Chapter 6
Television Violence

Television, as a media form, has enjoyed a particular dominance and penetration of media use in the USA and many other industrialized nations. Unlike other media forms from movies to books to gladiatorial combat, television has historically been essentially free and easily accessible from one's own home. As a result adolescents can watch hours of television every day, greatly increasing their media consumption. Not surprisingly, television has received greater attention and scrutiny than have other media forms. The "boob tube" as some dubbed it, has been linked with a variety of social ills particularly among adolescents from violence to obesity to declining academic performance. Only in the late twentieth and early twenty-first century have video games and now social media begun replacing television in the public consciousness and scientific research.

This chapter focuses on the issue of whether television violence promotes aggression or violent behavior in adolescents. Several main issues are addressed including the following:

1. The history of television and violence in the USA and elsewhere.
2. An examination of television violence research methodology.
3. A critical examination of research supporting or contradicting the belief that television promotes aggression and violence in adolescents.
4. A discussion of the sociology of media violence research itself, examining how ideology and dogma have influenced the research field and claims made by television and other media violence researchers and how this relates to moral panics focused on youth.

As such this chapter examines evidence for television's influence on adolescent criminal and aggressive behavior, but also the sociology of television research and how prevailing social attitudes toward media can influence public and scholarly discussions.

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6.1 A History of Television and Violence

Commercial television has been available since the 1930s, although television only became widely popular in the years following World War II (Abramson, 2003; Elliot, 2006). By the 1950s a plurality of homes owned at least one television set, and by the 1960s almost all homes did. In the 1950s Westerns quickly became the most popular television shows (Kutner & Olson, 2008). Multiple violent acts, shootings, stabbings, fistfights, etc., were a regular feature of these shows. Although such early television Westerns were not as graphic as many modern television shows, particularly those available on cable television, the frequency of violence was very high. In fact the very absence of graphicness has been criticized by some scholars (National Television Violence Study Council, 1998) as potentially promoting aggression in adolescents as the result of not demonstrating the negative effects of violence.

Television very rapidly spread across the developed world with most industrialized nations making commercial television available by the 1950s. Developing or third-world countries introduced television slower and there are still some spots where commercial television is unavailable although these are relatively few in number (Abramson, 2003). Of course just because television is available does not mean that the penetration of television, that is the per capita ownership of television sets, is equal everywhere. Particularly in third-world or developing countries, the cost of a television set may still be prohibitive for the majority of citizens.

As noted by the National Television Violence Study Council (1998) violence on television remains quite common. It is less clear whether the frequency of violent acts on television have changed over time since the Westerns of the 1950s. The Parents' Television Council (PTC) has suggested that violent acts during primetime viewing rose quickly between the years 1998 and 2002 (Parents' Television Council, 2002). In this study analysts examined all network broadcasts during prime-time television for 2-week periods in 1998, 2000, and 2002. They conclude that both the frequency and graphicness of violence increased over this period. However, the report provides scant information on the methodology of how such a count was done, how analysts were recruited or trained, and what kinds of acts were noted as "violent." The PTC has also historically been a "watchdog" group dedicated to sounding the alarm about alleged negative television violence effects. As such, they might be expected to promote somewhat alarmist concerns. To date, no independent review of television violence has either confirmed or necessarily contradicted the PTC study. Given the low amount of information about their methodology that the PTC provides in their report, it is not possible to draw meaningful conclusions from it.

About 20 years after the widespread dissemination of television in the USA, violent crime rates began to rise precipitously. Beginning in the late 1960s to early 1970s, violence in the USA rose to a peak in the early 1990s before plummeting once again (Federal Bureau of Investigation, 1951–2011). It appeared, thus, that violence in the USA rose significantly several decades after the introduction of television. Researchers began to use this information as support for the belief that television violence increased violence rates in society (Bushman & Anderson, 2001; Centerwall, 1989).

One study compared homicide rates in the USA and Canada with those in South Africa, where television was introduced in 1975 (Centerwall, 1989). Centerwall concluded that violence rates in South Africa following the introduction of television rose, mirroring the alleged effect in the USA. Canadian violence rates also appeared to rise although not nearly as high. Centerwall failed to note that violence in the USA rose at a time of great social upheaval, racial inequity and racial strife, and a considerable economic downturn. Similarly violence in South Africa rose during a period in which conflict over Apartheid reached a peak. In other words there were other more pressing historical events that explained violence increases rather than television. In research methods parlance, this is referred to as a "history effect," when historical events intrude and distort the behavior of individuals. History effects, such as these, can lead to reduced internal validity of studies and researchers may draw the wrong conclusions from their results.

A follow-up analysis on data from four other countries, France, Germany, Italy, and Japan noted no relationship between the introduction of television and violent crime rates in those countries (Zimring & Hawkins, 1997). One naturalistic study examined aggression in school children after television was introduced to the isolated island of St. Helena in the South Atlantic (Charlton, Gunter, & Coles, 1998). St. Helena received satellite transmission of television in 1995 for the first time, providing an excellent opportunity for a naturalistic study of childhood aggression. Researchers examined the playground behavior of kids for aggressive behaviors before television was introduced and for several years afterward. Results indicated that the introduction of television had no effect on childhood aggression.

The belief that increasing violence levels in the early 1970s through early 1990s is evidence for a television effect continues to be cited in some psychology textbooks (e.g., Myers, 2008). Oddly, the fact that US violent crime rates, and youth violence rates specifically, have returned to late 1960s levels receives considerably less attention by anti-television researchers and advocates (Fig. 6.1).

Since violent crime rates have begun to fall, anti-media scholars have begun to suggest that violent crime rates are unimportant (e.g., Anderson & Bushman, 2002; Heusmann & Taylor, 2003). Yet when violent crimes appeared to work in favor of such theories they were readily invoked, as late as 2001 (Bushman & Anderson, 2001). Naturally it is true that any correlation between violent television and violent crime rates should never have been interpreted as evidence for a causal relationship. In particular it was puzzling why television would take approximately 20 years to produce a violent crime rise. A delay of several years, even a decade, may have made sense as children aged into adolescents and then adults. Violence on television was common as early as the 1950s. However, recent suggestions that the *decline* in societal violence rates is unimportant for the media violence hypothesis are both hypocritical and scientifically lazy. If anti-media researchers conclude that violent television or other media violence produces socially relevant violence, the impetus is on this theory to demonstrate real-world effects in society. At present times, despite that television violence has, if anything, increased as the PTC themselves have suggested, societal violence is on a precipitous decline. Although correlation does not equal causation, this does effectively rule out the existence of a youth violence epidemic, which has been the core concern of many anti-television activists.

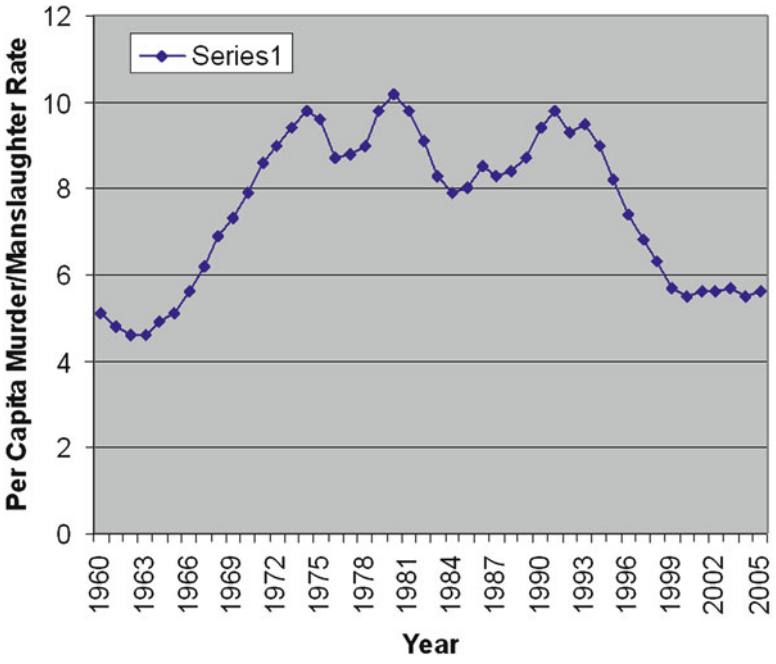

Fig. 6.1 Homicide rate trends in the USA

On balance the evidence, both cross-nationally, and across the criminological history of the USA, does not support the view that television was responsible for the violent crime rise between the early 1970s and early 1990s. Most likely this rise in violence was due to other factors including social and racial strife, increasing poverty, a declining economy, the advent of the crack cocaine trade and reduced funding for policing. Similarly, the reduction in violent crime seen since the 1990s also is not likely to be related to television or other media phenomenon.

6.2 Empirical Research on Television Violence

Research on the effects of television violence began within a decade after the popularization of television itself in the 1950s. In one of the earliest studies Eron (1963) examined the correlational relationship between the television viewing habits of 689 third-grade students in New York. The children's parents reported on their television viewing habits. Researchers rated whether the television shows included violence or not. Aggression was measured via peer-nomination. In other words children in the classroom rated each other on aggression. Watching television violence was slightly correlated ($r = 0.10$) with peer-nominated aggression for boys but not for

girls. Total television viewing, as indicated by the child's mother was negatively related to aggression although this relationship also was weak ($r = -0.09$). Although the author noted that a correlational study cannot determine causality, the author claimed that the support of the Bandura bo-bo doll studies allows for causal inferences to be made. The Bandura studies and weaknesses of these studies that limit their utility for understanding television violence were covered in Chap. 2. As such Eron's claims of causality were probably premature. Aside from attempting to imply causality from a correlational study without considering alternate explanations, Eron also makes a number of important errors that set the stage for common problems with television violence studies. These errors include:

1. *Invalid measure of aggression*. In measuring aggression, Eron relies on children nominating other children. This process assumes that children can be insightful, accurate and unbiased in rating one another. All of these assumptions are questionable at best. There is considerable risk that any such measure might turn into a "popularity contest" rather than a valid rating of aggression. During Eron's, 1963 study there simply was little evidence suggesting that such peer nomination measures were valid. More recently it has been found that validity coefficients for peer nominated aggression are very poor (Henry & Metropolitan Area Child Study Research Group, 2006).
2. *Failure to control for "third" variables*. The Eron study essentially presents bivariate relationships between television viewing and "aggression." However, other relevant variables are not controlled. Examples include genetics, personality and family violence exposure, as well as peer effects and mental illness. It could easily be, for instance, that aggression is genetically inborn (see Ferguson, 2010) and that more aggressive individuals seek out more aggressive television. Without controlling for important third variables it is impossible to know if any correlation between television and aggression is meaningful, or just the byproduct of other underlying processes.
3. *Inconsistent results are ignored.* Eron finds a correlation for television violence and aggressive behavior for boys but not girls. He also finds that overall television viewing is *negatively* related to aggression. Overall this is a muddled, mixed bag of results, the implications of which are not clear. Particularly when the results are weak overall (see below) it is possible that all of these results are rather meaningless and have no practical significance. Instead Eron chooses to focus on the one outcome (boys and television violence) that supports his hypothesis and ignores or explains away outcomes that do not support his hypothesis.
4. *Failure to interpret effect sizes*. As noted earlier the effect size even for boys and television violence is very weak ($r = 0.10$). This effect size is as close to zero as possible without being zero, implying that television violence is related to only 1 % of the variance in aggressive behavior. Effect sizes that are this small run the risk of being a statistical artifact or the product of publication bias (Ferguson, 2007a). Even if we were to assume that Eron validly measured aggression, it is unlikely that such a small effect would be noticeable in real life.

5. *Mistaking correlation for causation*. That correlational studies are not sufficient for making causal claims is such a basic tenant of statistics that it is one of the first things taught in introductory statistics classes. Nonetheless researchers from many fields who are advocating for a potential belief may be tempted to make causal claims when they are not warranted. Unfortunately Eron makes such an attempt, drawing on the Bandura studies to do so. Given the considerable weaknesses of both sets of studies, this claim is certainly unwarranted. Particularly given the very weak effects and poor methodology of Eron's study, much greater caution should have been employed.

Laboratory studies quickly attempted to fill in the blanks regarding causal attributions that correlational studies could not make. Early laboratory studies suffered fairly obvious and considerable weaknesses. The Bandura studies (Bandura, 1965; Bandura, Ross, & Ross, 1961, 1963) as discussed in Chap. 2 did not really study television to begin with, set up rather blunt demand characteristics for child participants, and obtained rather puzzling results that children would imitate models beating a bo-bo doll, but not models actually beating other humans. Other studies found it difficult to adequately match violent and nonviolent media representations. For instance, in one study researchers compare an exciting video of a boxing match against a dull video of boats moving down a canal (Berkowitz, Corwin, & Heironimus, 1963). The outcome easily could have had less to do with the boxing match increasing aggression as it did the poor participants randomized to watch canal boats struggling to remain awake.

Problems with laboratory measures of aggression quickly surfaced. As may be obvious, it is unethical to provoke research participants into engaging in serious aggression or violent criminal acts in the laboratory. Developing good aggression measures that are ethical, yet have good criterion related validity for "real life" aggressive and violent behaviors has proven challenging. Some aggression outcome measures were clearly poor substitutes for actual aggression. Some have included asking children if they would like to pop a balloon, despite that no balloon was actually present (Mussen & Rutherford, 1961), or asking college students if they would like to have a graduate student confederate (who had just insulted them) as an instructor in a course (Berkowitz, 1965). The use of bo-bo dolls that are meant to be hit as substitutes for interpersonal violence was always problematic. For instance one study found that results from bo-bo doll studies did not generalize to real interpersonal aggressive behaviors (Kniveton & Stephenson, 1975). Somewhat more intuitive measures of aggression involved delivering either electric shock or, less convincingly, non-painful white noise bursts to an opponent in a reaction time game. By and large even the best laboratory aggression measures have been found to be highly artificial, and lacking in criterion validity regarding real life aggressive behaviors (Ferguson, 2007a; Ferguson & Rueda, 2009; Ferguson, Smith, Miller-Stratton, Fritz, & Heinrich, 2008; Freedman, 1996, 2002; Ritter & Eslea, 2005; Savage, 2004, 2008; Tedeschi & Quigley, 1996, 2000). Some media violence researchers continue to argue that such measures can be valid (Anderson & Bushman,

1997; Anderson, Lindsay, & Bushman, 1999; Giancola & Zeichner, 1995). Predictably, most of the defense of such measures originates from authors who have used them extensively and whose research depends on their validity, whereas most of the criticism comes from researchers who prefer not to use such measures.

At about the same time as the Eron study, another study suggested that viewing television violence may be *cathartic*, that is to say, that aggression would be reduced by watching television violence (Feshbach, 1961). The catharsis view has enjoyed periodic support in biology, where instinctive drives such as sex and aggression are thought to require periodic release (Lorenz, 1963). From the catharsis perspective, media violence could provide an opportunity for such a release for viewers. In Feshbach's study college students were assigned to watch either a violent or nonviolent program. Half of the college students in each group were insulted prior to watching the program. Participants who watched the violent program, had fewer aggressive attitudes or cognitions than those in the nonviolent program group, particularly when they had been previously insulted. Although these results provide a contrast to Eron's study, it should be noted that the aggression measures used are no better than in other media violence studies.

6.3 Critical Mass in the 1970s?

Research on television violence picked up pace somewhat in the 1970s. Eron's (1963) study was updated in 1972 with a longitudinal analysis (Eron, Huesmann, Lefkowitz, & Walder, 1972). The same children from the 1963 study, now teenagers, were reexamined. Results were perplexing and contradictory. First television viewing habits when the individuals were in third grade did not predict their viewing habits as older teens. Current television violence exposure did not predict current levels of aggressiveness. Television viewing habits during third grade predicted aggression in teenage years for boys only, not girls. The aggression measure used was an updated version of Eron's questionable peer-nomination scale, with no validity data provided. The authors conclude that their evidence provides support for a causal relationship between early television viewing and later aggression, but their results are rather inconsistent, fairly weak, and somewhat baffling, given the null results for girls altogether, early television viewing and current viewing, and current viewing and current aggression. Indeed such a mixed bag of results provides little confidence in any subsequent conclusions and it appears that the authors have merely focused on the results which were most supportive of their preexisting hypotheses and ignored the remainder. It is not surprising then that this study was soon criticized for its methodological flaws and the audacity of making causal conclusions from correlational research (Becker, 1972; Howitt, 1972; Kay, 1972).

One common concern about television violence studies, particular experimental studies, was that they lacked external validity. In other words experimental studies were too artificial and did not generalize well to the real world. For instance in

Chap. 2 we have discussed the various validity problems with Bandura's bo-bo doll studies. One study, attempted to correct for this problem by examining boys with behavior disorders in residential treatment facilities (Feschbach & Singer, 1971). In this study, some residential houses were randomly assigned to watch only violent television programs, whereas others were assigned to watch only nonviolent shows. Surprisingly, boys living in the homes assigned to watch violent programs were *less* aggressive after 6 weeks than were boys in the houses assigned to watch nonviolent shows. Aggressive behaviors in this study were rated by adult supervisors who best knew the boys. Feshbach and Singer argue that their results support the catharsis hypothesis. However, it could also be that boys in the nonviolent group were frustrated because they were prevented from watching their favorite nonviolent shows (although any boys who wished to were allowed to drop out of the study). It is also not clear that the violent and nonviolent shows were well matched, a consistent problem for television and other media research. Violent shows tend to be more exciting than nonviolent shows, for instance. Nonetheless, results from Feshbach and Singer do not support the causal hypothesis of television violence.

One often cited study is that by Friedrich and Stein (1973), which implies that children who watch violent programs (such as *Batman* or *Superman*) are more interpersonally aggressive. The authors included five measures of aggression (including one composite of two of the basic aggression measures) and provide a number of analyses to attempt to support this view. Generally the results did not support the hypothesis that exposure to violent programs increased any form of aggression, including hitting other children, verbal aggression or fantasy aggression. The only significant finding was an interaction between initial aggressiveness and violent programs. However, had a Bonferonni correction for multiple analyses been appropriately applied (it was not) this finding would not have been significant. Furthermore once gender was added to this analysis, this interaction was no longer significant. Thus, once gender is properly controlled, there were no significant findings to suggest that exposure to violent programs resulted in more violent behavior.

As such by the early 1970s even leading studies on television violence continued to be poorly constructed, used invalid aggression measures and produced inconsistent and weak effects. Nonetheless many authors interpreted their results as strongly supportive of the causal hypothesis that television violence viewing increased aggressive behavior. The culmination of this research was a report by the US Surgeon General in 1972 which concluded that the evidence was definitive that television violence was one cause of aggression and violent behavior, although the report noted that television violence was a weaker cause than other factors (US Surgeon General's Scientific Advisory Committee on Television & Social Behavior, 1972). As such it would appear that the debate was settled back in 1972. Yet, apparently this was not the case. Scientific criticisms of the causal hypothesis of television violence continued. In fact in a second report almost 30 years after the first, the Surgeon General would back off of the claims made in the 1972, expressing much less certainty about the role of television violence as a cause of youth violence (US Department of Health & Human Services, 2000).

6.4 Uncertainty Develops in the 1980s

It would certainly be untrue to suggest that the causal hypothesis of television violence lost popularity in the 1980s. Yet, it became increasingly evident that studies of television violence continued to labor under difficulties with methodology, problems developing valid aggression measures and inconsistent results that had plagued such studies in the 1960s and 1970s. Several major studies were conducted in the 1980s in order to try to bolster the causal argument of television violent effects, but all were subsequently found to have glaring problems and results that were inconsistent. Perhaps of greater concern, inconsistencies, weak results, and methodological limitations were oftentimes covered up by study authors in an effort to promote an increasingly alarmist causal position (Freedman, 2002).

One issue that was raised by some critics of the causal view of television violence and aggression was that varying nations that shared similarly violent television, had wildly different violent crime rates and patterns. Specifically, although violent crimes spiked in the 1980s and early 1990s in the USA, violent crime spikes remained absent in other industrialized nations with violent media such as Western Europe, Canada, and Japan. Heusmann and Eron (1986) attempted to address this issue by examining the link between violent television viewing in aggression cross-nationally. Children in the USA, Poland, Finland, Israel, Australia, and the Netherlands were followed for 3 years. Aggression was once again measured using peer-nominated aggression. In this study, the link between television violence and aggressive behavior, once examined using multiple regression, proved unreliable, demonstrating significance only for American girls, and Israeli city children (but not children in an Israeli kibbutz), yet not for boys in the USA, girls in Poland or Finland, or children of either gender in Australia, the Israeli kibbutz, or the Netherlands (Moeller, 2001; Wiegman & Kuttschreuter, 1992). The authors, perhaps disappointed with these results, then formed an odd composite measure by combining television violence exposure with a personality measure regarding interest in aggressive role models. As such the predictor variable is no longer television violence exposure, but an odd composite measure that is difficult to interpret. Boys in Finland and Poland showed a significant relationship between aggression and this odd composite measure of television exposure and identification with more aggressive role models, but tellingly showed no correlation between aggression and television violence exposure itself. As such the results from the current study are inconsistent, but overall offer little support for the hypothesis that television violence causes aggression. Tellingly the Dutch scholars involved in the study appear to have pulled out of the study, given concerns over the conclusions made by Heusmann and Eron (1986). The Dutch authors published their results separately (Wiegman & Kuttschreuter, 1992).

More broadly, an examination of violence rates across countries notes that other nations such as Canada, Japan, England, Finland, Australia, etc., which share our rates of violent media consumption (as Heusmann & Eron, 1986 agree), have widely different violent crime rates, and even within a single country such as the USA,

different ethnicities experience much different crime rates (World Health Organization, 2002). Thus, different nationalities, and even subgroups within the USA, are experiencing very different rates of violent crime, despite having essentially the same media violence consumption levels.

Another longitudinal study conducted in the early 1980s attempted to control for stability in aggression in examining the relationship between television violence and later aggression (Milavsky, Kessler, Stipp, & Rubens, 1982a). Once again, peer-nominated aggression was used, although in this study, physically aggressive behaviors were given higher weight. Results provided little evidence for a relationship between television violence viewing and aggression. A follow-up analysis on delinquency (Milavsky, Kessler, Stipp, & Rubens, 1982b) similarly found little relationship for television violence exposure with the onset of delinquency. It is possible that by focusing on the onset of delinquency rather than total number of delinquent acts, the authors may have missed real effects, although others have argued that this is unlikely (Savage, 2004).

By the 1980s, skepticism of the causal view of television violence among the scholarly community appeared to increase somewhat. Probably the most famous criticism of television violence research was by Jonathan Freedman (1984, 1986). Freeman argued that the research on television violence produced weak and inconsistent results, which study authors themselves had all but covered up in promoting the causal hypothesis. Freedman argued that there was no cumulative effect for television violence viewing, and that no particular age groups were vulnerable to the effects of television violence. The low validity of aggression measures used was a problem particularly for laboratory aggression measures. Other scholars debated Freedman's conclusions, although he maintained his position in the face of criticism (i.e., Friedrich-Cofer & Huston, 1986).

Guy Cumberbatch became another early and frequent critic of television violence studies (Cumberbatch & Howitt, 1989). Mirroring many of the concerns of Freedman, Cumberbatch questioned the validity of consistency of results on television violence. Demonstrating a cultural divide, Cumberbatch's theories in England, where Cumberbatch worked, received wider acceptance to the point that many British scholars consider the causal hypothesis of television violence to have been debunked (e.g., Gauntlett, 2006). In the USA, the causal hypothesis of television violence has retained considerable influence despite decades of criticism.

6.5 The Turn of the Millennium Meta-Wars

Although research on television violence continued into the 1990s, two important phenomena began to occur during this decade. First, a shift in interest away from television and onto video games became apparent in the literature. Secondly, the focus began to turn away from individual studies of television violence and onto meta-analyses. It is not uncommon in many research fields, and television violence is no exception, to find somewhat inconsistent results. Meta-analysis is one

statistical tool that can be employed in order to attempt to make sense of the confusion. Briefly a meta-analysis attempts to combine the effect sizes of all of the existing studies in a research field into one lump sum. Individual studies finding results in different directions may cancel each other out, but if there is a trend in the research, it may be revealed by the end result of a meta-analysis. In other words meta-analyses attempt to answer the question "All things considered, what does the research say?"

On the surface it may seem as if meta-analyses are an excellent way of coming to some conclusion regarding the combined results of a research field. Although meta-analyses are a potentially useful research tool, they do have some limitations which reduce their ability to provide solid answers (Bobko & Stone-Romero, 1998). It is important to understand them before discussing meta-analytic results. Major concerns about meta-analyses include the following:

1. *Publication bias*. Generally, journal articles prefer to publish articles which demonstrate statistically significant results. Articles with null results, meaning those that purport to demonstrate no effect, are much less likely to be published. Accumulated over time, this can provide a false picture of a phenomenon in reality. Since null results are seldom published, the relationship between two variables looks more solid than it actually is. Traditionally, meta-analyses of television violence have either neglected to test their results for publication bias, or have relied solely on the Fail-Safe-N, which tends to underestimate publication bias.
2. *The Inclusion of Unpublished Studies*. One way authors of meta-analyses have attempted to reduce the effects of publication bias is to include unpublished studies in their analyses. However, there is no listing of unpublished studies, so authors of meta-analyses have to search for them. Arguably this search itself injects a lot of potential bias into meta-analyses, as meta-analytic authors may be selective in how they search (i.e., not asking critics for any unpublished papers) or study authors themselves may suppress null results that conflict with their views on the topic. Including unpublished studies that have not been peer-reviewed and are of unknown quality also potentially violates the homogeneity assumption of meta-analyses (e.g., Hunter & Schmidt, 2004). Accordingly some experts have begun to caution against the use of unpublished studies in meta-analyses (Cook et al., 1993; Ferguson, 2007a; Smith & Egger, 1998).
3. *Junk In Junk Out*. The "junk in junk out" phenomenon points to the fact that meta-analyses are not able to analyze the *quality* of the included studies. Indeed it is generally assumed that the study authors will screen the included studies for quality. However, combining studies of mixed quality into a meta-analysis merely passes the flaws of a given research field on into the meta-analysis itself. Particularly as some have criticized television violence studies as displaying consistent methodological flaws across studies, this may be an issue for meta-analyses of television violence.

Exactly how many studies there have been of media violence effects on aggression is an issue of some dispute. Perhaps the most striking claim is that by the

American Academy of Pediatrics (AAP) testimony before congress (Cook, 2000) that "Since the 1950s more than 3,500 research studies in the USA and around the world using many investigative methods have examined whether there is an association between exposure to media violence and subsequent violence behavior. All but 18 have shown a positive correlation between media exposure and violent behavior." Similar statements from the American Psychiatric Association and American Psychological Association provide scientists and laypersons alike, who are not familiar with the literature, the impression that thousands of conclusive studies exist. Although no reviews conducted by researchers familiar with the field make such claims, neither have they been vocal in challenging this misconception.

Freedman's (2002) review of the literature noted that there are actually approximately 200 empirical studies of media violence effects (granted probably increased somewhat in the decade since 2002). This is still an impressive number, although nowhere near the figure cited by the AAP. Of greater concern, however, is that of the studies available that conduct empirical research regarding a link (correlational or causal) between media violence and actual violent behavior, more than half of them failed to support this link. From this analysis it appears that, far from being "unequivocal," the research is highly inconsistent. Most meta-analyses of media violence generally and television violence specifically agree that the total number of studies is probably between 200 and 400. It should be noted that this number includes many non-peer-reviewed studies including book chapters, dissertations and theses, unpublished manuscripts of various sorts, etc. If the number were limited instead to only peer-reviewed journal articles, it would undoubtedly be much lower. Most of these studies do not directly measure aggressive or violent behavior, but rather use indirect means, the validity of which has been called into question (Freedman, 2002; Ritter & Eslea, 2005; Tedeschi & Quigley, 1996).

One of the most influential meta-analyses of television and media violence is that by Paik and Comstock (1994). The authors combine a wide variety of studies of media violence effects, using many different kinds of measures of aggression. Tellingly, most of the studies in their analyses did not directly measure aggressive behavior. This is an important point, as one of the findings of Paik and Comstock's analysis that is often ignored is that the validity of the aggression measure has a large impact on the resultant effects. Better measures of aggression produced weaker effects in relation to television and media violence. In other words, the better job study authors did in measuring aggression, the less effects for television violence were found. Overall, Paik and Comstock reported an effect size of $r = 0.31$ across all studies, or approximately 9 % of the variance in aggressiveness. However, in studies that measured minor physical aggressiveness toward another person (such as giving electric shocks or noise bursts in a laboratory study), the effect size dropped to $r = 0.23$ or about 5 % of the variance in aggressiveness. When criminal violence was specifically considered the effect size was only $r = 0.10$, or 1 % of the variance. Note also that these results are not corrected for potential publication bias, nor take into account methodological problems with the studies. Paik and Comstock also give equal weight to small studies as large studies. As publication bias is more likely

for small studies, this has a tendency to artificially increase effect size estimates. As such, from this meta-analysis, we can see that the effects of television violence on aggression are very small, particularly when only measures of aggressive behavior or criminal violence are considered.

Other meta-analyses of television violence have generally found smaller effects than that of Paik and Comstock. For instance Hogben (1998) finds $r=0.11$ for the relationship between television viewing and all aggression measures, no matter how closely they approximate actual criminal violence. Bushman and Anderson (2001) find results ranging between $r=0.14$ and $r=0.2$. Note that these effects are for general measures of aggression, not violent crime, which tends to get even weaker effects.

One recent meta-analysis of television violence on aggressive behavior has been conducted by Savage and Yancey (2008). Savage and Yancey take greater care than previous meta-analyses to limit their study to only articles that directly measure aggressive behavior, rather than using indirect measures such as surveys, filling in the missing letter of words, etc. Ultimately they find little evidence for a relationship between television and media violence viewing and aggressive behavior.

The most recent meta-analysis of media violence effects (including television and video games, which were analyzed separately) was by Ferguson and Kilburn (2009). Ferguson and Kilburn actually examine some of the common criticisms of television and media violence research, including the misuse of unreliable and invalid measures of aggression and failure to control for "third" variables. Each of the studies included in their analysis was evaluated on these issues for whether they addressed them (i.e., by using better aggression measures or controlling adequately for related variables such as family violence), or left them unaddressed. They found that studies that used better methodologies produced lower effects than did those with weaker methodologies. Publication bias also proved to be a serious issue for studies of media violence in their analysis. The overall effect size for media violence on aggressive behavior was $r=0.08$. Ultimately the authors concluded that this was not sufficient to demonstrate a link between media violence and aggressive behavior.

Across all of these meta-analyses we can see that television violence viewing has little effect on aggressive behavior, particularly violent criminal behavior. The strongest result was from Paik and Comstock (1994), with $r=0.31$, although this is for aggression measures of questionable validity, does not correct for publication bias, and gives too much weight to small studies. Most other meta-analyses agree that this figure is certainly too high. Nonetheless even such an outlier figure suggests that only 9 % of the variance in aggression can be correlated with television or other forms of media violence. Most other figures suggest that the actual effect size is closer to 1–4 % and may simply be zero. The bottom line is that effect size estimates from all of the meta-analyses, including Paik and Comstock's figures for physical aggression and criminal violence, agree that television and other media violence exposure is a weak predictor, at best, for actual aggressive acts in the real world. Table 6.1 puts these effects in some perspective, in comparison with other effect sizes seen in criminal justice research, as well as a couple results from medical research to give further perspective.

Table 6.1 Effect sizes in medical and criminal justice research

Relationship	Effect size (r)
Smoking on lung cancer	0.90
Genetic influences on antisocial behavior	0.75
Salk vaccine on polio prevention	0.74
Self control and perceptions of criminal opportunity on crime	0.58
Protective effect of community institutions on neighborhood crime	0.39
Violent video game playing on visuospatial cognitive ability	0.36
Firearms ownership on crime	0.35
Incarceration use as a deterrent on crime	0.33
Aggressive personality and violent crime	0.25
Poverty on crime	0.25
Childhood physical abuse and adult violent crime	0.22
Child witnessing domestic violence on future aggression	0.18
Television violence on violent crime	0.10
Violent video game playing on aggressive behavior	0.04
Parental spanking on child aggression	0.03

Note: Data from Baumrind, Larzalere, and Cowan (2002); Block and Crain (2007); Ferguson (2007b); Ferguson et al. (2008); Francis et al. (1955); Kizman, Gaylord, Holt and Kenny (2003); Paik and Comstock (1994); Pratt and Cullen (2005); Pratt and Cullen (2000); Wynder and Graham (1950)

6.6 Television Violence, Smoking, and Lung Cancer

In the early twenty-first century, several scholars made the spectacular claim that the link between television violence and aggressive behavior was as good as that as between smoking and lung cancer (Bushman & Anderson, 2001). This claim has, at times, been repeated by other scholars (e.g., Huesmann, 2007). The link between smoking and lung cancer, although correlational in humans, is considered among the strongest in medical science. For instance male smokers are approximately 23 times more likely to develop lung cancer than male nonsmokers. For females the number is smaller, about 13 times more likely (American Cancer Society, 2008). According to the American Cancer Society, about 88 % of lung cancers can be attributed directly to smoking (with most of the remainder likely due to other carcinogens such as asbestos, or genetic conditions). To claim that television violence outcomes are equivalent would mean that 88 % of violent crimes could be attributed to television violence viewing, or that viewers of television violence, particularly males who commit most violent crimes, are 23 times more likely to commit violent crimes than are non-viewers. Such a claim appears to be quite unlikely. Dramatic claims of certainty such as those made by Bushman and Anderson are quite rare in the social sciences. As such Bushman and Anderson's claims deserve close scrutiny.

The argument boils down to statistics. Remember above how we discussed the effect size results from various meta-analyses. We noted that the highest effect

size was found in Paik and Comstock's (1994) analysis, with $r=0.31$. This would suggest that watching violent television causes about a 9 % (by squaring the r value and multiplying by 100) increase in aggressiveness. Even Paik and Comstock's analyses note that this figure is likely too high, as data for physical aggression and violent crime were much lower. Other meta-analyses agree that the number should be lower. Nonetheless Bushman and Anderson select this high figure of $r=0.31$, *ignoring the much lower figures of r = 0.14–0.2 found in their own meta-analysis,* as the figure to represent television violence effects. Bushman and Anderson then try to calculate the effect size for smoking and lung cancer based on an old 1950s study (Wynder & Graham, 1950). Bushman and Anderson calculate an effect size of $r=0.4$ for smoking and lung cancer. In other words smoking increases the odds of getting lung cancer by 16 %. Bushman and Anderson, also calculate effect sizes r for other medical effects such as passive smoking and lung cancer, condom use and HIV infections, asbestos exposure and laryngeal cancer, etc., all of which they calculate as less than the effects than for media violence.

The problem is that many medical studies do not represent their data in terms of the Pearson r. Instead they use something called Relative Risk or Odds Ratio. This is represented by the American Cancer Society's statistic claiming a 23 times elevation in lung cancer risk for male smokers. It turns out that Relative Risk or Odds Ratio and Pearson r do not easily translate into each other (Rosenthal & DiMatteo, 2001). Trying to translate from Relative Risk to Pearson r tends to dramatically deflate effect sizes estimates, something that has been known for some time (e.g., Crow, 1991; Ferguson, 2009; Hsu, 2004; Kraemer, 2006). In other words Bushman and Anderson make their claim by dramatically underestimating the effect size for smoking and lung cancer, as well as other medical effects, and dramatically overestimating the effect sizes for television violence, by selecting Paik and Comstock's figure of $r=0.31$ over even their own data.

Looking at the data on smoking and lung cancer, we can see that certainly there is no parallel to television violence. Most criminologists would certainly agree that television violence exposure is not the root cause of 88 % of violent crimes. That these claims have been allowed to survive for so long without closer scrutiny suggests that the field of television violence has not been adequately peer-reviewed and may have become dangerously corrupted by political ideology and scientific dogma (Grimes, Anderson, & Bergen, 2008).

Since these meta-analyses, a few studies have attempted to tackle the issue of television violence effects on adolescents, while fixing some of the problems of previous work. Mainly using correlational or prospective designs, these studies used better validated measures of youth aggression, violence and bullying, and controlled for other important confounding variables such as personality, peer effects, family environment, and mental health. Generally studies using these improved methods have generally found that, with other important factors controlled, television violence effects on adolescents appear to be minimal (Ferguson, 2011; Ybarra et al., 2008). Further, this absence of effect for television violence on aggression appears consistent cross culturally (Ferguson, Colwell, Mlačić, Milas, & Mikloušić, 2011).

6.7 Famous Television Violence Cases in the Courts

When criminal defendants are caught committing crimes, particularly violent crimes, it is not uncommon for them to attempt to deflect blame onto others, including their victims, their parents, society in general, and of course the media. Several court cases have received attention due to attempts by criminal defendants or others to explain violent criminal actions on exposure to television violence.

Perhaps one of the most famous cases is that of Ronnie Zamora. In September of 1977 Zamora, a 15-year-old Costa Rican boy living in Florida broke into the home of an 82-year-old female neighbor. Zamora's intent, ironically enough, appears to have been to steal her television set, and she was killed during the robbery attempt. Zamora was quickly arrested and put on trial for murder, burglary, robbery, and possession of a firearm. As the evidence against Zamora was conclusive, his trial attorney elected to claim that Zamora was legally insane. Specifically, Zamora's attorney claimed that he experienced "television intoxication." The trial judge appeared skeptical of this claim and limited testimony by scientific witnesses as well as by Telly Savalas, star of the TV show *Kojak* The insanity defense was unsuccessful, and Zamora was sentenced to life imprisonment, although he was ultimately paroled in 2004. In subsequent appeals Zamora claimed that he had been denied sufficient counsel, and that his attorney had damaged his insanity defense by linking it to the notion of "television intoxication." These appeals were unsuccessful.

In 1998, 12-year-old Lionel Tate battered to death a 6-year-old girl who was being babysat by his mother. Tate stomped on her liver so hard that it began bleeding leading to her death. He also caused numerous other injuries to her including a fractured skull and rib. Tate claimed that he had merely been playing with her and accidentally killed her while trying to demonstrate a wrestling move that he had seen on television. At the time of the killing, Tate was said to be approximately 165 pounds, while his victim was between 45 and 50 pounds. Tate's mother, a Florida police officer, turned down a plea bargain that would have resulted in a 3-year sentence for second degree murder for Tate. In his trial Tate's lawyers claimed that he was mimicking moves seen on television, and was unaware that he was harming her. The jury quickly rejected this defense and believed evidence that he had been aware that he was causing her serious harm. Tate was subsequently convicted of first degree murder and sentenced to life imprisonment. An appeals court overturned his conviction and he was released in 2004 on parole. He was arrested for armed robbery in 2005 and sentenced to 30 years in prison for violating probation and the robbery.

In 1993 Darcy Burk accused the cable television show *Beavis and Butthead* of inspiring her 5-year-old son to set a fire which killed his toddler sister and destroyed the family mobile home. *Beavis and Butthead* had aired at least one episode of the show where the title characters state that fire is cool. Although the show and its producer *MTV* received much criticism, it was never clear that the child was motivated to set the fire by the show, or even that the family home had been wired for cable. Nonetheless *MTV* promised to avoid fire references in further episodes of the show.

Unfortunately criminals hoping to avoid responsibility as well as parents seeking explanation for the behavior of their children, oftentimes, turn to television as an excuse for wrongdoing. The appeal of such an approach is obvious; blame is deflected away from oneself or one's parenting skills, and passed on to the media. Thus far, in the majority of criminal and civil cases involving television violence as a cause of criminal or tragic behavior, the influence of television violence has not been successful as a defense or source of blame.

6.8 Conclusions

The issue of television violence and its impact on aggressive and violent behavior among adolescents has been a highly emotional and politicized debate. Unfortunately, much of the emotion, hysteria, and hyperbole over television violence effects that exists in the public debate have infected the scientific community. As seen in this review, social scientists have oftentimes exaggerated the links between television violence and aggression, ignored negative results from their own studies, and falsely compared television violence effects with smoking and lung cancer. Although the search for television violence effects on adolescents was always a logical one, it appears to have been corrupted by pressure to find effects rather than conduct objective science. That the resultant science nonetheless demonstrates weak effects, if any, argues that the impact of television violence on subsequent aggression among adolescents is negligible. Data on youth violence and violent crime trends in the USA and other countries provides further evidence that increasing violence on television is not resulting in increasing societal violence among adolescents.

Although the debate on television violence is far from over, the attention it receives appears to have been reduced in recent years. In all likelihood this is because the focus has shifted away from television and onto the newest form of violent media, video games. We examine the research on violent video games in the next chapter.

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