finding that people ignored number of acts and favored instead contextual elements (primarily graphicness) is an artifact of the particular program used as the stimulus material. Using stimulus material from several genres could further test the robustness of this finding.

As for altering genre, the reasoning was that people might apply a different definition for violence to action they see in typical action adventure formulas and those that are animated cartoons. There is reason to believe this is the case because people seem to rate the aggressive actions in cartoons as being less serious and less violent than aggressive acts in other genres. For example, Gunter and Furnham (1984) asked their participants in an experiment to rate five types of programs. They found that their participants rated the crime dramas as more disturbing and frightening than the violence in the more fantasy genres of cartoons, science fiction, and westerns. Cartoons were rated the least violent and most suitable for children.

The researchers exposed participants to one of three types of violent programs. One type was the typical police drama presented on prime-time network television, where the main characters remain the same episode after episode, and where there is a high degree of violence that is sanitized by showing little harm to the victims. A second type was the cartoon action adventure designed for children, where animated superheroes engage in a struggle of good and evil. A third type was the Hollywood movie where the graphicness is stronger. The following hypotheses are proposed to test the impact of genre:

H_2: There will be differences across the treatment conditions in participants' overall judgments of degree of violence.

H_3: There will be significant differences across the treatment conditions in participants' ratings of contextual elements, including graphicness, explicitness, humor, seriousness, realism, excitement, harm, realistic harm, and justification.

The third added feature was to alter the means of measurement to include ranking of important contextual elements that may contribute to judgments of violence as well as ratings of these elements. In addition to asking participants for their ratings of contextual elements on a series of bipolar scales, participants were also asked to rank order the importance of six narrative elements in terms of how influential each was in making their overall judgment of the degree of violence in the program. By using both a ranking as well as a rating procedure, it would be determined whether graphicness is the most influential narrative element in participants' judgments of violence, re-

gardless of genre. There is reason to suspect that it might not be. For example, perhaps the judgment of realism is more important in making interpretations about violence in animated programming. Or perhaps judgments about characters are more important in making interpretations about violence in programs where the characters continue episode after episode in a continuing series. In short, perhaps the program elements on which people base their judgments of the degree of violence vary by type of program. Therefore, the following is proposed:

H_4: There will be differences across the treatment conditions in participants' rank ordering of contextual elements (i.e, graphicness, explicitness, humor, seriousness, realism, excitement, harm, realistic harm, and justification) when asked which elements contribute to overall judgments of degree of violence.

Finally, the researchers were interested in learning whether certain groups of people might differ in their rank ordering of contextual elements. In other words, do some groups of people rely more on graphicness when making judgments of overall degree of violence, whereas others rely on realism? In this study, the impact of gender and amount of television exposure was explored because these variables have been previously found to differ in media violence research. For example, there have been found significant differences in the way males and females seek out, avoid, and respond to violent narratives (see Comstock et al., 1978; Potter, 1999). The amount of television viewers' television viewing is important because cultivation theory predicts differences in reactions to the media for people who exhibit high, medium, and low levels of television exposure (Gerbner, Gross, Signorielli, Morgan, & Jackson-Beeck, 1979). Thus, there is reason to suspect that reliance on certain contextual elements might vary based on gender or amount of television exposure. However, there is insufficient prior research to make a specific prediction regarding the nature of these differences. Thus, the following research question is posed:

RQ_1: Will the rank ordering of contextual elements vary based on gender or amount of television exposure?

Method

Procedures

This study was conducted in two phases. First, participants were given a questionnaire in two large-enrollment classes. Students who volunteered to do the study for extra credit in their courses took the questionnaire home and returned it completed within several days. Those students who completed this first phase of the study were asked to participate in the second phase by scheduling a time to come to a lab and watch a television program.

In the second phase of the study, participants who showed up in the lab were randomly assigned to view an extended excerpt from a television program. Each participant was given a handheld device with a dial that could be moved to point to seven settings. Participants were asked to move the dial as they watched the show and indicate changes in the level of violence. This procedure was obtrusive enough to get them to respond to each act of violence and thereby increase the likelihood that they would be more sensitive to the actual number of violent acts appearing on the screen. After watching the excerpt as a group (each group included 3 to 10 students), they filled out a postviewing questionnaire individually.

Sample

Students enrolled in an undergraduate communication class at a large West Coast university participated as part of a research requirement for course credit. A total of 128 students completed the first questionnaire, and 99 of those also came to the lab, watched their assigned television program, and completed the postviewing questionnaire. The demographic profile of the sample is as follows: The age range was from 18 to 23 years ($M = 19.9$). Of the sample, 16 were men and 83 were women. The ethnic breakdown was primarily White (71.7%) followed by Asian American and Latino (each at 10.1%), African American (1.0%), and other (7.1%)

Stimulus Material

Videotapes were selected from three very different genres with different types of characters, settings, and actions. The videotapes were edited so that they were free of commercial interruptions and were of approximately equal lengths (about 20 minutes). The stimuli material was also chosen as to be of comparable quality (both sound and audio) across the three treatment conditions. One excerpt was from an episode of the television police drama *Nash Bridges.* This episode dealt with the chase and capture of drug dealers. It contained car chases, foot chases, continuing gunfire, fistfights, a villain hit head-on by a large truck, and police discovering the bodies of men who had been shot to death. Using the NTVS (1996) coding scheme, this stimulus tape presented 18 acts of violence in six violent scenes. The second excerpt was from the movie *Tunnel*. The primary action concerned a criminal being taken to prison on a train. When the train enters a tunnel, it is hijacked by the prisoner's confederates who try to free him. It contained 18 violent acts in three long sequences of violence with many acts of gunfire and a graphic shooting of the villain between his eyes in the final climactic scene. The third excerpt was an animated action/adventure program, *Justice League,* which contained 23 acts of violence in eight scenes. In this episode, Aquaman fights his brother in order to reclaim his rule of Atlantis; he is joined by superheroes, such as Superman and Wonder Woman. All three stories presented the frequent firing of automatic weapons. If each bullet fired were counted, the total num-

ber of violent acts would total well over 50 for each story. Participants were randomly assigned to viewing conditions and were not made aware of the genre of the program they were viewing.

Measures

The questionnaire completed before the viewing exposure assessed typical amounts of television viewing by genre, gender, age, and ethnicity. Participants were asked to indicate how many hours they watched television in a typical week in the following content categories: action/adventure, crime drama, continuing drama, comedy programs, talk shows, news, sports, music videos, game shows, cartoons, and reality shows. For each content category, several programs were provided as examples. The number of hours were summed from all 11 categories to compute the total typical weekly viewing measure.

In the postviewing questionnaire, judgments regarding overall degree of violence were assessed by asking participants to answer the question, "How violent was the show?" via a 7-point bipolar scale, from 1 (*not violent at all*) to 7 (*extremely violent*). Reactions to contextual factors related to the show were asked in a similar manner. Specifically, participants' ratings on contextual factors were assessed by asking them to rate the level of graphicness, explicitness, humor, seriousness, realism, excitement, harm, realistic harm, and justification on 7-point bipolar scales. For example, the justification scale was anchored at the low end with *not justified at all* and at the high end with *extremely justified.*

Participants were asked to estimate the total number of violent acts in the excerpt they saw via an open-ended question. Specifically, participants were instructed: "Now, we would like you to try to estimate how many acts of violence there were in the show you just watched."

In order to determine participants' rank ordering of contextual factors, participants were presented with a list of six characteristics (attractiveness of main character, realism of the program, graphicness, harmfulness, justification, and reward for violence) and asked to rank order them in terms of how important each was in influencing their overall judgment about the degree of violence in the program they viewed. As noted earlier, these attributes were chosen based on media effects findings and studies exploring the public's definitions of violence.

Results

H_1 predicted that participants' ratings of the degree of violence in the program would be related more strongly to their judgments about graphicness than their estimations of the number of violent acts. The hypothesis was partially supported (see Table 1). Ratings of graphicness were strongly related to judgments of violence but not as strongly as ratings of seriousness and especially ratings of explicitness. These three items are concep-

Table 1
Bivariate Correlations of Ratings of Degree of Violence, Estimate of Number of Violent Acts, Graphicness, and Ratings on Contextual Elements

	Degree of Violence	Estimate of Number of Violent Acts	Graphicness
Degrees of violence	—	.150	.376**
Contextual elements			
Graphic	.376**	.041	—
Explicit	.515**	.073	.326**
Humorous	–.188	–.030	.002
Serious	.382**	.017	.284**
Realistic	–.222*	–.351*	–.098
Exciting	.213	–.048	.188
Harmful	.375**	–.006	.198
Realistic harm	.066	–.185	.111
Estimate of number of violent acts	.150	—	.041

Note: $N = 97$.
*$p < .05$. **$p < .001$.

tually related, and in a previous study in this line of research, they were so highly intercorrelated that they were added together to form a single scale of graphicness.

In addition, it is important to note that the estimates of number of acts of violence were not found to be related strongly to ratings of degree of violence for the program. Table 1 shows that the relationship samplewide was only $r = .15$ ($p = .61$) When this relationship was computed for each treatment group, none of the correlation coefficients were strong enough to be statistically significant. For participants who saw *Nash Bridges,* the relationship between estimate of number of violent acts and the rating of extent of violence was .10 ($p = .60$); for *Tunnel,* .09 ($p = .68$); and for *Justice League,* –.05 ($p = .80$).

H_2 predicted that there would be differences across the treatment conditions in participants' overall judgments of how violent the excerpts are. To test this hypothesis, a one-way analysis of variance was conducted, with judgments of violence as the dependent variable and treatment condition as the independent variable. Significant differences emerged across some of the treatment conditions in their violence judgments, $F(2, 94) = 6.54$, $p < .01$, $\eta^2 = .12$ (see Table 2). Specifically, judgments of violence for *Nash Bridges* ($M = 4.74$, $SD = 1.01$) were significantly different than those for *Tunnel* ($M = 5.73$, $SD = 1.31$) and those for *Justice League* ($M = 5.51$, $SD = 1.16$). Judgments of violence for *Tunnel* and *Justice League* were not significantly different from one another. Thus, partial support was found for H_2.

Table 2
Comparing Mean Interpretations Across Three Treatments

	Nash Bridges	*Tunnel*	*Justice League*	*F*
Overall degree of violence	4.74	5.73	5.51	6.5*
Contextual elements				
Graphic	3.63	4.38	3.97	1.8
Explicit	4.29	5.15	4.87	4.5*
Humorous	2.34	2.27	2.46	0.1
Serious	4.83	5.08	4.46	1.7
Realistic	4.00	3.50	1.85	22.6**
Exciting	4.03	3.92	4.18	0.3
Harmful	4.23	5.58	5.18	8.4**
Realistic harm	3.37	4.01	2.26	13.5**
Justified	4.63	3.88	4.13	3.8*
Estimate of number of violent acts	27.29	21.15	34.14	1.7

Note: With the exception of the estimate of number of violent acts, participants were asked to rate each of the elements on a scale ranging from 1 (*not at all violent*) to 7 (*extremely violent*). Estimates of violent acts were asked through an open-ended question.
*$p < .05$. **$p < .001$.

H_3 predicted differences across the treatment conditions in participants' ratings of contextual factors. Partial support was found for this hypothesis (see Table 2). Significant differences occurred across the three treatments in terms of ratings for explicitness, realism, level of harm, and justification. There were no significant differences, however, in terms of graphicness, humor, seriousness, and excitement. It is interesting to note that differences across treatments occurred in terms of explicitness but not graphicness. However, the pattern of ratings on these items was the same; that is, participants in the *Tunnel* condition rated the violence the highest, the graphicness the highest, and the explicitness the highest. In addition, as expected, the *Justice League* animated show was rated lowest on realistic violence and realistic harm. *Justice League* also received the highest estimates of number of violent acts—quite a bit higher than either of the other two treatments—yet it was not rated highest on violence.

It is also important to note that the differences in mean estimates of number of acts of violence was not statistically significant across treatment groups. The range of estimates for *Nash Bridges* was 4 to 75 acts of violence; for *Tunnel,* 5 to 50 acts; and for *Justice League,* 5 to 75 acts.

H_4 predicted that the rank ordering of contextual elements would differ based on treatment group. As a reminder, participants were presented with a list of six contextual elements and asked to rank order them in terms of how important each was in influencing their overall judgment about the degree of violence in the program they

viewed. Lower mean values reflect a higher ranking in terms of importance. This hypothesis was not supported. In all three conditions, graphicness received the highest ranking ($M = 2.32$), followed by harmfulness of the violence ($M = 2.41$), justification ($M = 3.44$), realism ($M = 3.66$), reward ($M = 4.11$), and finally attractiveness of the characters ($M = 4.99$). The mean ranking of all six elements did not differ significantly across the three treatment conditions. A test was also run to see if the individual rankings were significantly different from one another and found that overall they were, Wilks's $\lambda(5, 920) = .45$, $p < .001$. Graphicness and harmfulness are not significantly different in their rankings from one another, and justification and realism are not significantly different in their rankings from one another. The difference in rankings between realism and reward was approaching significance at $p = .06$. All other paired combinations of elements were ranked significantly different from one another at the $p < .001$ level.

Finally, RQ_1 asked whether the rank ordering of contextual elements would vary based on gender or amount of television exposure. The results show that the rankings were in fact stable across gender and television-viewing level. The mean rankings on none of the six elements was significantly different between men and women. In addition, the mean rankings across the three television-viewing levels were not significantly different.

Discussion

This study provides a useful extension to the line of research that examines viewers' judgments about the degree of violence in television programs. The way that people judge the degree of violence in the media is important because it has implications for public pressures to minimize violence in the media and to the role that content analyses, and researchers in general, play in this public debate. It may also have implications for media effects research. For example, if the public is not concerned about the same issues that concern scholars, it suggests the public is unaware of the types of media portrayals that could potentially cause harm to audiences. Thus, this line of research may indicate to scholars where the gaps occur between scientific research findings and the education of the public.

The findings of this study show that people vary significantly in how they quantify the amount of violent acts within a program. The results suggest that some participants were counting scenes, some were counting violent acts (or interactions among characters), and some were trying to count every bullet fired and punch thrown. However, what is most interesting in these findings is that the participants' quantitative estimates were not related to their summary judgments about the degree to which the program was violent. The correlations clustered in strength around .05 to .10. Instead, the summary judgments about the degree to which the program was violent were related to perceptions about graphicness and explicitness.

The finding that participants who saw *Tunnel* rated it more violent (5.73) than participants who saw either *Nash Bridges* (4.74) or *Justice League* (5.51) cannot be explained by the number of violent acts on the screen. *Tunnel* presented four scenes and 18 acts compared to *Nash Bridges*'s six scenes and 18 acts or *Justice League*'s eight scenes and 23 acts. Nor can it be explained by the estimations of violent acts by participants; *Tunnel* displayed the lowest mean estimate at 21 acts compared to an estimated 27 acts for *Nash Bridges* and a whopping 34 acts for *Justice League*. Instead, the high rating of violence for *Tunnel* is likely explained by its final shot in which the villain is shot between the eyes and the camera stays on his face in close-up for several seconds as the life leaves his body, his eyes roll back in his head, and he falls to the ground dead.

The use of graphicness as the most influential element in a person's judgment shows up whether researchers ask for ratings or rankings. Furthermore, this study also shows that the judgment of violence in a program is keyed to interpretations of graphicness, regardless of genre, gender, or television-viewing level. These findings sum to the single conclusion that television viewers use a very different means of arriving at a summary judgment of degree of violence in a television program than do social science researchers.

The differences in definitions leads to an apparent problem of ecological validity, and this can make the public distrustful of the results of scientific research studies. From a scientific point of view, cartoons such as the *Road Runner* and *Bugs Bunny* are very violent—in fact, cartoons are consistently rated as the most violent of all programs on television. The characters in these shows are continuously getting stabbed, shot, hit with heavy objects, blown up, rocketed into the sky, and flattened into the ground. But the characters always recover and never die. Social scientists who make strong statements about the harmfulness to children of viewing *Tom and Jerry, Road Runner, Three Stooges,* and *America's Home Videos* put themselves in danger of being regarded as being fuzzy-headed academics wasting their time with silly research. Most viewers would not regard any of these programs as violent. Critics (such as Morrison, 1993) look at this situation and conclude that social scientists must use poor definitions of violence. If the results of the scientific content analyses are regarded as silly by the public, then those findings will not help the public make meaningful changes in their children's exposure behavior that could protect them from unwanted effects. And if policymakers do not trust the findings of these studies, they will not be willing to expend political capital to force changes in programming.

This definitional gap between how the public and researchers make interpretations of the degree of violence in media messages delineates two problems. The first problem is that researchers need to understand more about how the public makes its interpretations. The second problem is that media scholars need to do a better job of highlighting those differences in interpretations and convincing the public about the faulty nature of how it makes its interpretations. Let us explore the implications of each of these problems.

The Public's Interpretation

Researchers have much more to learn from the public. Media scholars need to be more sensitive to the issue of how individuals interpret violence. Several critics of social science have been bothered by researchers' focus on their scientific definitions instead of on how viewers interpret violence. For example, Buckingham (1993) observes that "much of the research takes 'violence' as a homogeneous category, and tends to ignore crucial distinctions between different types of violence" (p. 12). He continues, "While there have been attempts to classify types of television violence … these have typically been based, not on the judgments of viewers who are actually exposed to the programmes, but on the supposedly objective judgments of researchers" (p. 12).

Van der Voort (1986) also sees this lack of attention to viewer interpretations as a problem, saying "Programs that are extremely violent according to 'objective' content analysis can be seen by children as hardly containing any violence. This, for example is the case with violent cartoons of the *Tom and Jerry* type" (p. 329). He argues that content analysts might find only one act of violence in a program, but for children this one act might be enough for them to regard the entire program as very violent. He suggests that "a 'subjective' determination of the violence-content of a program based on children's mean violence ratings is preferable to an 'objective' content-analytical assessment" (p. 330).

This criticism has been made at a more general level, for example, with the way researchers communicate risk to the public. Morgan, Fischoff, Bostrom, and Atman (2002) complained, "Rather than conduct a systematic analysis of what the public believes and what information they need to make the decisions they face, communicators typically ask technical experts what they think people should be told" (p. 19). They say when experts prescribe their knowledge without considering how the general public processes information, "It is not surprising that audiences often miss the point and become confused, annoyed, or disinterested" (p. 19).

Unless scholars consider the received view, their definitions will not have resonance with the viewing public. Therefore, researchers need to pay careful attention to the web of context surrounding violent acts—particularly the characteristics of graphicness, explicitness, and harm to characters. However, these researchers are not arguing that the received view should dominate; the way scholars have interpreted violence is also important.

Scholars' Interpretation

Scholars' interpretation of violence in media messages is based more on harm to viewers than on harm to media characters. It is known that a very small percentage of violent acts on television are graphic. The NTVS (1996) found that rarely is violence shown graphically; that is, only 3% of violent scenes feature a close-up of the vio-

lence and only 15% of violent scenes showed any blood or gore. Furthermore, much of the violence is sanitized, with 47% of violent interactions depicting no harm at all to the victims.

However, sanitized violence can have serious negative effects on viewers, especially over the long term. After repeated viewing of depictions of violence with little harm to victims, people can become desensitized and more accepting of violence as a way to solve problems (Linz, Donnerstein, & Penrod, 1988). In addition, the sheer repetition of violent acts can lead people to overestimate their risk of being victimized (Gerbner et al., 1978).

The irony is that the public only notices those violent acts that are highly graphic and therefore does not perceive the very large number of acts of violence that are not graphic. This large number of nongraphic, sanitized acts of violence are "under the public's radar" and thus get into the public's subconscious without triggering criticism. It is the large number of sanitized acts that have the greatest influence on altering the public's perception about their risk of being victimized, the acceptability of using violence to solve problems, and the need to sympathize with the victims of violence. If the public is successful in changing industry practices with this faulty criticism, the result will be to reduce (or eliminate) the graphic depiction of violence. This will increase the proportion (and perhaps the absolute frequency) of sanitized violence, which will increase the public's risk of several negative effects. Thus, what the public is asking for in its criticism will make the situation worse, not better.

Researchers need to educate the public about its faulty means of interpreting violence in the media. But first, researchers need to understand more about how the public makes those faulty interpretations.

Limitations and Suggestions for Future Research

Although the primary focus of this research has been to examine the public's interpretations of violence, it should be noted that this is only one part of a larger stimulus–interpretation–response model that must be considered in any discussion of the potential effects of violence. The work presented here has uncovered rather striking differences between public versus academic understanding of the stimulus–interpretation link. It now becomes the task of future research in this area to determine how the public's interpretations of violence affect their affective, cognitive, and behavioral responses. For example, Ogles and Hoffner (1987) report that explicitness and graphicness of a violent portrayal increase fear reactions. Yet, these findings are based on an objective assessment of the portrayals, not on actual viewer interpretations. Viewer interpretations may moderate this effect such that it only holds for those who actually believe the stimulus to be explicit and graphic. The importance of these interpretations should be tested in a full stimulus–interpretation–response model of effects.

It is also the case that viewer interpretations of violence are not static, existing only at the end of exposure. Viewer interpretations are fluid and may change frequently while

the narrative unfolds. For this reason, it is important that future work in this area examine how these interpretations change from scene to scene throughout the narrative experience. Take, for example, a situation in which two individuals, on average, rate a portrayal as equally graphic. These two individuals may have come to the same conclusion for very different reasons. Person A might have interpreted steadily increasing levels of graphicness, whereas Person B might have interpreted steadily decreasing levels. Although they may both average out as the same, Person A might very well experience a fear reaction, whereas Person B may experience desensitization. Future work in this area would be well advised to explore these potential differences in the *path* of viewer interpretations. Future research would also benefit from examining gender differences in judgments of media violence in samples that include more male participants.

References

Bandura, A., Ross, D., & Ross, S. A. (1963). Imitation of film-mediated aggressive models. *Journal of Abnormal & Social Psychology, 66,* 3–11.

Baron, R. A. (1977). *Human aggression.* New York: Plenum.

Berger, A. A. (1988). Humor and behavior: Therapeutic aspects of the comedic techniques and other considerations. In B. D. Ruben (Ed.), *Information and behavior* (pp. 226–247). New Brunswick, NJ: Rutgers University Press.

Buckingham, D. (1993). *Children talking television: The making of television literacy.* London: Falmer.

Cantor, J. (1994). Fright reactions to mass media. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 213–245). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Comstock, G., Chaffee, S., Katzman, N., McCombs, M., & Roberts, D. (1978). *Television and human behavior.* New York: Columbia University Press.

Comstock, G., & Strasburger, C. C. (1990). Deceptive appearances: Television violence and aggressive behavior. *Journal of Adolescent Health Care, 11,* 31–44.

Forgas, J. P., Brown, L. B., & Menyhart, J. (1980). Dimensions of aggression: The perception of aggressive episodes. *British Journal of Social & Clinical Psychology, 19,* 215–227.

Gerbner, G., Gross, L., Jackson-Beeck, M., Jeffries-Fox, S., & Signorielli, N. (1978). Cultural indicators: Violence profile no. 9. *Journal of Communication, 28,* 176–207.

Gerbner, G., Gross, L., Signorielli, N., Morgan, M., & Jackson-Beeck, M. (1979). The demonstration of power: Violence profile no. 10. *Journal of Communication, 29,* 177–196.

Greenberg, B. S., & Gordon, T. F. (1972). Perceptions of violence in television programs: Critics and the public. In G. A. Comstock & E. A. Rubinstein (Eds.), *Television and social behavior: Television's effects: Vol. 1. Media content and control* (pp. 244–258). Washington, DC: U.S. Government Printing Office.

Gunter, B. (1985). *Dimensions of television violence.* Aldershot, England: Gower.

Gunter, B., & Furnham, A. (1983). Personality and the perception of TV violence. *Personality and Individual Differences, 4,* 315–321.

Gunter, B., & Furnham, A. (1984). Perceptions of television violence: Effects of programme genre and type of violence on viewers' judgements of violent portrayals. *British Journal of Social Psychology, 23,* 155–164.

Howitt, D., & Cumberbatch, G. (1974). Audience perceptions of violent television content. *Communication Research, 1,* 204–223.

Liebert, R. M., & Baron, R. A. (1973). Some immediate effects of televised violence on children's behavior. *Developmental Psychology, 6,* 469–475.

Linz, D. G., Donnerstein, E., & Penrod, S. (1988). Effects of long-term exposure to violent and sexually degrading depictions of women. *Journal of Personality and Social Psychology, 55,* 758–768.

Morgan, M., Fischoff, B., Bostrom, A., & Atman, C. (2002). *Risk communication.* New York: Cambridge University Press.

Morrison, D. E. (1993). The idea of violence. In A. M. Hargrave (Ed.), *Violence in factual television, annual review 1993* (pp. 124–129). London: John Libbey.

National Television Violence Study. (1996). *Technical report* (Vol. 1). Thousand Oaks, CA: Sage.

Ogles, R. M., & Hoffner, C. (1987). Film violence and perceptions of crime: The cultivation effect. In M. L. McLaughlin (Ed.), *Communication yearbook 10* (pp. 384–394). Newbury Park, CA: Sage.

Paik, H., & Comstock, G. (1994). The effects of television violence on antisocial behavior: A meta-analysis. *Communication Research, 21,* 516–546.

Potter, W. J. (1999). *On media violence.* Thousand Oaks, CA: Sage.

Potter, W. J. (2003). *The 11 myths of media violence.* Thousand Oaks, CA: Sage.

Potter, W. J., Pashupati, K., Pekurny, R. G., Hoffman, E., & Davis, K. (2002). Perceptions of television violence: A schema explanation. *Media Psychology, 4,* 27–50.

Rowland, W. D., Jr. (1983). *The politics of TV violence: Policy uses of communication research.* Beverly Hills, CA: Sage.

Signorielli, N. (1990). Television's mean and dangerous world: A continuation of the cultural indicators perspective. In N. Signorielli & M. Morgan (Eds.), *Cultivation analysis: New directions in media effects research* (pp. 85–106). Newbury Park, CA: Sage.

Van der Voort, T. H. A. (1986). *Television violence: A child's-eye view.* Amsterdam: North-Holland.

Zillmann, D. (1979). *Hostility and aggression.* Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.