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Media Violence and Aggression

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No one is suggesting that video games are the only reason they went out and committed those horrific acts, but was it a tipping point? Was it something that pushed them over the edge? Was it a factor in that? Perhaps. That's a really big deal.

Jim Steyer, CEO Common Sense Media, 2012

No topic in the field of communication has been more heavily investigated than media violence and its effects on aggression. Each time an act of real-world violence hits the airwaves, the debate about the effects of media violence on aggression rears its ugly head. Some passionately argue that consumption of violent media content is a key route to aggressive behavior; others vehemently deny such a connection. Indeed, time and time again, tempers seem to flare when the effects (or lack thereof) of media violence are discussed.

Perhaps this is because the outcome most associated with media violence—namely aggression—is a topic that evokes deep concern and fear. Or perhaps it is because the events that often trigger the debate are poignant, heart-breaking, and traumatic. The quote above by Jim Steyer, for example, concerns Adam Lanza who, in December 2012, shot and killed 20 school children and six adults in Sandy Hook, New Jersey, and then turned his weapon on himself. Indeed, it is hard to think of images such as those associated with Sandy Hook Elementary School, Stoneman Douglas High School, Virginia Tech University, or the Pulse nightclub without feeling an immediate and urgent need to “fix” the problem. But as tragic as these incidents are—and they are tragic—the best we as scientists can do is use the objectivity science affords us to identify the extent to which media violence is a risk factor for aggression so that we can then identify routes for intervention. Herein lies the goal of this chapter.

From Then to Now

Most scholars view the Payne Fund Studies as a key starting point in the history of media violence (Sparks, Sparks, & Sparks, 2009). These privately funded studies, conducted between 1929 and 1932, were designed to ascertain the effects of movies on the behavior of children and

teens. Although numerous studies resulted, two in particular helped reinforce the notion that violent media content could be a public concern. First, Blumer's (1933) survey of nearly 2,000 respondents revealed that many movie viewers were aware that they had directly imitated acts of violence first witnessed in movies. Shortly thereafter, Dale's (1935) analysis of 1,500 movies revealed that movies of the day placed a heavy emphasis on crime. Together, these studies helped to exacerbate public concern surrounding violent media content.

The Payne Fund Studies certainly helped put media violence into the public foray, but it was work conducted in the early 1960s that attracted even greater attention. Specifically, in 1961, a team of American researchers demonstrated a positive relationship between televised violence consumption and aggressive behavior among youngsters (Schramm, Lyle, & Parker, 1961). In contrast and at nearly the same time, researchers in Great Britain suggested that not only was there no relationship between television violence and aggression but, moreover, argued that finding such a link would be difficult to prove (Himmelweit, Oppenheim, & Vince, 1958). With this conflicted background in mind, the American government held Congressional hearings to better understand the degree to which media violence might be a public concern. During these hearings, scholars argued that it was imperative to form and fund a program of research on the issue of media (then, specifically TV) violence effects, with a specific focus on children, given that this audience was seen as acutely susceptible to media's influence (Murray, 2007).

After these hearings, interest in media violence continued to grow, with significant attention in the U.S. due in part to the assassinations of President John F. Kennedy, Martin Luther King, Jr., and Robert Kennedy. This led to the formation of several government commissions and scientific review committees (e.g., the Surgeon General's Scientific Advisory Committee on Television and Social Behavior), all charged with summarizing the research evidence and identifying the public policy issues associated with media (namely, TV) violence. In many ways, these committees were central to setting the agenda for research and public discussion on media violence for the years ahead (Murray, 2007).

But they were not the only forces that helped set the agenda. In the 1980s, the Federal Communications Commission in the U.S. loosened broadcast restrictions related to public interest programming. This ushered in greater concern associated with television content, particularly children's content, leading to the Children's Television Act of 1990, which, among other things, required broadcasters to air a certain amount of "educational" programming suitable for young viewers (Kunkel, 1998). Within three years of this act, TV networks began labeling children's programs to warn parents about violent and unsuitable content, implicitly making the clear point that such content was, at a minimum, controversial and potentially harmful.

Fast forward to 1998 when the National Television Violence Study (NTVS), commissioned in the U.S., published its results of a three-year study that confirmed a link between viewing television violence and subsequent aggressive behavior among youth and noted that the proportion of violent media was increasing, particularly with content most likely to support behavioral imitation (Wilson et al., 1998). This report was almost immediately followed by the Columbine High School shooting in the U.S. in April 1999, where one teacher and 12 students were murdered in a highly planned attack by two other students. The attack was blamed, in part, on violent video games—*Doom*, *Wolfenstein 3D*, *Duke Nukem*, *Quest*—which the attackers reportedly played, once again perpetuating the (perceived) link between media violence and aggression. As a result of the tragedy, then-President Bill Clinton commissioned a report by the Surgeon General, which, similar to the NTVS, reported a "strong" relationship between media

violence consumption and short-term aggression, although this aggressive behavior “stopped far short of breaking limbs or committing murder” (Bryant, Thompson, & Finklea, 2013, p. 158; U.S. Surgeon General, 2001).

Since the Surgeon General’s report, both social and scientific concerns have continued to grow. As Murray (2007) notes, the extent of this concern is most aptly demonstrated by the fact that over the past half-century, more than 1,000 reports have been published on the issue. And this scholarship still continues with fervor, extending beyond the classic sphere of television and video games to social media, virtual reality, mobile media, and more (e.g., Lull & Bushman, 2016; Patton et al., 2014; Reed, Tolman, & Ward, 2016). But this scholarship has also increasingly witnessed a tension in the field. Although the historical rhetoric mostly suggests that violent media consumption is, at minimum, a risk factor for aggressive behavior, the current scientific community does not unilaterally share this sentiment. Rather, some scholars vehemently argue that the relationship is “much ado about nothing” (e.g., Ferguson & Kilburn, 2010), while others equally fierce in their conviction contend that it is indeed “much ado about something” (e.g., Bushman, Rothstein, & Anderson, 2010). And it is in this context, caught between the fences so to speak, that we find ourselves as scholars continuing to study an issue that may be among the most defining for communication science.

Key Theories

As this brief history shows us, since the early days of electronic media, concerns about the effects of media violence—particularly on aggressive cognitions, attitudes, and behaviors—have persisted. Alongside this concern, scholars have espoused numerous theories to explain why such a relationship might occur. Some of these theories focus primarily on short-term effects of media violence; others take a longer-term perspective.

Social Cognitive Theory

No chapter on the effects of media violence would be complete without explicit acknowledgment and focus on social cognitive theory (Bandura, 2009). In fact, Albert Bandura’s social cognitive theory has been among the most heavily cited when it comes to explaining how violent media content may induce aggressive behavior. This theory posits that humans learn behavior in two ways: by direct experience and by observing others. Like other behaviors, Bandura posits that aggressive ones are learned by (1) seeing certain behaviors, (2) trying them out for ourselves, and then (3) relying on cues from our social environment to encourage us to replicate (or suspend) these behaviors.

Readers are encouraged to review Chapter 7 in this volume for a thorough discussion of this theory, but a brief recap is helpful here. Social cognitive theory was developed and tested in the 1960s in Bandura’s now-classic “Bobo doll” studies. Although the studies varied in design, in the most classic version, Bandura invited a group of young children to watch a movie showing an adult acting aggressively toward a Bobo doll (i.e., an inflated toy that rights itself to a standing position when knocked down). Participants were assigned to one of three conditions: (1) the aggressor was rewarded for aggressive action in the film, (2) the aggressor was punished for aggressive action, or (3) neither reward nor punishment occurred. Following the viewing, all participants were allowed to play with the Bobo doll featured in the movie. Results showed that reward matters: Children in the rewarded

condition imitated more aggressive acts than the children in the punishment or no consequences condition (Bandura, 1965).

The Bobo experiments, and other comparable studies, tried to explain the process of observational learning, in particular when aggressive behavior was rewarded or punished. Importantly, the theory makes the explicit point that audiences do not merely imitate behaviors learned observationally, but rather that, by observing, audiences learn more abstract rules about a behavior, which can then be applied in future situations. In order to learn these abstract rules, Bandura posits that viewers must attend to, remember, and be physically capable of replicating the modeled behavior (see Chapter 7 for more detail about these processes). But even if these processes are accomplished, the observer needs to be *motivated* to perform the behavior. This is where external reinforcement comes into play: If you believe that your environment will not support the planned (aggressive) behavior, then you are less likely to engage in it. But if you believe the environment will support the behavior—think of hero genres whereby the “good guy” receives accolades for acting violently—then you are more likely to replicate the behavior (Bandura, 1986). As such, the presence, type, and context of violent behaviors, together with the attention of the audience, is argued to predict the degree to which violent behaviors may be learned and replicated in society.

Desensitization Theory

Social cognitive theory is used to explain both short and long-term effects of violent media content, with the (implicit) acknowledgment that the replication of behaviors is dependent upon the opportunity to engage in such replication. Desensitization theory, in contrast, is focused primarily on long-term effects. Like social cognitive theory, it has been used to explain a variety of potential media effects, although it has found a particularly strong footing in the media violence literature. In short, desensitization theory posits that repeated exposure to media violence leads to gradual cognitive and emotional habituation in response to aggression. Over time and with increased exposure, audience members become more accustomed to aggressive behavior, which then impacts moral judgments and behaviors. In particular, it is anticipated that audiences will find violent content less ethically problematic and eventually become indifferent to enacting and observing aggressive behavior in their daily life (Carnagey, Anderson, & Bushman, 2007; Gubler, Herrick, Price, & Wood, 2018; Krahe et al., 2011).

Support for desensitization theory can be found in the media violence literature. In what many consider a classic study, Linz and colleagues (1984) showed a group of college-aged men violent “slasher” films (i.e., films in which physical violence against women was quite pronounced) for five consecutive days. By the end of the viewing period, the male participants found the films to be less violent and degrading to women. Even more, after watching a documentary about a trial for sexual assault, the male participants were less sympathetic toward the rape victim than men who had not viewed the slasher films. In similar work, Smith and Donnerstein (1998) demonstrated that the more viewers saw graphic media violence, the more they viewed the material that they once perceived as offensive as significantly less so.

More recently, Krahe and colleagues (2011) provided evidence to support desensitization via skin conductance analyses. In their study, college undergraduates completed a battery of measures, including habitual media violence exposure. Two weeks later, they were shown a violent film clip (and a sad or funny clip for comparison). During viewing, skin conductance—an indicator of physiological arousal (see Chapter 13 in this volume)—was measured continuously.

After the clip, a lexical task measured the accessibility of aggressive cognitions. Results showed that habitual media violence exposure correlated negatively with arousal during violent film viewing and positively with faster accessibility of aggressive cognitions. This was not the case for the comparison group viewers. In line with predictions of desensitization, viewers more accustomed to violent media content were less likely to be aroused by a violent clip and more likely to quickly access aggressive thoughts post-viewing (Krahé et al., 2011).

Just as Krahé relied on psychophysiological measurement (in part) to operationalize desensitization, scholars have also recently begun to rely on brain-scanning technology to provide a more refined look at this potential process (see Chapter 13 in this volume). In this work, researchers used fMRI to view the neural responses of teen boys during violent film viewing (Strenziok et al., 2010). Here, the argument is that active areas of the brain require more oxygen than less active areas. If desensitization occurs, then one would expect less activity in the emotional areas of the brain over the course of exposure. In this particular study, the researchers observed increased oxygen in the area of the brain most often connected with emotional responses at the outset of exposure. But, as the clips being viewed became more violent, the activation diminished. This diminishing oxygen was interpreted by the authors of evidence of a desensitization effect.

Priming Theory

Unlike desensitization theory, which focuses on the long-term consequences of media exposure, priming theory helps explain short-term effects of media exposure. Although priming theory is often linked with research in the political communication sphere (Roskos-Ewoldsen & Roskos-Ewoldsen, 2009), it has also been used to explore how media violence may influence aggression.

Discussed elsewhere in this volume in greater detail (see Chapter 6), in short, priming theory is based on the understanding that humans rely on scripts and schemata to efficiently store information. Schemata are defined as mental frameworks or concepts we use to organize and understand the world. Related to schemata are scripts, which are defined as a specific schema (or schemas) that is associated with the particular order of expected events in a particular context. Schemata and scripts are core to priming theory. Specifically, priming theory relies on the assumption that the human brain consists of different associative schemata that reflect thoughts, ideas, emotions, and actions that are stored in memory and that, when an external stimulus activates a certain schema, it may also activate—or prime—other conceptually related schemata (Jo & Berkowitz, 1994).

In the case of violent media exposure, researchers have argued that consuming media violence can prime certain violent schemata, which in turn may activate related schemata. As a result, these related schemata become (temporarily) more accessible. The now-classic *Karate Kid* study (Bushman, 1998) does a good job of elucidating this process. Specifically, in this study, participants were randomly assigned to either watch the film *Karate Kid* or a non-violent film. Afterwards participants were asked to identify whether a set of letters was an actual word or not by pressing a button as quickly as possible. Half of the depicted words were aggressive in connotation. Viewers of *Karate Kid* had faster reaction times to aggressive words compared to their control group peers. The researcher interpreted this as evidence that certain violent schemata in the brain were primed and thus these schemata were temporarily more accessible, leading to faster judgments regarding subsequent violence-related stimuli.

Excitation Transfer Theory

Just as some scholars have used priming to explain why media violence might enhance short-term aggressive cognitions (and in some instances aggressive behavior), others have suggested it is not the activation of the neural network that explains this relationship but rather it is a more physical response, namely, arousal. Coined excitation transfer theory, this theory assumes that people become physically aroused during certain types of media content, including violent content. The theory argues that, even when the media exposure ends, arousal does not immediately subside but rather dissipates slowly. As such, it can transfer to behavior after the media experience, making that experience seem more arousing (i.e., misattribution; Zillmann, 1978). For example, if you are frustrated (e.g., your boss gives you extra work just as you are leaving the office for the weekend) and then something makes you angry (e.g., someone has dented your new car while you were at work), then the leftover arousal from the first event (frustration) will be added to the arousal from the second event (anger), leading you to experience the latter more intensely than you would have otherwise.

In much the same way, if violent media consumption immediately precedes a situation that induces anger, the experienced anger may be intensified and, as such, increase the likelihood for aggressive behavior. Not only might this misattribution occur, but the high arousal evoked by violent media content is also proposed to increase aggressive behavior by energizing action tendencies immediately after (Anderson & Bushman, 2001). In other words, individuals may feel more aroused after consuming violent media and then opt for action-based activities afterwards, which may be more aggressive in nature than had they consumed less violent media content. Even more, if confronted with a provocation, a person in a heightened state of arousal is more likely to respond aggressively (Ireland, Birch, & Ireland, 2018).

General Aggression Model

The challenge with each of the above theories is that, although they all offer a plausible explanation as to why violent media consumption may induce aggression, they focus on different manifestations of aggression and on different timelines. For example, social cognitive theory looks at both short and long-term effects and is more strongly focused on the replication of modeled behavior. On the other hand, desensitization and priming theory tend to focus most on aggressive cognitions, with desensitization explaining potential long-term effects and priming explaining immediate ones. Contrast this with excitation transfer theory, which focuses on physiological responses in the immediate moment, with some (potential) connection to behavior. Combined, these differing theories indicate that the route to effect is likely dependent on characteristics of the content *and* of the audience. This is what Anderson and Bushman observed, and from this observation they united these theories in the General Aggression Model (GAM) (Anderson & Bushman, 2002, 2018).

Not a communication or media effects model per se, the GAM is designed to identify how individual and situational factors may directly (and in combination) influence three potential routes to aggression—cognition, affect, and arousal—that subsequently influence appraisal and decision-making processes, which in turn influence behavior. The model specifies both immediate and longer-term effects. In the short term, the model posits that violent media can cause increases in aggression via a person's cognitive, affective, and physiological state. For example, Bushman and Anderson (2002) note that playing a violent video game may prime aggressive

cognitions, increase arousal, and create an angry state. In the long-term, the GAM specifies that learning processes—namely, learning how to perceive, interpret, judge, and respond to events in the environment—will influence knowledge structures. In this way, each violent media episode is seen as one additional trial to “learn that the world is a dangerous place, that aggression is an appropriate way to deal with conflict and anger, that aggression works” (p. 1680) and more. With repeated exposure, these hostile knowledge structures become more complex and difficult to change, which may ultimately lead to an aggressive personality (Bushman & Anderson, 2002). In line with the predictions of the GAM, a recent meta-analysis demonstrated that increased exposure to violent media content is both cross-sectionally and causally linked to increased hostile attributions in daily life (i.e., perceiving the ambiguous actions of others as aggressive actions) (Bushman, 2016).

Differential Susceptibility to Media Effects Model

In recent years, the GAM has been one of the key models used to explain how violent media may affect audiences. This is relatively unsurprising given its comprehensive and nuanced stance. Yet, it is not a media-effects model per se but rather a model focused on the predictors of aggression. And while aggression is certainly the most commonly investigated outcome associated with media violence (and, as such, the focus of this chapter), scholars have investigated other (related) outcomes, including criminal violence (Savage & Yancey, 2008), empathy (Vossen, Piotrowski, & Valkenburg, 2016), prosocial behavior (Anderson et al., 2010; Bushman & Anderson, 2009), social-emotional development (Beyens, Piotrowski, & Valkenburg, 2018), issue acceptance (e.g., rape myth, Emmers-Sommer, Pauley, Hanzal, & Triplett, 2006; gun control, McGinty, Webster, & Barry, 2013), ethical decision-making (Gubler et al., 2018), and societal moral panic (Burns & Crawford, 1999; Ferguson, 2008). These outcomes do not fit squarely within the GAM and, at the same time, face the challenge as to which of the competing theoretical models may best explain any potential relationship with exposure to media violence. Here is where the differential susceptibility to media effects model (DSMM) comes into play (Valkenburg & Peter, 2013).

The DSMM is among one of the newest models of media effects in communication science. Considered by some to be a tour de force, it is a comprehensive model that takes a nuanced perspective to understand the ways in which media—including violent media—affect users. The model makes the explicit point that media effects are not homogeneous and instead that, a priori, it is crucial to identify for whom and in what situations media effects may (or may not) occur. Broadly speaking, the DSMM posits that media content will directly influence one’s response to media (i.e., cognitive, affective, and physiological response states), which will subsequently influence the breadth and depth of experienced media effects. In other words, content matters. In particular, the way that content is shaped, contextualized, and delivered influences one’s responses. But the model goes further to acknowledge that not all users will respond to all content in the same way. Instead, developmental, dispositional, and contextual factors are said to influence both media selection and the processing of media content, which then determines media effects. This differential susceptibility is argued to explain why some individuals are particularly affected by media content and others are seemingly less so (see also Piotrowski & Valkenburg, 2015).

While the DSMM is relatively new and has only been applied in a scattering of studies on media violence, the available evidence—both using and related to the DSMM—suggests that the

model deserves careful consideration. For example, consider the issue of media content for a moment. While researchers often use the phrase “violent media” as though the content was homogeneous (including here in this chapter), violent media content is undoubtedly a far more heterogeneous concept. As Valkenburg and Piotrowski (2017) note,

a documentary containing violent scenes that is meant to inform viewers cannot be compared with a movie in which a character attacks his enemies with a chainsaw ... it is not difficult to predict that the effects of *Schindler’s List* will differ from those of *Terminator Genisys*.

(p. 111)

And indeed, when it comes to the portrayal of media violence, research has suggested at least five relevant contextual variables that may increase the likelihood of subsequent aggression: (1) appealing perpetrators, (2) rewarded violence, (3) justified violence, (4) consequence-free violence, and (5) arousing violence (Anderson et al., 2010; Bandura, 1986; Krmar & Valkenburg, 1999; Paik & Comstock, 1994; Wilson et al., 1998, as cited in Valkenburg & Piotrowski, 2017 in Table 7.1), inasmuch as the DSMM explicitly argues that these content attributes are crucial to consider when understanding which violent media may induce effects.

But it is not just a question of exposure (or not) to media content. The literature has numerous examples where media violence had little to no documented effect on audiences. In many cases, effect sizes reported in media violence studies are relatively small, while in other cases there seem to be reasonably robust effects for certain groups of the population. This raises the question as to who is more or less likely to experience consequences of violent media. Consistent with the predictions of the DSMM, a closer examination of the literature on media violence suggests that there are three global factors that can modulate the relationship between media violence exposure and subsequent effects: development, disposition, and social factors (Valkenburg & Piotrowski, 2017; see also Wiedeman, Black, Dolle, Finney, & Coker, 2015).

In terms of development, for example, the work with children and adolescents indicates that younger children are more at risk of negative outcomes associated with media violence, particularly children younger than age seven (Paik & Comstock, 1994). Although several competing explanations for this susceptibility exist, most agree that it is due to a combination of the portrayals of media violence and the still-developing cognitive and emotional capacities of children. Specifically, during the younger years, violent media content is often depicted in animated movies or cartoons—often as part of the rewarded-hero genre—which in general has been shown to increase the likelihood of media violence effects (refer back to predictions of social cognitive theory). Alongside this, thanks to still-developing cognitive capacities, young children struggle to separate reality from fantasy, which makes standard media literacy techniques (e.g., “this is not real!”) difficult to employ. Further, as a result of their still-developing emotional and physiological capacities, young children struggle to regulate their responses more so than their older peers, leading to intense emotional and physical arousal, which subsequently predicts more lasting effects (refer back to excitation transfer theory).

Much like development, dispositional differences have also been shown to modulate the effects of media violence. For example, a rich body of research shows that individuals with an aggressive temperament, as well as individuals with a strong need for sensation, seem to be more susceptible to media violence effects. Valkenburg and Peter (2013) argued that disposition-content congruency may explain this finding. Specifically, they argued that violent media—with its frequent

spacing and scene changes, alongside its inclusion of aggressive content—aligns well with aggressive and high-sensation-seeking temperaments. As a result, they explain (via hedonic contingency; Wegener & Petty, 1994) that the processing of violent content is more aesthetically pleasurable for some viewers, which may lead to amplified effects.

Lastly, also in line with predictions of the DSMMM, a clear body of research suggests that the context in which media violence is consumed also influences the degree of any potential effects. In our Center at the University of Amsterdam, this role of context has been of particular interest as we have sought to understand how differential contextual factors may influence media violence effects on teens. Inspired by work on cultivation theory (see Chapter 5 in this volume) and the notion of resonance effects (Morgan & Shanahan, 2010), for example, we have explored whether living in an environment that (implicitly or explicitly) endorses aggressive behavior may augment the effects of violent media consumption in adolescents. In particular, if a living environment does not place clear sanctions on aggression, then individuals may be less likely to reject aggression and instead see it as an acceptable behavior for replication. Our results bear support for these expectations. Specifically, we found that teens growing up in homes with increased family conflict seem to be particularly aroused by media violence and are more likely to demonstrate later aggression, which we refer to as a double-dose effect (see Fikkers, Piotrowski, & Valkenburg, 2016; Fikkers, Piotrowski, Weeda, Vossen, & Valkenburg, 2013). Even more, we identified a similar pattern with teens' peer networks in that teens seem to be more aggressive after violent media consumption if they believe that the peers in their life are also likely to engage in similar behaviors (Fikkers, Piotrowski, Lugtig, & Valkenburg, 2016).

Much Ado about Nothing ... or Something? The Evidence

As previously noted, the majority of research looking at media violence has focused on the degree to which media violence may induce aggressive feelings, thoughts, or behavior¹ (Murray, 2013). Admittedly, this chapter too has focused mostly on those outcomes. And all told, the evidence accumulated to address media violence and aggression has yielded compelling findings. Indeed, we see that experimental data have provided internally valid evidence about short-term effects, whereas correlational work has yielded externally valid evidence about long-term relationships. For example, consider the now-classic study by Leyens and colleagues in which youth living in an institution for juvenile delinquents who were shown violent movies every evening for a week (compared to a group who watched neutral movies) became more aggressive after viewing. This study certainly provides an interesting discussion from the experimental domain (Leyens, Camino, Parke, & Berkowitz, 1975). Similarly, the equally classic study by Eron and colleagues provides a rich example from the correlational domain (Eron, Huesmann, Lefkowitz, & Walder, 1972). Here, the authors observed youngsters' preferences for media violence and a tendency to engage in aggressive behavior at age eight. Ten years later, these subjects were observed again for both violent media preference and aggressive behavior. The researchers found that watching violent content at age eight predicted increased aggressive behavior a decade later. And although they did not find a reciprocal pattern in their work, other scholars using a similar methodological paradigm did provide evidence for reciprocity, showing that violent media affects aggressive behavior and aggressive behavior subsequently predicts increased preference for violent media (e.g., Slater, Henry, Swaim, & Cardador, 2004).

These—and the handful of studies described earlier—represent just a few examples of the more than 600 studies (Murray, 2013) investigating the effects of media violence. Any attempt at a comprehensive reporting of all of these studies is a fool's errand. Instead, it seems more logical to spend the final few paragraphs of this chapter examining the *size and scope* of media violence

effects. That is, although our historical accounting of the scholarly record certainly suggests that media violence is a concern for (some members of) society, and although a great number of theoretical suppositions explain why and how media violence may affect aggression, perhaps a more useful question to interrogate as a concluding thought is the degree to which the empirical evidence supports or rejects the assertion that media violence is worthy of concern. To that end, we turn to meta-analyses of the effects of media violence. Although meta-analyses may provide overestimations of effect sizes due to publication biases, errors in statistical reporting, or varying quality of included studies (Ferguson, 2007; Savage & Yancey, 2008), they offer us a reasonably comprehensive lens with which to assess the effects of media violence.

As of the time of writing, seven meta-analyses have investigated the influence of media violence on aggressive behavior. The first, conducted by Paik and Comstock (1994), suggested a moderate ($r = .31$) relationship between violent media and aggressive behavior. The others (Anderson et al., 2010; Bushman & Huesmann, 2006; Ferguson, 2015; Ferguson & Kilburn, 2009; Greitemeyer & Muegge, 2014; Sherry, 2001) have all similarly demonstrated a positive (though relatively weaker) correlation (ranging between $r = .08$ and $r = .20$) between violent media consumption and subsequent aggressive outcomes, with reported effect sizes that are considered by statisticians to be small to moderate (Cohen, 1988). In these cases, a statistically small to moderate effect means that there is a small to moderate chance of media violence consumption causing aggressive behavior. And this, of course, does not include other potential effects of media violence (e.g., social-emotional development; Beyens et al., 2018; Vossen et al., 2016). So, the question becomes, is a small or moderate chance of media violence effects sufficient to warrant concern? Herein lies the debate.

Indeed, perhaps the largest issue in the field of media violence effects is not whether there is a small to moderate effect of media violence on subsequent aggression, but whether this effect is *meaningful* (Valkenburg & Piotrowski, 2017). On the one hand, one group of scholars (e.g., Anderson & Bushman, 2001; Bushman et al., 2010) has staunchly argued that these effects should be taken seriously because large parts of society are exposed to violent media, effects cumulate over time, and potential consequences are severe (Fikkers, 2016). Yet there are others who argue, with similar intensity, that effects are statistically so small that they are negligible and not a concern to public health (e.g., Ferguson & Kilburn, 2009, 2010). They take the stance that meta-analytic results are likely too liberal because they have not taken into account risk factors of “real importance” (e.g., an aggressive temperament or harsh familial environments; Ferguson & Kilburn, 2010, p. 176). To this end, in their work, they show that—when controlling for such risk factors—any detected effect is nearly non-existent and, as such, they argue that efforts to reduce media violence exposure are misdirected and, instead, society should target “true” risk factors of aggression (also see Kühn et al., 2018 for a discussion of null effects).

So, where does this leave us? In this hotly contested debate, it almost feels as though there are two “camps”: one that acknowledges the existence of effects, the other rejecting them. Both are working with the same data, the same articles, the same results, and drawing entirely different interpretations. This makes for a messy field, not only for scholars but also for public stakeholders—parents, caregivers, health care professionals, policy officials—who have a vested interest in the topic. And at a time when media are increasingly digital, when we are no longer modeling media violence but are quite literally performing “virtual” violence in rich, immersive platforms (Daneels, Malliet, Koeman, & Ribbens, 2018; Madsen, 2016), the importance of this field cannot be underestimated. Although we cannot tell you as a reader which side you should choose, we would suggest that, rather than two sides, there might be a third viewpoint.

Specifically, in our own research, we interpret effect sizes for what they are: an aggregate of the relationship between media violence and aggression. Although effect sizes help us understand what is going on for *most* people, they can easily mask the messier truth: namely, a minority of individuals may be particularly influenced by media violence, while others may be less so or unaffected altogether. For example, as discussed earlier, children growing up in high conflict homes or with peers who are more aggressive may be particularly at-risk for the effects of violent media, whereas individuals without these additional risk factors for aggressive behavior may be more resistant to media violence (Fikkers et al., 2013, 2016). Even more, we would argue that this small group is meaningful because, in absolute terms, we could be talking about millions of people worldwide (Valkenburg & Piotrowski, 2017). That does not (necessarily) mean, however, that we should take to the airwaves to warn against the dangers of effects. Rather, it is important to recognize that, for the majority of audience members, media violence seems to have a negligible effect on aggressive outcomes. It is our role as scholars to ensure that both messages are accurately conveyed and understood if we hope to support at-risk individuals and simultaneously counter the moral panic rhetoric that typically accompanies real-world violent tragedies. This requires continuously engaging in a healthy scholarly and public debate about media violence. As Fikkers (2016, p. 14) poignantly noted, “the current debate [can become] even more meaningful when discussants forego the notion that effects should be either large, important, or for everyone, or small, unimportant, and for none.” This is the future of the field: foregoing the bivalent discussion in favor of a nuanced, messier perspective that better reflects the scientific record and our collective realities.

Conclusion

Nearly a century ago, scientists began to ask questions about the influence of media violence on its users. Although these questions have grown in complexity—just like the media spaces in which they are entrenched—we still find ourselves without a definitive answer to the question “Does media violence induce aggression?” Despite advanced theories, methods, and approaches, the literature does not bear a “yes” or “no” answer. If anything, after nearly 100 years, our best answer is “probably, sometimes.” But then again, maybe “sometimes” *is* the answer. We now know that not all violent media content leads to effects. We know that the presentation and context of violent media content (e.g., justified, rewarded), alongside a host of individual variables, influence how users respond to the content and subsequent effects. Furthermore, we (perhaps somewhat implicitly) now see the value of asking, a priori, “Effects on whom?” Rather than statistically controlling for individual differences, and thus assuming that the effect of media violence is only truly meaningful if it holds for all media users, empirical research that conceptualizes and tests the complex relationships between media violence and individual difference variables is key for the future (Fikkers & Piotrowski, 2019). Not only will this better map onto the reigning theoretical models of the day, but it will better reflect our diverse multicultural spaces (Krahé, 2016) and, in doing so, help us develop improved predictions about how, for whom, and why media violence effects occur.

Although readers of this chapter may find it frustrating that after nearly a century we still cannot offer a simple yes/no answer as to whether media violence induces aggression, we would argue the problem lies not with the answer but rather with the answer options. Our world is too complex for such bivariate response categories. “Sometimes.” This is the answer that best reflects the complexity of the world we live in and the media space we share in. Some media violence affects some individuals in some situations: this is what we

know to be true. And, with this knowledge in hand, it is our job to understand the boundary conditions to this statement. Serious work on that job has already begun, and it is likely where the field has the greatest opportunity for growth. Rather than staking a claim in a particular camp, we would argue that our greatest future lies in a healthy debate wherein we can accept that “sometimes” may best conceptualize the field. From that point, we can then work together to identify who is most vulnerable to the undesirable effects of violent media in order to affect real societal change.

Note

- 1 The literature on aggressive behavior reports both direct (i.e., physical; for example, kicking or hitting) and indirect (also called social or relational aggression; for example, gossiping or spreading rumors) aggression; however, the great majority of work has focused on direct aggression. It is only in recent years that we have seen a focus on indirect aggression as well (Coyne & Archer, 2004; Gentile, Coyne, & Walsh, 2011).

References

- Anderson, C. A., & Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science, 12*, 353–359. doi:10.1111/1467-9280.00366
- Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology, 53*, 27–51. doi:10.1146/annurev.psych.53.100901.135231
- Anderson, C. A., & Bushman, B. J. (2018). Media violence and the general aggression model. *Journal of Social Issues, 74*, 386–413. doi:10.1111/josi.12275
- Anderson, C. A., Shibuya, A., Ihori, N., Swing, E. L., Bushman, B. J., Sakamoto, A., ... Saleem, M. (2010). Violent video game effects on aggression, empathy, and prosocial behavior in Eastern and Western countries: A meta-analytic review. *Psychological Bulletin, 136*, 151–173. doi:10.1037/a0018251
- Bandura, A. (1965). Influence of models' reinforcement contingencies on the acquisition of imitative responses. *Journal of Personality and Social Psychology, 1*, 589–595. doi:10.1037/h0022070
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (2009). Social cognitive theory of mass communication. In J. Bryant & M. B. Oliver (Eds.), *Media effects: Advances in theory and research* (3rd ed., pp. 94–124). New York, NY: Routledge.
- Beyens, I., Piotrowski, J. T., & Valkenburg, P. M. (2018). Which came first? Assessing transactional relationships between children's violent media use and ADHD-related behaviors. *Communication Research*. Advanced online publication. doi:10.1177/0093650218782300.
- Blumer, H. (1933). *Movies and conduct*. New York, NY: Macmillan.
- Bryant, J., Thompson, S., & Finklea, B. W. (2013). *Fundamentals of media effects* (2nd ed.). Long Grove, IL: Waveland Press.
- Burns, R., & Crawford, C. (1999). School shootings, the media, and public fear: Ingredients for a moral panic. *Crime, Law and Social Change, 32*, 147–168. doi:10.1023/A:1008338323953
- Bushman, B. J. (1998). Priming effects of media violence on the accessibility of aggressive constructs in memory. *Personality and Social Psychology Bulletin, 24*, 537–545. doi:10.1177/0146167298245009
- Bushman, B. J. (2016). Violent media and hostile appraisals: A meta-analytic review. *Aggressive Behavior, 42*, 605–613. doi:10.1002/ab.21655

- Bushman, B. J., & Anderson, C. A. (2002). Violent video games and hostile expectations: A test of the general aggression model. *Personality and Social Psychology Bulletin*, 28, 1679–1686. doi:10.1177/014616702237649
- Bushman, B. J., & Anderson, C. A. (2009). Comfortably numb: Desensitizing effects of violent media on helping others. *Psychological Science*, 20, 273–277. doi:10.1111/j.1467-9280.2009.02287.x
- Bushman, B. J., & Huesmann, L. R. (2006). Short-term and long-term effects of violent media on aggression in children and adults. *Archives of Pediatrics & Adolescent Medicine*, 160, 348–352. doi:10.1001/archpedi.160.4.348
- Bushman, B. J., Rothstein, H. R., & Anderson, C. A. (2010). Much ado about something: Violent video game effects and a school of red herring: Reply to Ferguson and Kilburn (2010). *Psychological Bulletin*, 136, 182–187. doi:10.1037/a0018718
- Carnagey, N. L., Anderson, C. A., & Bushman, B. J. (2007). The effect of video game violence on physiological desensitization to real-life violence. *Journal of Experimental Social Psychology*, 43, 489–496. doi:10.1016/j.jesp.2006.05.003
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Coyne, S. M., & Archer, J. (2004). Indirect aggression in the media: A content analysis of British television programs. *Aggressive Behavior*, 30, 254–271. doi:10.1002/ab.20022
- Dale, E. (1935). *The content of motion pictures*. New York, NY: Macmillan.
- Daneels, R., Malliet, S., Koeman, J., & Ribbens, W. (2018). The enjoyment of shooting games: Exploring the role of perceived realism. *Computers in Human Behavior*, 86, 330–336. doi:10.1016/j.chb.2018.04.053
- Emmers-Sommer, T. M., Pauley, P., Hanzal, A., & Triplett, L. (2006). Love, suspense, sex, and violence: Men's and women's film predilections, exposure to sexually violent media, and their relationship to rape myth acceptance. *Sex Roles*, 55, 311–320. doi:10.1007/s11199-006-9085-0
- Eron, L. D., Huesmann, L. R., Lefkowitz, M. M., & Walder, L. O. (1972). Does television violence cause aggression? *American Psychologist*, 27, 253–263. doi:10.1037/h0033721
- Ferguson, C. J. (2007). Evidence for publication bias in video game violence effects literature: A meta-analytic review. *Aggression and Violent Behavior*, 12, 470–482. doi:10.1016/j.avb.2007.01.001
- Ferguson, C. J. (2008). The school shooting/violent video game link: Causal relationship or moral panic? *Journal of Investigative Psychology and Offender Profiling*, 5, 25–37. doi:10.1002/jip.76
- Ferguson, C. J. (2015). Do angry birds make for angry children? A meta-analysis of video game influences on children's and adolescents' aggression, mental health, prosocial behavior, and academic performance. *Perspectives on Psychological Science*, 10, 646–666. doi:10.1177/1745691615592234
- Ferguson, C. J., & Kilburn, J. (2009). The public health risks of media violence: A meta-analytic review. *Journal of Pediatrics*, 154, 759–763. doi:10.1016/j.jpeds.2008.11.033
- Ferguson, C. J., & Kilburn, J. (2010). Much ado about nothing: The misestimation and overinterpretation of violent video game effects in Eastern and Western nations: Comment on Anderson et al. (2010). *Psychological Bulletin*, 136, 174–178. doi:10.1037/a0018566
- Fikkers, K. M. (2016). *A different(ial) perspective: How social context influences the media violence-aggression relationship among early adolescents* (Unpublished doctoral dissertation). University of Amsterdam, The Netherlands.
- Fikkers, K. M., & Piotrowski, J. T. (2019). Content and person effects in media research: Studying differences in cognitive, emotional, and arousal responses to media content. *Media Psychology*. Advance online publication. doi:10.1080/15213269.2019.1608257
- Fikkers, K. M., Piotrowski, J. T., Lugtig, P., & Valkenburg, P. M. (2016). The role of perceived peer norms in the relationship between media violence exposure and adolescents' aggression. *Media Psychology*, 19, 4–26. doi:10.1080/15213269.2015.1037960

- Fikkers, K. M., Piotrowski, J. T., & Valkenburg, P. M. (2016). Beyond the lab: Investigating early adolescents' cognitive, emotional, and arousal responses to violent games. *Computers in Human Behavior*, *60*, 542–549. doi:10.1016/j.chb.2016.02.055
- Fikkers, K. M., Piotrowski, J. T., Weeda, W. D., Vossen, H. G. M., & Valkenburg, P. M. (2013). Double dose: High family conflict enhances the effect of media violence exposure on adolescents' aggression. *Societies*, *3*, 280–292. doi:10.3390/soc3030280
- Gentile, D. A., Coyne, S., & Walsh, D. A. (2011). Media violence, physical aggression, and relational aggression in school age children: A short-term longitudinal study. *Aggressive Behavior*, *37*, 193–206. doi:10.1002/ab.20380
- Greitemeyer, T., & Muegge, D. O. (2014). Video games do affect social outcomes: A meta-analytic review of the effects of violent and prosocial video game play. *Personality and Social Psychology Bulletin*, *40*, 578–589. doi:10.1177/0146167213520459
- Gubler, J. R., Herrick, S., Price, R. A., & Wood, D. A. (2018). Violence, aggression, and ethics: The link between exposure to human violence and unethical behavior. *Journal of Business Ethics*, *147*, 1–10. doi:10.1007/s10551-015-2926-4
- Himmelweit, H. T., Oppenheim, A. N., & Vince, P. (1958). *Television and the child: An empirical study of the effect of television on the young*. London, UK: Oxford University Press.
- Ireland, J. L., Birch, P., & Ireland, C. A. (2018). *The Routledge international handbook of human aggression: Current issues and perspectives*. New York, NY: Routledge.
- Jo, E., & Berkowitz, L. (1994). A priming effect analysis of media influences: An update. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (1st ed., pp. 43–60). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Krahé, B. (2016). Violent media effects on aggression: A commentary from a cross-cultural perspective. *Analyses of Social Issues and Public Policy*, *16*, 439–442. doi:10.1111/asap.12107
- Krahé, B., Moeller, I., Kirwil, L., Huesmann, L. R., Felber, J., & Berger, A. (2011). Desensitization to media violence: Links with habitual media violence exposure, aggressive cognitions, and aggressive behavior. *Journal of Personality and Social Psychology*, *100*, 630–646. doi:10.1037/a0021711
- Krcmar, M., & Valkenburg, P. M. (1999). A scale to assess children's moral interpretations of justified and unjustified violence and its relationship to television viewing. *Communication Research*, *26*(5), 608–634.
- Kühn, S., Kugler, D. T., Schmalen, K., Weichenberger, M., Witt, C., & Gallinat, J. (2018). Does playing violent video games cause aggression? A longitudinal intervention study. *Molecular Psychiatry*, *1*. doi:10.1038/s41380-018-0031-7
- Kunkel, D. (1998). Policy battles over defining children's educational television. *The ANNALS of the American Academy of Political and Social Science*, *557*, 39–53. doi:10.1177/0002716298557000004
- Leyens, J. P., Camino, L., Parke, R. D., & Berkowitz, L. (1975). Effects of movie violence on aggression in a field setting as a function of group dominance and cohesion. *Journal of Personality and Social Psychology*, *32*, 346–360. doi:10.1037/0022-3514.32.2.346
- Linz, D., Donnerstein, E., & Penrod, S. (1984). The effects of multiple exposures to filmed violence against women. *Journal of Communication*, *34*, 130–147. doi:10.1111/j.1460-2466.1984.tb02180.x
- Lull, R. B., & Bushman, B. J. (2016). Immersed in violence: Presence mediates the effect of 3D violent video gameplay on angry feelings. *Psychology of Popular Media Culture*, *5*, 133–144. doi:10.1037/ppm0000062
- Madsen, K. E. (2016). The differential effects of agency on fear induction using a horror-themed video game. *Computers in Human Behavior*, *56*, 142–146. doi:10.1016/j.chb.2015.11.041
- McGinty, E. E., Webster, D. W., & Barry, C. L. (2013). Effects of news media messages about mass shootings on attitudes toward persons with serious mental illness and public support for gun control policies. *American Journal of Psychiatry*, *170*, 494–501. doi:10.1176/appi.ajp.2013.13010014

- Morgan, M., & Shanahan, J. (2010). The state of cultivation. *Journal of Broadcasting & Electronic Media*, 54, 337–355. doi:10.1080/08838151003735018
- Murray, J. P. (2007). TV violence: Research and controversy. In N. Pecora, J. P. Murray, & E. Wartella (Eds.), *Children and television: Fifty years of research* (pp. 205–226). Mahwah, NJ: Lawrence Erlbaum Associates.
- Murray, J. P. (2013). Media violence and children: Applying research to advocacy. In A. M. Culp (Ed.), *Child and family advocacy: Bridging the gaps between research, practice, and policy* (pp. 149–157). New York, NY: Springer.
- Paik, H., & Comstock, G. (1994). The effects of television violence on antisocial behavior: A meta-analysis. *Communication Research*, 21, 516–546. doi:10.1177/009365094021004004
- Patton, D. U., Hong, J. S., Ranney, M., Patel, S., Kelley, C., Eschmann, R., & Washington, T. (2014). Social media as a vector for youth violence: A review of the literature. *Computers in Human Behavior*, 35, 548–553. doi:10.1016/j.chb.2014.02.043
- Piotrowski, J. T., & Valkenburg, P. M. (2015). Finding orchids in a field of dandelions: Understanding children's differential susceptibility to media effects. *American Behavioral Scientist*, 59, 1776–1789. doi:10.1177/0002764215596552
- Reed, L. A., Tolman, R. M., & Ward, L. M. (2016). Snooping and sexting: Digital media as a context for dating aggression and abuse among college students. *Violence Against Women*, 22, 1556–1576. doi:10.1177/1077801216630143
- Roskos-Ewoldsen, D. R., & Roskos-Ewoldsen, B. (2009). Media priming: An updated synthesis. In J. Bryant & M. B. Oliver (Eds.), *Media effects: Advances in theory and effects* (3rd ed., pp. 90–109). New York, NY: Routledge.
- Savage, J., & Yancey, C. (2008). The effects of media violence exposure on criminal aggression: A meta-analysis. *Criminal Justice and Behavior*, 35, 772–791. doi:10.1177/0093854808316487
- Schramm, W., Lyle, J., & Parker, E. B. (1961). *Television in the lives of our children*. Stanford, CA: Stanford University Press.
- Sherry, J. L. (2001). The effects of violent video games on aggression: A meta-analysis. *Human Communication Research*, 27, 409–431. doi:10.1093/hcr/27.3.409
- Slater, M. D., Henry, K. L., Swaim, R. C., & Cardador, J. M. (2004). Vulnerable teens, vulnerable times: How sensation seeking, alienation, and victimization moderate the violent media content-aggressiveness relation. *Communication Research*, 31, 642–668. doi:10.1177/0093650204269265
- Smith, S. L., & Donnerstein, E. (1998). Harmful effects of exposure to media violence: Learning of aggression, emotional desensitization, and fear. *Human Aggression*, 167–202. doi:10.1016/B978-012278805-5/50008-0
- Sparks, G. G., Sparks, C. W., & Sparks, E. A. (2009). Media violence. In J. Bryant & M. B. Oliver (Eds.), *Media effects: Advances in theory and research* (3rd ed., pp. 269–286). New York, NY: Routledge.
- Strenziok, M., Krueger, F., Deshpande, G., Lenroot, R. K., van der Meer, E., & Grafman, J. (2010). Fronto-parietal regulation of media violence exposure in adolescents: A multi-method study. *Social Cognitive and Affective Neuroscience*, 6, 537–547. doi:10.1093/scan/nsq079
- U. S. Surgeon General. (2001). *Youth violence: A report of the surgeon general* (PubMed No. 20669522). Washington, DC: U.S. Department of Health and Human Services.
- Valkenburg, P. M., & Peter, J. (2013). The differential susceptibility to media effects model. *Journal of Communication*, 63, 221–243. doi:10.1111/jcom.12024
- Valkenburg, P. M., & Piotrowski, J. T. (2017). *Plugged in: How media attract and affect youth*. New Haven, CT: Yale University Press.

- Vossen, H. G. M., Piotrowski, J. T., & Valkenburg, P. M. (2016). The longitudinal relationship between media violence and empathy: Was it sympathy all along? *Media Psychology, 20*, 175–193. doi:10.1080/15213269.2015.1121825
- Wegener, D. T., & Petty, R. E. (1994). Mood management across affective states: The hedonic contingency hypothesis. *Journal of Personality and Social Psychology, 66*, 1034–1048. doi:10.1037/0022-3514.66.6.103
- Wiedeman, A. M., Black, J. A., Dolle, A. L., Finney, E. J., & Coker, K. L. (2015). Factors influencing the impact of aggressive and violent media on children and adolescents. *Aggression and Violent Behavior, 25*, 191–198. doi:10.1016/j.avb.2015.04.008
- Wilson, B. J., Kunkel, D., Linz, D., Potter, W. J., Donnerstein, E., Smith, S. L., ... Berry, M. (1998). Violence in television programming overall. In Center for Communication and Social Policy (Ed.), *National television violence study 2* (pp. 4–204). Thousand Oaks, CA: Sage.
- Zillmann, D. (1978). Attribution and misattribution of excitatory reactions. In J. H. Harvey, W. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 2, pp. 335–368). Hillsdale, NJ: Lawrence Erlbaum Associates.