

11/30/94	Media	Time-Warner Forum	New York, New York	Draft	Time-Warner
06/26/95	Media	Announcement of her column	D.C., White House	Trans	American New Club
05/21/96	Media	Dedic. of Journalists' Memorial	Virginia, Arlington	Draft	Freedom Foru
06/08/96	Media	Administration accomplishments	Florida, Orlando	Draft	FL Soc. of Ne
06/10/96	Media	Administration accomplishments	Michigan, Detroit	Draft	Communcatio
06/12/96	Media	Hispanic Contributions	Illinois, Chicago	Draft	Nat'l Assn of H
09/18/96	Media	Positive stories	Colorado, Denver	Trans	AP Managing
09/23/96	Media	Media literacy	Video	Draft	National Med
09/26/96	Media	Positive Stories	California, Los Angeles	Draft	LA Times Ma
09/23/97	Media	Column	D.C.	Draft	Newspaper Fe
09/24/97	Media	Luncheon Speaker	Washington, D.C.		Newspaper Fe
05/28/98	Media	Voice of America	Washington, DC	Trans	Voice of Ame
12/10/98	Media	Warner Brothers Announcement	Los Angeles, CA		Los Angeles T
05/05/94	Media	Interview	459 OEOB	video	U.S. News and
03/21/96	Media-women	Women in communications	Video	Draft	Matrix Award
07/20/93	Television	Home Show Studios	Burbank, CA	Live TV	Two Seven M
07/20/93	Television	Michael Jackson Show	Burbank, CA	Live Radio	15 minute inte
03/03/94	Television	Children-Health	via satellite	Draft	Children's Def Conf.
03/04/94	Television	Violence	via satellite	Trans	Children Now
04/26/94	Television	Power of television	California, Los Angeles	Draft	Hollywood TV
05/05/94	Television	Frontline Project	459 OEOB	video	Wellesley Cla
05/05/94	Television	Larry King Live Show	Washington, D.C.		Live television
05/02/95	Television	CNN World Report Lunch	Georgia, Atlanta		Live
05/16/95	Television	Children, politics	Illinois, Chicago		Oprah Winfre
03/01/96	Television	Community Forum	Minnesota, Duluth		KTCA Star Tr
03/04/96	Television	Violence, V-chip	D.C., White House	Draft	Children's Tel Meeting
05/02/96	Television	Parenting	Georgia, Atlanta		CNN Parentin Show
06/22/96	Television	Education and parents	D.C.	Trans	Nat'l PTA 100

07/29/96	Television	Power of television	D.C., White House	Draft	White House M Conference
01/29/97	Television	Taping	New York, New York		The Rosie O'D
02/25/97	Television	Family media literacy	D.C.	Draft	Taking Charg
10/28/97	Television	Live	Chicago, Illinois		Interview On
12/07/97	Television	Today Show	D.C., White House		Interview with
12/11/97	Television	Taping	New York, NY		The Rosie O'D Choir
12/15/97	Television	Live	D.C., White House		Larry King Li
05/11/98	Television	taping	New York, New York		Rosie O'Donn
09/17/98	Television	VH-1 Announcement	Washington, DC		Marie H. Reed Center
02/19/99	Television	National Cable Television Association	Video - PSA		
04/13/99	Television	BBC Reith Lecture Series	Video		50th Annivers
06/10/99	Television	Today Show Interview	New York, New York		with John Syk
06/26/95	Television-public	PBS	D.C., White House	Trans	Public Televis

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"Curbing Media Violence: Lessons From Other Countries"

Presentation by Joel S. Federman
Director of Research, Mediascope

at

Violence and Society: Kids, Cops, Women and TV
Washington Journalism Center National Conference for Journalists
December 7, 1993

I want to begin by pointing out that a recent Centers for Disease Control violence survey of 22 Western industrialized democratic countries found that the United States had the highest homicide rates; in fact, we have more than double the homicides of our closest "competitor," Scotland. At face value, statistics like these, and others similar to them, are alarming. But, there is another, more hopeful, way to interpret this information. In fact, these statistics help to illustrate that the cause of violence in our society is not that people are innately violent, or that modern civilization is inherently self-destructive. The fact that these other countries--France, Britain, Canada, and so on--are so similar to us in so many other ways, and yet so much less violent, tells us that the level of violence in our own society is not inevitable, and that it is possible to find solutions to this epidemic of violence in America. There are many significant differences between the United States and other countries that contribute to our high level of violence, such as a lack of relative economic and social opportunity and access to guns. Among these, entertainment violence is a significant factor, and that is the issue I want to discuss today.

Public Opinion Clear

In this country, media violence has been getting a lot of attention only in the last six months. What is significant is the high degree of public consensus about the problem. Opinion surveys show 82 percent of the American public consider movies too violent, 72 percent feel that entertainment television has too much violence, and 57 percent think television news gives too much attention to stories about violent crime. What is less clear is what ought to be done about it. This is because there is a clash of central values involved, those of having a peaceful and secure society, and the cherished right to freedom of expression.

Models From Other Countries

Some have suggested that ratings are one part of the solution because, theoretically, ratings can be constructed in such a way as to inform consumers about violent content, and yet not act as a mechanism of censorship. At Mediascope, we conducted a study of the ways 36 countries and provinces deal with the rating and classification of films and television. In the process of conducting the study, we became aware that, in general, other countries take the issue of entertainment violence much more seriously than we do in the United States. In some cases, they have effective mechanisms of dealing with it already in place. We have much to learn from their experience.

I would like to give a few examples of how other countries are dealing with entertainment violence, and how that compares to the way we are handling the issue in this country. The first example has to do with film ratings, where we found that other countries are much more stringent with depictions of violence than the U.S. movie rating system, voluntarily administered by the Motion Picture Association of America (MPAA). Conversely, the MPAA is much more conservative regarding sex than many other countries. The best current example of the MPAA's attitude toward sexual depictions is that it insisted that Adam's nudity in Michaelangelo's painting on the ceiling of the Sistine Chapel be cut for a general release of the trailer for the new film *Six Degrees of Separation*. In Europe, and elsewhere, the film rating boards are much more open about depictions of nudity and sexual behavior.

In contrast, other countries are much tougher on violence than the MPAA. Sweden recently cut four minutes of violent scenes out of the Arnold Schwarzenegger film, *Last Action Hero*, so it could be approved for children 11 years old and over. Without such cuts, the film received a PG-13 rating from the MPAA. In Australia, the Film Board bans what it considers "excessively violent material," and the British Board regularly cuts violent scenes out of the American versions of films, so that they can receive less restrictive ratings--and here I'm including films like *Robin Hood*, *Lethal Weapon 3* and *Teenage Mutant Ninja Turtles*.

Parenthetically, the MPAA bases its ratings decisions on what it believes the "average American parent" would have to say about these films. But, when we examined public opinion polls about attitudes toward sex and violence, we found that the opposite is true: more people in the United States are concerned with media violence than with sexuality--or profanity.

Teaching Viewing Skills

The second important difference in the way other countries are dealing with media violence is that they address the issue in a more comprehensive way than we do. The focus of attention in the United States has been skewed primarily in the direction of network television which, when compared to movies, cable television, and video games, is probably the least violent medium. Britain, Germany, Sweden and Australia, by contrast, have systems in place for the ratings of videos for home viewing, which implement the same strict violence standards as they use for films. Australia and New Zealand have instituted rating systems for television, which classify programming according to their levels of violence, sexuality, profanity and adult themes. In turn, programs with more restrictive classifications are only allowed to be shown at hours of the day when children are less likely to see them. Other countries also make an effort to teach children critical viewing skills, which helps minimize the negative effects of media violence; in Ontario, Canada, for example, media literacy is a requirement in the public school curriculum.

The third good example of how to deal with media violence also comes from Canada, where it has been of great concern over the last few years. A large measure of this concern arises because of the violent media imported from the United States, both over the airwaves and in theaters. Over the last few weeks, a working group of individuals representing parents, educators, researchers, government agencies, public policy institutions, advocacy groups, and the entertainment industry has come together to find ways to deal with the issue of media violence constructively. At the same time, the entertainment industry's "Action Group" on television violence is in the process of developing a national rating system for television programs, to be in place by the beginning of the Fall 1994 programming season.

The Need For Dialogue

What is special about the "Canadian model" of dealing with media violence is the high level of cooperation among the parties involved in the discussion. This is in sharp contrast to the situation in the United States, where the entertainment industry circles its wagons while members of Congress initiate legislation to regulate entertainment content. The process of dealing with the issue in this country would be

much more productive if the parties involved would suspend their mistrust and impatience and try to work together.

Despite all these steps taken to alleviate the problem of media violence, there is still a high level of concern in other countries about the issue today. In Britain, where the trial of two ten-year-old boys accused of murdering a smaller child has just concluded, there is widespread discussion of the role of violent videos in influencing their behavior, including calls in Parliament for an inquiry into the effects of violent films. There are similarly deplorable stories in France, where a few days ago the French government announced new enforcement provisions for its ban on violent television films before 10:30 P.M. Their Communication Minister's quote is telling. He said: "It is our duty to avoid what happens in the United States." Media violence is also a major public issue in countries as diverse as Mexico, Sweden, Germany and Australia.

Issue Will Continue

Finally, I would like to give a brief overview of where the issue of media violence may be going over the next year. First, there is hope that we in the United States may begin to address media violence--and violence in American society--more comprehensively. The Clinton Administration has created an inter-agency task force to develop policy proposals for a national violence prevention and intervention strategy--including media violence. Also, there are some early indications that the new Chair of the Federal Communications Commission will be moving to expand the purview of FCC regulation over cable television, and this could have an impact on the oversight of violent television programming. In addition, the issue of video game violence is about to be addressed by a congressional hearing for the first time this Thursday, December 9. This hearing was initiated by Senators Kohl, Lieberman and Simon.

In addition, as you no doubt have heard throughout this conference, violence in general--and media violence, specifically--has increasingly come to be understood as a public health concern, as well as an issue of criminal justice. With that insight, the heads of four of the country's most respected medical associations have just written a letter to 125 board chairs, CEO's, presidents and other entertainment industry leaders. These concerned doctors have offered their organizations' assistance in addressing ways in which conflict and violence in films, television, music and video games can be lessened. The four organizations are: the American Psychological Association, the American

Academy of Pediatrics, the American Psychiatric Association and the Society for Adolescent Medicine. Their joint effort is being coordinated by Mediascope, which will be sponsoring a series of events over the coming year to address media violence as a public health issue.

In sum, there is no indication that this issue is going to go away anytime soon. Next year is a congressional election year, and as Jeff Greenfield of ABC News pointed out recently, no elected official will lose votes over the issue of media violence, since there is no pro-violence constituency. If anything, public opinion sentiment against media violence is growing: a *Newsweek* poll two weeks ago (November 22, 1993) showed that 90 and 91 percent of American parents feel that there is too much violence on television and in films, respectively. As long as violence continues to be an epidemic in our society, media violence will continue to be an issue.

► EXPOSURE TO VIOLENCE IN THE MASS MEDIA

Nearly 4 decades of research on television viewing and other media have documented the almost universal exposure of American children to high levels of media violence. Ninety-eight percent of American homes have at least one television, which is watched each week for an average of 28 hours by children between the ages of 2 and 11 and for 23 hours by teenagers. Children from low-income families are the heaviest viewers of television.

The level of violence on commercial television has remained constant during nearly two decades. In prime time there are five to six violent acts per hour; there are 20 to 25 violent acts per hour on Saturday morning children's programs. Although there is less research on cable television and VCRs, the rate of violence for MTV, for example, far exceeds that on commercial television. More graphic violence, sexual content, and mature themes are readily accessible in the 60% of homes in which cable television and VCRs are available.

There is absolutely no doubt that higher levels of viewing violence on television are correlated with increased acceptance of aggressive attitudes and increased aggressive behavior. Three major national studies—the Surgeon General's Commission report (1972), the National Institute of Mental Health Ten Year Follow-up (1982), and the report of the American Psychological Association's Committee on Media in Society (1992)—reviewed hundreds of studies to arrive at the irrefutable conclusion that viewing violence increases violence. In addition, prolonged viewing of media violence can lead to emotional desensitization toward violence.

Children's exposure to violence in the mass media, particularly at young ages, can have harmful lifelong consequences. Aggressive habits learned early in life are the foundation for later behavior. Aggressive children who have trouble in school and in relating to peers tend to watch more television; the violence they see there, in turn, reinforces their tendency toward aggression, compounding their academic and social failure. These effects are both short-term and long-lasting: A longitudinal study of boys found a significant relation between exposure to television violence at 8 years of age and antisocial acts—including serious, violent criminal offenses and spouse abuse—22 years later.

In addition to increasing violent behaviors toward others, viewing violence on television changes attitudes and behaviors toward violence in significant ways. Even those who do not themselves increase their violent behaviors are significantly affected by their viewing of violence in three ways:

- Viewing violence increases fear of becoming a victim of violence, with a resultant increase in self-protective behaviors and increased mistrust of others;
- Viewing violence increases desensitization to violence, resulting in calloused attitudes toward violence directed at others and a decreased likelihood to take action on behalf of the victim when violence occurs (behavioral apathy); and

- Viewing violence increases viewers' appetites for becoming involved with violence or exposing themselves to violence.

Film and television portrayals of women in victim roles and ethnic minorities in aggressive and violent roles exacerbates violence experienced by women and ethnic minorities. The effects on aggressive behavior of video and film modeling of violent behaviors have been demonstrated consistently and conclusively in psychological literature. Although the television and film industries can be credited for showing more ethnic minorities and women in a wider range of roles in recent years, the more common portrayals of such group members remain negative. Ethnic minority group members continue to be cast as criminals, gang members, or delinquents—exhibiting aberrant or antisocial behavior. In some instances, the showing of specific films depicting ethnic minority group members in this way have been linked to episodes of violence.

In explicit depictions of sexual violence, it is the message about violence, more than the sexual nature of the materials, that appears to affect the attitudes of adolescents about rape and violence toward women. Sexual violence in the media includes explicit sexualized violence against women including rape, images of torture, murder, and mutilation as well as the nonexplicit sexual aggression shown on commercial TV and cable and on videos available for viewing at home. Films that depict women as erotically surrendering to a rapist and willingly being raped have been shown to increase men's beliefs that women desire rape and deserve sexual abuse. Male youth who view sexualized violence or depictions of rape on television or in film are more likely to display callousness toward female victims of violence, especially rape. Laboratory studies also have shown an increase in men's aggression against women after exposure to violent sexual displays. Such sexual violence is found in X- and R-rated videotapes that are widely available to teenagers.

The concept of reality and how others live is also affected by the viewing of television programming and commercials. Low-income and ethnic minority children and youth are presented with a television world often quite different from their own. The contrast between the television "haves" and their own "have

not" status can elicit strong desires in youth eager to share in the consumer products shown in programs and commercials. Furthermore, television often demonstrates how these desirable commodities can be obtained through the use of aggression and violence.

The effects of viewing violence on television can be mitigated. Children can be taught "critical viewing skills" by parents and in schools so that they learn to better interpret what they see on television. For example, children can learn to distinguish between fictional portrayals and factual presentations. In addition, children can be taught to recognize ways in which violence is portrayed unrealistically (e.g., when it is portrayed without any negative consequences). Children can also learn to think about alternatives to the violence portrayed, a strategy that is particularly effective when an adult viewing the violence with the child expresses disapproval of violence as a means of solving problems and then offers alternatives. The availability of such protective measures for some parents, however, does not absolve the film and television industries from their responsibility for reducing the level of violence portrayed on the screen.

Television can be an effective and persuasive teacher of prosocial attitudes and has the potential to make a major contribution toward reducing violence. Among the strategies that may strengthen television's positive effects are:

- Inclusion of more prosocial messages and nonviolent problem-solving in television productions;
- Compliance with laws requiring broadcasters to serve the educational and informational needs of children by providing television programs that help educate children to prevent violence;
- Restricting times when dramatized violence is shown; and
- Creating and using a meaningful rating system that is based on a program's potential for damage to the child rather than on parents' sensitivities.

THE EFFECTS OF TELEVISION VIOLENCE ON AGGRESSIVE BEHAVIOR:

A META-ANALYSIS

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A Preliminary Report to the

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for the

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I. INTRODUCTION

Meta-analysis involves the quantitative aggregation of research findings (Rosenthal, 1984; Mullen, 1989), and has a number of substantial advantages. These include: (a) the basing of conclusions on an objective and comprehensive rather than selective survey of the literature; (b) the estimating of size of effects from the totality of available data; (c) the quantitative comparing of effect sizes for differing independent variables; (d) the examining of effects by principal factors of interest, such as independent variable, method, and subject and respondent characteristics; and, (e) the mapping of an area of inquiry by various descriptive attributes. Although technically it can be performed when as few as two studies are available, it is most useful when a literature is sizable (Light and Smith, 1971; Bangert-Drowns, 1986), as is the case in regard to television and film violence and aggressive and antisocial behavior. In such a circumstance, it becomes an invaluable complement to qualitative, subjective reviews of the same literature because, by addressing the same questions quantitatively and systematically, it offers a check on and possible challenge to such reviews.

There are two instances in which meta-analysis has been applied to the behavioral influence of television. Andison (1977) analyzed the outcome of 67 studies conducted between 1956 and 1976. This literature included published as well as unpublished studies, covering over 30,000 subjects and respondents, that included measures of exposure to violent film or television stimuli and aggressive or antisocial behavior. He found that, among the 67 studies,

nearly 77 percent reported a positive association between viewing violent television and aggressive behavior, 19 percent reported no relationship, and 4 percent reported an inverse relationship. A second meta-analysis was done by Hearold (1979) covering the literature up to 1977. She collected and analyzed 230 published and unpublished studies that examined associations between exposure to antisocial and prosocial stimuli and antisocial and prosocial outcomes. The overall finding of the more inclusive Hearold exercise was that those exposed to violent film or television stimuli were, as a group, about 10 percent more aggressive. This is heuristic phraseology. The actual datum is that the distribution of responses on the dependent measure for those said to be in the treatment condition had a higher mean and the degree to which it was closer to the aggressive or antisocial end of the continuum accounted for about 10 percent of the area covered by the distribution, or the variance. Characteristics of the subjects (e.g. age and sex), principal research methods (e.g. laboratory experiments vs. surveys), study quality, and ecological validity were unrelated to the direction of association between violence viewing and aggression although magnitude of association often varied.

It has been more than ten years since Hearold collected her data. There has been a continuous increase in the scientific literature. As meta-analysis has evolved, new statistical techniques have been developed. The questions asked by Hearold profitably can be asked again. Does the pattern still hold?

The goal of this meta-analysis is to synthesize the empirical studies which focus on the relationship between television viewing and aggressive behavior. The basic framework builds on Hearold's study. However, the study expands the coverage in several important ways:

1. It is inevitably more comprehensive by updating the analysis in both data and meta-analytic techniques employed, and thereby elevates the outcomes to state-of-the-art status.
2. The data base for surveys, field experiments, and laboratory experiments has increased with additional studies providing a firmer basis for drawing inferences.
3. The literature added during the intervening years allows analysis of issues that previously had to be ignored because of scanty evidence. For example, studies on the behavioral effects of exposure to erotica and violent erotica can now be included; aggression by males against females is an example of one often hypothesized behavioral outcome.
4. This analysis confines itself to comparatively homogeneous outcomes. Hearold pooled stereotyping, materialism, perception of the world as more dangerous than reality, and pessimism with aggressive behavior as outcomes. This study focuses on behavior, and specifically aggressive behavior.
5. The development of meta-analysis as a method now permits a more precise analysis. Included is the calculation of variations around the typical outcome. This answers the crucial question of whether an observed positive or negative outcome effect size is attributable to study characteristics or simply sampling error.

6. In presenting the study outcomes, "fail-safe numbers" also will be calculated. The fail-safe number is the number of additional unretrieved studies showing null results or no effect needed to reduce the overall estimated magnitude of effect size based on a set of study outcomes to a negligible level. Because of the tendency of journals to publish studies that produce significant results, there is the possibility that studies that show nonsignificant ($p > .05$) results might be stored away somewhere in file drawers. Rosenthal (1979) has devised a way of handling this problem by calculating the minimum number of unpublished studies showing null results that would be needed to overturn the conclusion reached in the meta-analysis. By providing fail-safe numbers, the outcomes of this meta-analytic integration will be gauged for its susceptibility to a challenge from unpublished data (Mullen, 1989).

The principal research question is whether in the current data totality of the retrievable empirical literature to date there is a significant positive relationship between behavior and the viewing of television programs. If so, what is the magnitude? More specifically, the question is whether the violence in a television program increases the aggressive behavior of the viewer. Secondary questions concern specific features of the portrayals, the methods employed in the original data collection, characteristics of viewers, and the robustness of the outcomes.

II. METHOD

Selection and Retrieval

The basic criteria for inclusion were twofold. First, there had to be information on the relationship between viewing television violence and aggression. Second, there had to be an original analysis of empirical data, however collected. Literature reviews, even if they collated and displayed empirical findings about that relationship from other sources, were excluded.

Studies came from four sources: (a) The major list of studies conducted before 1977 came from Hearold's (1979) compilation. (b) Post-1977 to November 29, 1989, studies were obtained by a computerized literature search of the databases *ERIC* (Educational Resources Information Centers), *Psychological Abstracts*, *Dissertation Abstracts International*, *Sociological Abstracts*, and *Psychological Alert*. (c) The studies obtained in these searches served as another source of reference list. (d) Post November, 1989 studies were retrieved by reviewing journals that had produced pertinent studies in the earlier searches. (e) In addition, the "invisible college" was consulted for additional references (see Mullen, 1989).

Coding

Each comparison between groups exposed to violent television and groups not exposed in the experimental design studies and each different measure of television viewing in the correlational design studies were treated as a separate observation (Table 2.1). As a result, some studies yielded more than one comparison. From 188 studies, 1,126 study comparisons were generated for the meta-analysis.

TABLE 2.1 Study Comparisons

Program Comparisons	Number of Studies	Number of Comparisons
Experimental Studies	143	692
Violence vs Neutral	63	274
Violence vs No Program	35	208
Violence vs Violence	10	62
Erotica vs Neutral	6	29
Erotica vs No Program	2	25
Violence vs Prosocial	4	21
Violence only	2	20
Violent-Erotica vs Neutral	3	12
Violent-Erotica vs Erotica	1	12
Violent-Erotica vs No Program	1	6
Violence vs Erotica	1	6
Erotica vs Erotica	1	1
Other	14	16
Correlational Studies	45	434
Amount of TV Viewing	8	89
Expressed Preferences of TV Program	8	75
Frequency of Actual Program Viewing	28	264
Total	188	1126

For each study comparison, information on study outcome and study characteristics were coded according to the classifications listed in Table 2.2. A large number of study characteristics were included on the ground that they could influence the study outcome. The coding categories expand and elaborate on the categories employed by Hearold (1979).

TABLE 2.2 Coding of the Studies

I. GENERAL INFORMATION ABOUT THE STUDY

A. Design and Source

Year of Publication

Source: Published - book, journal, government document, television company report
Unpublished - dissertation/thesis, Eric, conference paper, Other

Researcher Affiliation: Communications/Speech/Journalism Department: Psychology/Child Development/Social Psychology/Educational Psychology/or Behavioral Science: Sociology/Political Science/ Social Science: Education or Educational Psychology Department: Mental Health or Educational Organization: Government: Television Broadcasting Company: other

Country: U.S.A., Canada, Africa, Asia, Australia/New Zealand, Eastern Europe, Western Europe, South and Central America, Middle East

The researcher's initial hypotheses: violent TV/violent erotica viewing increases the degree of violent behavior of the viewer, violent TV/violent erotica viewing decreases the degree of violent behavior of the viewer, violent behavior leads to violent TV/violent erotica viewing, erotica viewing increases the degree of violent behavior of the viewer, erotica viewing decreases the degree of violent behavior of the viewer, violent behavior leads to erotica viewing, other (i.e., unknown)

Type of methodology: laboratory experiment, field experiment, non-experimental field study, survey, time series, other

Random assignment: yes, no, other (i.e., unknown)

Study design: pre-post design, post-hoc design, longitudinal design, other (i.e., unknown)

B. Subject/Respondent Information

Age of the subjects/respondents

Range of age

Gender of subjects

Socioeconomic status: low (inner city ghetto dweller, prisoner, etc.), lower-middle middle, upper-middle, high, other (i.e., unknown)

Aggressive predisposition: low, average, high, unknown

Self-esteem level of the viewer: low, average, high, other (i.e., mixed or unknown)

Intelligence: low, average, high, unknown

School achievement: low, average, high, unknown

Ethnicity: white, black, Hispanic, Asian, other (i.e., unknown)

Place of residence: central city, ghetto, suburban area, rural, university town, prison or penitentiary, mental hospital, kibbutz, other

Institutionalized: yes, no

(table continues)

TABLE 2.2 (Continued)

II. TELEVISION EXPOSURE

A. Television Exposure and its Measure

Television exposure: sheer amount of television viewing, expressed preferences of television programs, frequency of actual programs viewed, actual/conventional form of television/film program - entire, actual/conventional form of television/film program - excerpts, behavioral demonstration, other

Television exposure measure: self-report, others report, self-report + judges rating, judges + others rating (i.e., parents and others rating), self-report + judges rating + others report, other (i.e., experimental manipulation)

Treatment period/duration (in hours)

B. Treatment and Control - Comparison

Aspects of treatment comparison: violent content, erotica content, violent erotic content

Aspects of control comparison: neutral content, violent content, erotica content, prosocial content, no program used for control comparison

C. Television Portrayal - Description

Type of program category: adventure program - detective/crime, drama - serious nature shown each week, western, cartoon/fantasy program, news/public affairs, movie, cultural, sports show, game show, talk show, musical-variety program, educational program, pornography, commercial, other (i.e., behavioral demonstration, excerpts)

Characteristics of the victim(s): individual, group or gang, multiple individuals, above - combined, nonhuman subject (i.e., object, cartoon figure), other (i.e., unknown)

Gender of the victim(s): female, male, both, other

Ethnicity of the victim(s): white, black, Hispanic, Asian, other (i.e., mixed, unknown)

D. Television Portrayal of Treatment Condition - Four Dimensions

Efficacy
Normativeness
Susceptibility
Pertinence

E. Television Portrayal of Control Condition - Four Dimensions

Efficacy
Normativeness
Susceptibility
Pertinence

F. Viewing Circumstances

Frustration of the viewers during the treatment situation: both groups frustrated, treatment group only frustrated, control group only frustrated, frustration not used, other (i.e., combined)

Distractions while viewing (if survey = 2): yes, no

(table continues)

TABLE 2.2 (Continued)

III. OUTCOME BEHAVIOR

Seriousness of antisocial behavior: physical violence against a person - worst, behavior (i.e., Criminal act - homicide, suicide, stabbing, rape); grand theft, physical violence against a person - milder than 1 but some form of physical violence against a human - hitting, pushing, delinquency, aggressive driving; aggravated robbery; verbal aggression; physical aggression against an object; hostility, rule breaking, paper-pencil measure of aggressive intent, electric shock, noxious noise; Plays with aggressive toys, loud, reduced social play

Seriousness of antisocial behavior (NRC scale): specific serious violent behavior; scale of observed aggressive behavior (both minor and serious aggressive behavior); self-reported intent to commit a serious violent act; observed/self-reported aggressive behaviors (which will be minor .. of the pushing/shoving variety); peer-rated scale (similar to 2); intensity of use of aggression machines/aggression toward an object; aggregate index of a violent crime type (i.e., homicide, rape)

Outcome behavior measure: measured by unnatural test or instrument, staged situation (i.e., Bandura's "Bobo" doll studies); fairly realistic task or self-report information (intention) - (i.e., help-hurt button apparatus); observed in a normal play, school, and living situations, self-report or others' ratings of interpersonal aggression; crime rate statistics, institutionalized

Duration of waiting period between treatment and measurement of outcome behavior (in hours)

If longitudinal study, how many years (if not applicable=0)

Similarity between exposed behavior and outcome behavior: same; similar but not exactly the same; unrelated task; other (i.e., above mixed)

Possible retaliation by the victim: yes, no

Families television viewing habits/preference: violent programs, prosocial programs, other/unknown

Possible sanctions against aggressive behavior: yes, no (i.e., incentive/encouragement for the aggressive behavior display), other/unknown

Presence of a commenting/labeling/mediating adult: yes, no

Role-playing training after the show: yes, no

IV. STATISTICS AND EFFECT SIZE

The inferential statistics are: actually reported in the study, calculated by the coder, estimated by the coder

Type of statistic: F-test, probability, r (correlation), g, t-test, X^2 (Chi-square), Z (Standard Normal Deviate), d, Z_{Fisher} , other

Value of inferential statistic

Sample size

Degrees of freedom

Direction of effect: +, -, 0 (null effect)

Mean of treatment group

Mean of control group

Standard deviation of treatment group

Standard deviation of control group

N of treatment group

N of control group

Integrating the Comparisons

The statistical tests of effect sizes, significance levels, and fail-safe numbers were calculated by formulas described by Rosenthal and Mullen (Rosenthal, 1984; Mullen & Rosenthal, 1985; Mullen, 1989). The primary effect-size estimate was the correlation coefficient, r . Because of the skewness of the distribution at the extreme ends of the value, a transformation of r , the Z_{Fisher} was calculated. For combination of significance levels and effect sizes, Stouffer's (1949) method of cumulating z scores was used. A "fail-safe number" is the number of unretrieved studies averaging null results needed to raise the overall combined probability to nonsignificance. The actual numerical meta-analytic computations for this study were done by the statistical package program developed by Mullen (1989). For detailed information on the formulas that were used to transform inferential statistics into Z s and r , see to that author (pp. 43-44).

TABLE 2.3 Transformation of Inferential Statistics into Zs

for t:	$Z = (df(\log(1 + (t^2 / df))))^{1/2}(1 - (1 / (2df)))^{1/2}$
for F(1,df):	$Z = (df(\log(1 + (F / df))))^{1/2}(1 - (1 / (2df)))^{1/2}$
for $X^2(1)$:	$Z = \sqrt{X^2}$
for r:	$t = (r(N - 2)^{1/2}) / (1 - r^2)^{1/2}$ then
	$Z = (df(\log(1 + (t^2 / df))))^{1/2}(1 - (1 / (2df)))^{1/2}$

NOTE: The logarithms presented in these expressions are natural logarithms (i.e., $\log_e$ and not $\log_{10}$)

SOURCE: Mullen (1989)

TABLE 2.4 Transformation of Inferential Statistics Into rs

for t:	$r = [t^2 / (t^2 + df)]^{1/2}$
for F(1,df):	$r = [F / (F + df)]^{1/2}$
for $X^2(1)$:	$r = (X^2 / N)^{1/2}$
for Z:	$r = (Z^2 / N)^{1/2}$

SOURCE: Mullen (1989)

III. DATA DESCRIPTION

Overall in this meta-analysis, 188 studies were analyzed which generated 1,126 study comparisons representing a total of 244,346 viewers. Among these comparisons, 692 derived from experimental designs and 434 derived from correlational designs (Table 3.1). The earliest year that a study appeared was 1957, and the latest, 1990. Most of the studies were conducted in the United States, where the researcher, viewer and the television stimuli were American.

Males were more often subjects or respondents than females. The range of ages varied widely from less than 3 years old to over 70 years. Most of the violent stimuli in the experimental designs came from actual television programs or films. In the correlational designs, the frequency of viewing violent television programs was more often the dependent measure than mere amount of television viewing. The kinds of aggressive behavior included ranged from severe forms of criminal behavior to minor aggression by societal standards.

TABLE 3.1 Studies and Comparisons by Type of Study

Method	Number of		Number of	
	Studies	Percent	Comparisons	Percent
Experimental Design				
Laboratory Experiment	108	57.4	559	49.6
Time Series	23	12.2	49	4.4
Field Experiment	11	5.9	77	6.8
Field Study	<u>1</u>	<u>0.5</u>	<u>7</u>	<u>0.6</u>
	143	76.0	692	61.5
Correlational Design				
Survey	45	23.9	434	34.0
Total	188	100.0	1126	100.0

General Description of the Study

The earliest year that a study appeared for this data set was 1957 and the latest 1990. As Table 3.2 shows, in the 1970s research on the effects of media violence on aggressive behavior increased exponentially, especially from 1970 to 1974. More than a third of total studies appeared during this period. This was due to the fact that in 1972 a final report and five technical

volumes of the Surgeon General's Scientific Advisory Committee on Television and Social Behavior were published. Researches was commissioned in behalf of the Committee and more followed inspired by the issues raised in the report. Since then, but in decreased volume, a steady number of studies have been conducted. More than half of the studies of this meta-analysis were post 1974, and more than a third were from the 1980s alone.

TABLE 3.2 Studies and Comparisons by Year of Study

Year	Number of		Number of	
	Studies	Percent	Comparisons	Percent
Pre 1965	9	4.8	61	5.4
1965-1969	14	7.4	61	5.4
1970-1974	64	34.0	484	43.0
1975-1979	30	16.0	184	16.3
1980-1984	43	22.9	176	15.6
1985-1989	<u>28</u>	<u>14.9</u>	<u>160</u>	<u>14.2</u>
	188	100.0	1126	100.0

Comparing the current data set with that of Hearold, about 45 percent (85 studies) are post Hearold. With these additional studies, change or persistence of a pattern in the findings can be examined. At the same time, with the pre-1978 studies Hearold's analysis can be replicated, which provides a gauge for validating Hearold's as well as the current study.

Both published and unpublished studies were included. About 85 percent were published (Table 3.4). Published studies were from journals, books, government documents, and technical reports and for unpublished studies from dissertations/thesis, conference papers, or ERIC documents.

TABLE 3.4 Studies and Comparisons by Sources of Study

Source	Number of		Number of	
	Studies	Percent	Comparisons	Percent
Published				
Journal	143	76.1	703	62.4
Book	9	4.8	113	10.0
Govt Document	6	3.2	139	12.3
Tech Report	<u>1</u>	<u>0.5</u>	<u>4</u>	<u>0.4</u>
	159	84.6	959	85.2
Unpublished				
Thesis	14	7.4	73	6.5
ERIC	7	3.7	32	2.8
Conf. Paper	<u>8</u>	<u>4.3</u>	<u>62</u>	<u>5.5</u>
	29	15.4	167	14.8
Total	188	100.0	1126	100.0

More than 85 percent of these studies were conducted in the United States. The viewers of these studies were Americans and the programs were American programs (Table 3.5). The rest were conducted in other countries,

such as Western Europe, Canada, Australia/New Zealand, Middle East, Eastern Europe and Asia. The viewers of these non-American studies were an international population but the programs of these studies were mostly imported American programs or similar to the American ones. Because of the small number of non-American studies, cross-cultural comparisons are not justified but by the same token, as Linn (1986) argued, the external validity of the analysis is not threatened by cultural factors when generalizing to American viewers.

TABLE 3.5 Studies and Comparisons by Country

Country	Number of		Number of	
	Studies	Percent	Comparisons	Percent
U.S.	160	85.1	914	81.2
Western Europe	10	5.3	126	11.2
Canada	6	3.2	25	2.2
Australia/NZ	5	2.7	31	2.8
Middle East	4	2.1	11	1.0
Eastern Europe	2	1.1	18	1.6
Asia	<u>1</u>	<u>0.5</u>	<u>1</u>	<u>0.1</u>
	188	100.0	1126	100.0

Major contributors by discipline or field were Psychology and Communications (Table 3.6). More than half of the studies were from Psychology, and about one third were from Communications. The two account for about 90 percent of the literature whether the metric is the study or the comparison.

TABLE 3.6 Studies and Comparisons by Researcher Affiliation

Affiliation	Number of		Number of	
	Studies	Percent	Comparisons	Percent
Psychology	107	56.9	534	47.4
Communications	56	29.8	505	44.8
Sociology	10	5.3	48	4.3
Health/Ed Org.	10	5.3	22	2.0
Education	4	2.1	13	1.2
TV Broadcasting	<u>1</u>	<u>0.5</u>	<u>4</u>	<u>0.4</u>
	188	100.0	1126	100.0

As Table 3.7 shows, about two-thirds of the studies were post-test design. Typical post-test design studies were laboratory experiments and surveys. Pre-post designs, by definition experimental in character, were less frequent. More than 10 percent examined the long-term effects of television violence. Post-hoc design studies were mostly surveys tracing back the

earlier television usage patterns of persons incarcerated for criminal conduct. In a small number of studies, there was either a panel design or repeat design.

TABLE 3.7 Studies and Comparisons by Study Design

Study Design	Number of		Number of	
	Studies	Percent	Comparisons	Percent
Post-test	121	64.4	765	67.9
Pre-post	33	17.6	102	9.1
Longitudinal ^a	22	11.7	169	15.0
Post-hoc	5	2.7	16	1.4
Panel design ^a	4	2.1	31	2.8
Repeat ^a	<u>3</u>	<u>1.6</u>	<u>43</u>	<u>3.8</u>
	188	100.0	1126	100.0

^a Longitudinal designs were those in which data collection covered more than a day and the focus was on long-term influence. Repeat designs were those in which outcomes were measured more than once during a day to examine delayed effects. Panel designs involved collected data at more than two points from the same sample.

As Table 3.8 shows, random assignment was predominant in the experimental designs while convenience sampling, such as, selecting certain schools within a school district, was predominant among the survey designs. In time-series studies, aggregate population data were used.

TABLE 3.8 Studies and Comparisons by Assignment/Sample of Viewers

Type of Assignment/ Sampling	Number of Studies	Percent	Number of Comparisons	Percent
Assignment				
Random	100	53.2	515	49.2
Matched	11	5.9	77	6.4
Statistical Control	1	0.5	1	0.1
Uncontrolled	3	0.5	14	4.2
Population Aggregate	<u>6</u> 121	<u>1.6</u> 64.4	<u>31</u> 638	<u>3.3</u> 56.7
Sample				
Convenient Sample	53	28.2	405	<u>36.0</u>
Probability Sample	<u>14</u> 67	<u>7.4</u> 35.6	<u>83</u> 488	<u>7.4</u> 43.3
Total	188	100.0	1126	100.0

Subjects and Respondents

This meta-analysis is based on 244,346 viewers. The average number in experimental designs was 94 and in correlational designs 413.

As Table 3.9 suggests, there was a great discrepancy in gender information. Among 1,126 comparisons, 53 percent involved males only while 17 percent involved females only. Furthermore, about 30 percent of the comparisons didn't provide information on gender differences even when the study sampled both sexes.

TABLE 3.9 Studies and Comparisons by Gender of Viewer

Gender of Viewer	Number of		Number of	
	Studies	Percent	Comparisons	Percent
Male	97	51.6	595	52.8
Female	9	4.8	196	17.4
Both	<u>82</u> 188	<u>43.6</u> 100.0	<u>335</u> 1126	<u>29.8</u> 100.0

As Table 3.10 shows, a full range of age groups were represented. The youngest were less than 3 years old and the oldest about 70 years of age. Age from 6 to 11 (first to 6th grade) and 18 to 21 (college students) were slightly over represented, constituting 30 percent of the total.

TABLE 3.10 Studies and Comparisons by Age of Viewer

Age of Viewers	Number of Studies		Number of Comparisons	
		Percent		Percent
Pre School	21	11.2	104	9.2
6-11	54	28.7	345	30.6
12-17	35	18.6	343	30.5
18-21 (College)	50	26.6	264	23.4
Adult	12	6.4	54	4.8
No Age Information	<u>16</u>	<u>8.5</u>	<u>16</u>	<u>1.4</u>
	188	100.0	1126	100.0

Table 3.11 displays viewer residence. Almost half of the total viewers were from a University town area. Urban areas were second with about 26 percent.

TABLE 3.11 Studies and Comparisons by Residence of the Viewer

Residence of Viewer	Number of Studies	Percent	Number of Comparisons	Percent
University Town	94	50.0	493	43.8
Urban Area	36	19.1	295	26.2
Public Institute/ Mentally Retarded	27	14.4	82	7.3
Prison/Penitentiary	11	5.9	66	5.9
Suburban	10	5.3	67	6.0
Rural/Semi-rural	5	2.7	36	3.2
Mental Hospital	2	1.1	9	0.8
Ghetto	2	1.1	76	6.7
Kibbutz	<u>1</u>	<u>0.5</u>	<u>2</u>	<u>0.2</u>
	188	100.0	1126	100.0

Television Exposure or Treatment

As Table 3.12 shows, in the experimental designs about half of the comparisons involved exposing subjects to excerpts of violent programs, about 20 percent involved exposure to an entire program, and another 18 percent involved behavior demonstrations. Action-adventure programs were most frequently drawn on for the treatment (Table 3.13). Among the correlational designs, comparisons predominantly represented frequency of exposure to violent programs (60 percent) and such comparisons were three times more frequent than those representing overall television exposure.

Table 3.12 Study Comparisons and TV exposure Type

TV Exposure	Experimental		Correlational	
	Design	Percent	Design	Percent
Amount of TV Viewing	17	2.5	89	20.5
Expressed Preferences	.	.	75	17.3
Frequency of Violent Program Viewing	19	2.6	264	60.8
Television Program - entire	135	19.5	4	1.4
Television Program - excerpts	360	52.0	.	.
Behavioral Demonstration	124	18.0	.	.
Other	37	5.4	.	.
Total	692	100.0	434	100.0

TABLE 3.13 Studies and Comparisons by Program Category

Program Category	Number of		Number of	
	Studies	Percent	Comparisons	Percent
Adventure	27	14.4	162	14.4
Sports show	13	6.9	47	4.2
News	12	4.2	92	8.2
Movie	14	7.4	80	7.1
Cartoon	10	5.3	42	3.7
Pornography	11	5.9	68	6.0
Drama	4	2.1	15	1.3
Western	2	1.1	43	3.8
Commercial	2	1.1	5	0.4
Comedy	1	0.5	4	0.4
Behavioral Demonstration	34	18.6	161	34.3
Undifferentiated/ Mixed	<u>58</u> 188	<u>30.8</u> 100.0	<u>407</u> 1126	<u>14.3</u> 100.0

Outcome Behavior

As Table 3.14 shows, the antisocial behavior included in this meta-analysis ranged from violent crime to the minor form of play with aggressive toys. About six percent of comparisons involved criminal violence. The total for all forms of clearly illegal behavior was just under 10 percent. About 40 percent involved performance on an aggression machine or a paper-and-pencil test. Twenty percent represented physical violence against another involving hitting or pushing. About ten percent involved physical violence against an object. The proportion of studies that involve illegal behavior is half again greater than the comparisons that do so because, by their nature, such studies have fewer dependent variables.

TABLE 3.14 Antisocial Behaviors

Antisocial Behavior	Number of		Number of	
	Studies	Percent	Comparisons	Percent
Criminal Act/Homicide Suicide, Stabbing	15	8.0	65	5.8
Grand Theft	11	5.9	23	2.0
Physical Violence Against a Person/Hitting, Pushing	34	18.1	274	24.3
Aggravated Robbery	4	2.1	13	1.2
Verbal Aggression	11	5.9	84	7.5
Physical Aggression Against an Object	22	11.7	101	9.0
Paper-pencil Measure of Aggressive Intent/ Electric Shock	78	41.5	491	43.6
Plays with Aggressive Toys	2	1.1	2	0.2
Other	<u>11</u>	<u>5.9</u>	<u>73</u>	<u>6.5</u>
	188	100.0	1126	100.0

IV. RESULTS

The summative meta-analytic results based on comparisons are presented in Table 4.1 and Table 4.2. Overall, there was a highly significant positive association of medium magnitude¹ between exposure and behavior. The vast majority of the comparisons represent exposure to violent programming and aggressive behavior. The fail-safe N^2 for 1,087 comparisons³ is 2,211,412, about 400 times Rosenthal (1984) benchmark⁴ - extremely robust in regard to the potential influence of additional studies with null outcomes.

As Table 4.1 and Table 4.2 show, combined significance for experimental and correlational studies was highly significant. The average combined effect of viewing on behavior was medium for experimental designs and small for correlational designs based on Cohen's (1988) estimates. Within the experimental designs, laboratory experiments produced the strongest magnitude of effect followed by field experiments and field studies. Again, the fail-safe N s for each different research design were large enough to conclude that

¹ Cohen (1988) estimated $d = .20$ or $r = .10$ as small; $d = .50$ or $r = .30$ as medium; $d = .80$ or $r = .50$ as large effect sizes.

² Fail-safe N indicates the number of studies of no effect needed to reduce a significant combined probability to nonsignificance.

³ The reduction of 39 comparisons from the initial 1,126 (see Table 2.1.) is attributable to the 39 which is generated by 3 studies, that dealt with the reverse hypothesis that aggression leads to violent television viewing. These are being analyzed separately.

⁴ Based on Rosenthal (1984)'s " $5k + 10$," the benchmark number of studies for 1080 hypothesis is 5,445 studies.

these outcomes are highly robust in regard to hypothetical unavailable null effects studies.

TABLE 4.1 Combinations of Significance Level By Research Method

Comparison	N	Z	p	Fail-Safe N
All Observations Combined	1087	74.22	0	2211412
Experimental Studies	684	49.09	0	608541
Laboratory Experiment	551	43.80	0	390096
Field Experiment	126	21.91	0	22217
Field Study	7	3.75	8.80E-05*	29
Correlational Studies	403	57.93	0	499330
Survey	403	57.93	0	499330

* This is same as $p = .0000880$.

TABLE 4.2 Combinations of Effect Sizes By Research Method

Comparison	Z_{Fisher}	r	r^2	d
All Observations Combined	.32	.31	.10	.65
Experimental Studies	.40	.38	.14	.81
Laboratory Experiment	.43	.40	.16	.88
Field Experiment	.28	.27	.07	.56
Field Study	.21	.21	.04	.42
Correlational Studies	.19	.19	.04	.38
Survey	.19	.19	.04	.38

Light & Pillemer (1984) demonstrate the use of visual displays such as a frequency distribution and the funnel plot to better understand the data and the results. Based on the central limit theorem with large sample sizes, the frequency distribution of the outcome of studies large in sample size should be normal in shape around the "true" population mean.

Figure 4.1 is the frequency distribution of 1,087 hypothesis tests of all observations. It demonstrates a highly peaked unimode of normal

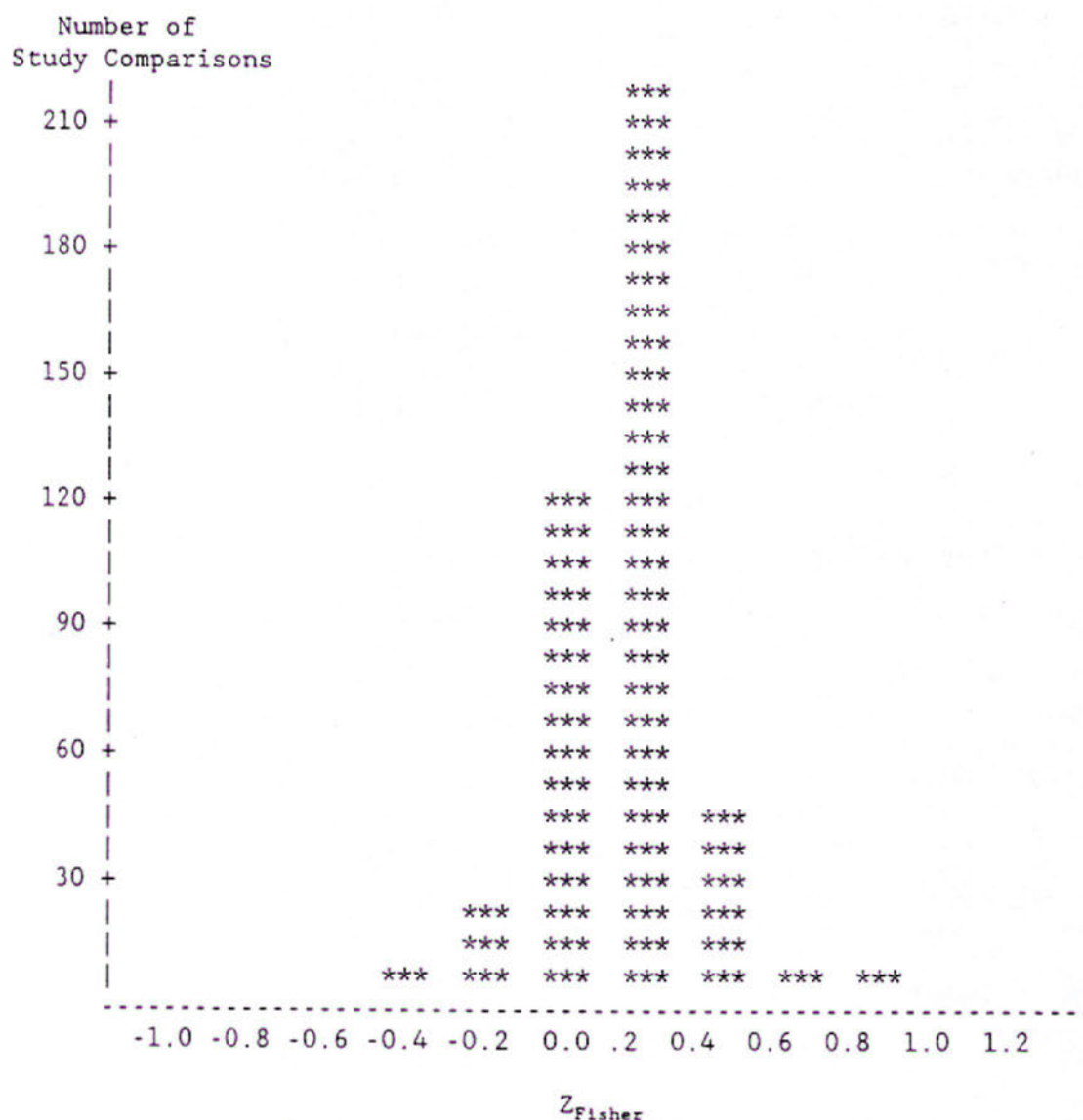


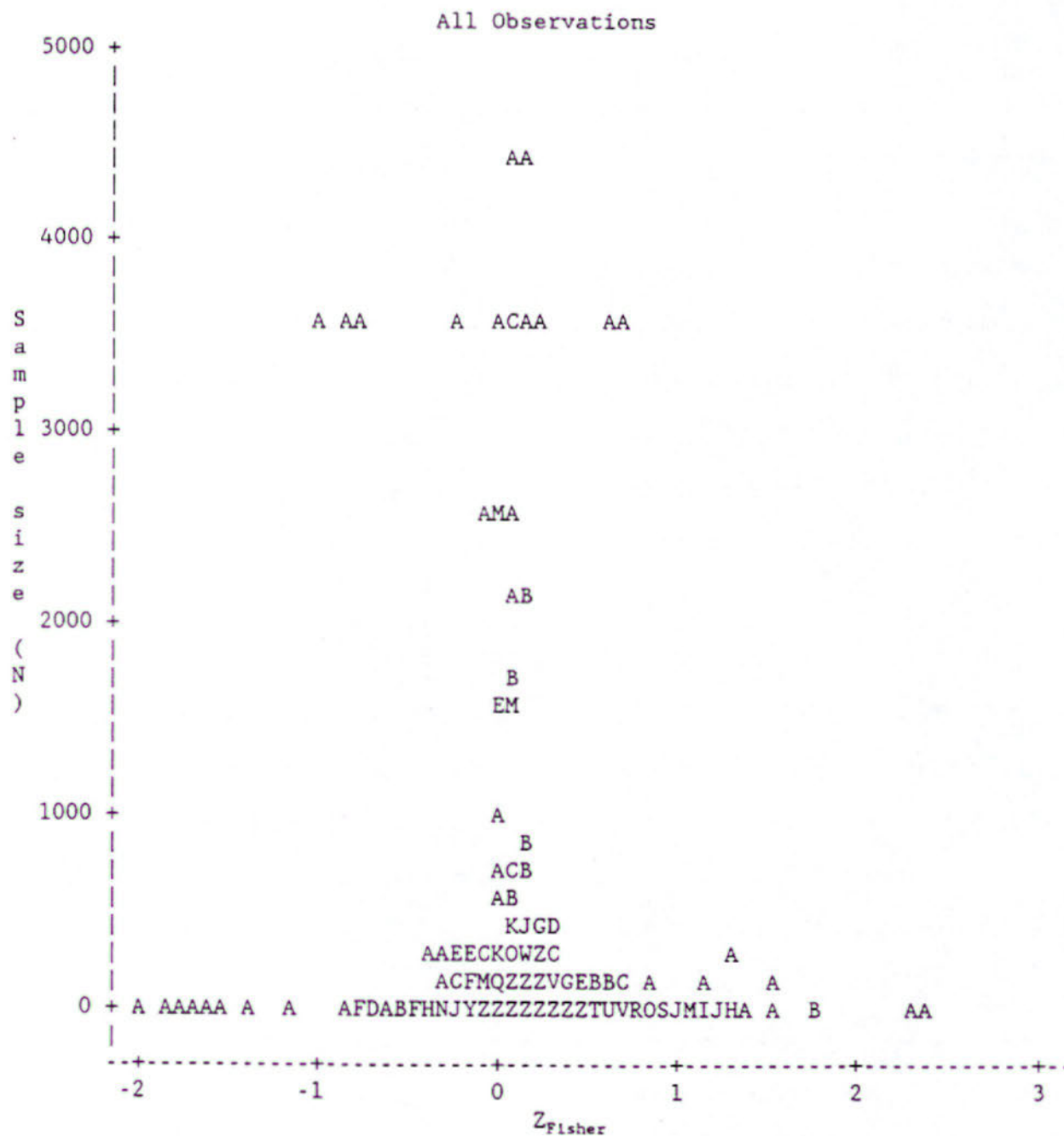
FIGURE 4.1 Frequency Distribution of Effect Sizes for 1,087 Hypothesis Tests

distribution. This suggests that these meta-analysis data represent a single underlying population, the overall average effect size ($Z_{\text{Fisher}} = .32$, $r = .31$) appears to be a good summary statistic, and that statistic is positive.

As the fail-safe N clarifies the publication bias issue, the funnel distribution serves the same function visually. It is widely acknowledged that studies with significant outcomes are more likely to be published than those with nonsignificant findings. This can cause a systematic bias when reviewing or aggregating the outcomes that leads to the overestimate of effect sizes. When such bias exists, the funnel distribution of effect sizes of the individual studies will show a positively skewed shape (Light & Pillemer, 1984).

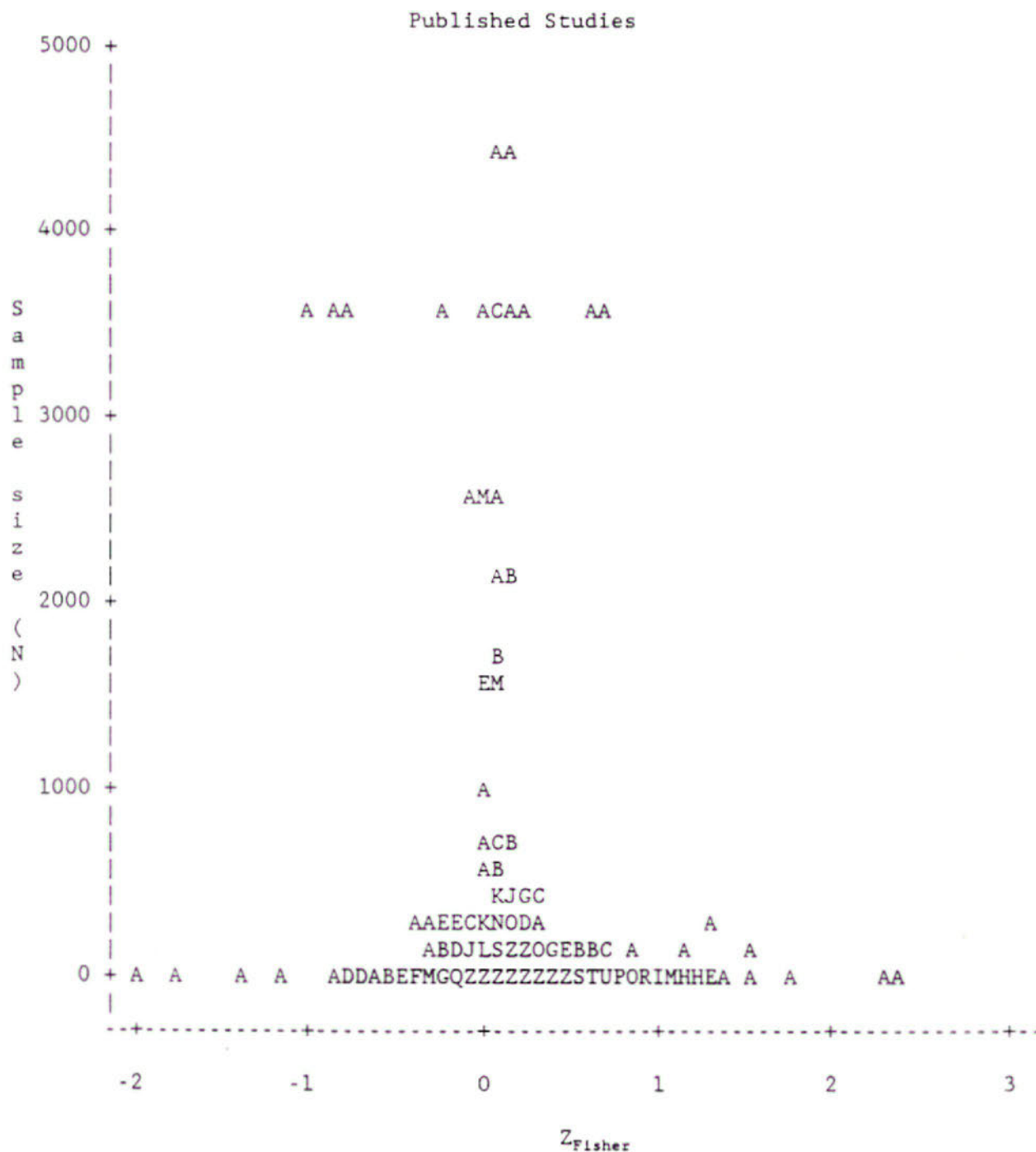
Figure 4.2 is a funnel plot of the sample size and the effect size of all the hypothesis tests. The symmetrical funnel distribution with unimode documents that the 1,087 outcomes have the shape of randomly selected data from a single large population which was not threatened by publication bias.

To probe further on the publication bias issue, funnel plots were again drawn based on the status of the studies as published or unpublished (Figure 4.3 and Figure 4.4). The shape of both funnel plots was symmetrical covering both range of positive and negative effect sizes. Based on such distributions, it can be concluded that the selection and inclusion of studies were not biased. Therefore, the aggregated results can be accepted as not seriously distorted by publication bias.



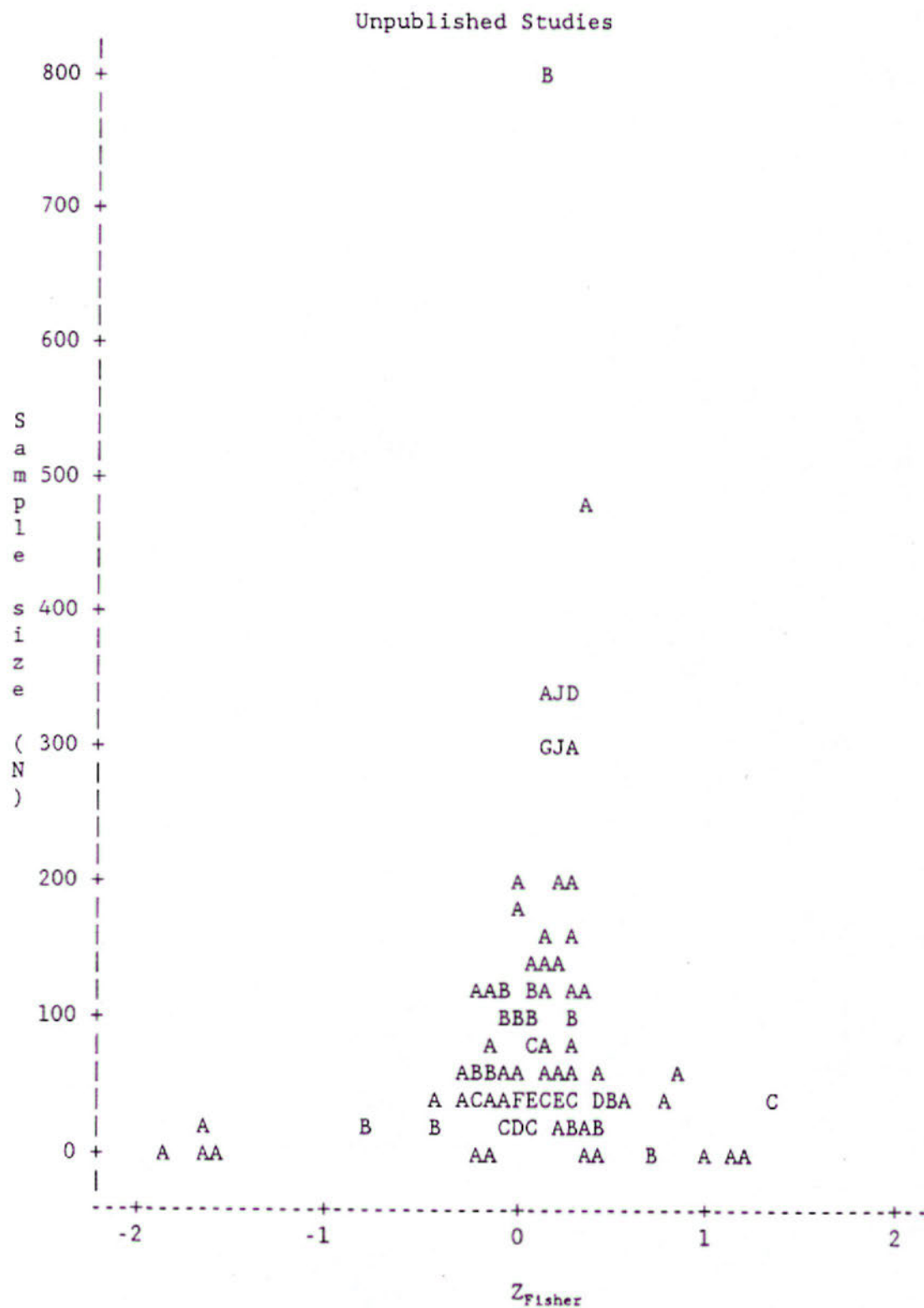
NOTE: Legend: A = 1 obs, B = 2 obs, etc. 1 obs had missing values. 273 obs hidden.

FIGURE 4.2 Funnel Distribution of Effect Sizes for 1,087 Hypothesis Tests



NOTE: A = 1 obs, B = 2 obs, etc. 1 obs had missing values. 213 obs hidden.

FIGURE 4.3 Funnel Plot of Effect Sizes for Published Studies



Legend: A = 1 obs, B = 2 obs, etc.

FIGURE 4.4 Funnel Plot for Unpublished Studies

Table 4.3 and Table 4.4 show the combination of significance levels and effect sizes by comparisons and type of television exposure. Table 4.5 and Table 4.6 show in more detail the results by each comparisons and different types of television exposure.

TABLE 4.3 Combinations of Significance Level by Comparisons & TV Exposure

Comparison	N	Z	p	Fail-Safe N
Experimental Studies				
Violent Program vs Other	583	45.13	0	438234
Violent-Erotica vs Other	30	12.88	7.03E-29	1808
Erotic Program vs Other	55	13.09	2.00E-29	3426
Other ^a	16	6.67	2.18E-11	247
Correlational Studies				
Amount of TV Viewing	83	34.49	0	36403
Expressed Preferences of TV Program	69	22.59	0	12946
Frequency of Actual Program Viewing	251	41.72	0	161209

^a TV viewing was measured by TV ownership (i.e., time-series studies).

TABLE 4.4 Combinations of Effect Sizes by Comparisons & TV Exposure

Comparison	Z _{Fisher}	r	r ²	d
Experimental Studies				
Violent Program vs Other	.38	.37	.13	.79
Violent-Erotica vs Other	.60	.54	.29	1.27
Erotic Program vs Other	.45	.42	.18	.94
Other ^a	.30	.29	.08	.60
Correlational Studies				
Amount of TV viewing	.18	.18	.03	.36
Expressed preferences of TV program	.17	.16	.03	.33
Frequency of actual program viewing	.20	.20	.04	.40

^a TV viewing was measured by TV ownership (i.e., time-series studies).

TABLE 4.5 Combinations of Significance Level by Comparisons and TV Exposure

Comparison	N	Z	p	Fail-Safe N
<u>Experimental Studies</u>				
Laboratory Experiment				
Violent Program vs Other	467	39.82	0	273211
Violence vs Neutral	219	27.23	0	59807
Violence vs No Program	168	26.09	0	42102
Violence vs Erotica	6	4.61	2.05E-06	41
Violence vs Prosocial	13	6.24	2.90E-10	174
Violence vs Violence	61	10.95	1.22E-23	2642
Violent-Erotica vs Other	30	12.88	7.03E-29	1808
Violent-Erotica vs Neutral	12	9.43	2.84E-19	382
Violent-Erotica vs No Program	6	3.09	9.92E-04	15
Violent-Erotica vs Erotica	12	8.75	2.74E-17	327
Erotic Program vs Other	54	13.21	9.78E-30	3427
Erotica vs Neutral	29	7.69	3.20E-14	604
Erotica vs No Program	25	11.13	3.77E-24	1120
Field Experiment				
Violent Program vs Other	109	21.00	0	17648
Violence vs Neutral	51	16.11	9.83E-37	4838
Violence vs No Program	36	8.65	5.33E-17	959
Violence vs Prosocial	8	2.63	4.25E-03	12
Violent Treatment only	13	11.80	5.44E-26	656
Other	16	6.67	2.18E-11	247
TV Ownership	16	6.67	2.18E-11	247
Field Study				
Violent Program vs Other	7	3.75	8.80E-05	29
Violent Treatment only	7	3.75	8.80E-05	29
<u>Correlational Studies</u>				
Survey				
Amount of TV Viewing	83	34.49	0	36403
Expressed Preferences of TV Program	69	22.59	0	12946
Frequency of Actual Program Viewing	251	41.72	0	161209

TABLE 4.6 Combinations of Effect Sizes by Comparisons and TV Exposure

Comparison	Z_{Fisher}	r	r^2	d
<u>Experimental Studies</u>				
Laboratory Experiment				
Violent Program vs Other	.41	.39	.15	.85
Violence vs Neutral	.39	.37	.14	.80
Violence vs No Program	.48	.45	.20	1.00
Violence vs Erotica	.60	.54	.29	1.27
Violence vs Prosocial	.29	.28	.08	.59
Violence vs Violence	.29	.28	.08	.59
Violent-Erotica vs Other	.60	.54	.29	1.27
Violent-Erotica vs Neutral	.69	.60	.36	1.50
Violent-Erotica vs No Program	.33	.32	.10	.67
Violent-Erotica vs Erotica	.64	.57	.32	1.37
Erotic Program vs Other	.46	.43	.19	.96
Erotica vs Neutral	.33	.32	.10	.68
Erotica vs No Program	.61	.54	.30	1.30
Field Experiment				
Violent Program vs Other	.28	.27	.07	.56
Violence vs Neutral	.35	.33	.11	.72
Violence vs No Program	.24	.24	.06	.49
Violence vs Prosocial	.09	.09	.01	.19
Violent Treatment only	.20	.19	.04	.40
Other	.30	.29	.08	.60
TV Ownership	.30	.29	.08	.60
Field Study				
Violent Program vs Other	.21	.21	.04	.42
Violent Treatment only	.21	.21	.04	.42
<u>Correlational Studies</u>				
Survey				
Amount of TV viewing	.18	.18	.03	.36
Expressed preferences of TV program	.17	.16	.03	.33
Frequency of actual program viewing	.20	.20	.04	.40

Overall, the meta-analytic average outcomes of significance level and magnitude of the effect size for the influence of violent television on aggressive behavior have proven to be positive and valid based on Fail-safe N and graphical distributions. These summary results provide a clear picture of all observations, but at the same time miss variations within the data.

To understand these variations, diffuse comparisons and focused comparisons of significance levels and effect sizes were calculated. Diffuse comparisons tell about the variability - the extent of the spread around the typical outcome - while the focus comparisons describe how study outcomes differ in possibility theoretically relevant ways.

Table 4.7. and Table 4.8. are the results of diffuse comparisons of significance levels and effect sizes by research methods and by type of television exposure. For all hypothesis tests included in the analysis the individual studies were highly heterogeneous ($p = 0$) both in significance levels and effect size. This indicates that there was considerable variability in the research domain around the average effects.

TABLE 4.7 Diffuse Comparison of Significance Level and Effect Sizes by Research Method

Comparison	df	Significance Level		Effect Sizes	
		X ²	p	X ²	p
All Observations Combined	1086	12774.85	0	12813.82	0
Experimental Studies	683	1872.85	0	3749.84	0
Laboratory Experiment	550	1522.83	0	1957.34	0
Field Experiment	125	344.70	2.67E-22	731.32	0
Field Study	6	3.08	.80	2.99	.81
Correlational Studies	402	10644.13	0	8828.67	0
Survey	402	10644.13	0	8828.67	0

TABLE 4.8 Diffuse Comparison of Significance Level and Effect Sizes By Comparisons

Comparison	df	Significance Level		Effect Sizes	
		X ²	p	X ²	p
Experimental Studies					
Violent Program vs Other	582	1688.72	0	3314.47	0
Violent-Erotica vs Other	29	65.64	4.67E-05	73.94	2.05E-06
Erotic Program vs Other	54	87.62	1.90E-03	143.53	3.41E-11
Other ^a	15	22.69	.09	25.87	.04
Correlational Studies					
Amount of TV Viewing	82	6618.83	0	5068.40	0
Expressed Preferences	68	213.00	4.36E-18	217.19	1.12E-18
Frequency of Actual Viewing	250	3727.20	0	2875.43	0

^a TV viewing was measured by TV ownership (i.e., time-series studies).

Table 4.9 and Table 4.10 display the meta-analytic calculation of significance levels and effect sizes by comparisons and types of aggressive outcome behavior. All types of aggressive behaviors showed highly significant effect sizes associated with exposure to television. The direction of effects were all positive. As for the magnitude of effects, Table 4.10 shows, among illegal behaviors, criminal violence toward a person was lower ($Z_{\text{Fisher}}=.10$, $r=.10$) while grand theft and aggravated robbery were higher ($Z_{\text{Fisher}}=.29$, $r=.28$). Among the minor aggressive behaviors, physical aggression toward an object was the strongest ($Z_{\text{Fisher}}=.59$, $r=.53$), while aggression toward a person was lower ($Z_{\text{Fisher}}=.23$, $r=.23$).

TABLE 4.9 Combinations of Significance Level by Comparisons and TV Exposure for Types of Aggressive Behavior

	N	Z	p	Fail-Safe N
<i>ILLEGAL ACTIVITIES</i>				
<i>Criminal Violence against a Person</i> - homicide, suicide, stabbing, etc.				
All Observations Combined	56	11.68	1.12E-25	2768
Experimental Studies	30	7.46	1.39E-13	587
Violent Program vs Other	26	7.39	2.24E-13	499
Other ^a	4	1.59	.05	0
Correlational Studies	26	9.13	2.12E-18	775
Amount of TV Viewing	4	2.43	7.51E-03	5
Expressed Preferences of TV Program	12	6.22	3.36E-10	160
Frequency of Actual Program Viewing	10	6.36	1.43E-10	140
<i>Grand Theft</i>				
All Observations Combined	23	13.93	1.43E-31	1627
Experimental Studies	11	7.42	1.82E-13	212
Violent Program vs Other	3	2.59	4.78E-03	4
Other ^a	8	7.12	1.31E-12	141
Correlational Studies	12	12.18	4.96E-27	646
Amount of TV Viewing	4	9.35	4.84E-19	125
Expressed Preferences of TV Program	3	1.71	4.39E-02	0
Frequency of Actual Program Viewing	5	9.19	1.43E-18	150
<i>Aggravated Robbery</i>				
All Observations Combined	13	29.51	0	4169
Experimental Studies	8	6.72	1.58E-11	126
Violent Program vs Other	4	7.83	1.26E-14	87
Other ^a	4	1.68	4.66E-02	0

(table continues)

TABLE 4.9 (continued)

	N	Z	p	Fail-Safe N
<i>MINOR AGGRESSIVE BEHAVIOR</i>				
<i>Physical Violence against a Person</i> - non-illegal behavior				
All Observations Combined	255	41.76	0	164111
Experimental Studies	58	15.73	7.07E-36	5245
Violent Program vs Other	57	15.87	3.43E-36	5245
Correlational Studies	197	38.98	0	110426
Amount of TV Viewing	41	21.91	0	7235
Expressed Preferences of TV Program	39	21.93	0	6892
Frequency of Actual Program Viewing	117	24.95	0	26795
<i>Verbal Aggression</i>				
All Observations Combined	81	17.79	2.13E-40	9395
Experimental Studies	72	14.31	1.65E-32	5376
Violent Program vs Other	72	14.31	1.65E-32	5376
Correlational Studies	9	12.90	6.03E-29	545
Frequency of Actual Program Viewing	9	12.90	6.03E-29	545
<i>Physical Violence against an Object</i>				
All Observations Combined	101	26.55	0	26213
Experimental Studies	98	26.08	0	24542
Violent Program vs Other	98	26.08	0	24542
Correlational Studies	3	4.98	3.29E-07	25
Expressed Preferences of TV Program	3	4.98	3.29E-07	25

(table continues)

TABLE 4.9 (continued)

	N	Z	p	Fail-Safe N
<i>Intensity of Using Aggressive Machines, Self-report of Aggressive Intent</i>				
All Observations Combined	491	41.55	0	312709
Experimental Studies	382	32.47	0	148484
Violent Program vs Other	298	27.06	0	80333
Violent-Erotica vs Other	30	12.88	7.03E-29	1808
Erotic Program vs Other	54	13.21	9.78E-30	3427
Correlational Studies	109	27.39	0	30101
Amount of TV Viewing	19	16.74	3.72E-38	1950
Expressed Preferences of TV Program	10	4.46	4.06E-06	64
Frequency of Actual Program Viewing	80	22.23	0	14527
<i>Plays with Aggressive Toys</i>				
All Observations Combined	2	3.17	7.53E-04	5
Experimental Studies	2	3.17	7.53E-04	5
Violent Program vs Other	2	3.17	7.53E-04	5
<i>Unclassified Aggressive Behavior</i> - usually combination of above category				
All Observations Combined	65	20.74	0	10270
Experimental Studies	23	12.69	2.21E-28	1345
Violent Program vs Other	23	12.69	2.21E-28	1345
Correlational Studies	42	16.42	1.98E-37	4141
Amount of TV Viewing	13	8.46	1.83E-16	331
Frequency of Actual Program Viewing	29	14.09	5.78E-32	2098

* TV viewing was measured by TV ownership (i.e., time-series studies).

TABLE 4.10 Combinations of Effect Sizes by Comparisons and TV Exposure - By Types of Aggressive Behavior

	Z_{Fisher}	r	r^2	d
<i>ILLEGAL ACTIVITIES</i>				
<i>Criminal Violence against a Person</i> - homicide, suicide, stabbing, etc.				
All Observations Combined	.10	.10	.001	.19
Experimental Studies	.12	.12	.01	.25
Violent Program vs Other	.12	.12	.01	.24
Other ^a	.13	.13	.02	.27
Correlational Studies	.06	.06	.004	.13
Amount of TV Viewing	.03	.03	.001	.06
Expressed Preferences of TV Program	.06	.06	.004	.13
Frequency of Actual Program Viewing	.08	.08	.006	.16
<i>Grand Theft</i>				
All Observations Combined	.29	.28	.08	.58
Experimental Studies	.38	.36	.13	.78
Violent Program vs Other	.19	.19	.04	.38
Other ^a	.45	.42	.18	.94
Correlational Studies	.20	.20	.04	.41
Amount of TV Viewing	.11	.11	.01	.22
Expressed Preferences of TV Program	.20	.20	.04	.40
Frequency of Actual Program Viewing	.28	.27	.07	.57
<i>Aggravated Robbery</i>				
All Observations Combined	.29	.28	.08	.59
Experimental Studies	.19	.19	.04	.38
Violent Program vs Other	.24	.23	.05	.48
Other ^a	.14	.14	.02	.29

(table continues)

TABLE 4.10 (continued)

	Z_{Fisher}	r	r^2	d
<i>MINOR AGGRESSIVE BEHAVIOR</i>				
<i>Physical Violence against a Person</i>				
- non-illegal behavior				
All Observations Combined	.23	.23	.05	.47
Experimental Studies	.33	.32	.10	.67
Violent Program vs Other	.34	.32	.10	.68
Correlational Studies	.21	.20	.04	.41
Amount of TV Viewing	.17	.17	.03	.35
Expressed Preferences of TV Program	.19	.19	.13	.38
Frequency of Actual Program Viewing	.22	.22	.05	.45
<i>Verbal Aggression</i>				
All Observations Combined	.27	.26	.07	.54
Experimental Studies	.27	.26	.07	.54
Violent Program vs Other	.27	.26	.07	.54
Correlational Studies	.28	.27	.08	.57
Frequency of Actual Program Viewing	.28	.27	.08	.57
<i>Physical Violence against an Object</i>				
All Observations Combined	.59	.53	.28	1.24
Experimental Studies	.60	.54	.29	1.28
Violent Program vs Other	.60	.54	.29	1.28
Correlational Studies	.06	.06	.004	.12
Expressed Preferences of TV Program	.06	.06	.004	.12

(table continues)

TABLE 4.10 (continued)

	Z_{Fisher}	r	r^2	d
<i>Intensity of Using Aggressive Machines, Self-report of Aggressive Intent</i>				
All Observations Combined	.33	.32	.10	.68
Experimental Studies	.38	.37	.13	.79
Violent Program vs Other	.35	.33	.11	.71
Violent-Erotica vs Other	.60	.54	.29	1.27
Erotic Program vs Other	.46	.43	.19	.96
Correlational Studies	.15	.15	.23	.30
Amount of TV Viewing	.18	.18	.003	.36
Expressed Preferences of TV Program	.18	.17	.03	.35
Frequency of Actual Program Viewing	.14	.14	.02	.28
<i>Plays with Aggressive Toys</i>				
All Observations Combined	.34	.33	.11	.70
Experimental Studies	.34	.33	.11	.70
Violent Program vs Other	.34	.33	.11	.70
<i>Unclassified Aggressive Behavior</i> - usually combination of above category				
All Observations Combined	.43	.40	.16	.88
Experimental Studies	.76	.64	.41	1.67
Violent Program vs Other	.76	.64	.41	1.67
Correlational Studies	.25	.24	.06	.50
Amount of TV Viewing	.22	.22	.05	.44
Frequency of Actual Program Viewing	.26	.25	.06	.53

* TV viewing was measured by TV ownership (i.e., time-series studies).

Table 4.11 and Table 4.12 display the meta-analytic calculation of significance levels and effect sizes by comparisons and gender of the viewer.

Effect size for male viewers was .38; for female viewers, .27. As Table 4.13 shows, for all the hypothesis tests, irrespective of the research design, the significance levels and effect sizes appear to be strongly influenced by sex of the viewer. However, when category of design was taken into account this phenomenon was confined to the experimental designs in regard to significance level although the direction of effect size remained positive for the correlational designs.

TABLE 4.11 Combinations of Significance Level by Comparisons & TV Exposure By Gender of Viewer

Comparison	N	Z	p	Fail-Safe N
<u>Male Viewers</u>				
All Observations Combined	568	48.27	0	488519
Experimental Studies	428	41.79	0	275852
Violent Program vs Other	346	37.71	0	181471
Violent-Erotica vs Other	30	12.88	7.03E-29	1808
Erotic Program vs Other	52	12.85	8.10E-29	3122
Correlational Studies	140	24.15	0	30040
Amount of TV Viewing	32	8.90	1.01E-17	904
Expressed Preferences of TV Program	18	11.90	2.81E-26	924
Frequency of Actual Program Viewing	90	19.50	7.85E-44	12553
<u>Female Viewers</u>				
All Observations Combined	186	23.68	0	38351
Experimental Studies	66	11.51	3.27E-25	3167
Violent Program vs Other	64	11.15	3.42E-24	2874
Erotic Program vs Other	2	3.09	1.01E-03	5
Correlational Studies	120	20.94	0	19326
Amount of TV Viewing	26	9.12	2.31E-18	772
Expressed Preferences of TV Program	19	11.19	2.62E-24	859
Frequency of Actual Program Viewing	75	15.49	2.52E-35	6576

TABLE 4.12 Combinations of Effect Sizes by Comparisons & TV Exposure - By Gender of Viewer

Comparison	Z_{Fisher}	r	r^2	d
<u>Male Viewers</u>				
All Observations Combined	.38	.37	.13	.79
Experimental Studies	.45	.42	.18	.93
Violent Program vs Other	.43	.41	.17	.90
Violent-Erotica vs Other	.60	.54	.29	1.27
Erotic Program vs Other	.46	.43	.18	.95
Correlational Studies	.18	.18	.03	.37
Amount of TV viewing	.14	.14	.02	.28
Expressed preferences of TV program	.18	.18	.03	.36
Frequency of actual program viewing	.20	.20	.04	.41
<u>Female Viewers</u>				
All Observations Combined	.27	.26	.07	.54
Experimental Studies	.41	.39	.15	.84
Violent Program vs Other	.40	.38	.15	.83
Erotic Program vs Other	.55	.50	.25	1.15
Correlational Studies	.19	.19	.03	.38
Amount of TV viewing	.16	.16	.03	.33
Expressed preferences of TV program	.17	.17	.03	.34
Frequency of actual program viewing	.20	.20	.04	.41

TABLE 4.13 Focus Comparison of Significance Levels and Effect Sizes By Gender

Comparison	N	Significance Level		Effect Sizes	
		Z	p	Z	p
All Observations Combined	754	3.42	3.09E-04	6.16	4.91E-10
Experimental Studies	494	4.56	2.60E-06	.93	.18
Correlational Studies	260	1.04	.15	.32	.37

V. DISCUSSION AND CONCLUSIONS

This examination of the empirical evidence on the influence of exposure to violent television portrayals on antisocial and aggressive behavior began with the application of the framework employed by Hearold (1986) to subsequently conducted studies, involved a narrower focus on aggression and violence, and employed techniques not available at the time of her meta-analysis. At its heart was the search for, retrieval of, and coding of almost 200 empirical sets of data. This process extended the meta-analytic data set by 13 years, and resulted in a pool of findings larger and conceivably different in outcomes from those reported earlier.

As the wide array of variables coded for each study attests, this preliminary analysis reports only the major, summative findings. We anticipate pursuing many other avenues in the future. However, the results presented lead to some important conclusions:

1. The pattern of a positive association between exposure to television violence and antisocial and aggressive behavior reported by Hearold holds up strongly when data from the past 13 years are added to those collected earlier.

2. The introduction of significance levels and fail-safe *Ns* indicate that these results are extremely robust. Significance typically is high, and the number of additional null results that would be necessary to alter the pattern enormous.

3. The new data particularly strengthen the contribution of evidence from surveys that reflect everyday television viewing and everyday behavior. The pattern remains positive, but unlike Hearold the effect size in this instance was greater for experimental designs than for correlational designs. However, this is attributable more to an increase in our case in the effect size for experimental designs than a diminution in that for correlational designs. In fact, effect sizes recorded here are generally somewhat larger than those recorded by Hearold, indicating that the association is greater than originally estimated -- either because of the results of more recent studies or our narrower focus.

4. Within the correlational designs, actual amount of exposure to violent programming has the strongest outcome because of high significance along with the largest effect size. However, the effect sizes for preferences for violent programming and total television exposure are only slightly smaller than that for violence viewing, with the weakness of these outcomes attributable to small Ns and lack of significance.

5. Only a few studies provided comparisons involving criminal violence or otherwise illegal activities. However, there were enough to justify analyzing them separately, and their outcomes parallel those for the data set as a whole. Comparisons for all types of criminal activities were positive in effect size and achieved significance. The lowest effect size was recorded for extremely violent criminal behavior, but it nevertheless was positive and significant. Other illegal activities bordered on the medium range of effect sizes.

6. Lesser types of aggressive behavior consistently had positive effect sizes that were significant in regard to their association with exposure to television violence. Magnitude ranged from the higher end of the low to well

within the medium category.

7. The effect size recorded for violent erotica was greater than that for portrayals that were categorized as either or erotic and violent. However, all three were positive and significant. This means that by the gauge of effects measured within the large and methodologically varied data set representing violent portrayals, the effects of both violent erotica and erotica, but in particular the former, cannot be ignored either in future research, policy, or social concern.

8. The effect size recorded here for field experiments comparing those exposed and not exposed to violent portrayals is positive and significant compared to a null effect recorded by Hearold. This calls into question the contention by some analysts that the data from such studies cancel each other out or are uninterpretable (Comstock, in press; Cook et al., 1983; Freedman, 1984).

9. Much has been made of in the controversy over the effects of television violence that a substantial amount of the empirical evidence rests on play with toys. Only two studies in our analysis qualified for that category, and even if the much larger category of aggression against a physical object were included -- a pooling of data that would exaggerate the place of targets that might be said to facilitate or to be rival in regard to aggression -- the remaining quantity of evidence is large, positive in direction, and significant. Analogous comments may be made about the role of television programming vs. behavior demonstrations concocted for the purpose of research. Our data set contained primarily programs or excerpts of programs; the results largely reflect the influence of television entertainment.

10. Males have been the principal focus of studies of television and aggression. Our meta-analysis indicates that this emphasis has been misplaced because the interaction of gender and sex is confined to experimental designs. The data representative of everyday outcomes record no significant difference by sex. This implies that females merit equal attention with males in this area of inquiry and theory construction, and merit equally any social concern.

We have employed the total number of 1,087 comparisons derived from the 185 studies for our analysis. The meta-analysis of Hearold (1986) gives strong support for the generality of and a precedent for such a procedure. In her initial examination of the effect sizes associated with the six pairings of exposure to antisocial or prosocial television stimuli and antisocial or prosocial behavior (antisocial vs. other, antisocial vs. prosocial, and prosocial vs. other stimuli in regard to each of the two types of behavior), the pattern was the same for effect sizes based on total comparisons and those based on the within-study averaging of comparable comparisons although obviously the effect sizes varied somewhat. In fact, in regard to the effect size of principal interest there (because there was the most data on it) and here (because it is our sole topic of inquiry) that calculated from the comparisons was 25 percent smaller than that calculated from within-study averages. This was the effect size for antisocial vs. other television exposure and antisocial behavior (.30 vs. .40). As a result, she confined her analysis to the comparisons. We intend to repeat our analysis at the study level because, even if the pattern is identical as it is likely to be, the result will present the most conservative picture possible because of the reduction in N from 1,087 to 185 and the resulting contractions in significance and fail-safe estimates.

Many questions remain to be addressed to our data. Meta-analysis is very labor intensive -- first, in the retrieval and coding of studies, and second, in the increasingly more focused comparisons that have been made possible by the earlier specification of study characteristics to be coded. The results, so far nevertheless provide evidence on major questions. The data of the past decade and a half strengthens rather than weakens the case that television violence increases aggressive and antisocial behavior, suggests that serious criminal behavior may be affected, indicates that violent erotica is analogous to violent portrayals in influence, and challenges two widely held views -- that males are more susceptible than females to television and film violence, and that the field experiments as a body evidence are uninterpretable.

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Appendix A

CODING INSTRUCTION

I. General Information About the Study

A. Design and Source

<u>Variable</u>	<u>Column</u>	<u>Study Description</u>
VAR1	1-3	ID number
VAR2	5-6	Number of comparisons in a study
VAR3	8-9	Comparison number
VAR4	11-12	Year of publication
VAR5	14	Source of the study Published 1 = Book 2 = Journal 3 = Government Document 4 = Technical Report (i.e., self-report, non-conference paper) Unpublished 5 = Dissertation/Thesis 6 = ERIC 7 = Conference paper 8 = other _____
VAR6	16	Researcher's Affiliation 1 = University Department: Communications 2 = University Department: Psychology/Developmental Psychology/Social Psychology/Psychiatry 3 = University Department: Sociology 4 = University Department: Education 5 = Mental Health or Educational Organization 6 = Government 7 = Television Broadcasting Company 8 = other _____

- VAR7 18 The country the study was conducted in
- 1 - U.S.
 - 2 - Canada
 - 3 - Africa
 - 4 - Asia
 - 5 - New Zealand, Australia
 - 6 - Eastern Europe
 - 7 - Western Europe: United Kingdom, Sweden, Finland
 - 8 - South and Central America
 - 9 - Middle East
- VAR8 20 The researcher's initial hypotheses
- 1 - violent TV/pornography viewing increases the degree of aggressive behavior of the viewer
 - 2 - violent TV/pornography viewing decreases the degree of aggressive behavior of the viewer
 - 3 - aggression leads to violent TV/pornography viewing
 - 4 - the relationship is bidirectional
 - 5 - violent TV has no effect on aggressive behavior
 - 6 - moderator variables of TV violence/pornography affects the degree of effect on the behavior of the viewer
 - 7 - other (i.e., unknown)
- VAR9 22 Type of methodology
- 1 - laboratory experiment
 - 2 - field experiment
 - 3 - field study (non-experimental)
 - 4 - survey
 - 5 - time series
 - 6 - other
- VAR10 24 Sampling/Assignment of subject
- 1 - randomization
 - 2 - matched
 - 3 - statistical control
 - 4 - uncontrolled
 - 5 - probability sample
 - 6 - convenient sample
 - 7 - population aggregate data
- VAR11 26 Study design
- 1 - pre-post design
 - 2 - post-hoc design
 - 3 - longitudinal design
 - 4 - repeat (test-retest) design
 - 5 - panel design/cross-lagged panel design
 - 6 - path analysis/cross-lagged path analysis
 - 7 - post-test design - laboratory experiment/survey
 - 8 - other (i.e., unknown)

B. Subjects/Respondents Information

Variable Column Study Description

VAR12	28-31 (F4.1)	Age of the subjects/respondents (Estimate age by the mean using the following method: i.e., grade 1=6.5, grade 2= 7.5, ..., college students = 20.5, adult = 30.0)
VAR13	33-34	Range of age 1 = 0 2 = 0+ - 2 3 = 2+ - 4 4 = 4+ - 6 5 = 6+ - 8 6 = 8+ - 10 7 = 10+ - 15 8 = 15+ - 20 9 = 20+ 10 = other (i.e., unknown)
VAR14	36	Gender of subjects 1 = female 2 = male 3 = both
VAR15	38	Socioeconomic status 1 = low (inner city ghetto dweller, prisoner, etc.) 2 = lower-middle 3 = middle 4 = upper-middle 5 = high 6 = other (i.e., unknown)
VAR16	40	Aggressive predisposition 1 = low 2 = average 3 = high 4 = other (i.e., mixed or unknown)
VAR17	42	Self-esteem level of the viewer 1 = low 2 = average 3 = high 4 = other (i.e., mixed or unknown)
VAR18	44	Intelligence 1 = low 2 = average 3 = high 4 = other (i.e., mixed or unknown)

VAR19	46	School achievement	1 = low 2 = average 3 = high 4 = other (i.e., mixed or unknown)
VAR20	48	Education level (applies to adult sample)	1 = graduate school 2 = college graduate 3 = high school graduate 4 = high school attended 5 = less than 4 6 = other (i.e., unknown)
VAR21	50	Parents' use of power and punishment/aggression	1 = low 2 = middle 3 = high 4 = other (i.e., mixed or unknown)
VAR22	52	Ethnicity	1 = white 2 = black 3 = Hispanic 4 = Asian 5 = other (i.e., unknown)
VAR23	54	Place of residence	1 = urban area 2 = ghetto 3 = suburban area 4 = rural/semi-rural 5 = university town 6 = prison or penitentiary 7 = mental hospital 8 = public institutions (i.e, kibbutz) 9 = public institutions (i.e., mentally retarded)

II. Television Exposure

A. Television Exposure and its Measure

<u>Variable</u>	<u>Column</u>	<u>Study Description</u>
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VAR24	56	Television exposure 1 - sheer amount of television viewing 2 - expressed preferences of television programs 3 - frequency of actual programs viewed 4 - actual/conventional form of television/film program - entire 5 - actual/conventional form of television/film program - excerpts 6 - behavioral demonstration 7 - TV channel reception possible in the area 8 - other
VAR25	58	Television exposure measure 1 - self-report 2 - others report 3 - self-report + judges rating 4 - others report (i.e., parents or teachers) +judges rating 5 - self-report + others report + judges rating 6 - other (i.e., experimental manipulation)
VAR26	60-65 (F6.2)	Treatment period/duration (in minutes per day) 777.77 - time series 888.88 - longitudinal study 999.99 - survey study

B. Treatment and Control - Comparison

VAR27	67	Violent content is used for the treatment comparison 1 - yes 2 - no
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(If survey/time series method skip VAR28 - VAR51)

VAR28	69	Erotic content is used for the treatment comparison 1 - yes 2 - no
VAR29	71	Neutral content is used for control comparison 1 - yes 2 - no

VAR30 73 Violent content is used for control comparison
1 = yes
2 = no

VAR31 75 Erotic content is used for control comparison
1 = yes
2 = no

VAR32 77 Prosocial content is used for control comparison
1 = yes
2 = no

VAR33 79 No program is used for control comparison
1 = yes
2 = no

SECTION 2

Variable Column Study Description

VAR1	1-3	ID number
VAR2	5-6	Number of comparisons in a study
VAR3	8-9	Comparison number

G. Television Portrayal - Description

VAR34	11-12	Type of program category 1 = adventure program - detective/crime 2 = drama/soap opera 3 = western 4 = cartoon/fantasy program 5 = news/public affairs 6 = movie/made-for-television movies 7 = cultural 8 = sports show 9 = game show 10 = comedy 11 = musical-variety program 12 = educational program 13 = pornography 14 = commercial 15 = undifferentiated - behavioral demonstration, excerpts 16 = undifferentiated - survey type 17 = other
VAR35	14	Characteristics of the victim(s) 1 = individual 2 = group or gang 3 = multiple individuals 4 = above - combined 5 = nonhuman subject (i.e., object, cartoon figure, clown) 6 = other (i.e., unknown)
VAR36	16	Gender of the victim(s) 1 = female 2 = male 3 = both 4 = other
VAR37	18	Ethnicity of the victim(s) 1 = white 2 = black 3 = Hispanic 4 = Asian 5 = other (i.e., mixed, unknown)

VAR45 34 Conditions of pertinence in television program

Yes 1 = victim has the same name or characteristics toward
 whom the viewer hold animosity

 2 = victim in the portrayal of violence is similar to
 the viewer

 3 = perpetrator has the same name or characteristics
 toward whom the viewer hold animosity

 4 = perpetrator in the portrayal of violence is
 similar to the viewer

 5 = setting of the portrayal is similar to the
 viewer's own/or the real world

 6 = weapon/certain object in the portrayal is similar

 7 = pain cues on the subsequent aggressive behavior

No 8 = not pertinent

 9 = other (i.e., unknown)

(If there is no control condition, skip VAR46-VAR49, and go to VAR50)

E. Television Portrayal of the Control Condition - Four Dimensions

VAR46 36 Conditions of efficacy in television program

 1 = yes - antisocial behavior was rewarded or not
 punished

 2 = no - antisocial behavior was punished

 3 = mixed cue

 4 = other (i.e., not applied)

VAR47 38 Conditions of normativeness in television program

 1 = yes - justified for antisocial behavior

 2 = no - unjustified for antisocial behavior

 3 = mixed cue

 4 = other (i.e., not applied)

VAR48 40 Conditions of susceptibility in television program

 1 = yes - portrayals, violent or otherwise, that leave
 the viewer in a state of unresolved
 excitement

 2 = no

 3 = mixed cue

 4 = other (i.e., not applied)

- VAR49 42 Conditions of pertinence in television program
- Yes 1 - victim has the same name or characteristics toward
 whom the viewer hold animosity
- 2 - victim in the portrayal of violence is similar to
 the viewer
- 3 - perpetrator has the same name or characteristics
 toward whom the viewer hold animosity
- 4 - perpetrator in the portrayal of violence is
 similar to the viewer
- 5 - setting of the portrayal is similar to the
 viewer's own/or the real world
- 6 - weapon in the portrayal is similar
- 7 - pain cues on the subsequent aggressive behavior
- No 8 - not pertinent
- 9 - other (i.e., unknown)

F. Viewing Circumstances

- VAR50 44 Frustration of the viewers during the treatment situation
- 1 - both groups frustrated - before treatment
- 2 - treatment group only frustrated - before treatment
- 3 - control group only frustrated - before treatment
- 4 - both groups frustrated - after treatment
- 5 - treatment group only frustrated - after treatment
- 6 - control group only frustrated - after treatment
- 7 - frustration not used
- 8 - other (i.e., combined)
- VAR51 46 Viewing
- 1 - in real-life environment
- 2 - alone
- 3 - with peers
- 4 - with parent

III. Outcome Behavior

<u>Variable</u>	<u>Column</u>	<u>Study Description</u>
VAR52	48	Seriousness of antisocial behavior 1 - physical violence against a person - worst behavior (i.e., Criminal act - homicide, suicide, stabbing, rape) 2 - grand theft 3 - physical violence against a person - milder than 1 but some form of physical violence against a human - hitting, pushing, delinquency, aggressive driving 4 - aggravated robbery 5 - verbal aggression 6 - physical aggression against an object 7 - hostility, rule breaking, paper-pencil measure of aggressive intent, electric shock, noxious noise 8 - Plays with aggressive toys 9 - other
VAR53	50	Seriousness of antisocial behavior (NRC scale) 1 - specific serious violent behavior 2 - scale of observed aggressive behavior (both minor and serious aggressive behavior) 3 - self-reported intent to commit a serious violent act 4 - observed/self-reported aggressive behaviors (which will be minor .. of the pushing/shoving variety) 5 - peer-rated scale (similar to 2) 6 - intensity of use of aggression machines/aggression toward an object 7 - aggregate index of a violent crime type (i.e., homicide, rape) 8 - other
VAR54	52	Outcome behavior measure 1 - measured by unnatural test or instrument, staged situation (i.e., Bandura's "Bobo" doll studies) 2 - fairly realistic task or self-report information (intention) - (i.e., help-hurt button apparatus) 3 - observed in a normal play, school, and living situations, self-report or others' ratings of interpersonal aggression 4 - crime rate statistics, institutionalized 5 - other
VAR55	54-59 (F6.2)	Since the TV exposure, how many hours later was the outcome behavior measured (if time-series-in days) 888.88 - longitudinal study 999.99 - survey study

- VAR56 61-62 If longitudinal/post-hoc design, how many years (if time-series - how many series; if field experiment - how many days)
- VAR57 64 Similarity between exposed behavior and outcome behavior
1 = same
2 = similar but not exactly the same
3 = unrelated task
4 = other (i.e., above mixed)
- VAR58 66 Target of aggression
1 = male
2 = female
3 = both
4 = nonhuman object
5 = oneself
6 = peer
7 = other (i.e., not known, not applicable)
- VAR59 68 Possible retaliation by the victim
1 = yes
2 = no
- VAR60 70 Presence of a adult
1 = yes
2 = no
3 = other
- VAR61 72 Possible sanctions/comments against aggressive behavior
1 = yes
2 = no (i.e., incentive/encouragement for the aggressive behavior display)
3 = mixed/uncertain/neutral message
4 = no involvement
5 = other (i.e., not known)

SECTION 3

<u>Variable</u>	<u>Column</u>	<u>Study Description</u>
VAR1	1-3	ID number
VAR2	5-6	Number of comparisons in a study
VAR3	8-9	Comparison number

IV. Statistics and Effect Size

<u>Variable</u>	<u>Column</u>	<u>Study Description</u>
VAR62	11	The inferential statistics are 1 = actually reported in the study 2 = calculated by the coder 3 = estimated by the coder
VAR63	13-14	Type of statistic 1 = F-test 2 = probability 3 = r (correlation) 4 = R^2 5 = t-test 6 = X^2 (Chi-square) 7 = Z (Standard Normal Deviate) 8 = d 9 = Z_{Fisher} 10 = other _____ 11 = multiple correlation (β coefficient)
VAR64	16-22 (F7.4)	Value of inferential statistic
VAR65	24-28	Sample size (N)
VAR66	30-34	Degrees of freedom ('0' if not applicable)
VAR67	36	Direction of effect + -
VAR68	38-39	Description of the inferential statistics is 1 = overall result of treatment comparison or VAR__ that is manipulated 88 = if the study is Aggression --> TV violence 99 = if the study is a reanalysis of a study already reported (secondary analysis).

- VAR69 41-42 Description of the inferential statistics is
- 1 = Used only one D.V. Measurement within a study
 - 2 = Used two kinds of D.V. Measurement within a study
 - 3 = Used three kinds of D.V. Measurement within a study
 - 4 = Used four kinds of D.V. Measurement within a study
- VAR70 44 Sex difference information (Study)
- 1 = only female information
 - 2 = only male information
 - 3 = both sex - information available
 - 4 = both sex - no sex difference information
- VAR71 46 Intercoder reliability was checked for the outcome behavior measure (Study Quality)
- 1 = yes
 - 2 = no
- VAR72 48 In the experimental studies, was there an option of alternative outcome behavior (i.e. prosocial outcome behavior)
- 1 = yes
 - 2 = no
 - 3 = other
- VAR73 50 Affective state after the exposure to the film/tv program
- 1 = positive
 - 2 = negative
 - 3 = mixed
 - 4 = other

B. Television Exposure/Treatment

VAR80	21-22	Intensity of television exposure/treatment
VAR81	24-25	Characteristics of the television exposure/treatment (i.e., descriptions)
VAR82	27-28	Severity of frustration manipulation

C. Outcome Behavior

VAR83	30-31	Seriousness of antisocial behavior (based on judgement ratings)
VAR84	33-34	Characteristics of the outcome behavior (i.e., descriptions)

Appendix B

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**FILM AND TELEVISION RATINGS:
*AN INTERNATIONAL
ASSESSMENT***

Joel Federman, Director of Research
Mediascope

July 1993



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