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# Is the Link Between Games and Aggression More About the Player, Less About the Game?

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In fall 2015, the American Psychological Association (APA, 2015) released a new policy statement that acknowledged violent video games cannot be linked to criminal violence but that argued they could be linked to milder aggression. The task force chair, Mark Appelbaum, described the evidence linking violence to aggression as "one of the most studied and best established in the field." But is it? The task force itself had been controversial, often criticized for its lack of transparency and apparent member biases (Wofford, 2015). Two members had previously signed an amicus brief supporting efforts to regulate violent video games in a US Supreme Court case (*Brown v. Entertainment Merchants Association*, 2011). One had coauthored a report attempting to link video games and other media to mass shootings. One had signed another statement that linked media violence to societal violence following the 2012 Sandy Hook shooting. The appearance that the 2015 APA task force had been stacked from the start led 238 scholars to write an open letter to the APA in 2013 asking it to retire the task force's policy statements (Consortium of Scholars, 2013). Unfortunately, the APA task force made no known effort to initiate a dialog with these 238 scholars to learn of their concerns.

Thus, this is a "hot" topic. Although they have been around for decades, video games are still a relatively new form of media compared to books, movies, and television. New media often are at the center of moral concerns, particularly when younger people adopt them to greater degrees than do older people. At the same time, the public often searches for answers as to why bad things happen in society. Older adults, in particular, may be keen to link perceived (although sometimes imaginary) youth problems to pop culture. Age is now well established as a predictor of negative beliefs about video games in the general populace (Przybylski, 2014), clinicians (Ferguson, 2015a), and scholars (Ferguson & Colwell, 2015).

Thus, debates about new media often reflect debates between older adults who do not use this new media, and younger adults and teens who do.

Much of the debate is fueled in part by press coverage of US mass homicides compared to similar coverage in other industrialized nations (mass assaults occurring elsewhere are typically blamed on terrorism or social strife, whereas violent gaming has been implicated by the press and other agents as a causal factor in US assaults). Thus, given that mass homicides are one fuel of our discussions over video games, we turn next to this issue.

## Mass Homicides and Video Games

The issue of mass gun violence has been a traumatic one for the United States and other countries. When shooters are young, the question of the potential involvement of violent video games is often raised (but typically ignored for older shooters). Perhaps the epitome of this link between games and crime came with the 1999 Columbine shooting, in which two teens killed 12 other youths and a teacher at their school before killing themselves. Information that the two shooters had been fans of the violent video game *Doom* cemented in the public's mind the idea that mass shootings and violent video games were linked. A search for "violent video game" on Webofknowledge.com reveals that published articles on the topic began a massive incline in the years after Columbine, continuing to climb through the early 2000s as national debates about US gun violence continued (see Figure 36.1).

However, little evidence has surfaced to link violent video games to mass shootings. A report by the US Secret Service and US Department of Education (2002) on school shooters suggests that such shooters tend to consume unusually *low* amounts of violent media. Societal data suggest that the release of violent video games may actually *reduce* rather than increase
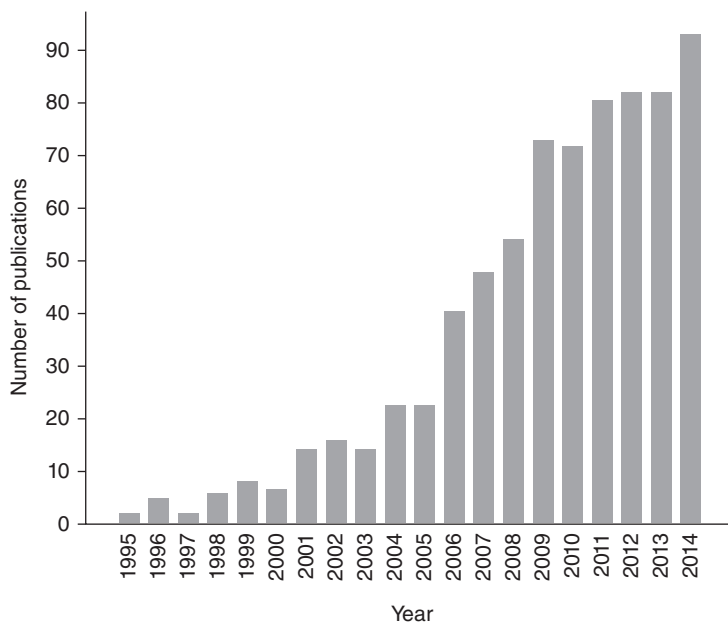


**Figure 36.1**    Scholarly publications on violent video games by year.

societal violence (Markey, Markey, & French, 2015), and criminologists studying mass homicides have referred to the link between such crimes and video games as a myth (Fox & DeLateur, 2014). Nor, even among younger mass shooters, have links between shootings and video games been consistently demonstrated. Perhaps most illustrative are the cases of the Virginia Tech shooter (Virginia Tech Review Panel, 2007) and the 2012 Sandy Hook shooting (State's Attorney for the Judicial District of Danbury, 2013). In both cases, initial news media reports on potential causes of the shootings focused on video games, although in both cases the official investigation reports concluded that the shooters had little involvement with violent video games.

## Moral Panics

Social concerns over the impact of media content have persisted almost since the advent of mass media. In 1564, the Council of Trent formalized the *Librorum Prohibitorum*—a list of books banned from publication by the Catholic Church that eventually included over 4,000 volumes spanning scientific papers to works of literature. The list was abandoned by the Church in 1966 by Pope Paul VI. On first blush, this might seem tangential to our central thesis. Certainly, commercially available video games were not available during the centuries of banned books (although Pope Benedict XVI mentioned concerns over the violent and sexual content of popular 21st-century media—including video games—in an address on World Communications Day in 2007; see Surette, 2007) and the Catholic Church is but one entity that has sought to restrict media content for well-intended reasons. In another example, the government of Bavaria—owners of the copyright to Adolf Hitler's *Mein Kampf*, refuses to allow any copying or printing of the book in Germany, although an annotated version is slated for publication in 2016, when the copyright expires (Regan, 2015). However, Elson and Ferguson (2013) offer an explication of moral panic that connects these examples to our larger discussion of the media violence effects debate. Specifically, they write that, in a moral panic scenario, "[One] part of society considers certain behaviors or lifestyle choices of another part to be a significant threat to society as a whole. *In this environment, moral beliefs can substantially influence scientific research, and its results are readily used as confirmation for what has been suspected*" (p. 32, emphasis added).

Is it appropriate to classify the research on video game violence as coming from a moral panic perspective? Such research necessarily adopts the risk-aversive stance that aggression should be mitigated whenever possible, a stance that few would take issue with given our general proclivity to identify and minimize personal and social risk (Wilson, 2002). However, it also adopts an a priori stance that exposure to antinormative content is inherently risky, which assumes that aggression in any amount is inherently risky, a stance some scholars argue is naive, given the adaptive nature of aggression in moderate amounts (Smith, 2007).

Bowman (2016) wrote about perhaps the first moral panic associated with video game content in the 1976 release of *Death Race* by Exidy games. The arcade-style driving simulator was loosely based on the cult action film *Death Race 2000*, released one year prior and featuring drivers racing to the death in a dystopian future and scoring bonus points for striking down any bystanders along the way. In the film, racers earned bonus points for running over children and the elderly, and, in the video game, players earned a single point for each "gremlin" that they ran over. While critics offered similar views regarding the film (famed critic Roger Ebert, 1975, lamented "the way small children were digging gratuitous bloodshed"), perhaps

the more interesting reaction came from those discussing the video game. While the video game was far inferior in terms of its graphical depictions of on-screen violence—limited to basic black-and-white pixel drawings of a stick figure, a cross (to indicate a dead figure), and a race-car stencil (a line with four smaller dashes for tires)—the game provided an interactive and immersive experience previously unknown to entertainment audiences. The fact that the arcade machine featured a realistic racing steering wheel, gear shift, and gas pedal—allowing the player to mimic the act of driving in a very "natural" manner—only fueled the fears of psychologists such as Gerard Driessen (then of the US National Security Council) that these games could best be understood as murder simulators, as, unlike in films, "the player is no longer just a spectator. He's an actor in the process" (as cited by Blumenthal, 1976). In the end, while the moral panic surrounding *Death Race* seems at best unresolved (there are no known reports linking instances of vehicular manslaughter to playing the game), the panic has had long-term impacts on video games. Kocurek (2012) argues that the *Death Race* controversy served to shape the trajectory of video game moral panics—concerns over interactive violence and its subsequent inspirational impact on players that seem to "[boil] over at the release of certain games or in the face of particularly horrifying acts of violence perpetrated by youth" (para. 42).

Fast forward to the 1990s, and the fighting game *Mortal Kombat* faced public scrutiny for being one of the first video games to include graphic depictions of death, which "broke an implicit taboo about what was okay to put in video games" (Narcisse, 2012). Unsurprisingly, *Mortal Kombat* was the first home video game ever assigned the "M" rating (for mature audiences only). Later games that also served as flashpoints in the violent video game debate included id Software's *Doom* (a first-person shooter in which space marines fight hellspawn; modifications of this game were popular with the perpetrators of the Columbine school shooting)' Rockstar Studio's infamous *Grand Theft Auto* series (which simulates gang violence, often in parody of entertainment products such as *Miami Vice* and *Scarface*); and the prison murder simulator *Manhunt* (a game that even for its developers, again Rockstar, seemed to cross lines of decency and decorum; Cundy, 2007).

## Rhetoric and Data: Distinguishing Between the Two in a Conflicted Field

The APA's 2015 task force on video game violence and the stern criticism of it present one opportunity for understanding the gulf between rhetoric and data in the field. The APA's press release indicated the task force had considered 170 studies of which 31 met "stringent" criteria. However, in fact, only 18 studies were included in the group's meta-analyses, and the inclusion criteria were fairly broad. Rather than using objective criteria, the report details that the task force decided for themselves which studies had "sufficient utility." Particularly with so few studies ultimately being examined, via the systematic exclusion of null studies and the curious inclusion of at least one study with no manipulation of violent content in games at all (e.g., Schmierbach, 2010; even the author expressed concerns that his study had been misused: Schmierbach, personal communication, 2015), the APA task force ultimately reinforced the criticism that the APA is more concerned with self-promotional rhetoric than good data.

Public rhetoric exceeding data is a common facet of moral panic—in fact, we might argue that it is a defining characteristic of moral panic. It is also an issue that has been well documented among scholars in the field. Markey, Males, French, and Markey (2015) detail a

number of public statements by scholars seeking to connect research on video games to extreme acts of violence in society or to make comparisons to important medical effects such as smoking and lung cancer.

The APA task force was likely correct in concluding that research evidence cannot support links between violent video games and violent crime. Research evidence has made clear that even correlational links between violent video game use and violent behaviors are negligible, particularly when other factors are controlled (Przybylski & Mishkin, in press; von Salisch, Vogelgesang, Kristen, & Oppl, 2011). Nor has evidence emerged for the concept that a "vulnerable population" of youth exists who are particularly susceptible to violent video games' influences. Current research both with youth with depressive or attention-deficit disorder symptoms (Ferguson & Olson, 2014) and with young adults with autism spectrum disorders (Engelhardt, Mazurek, Hilgard, Rouder, & Bartholow, 2015) suggests that these groups of youth are no more influenced by violent video games than are anyone else. That violent crimes among youth went down precipitously during the era in which violent games became more popular is well known, but other evidence suggests that there may be causal links at play. For example, violent crimes have been found to drop immediately after the release of very popular violent video games (Markey et al., 2015).

Regarding aggression, the picture is more muddled, with wide discrepancies in scholarly opinion. There have, by now, been over a hundred studies of video game violence on aggression. Despite this, even meta-analyses of these studies disagree on whether the studies provide evidence for links between violent video games and aggression (Anderson et al., 2010; Ferguson, 2015b). The most recent comprehensive meta-analysis of 101 studies with child and adolescent samples found no evidence that violent video games contributed to aggression or other behavioral outcomes in youth (Ferguson, 2015b). Bivariate correlations between game use and behavioral outcomes were generally small to negligible. Once other factors were controlled, all effect sizes between games and behavioral outcomes dropped to zero or near zero. Furthermore, this analyses found evidence for significant biases in the field, including publication bias (in which studies reporting significant effects are most likely to be published) and citation bias (in which researchers are most likely to cite evidence in support of their a priori predictions). One can see how these two biases could both implicitly and explicitly impact the framing of scientific research on violent video games, as they conspire to result in researchers expecting, testing, and ultimately promoting higher effect sizes.

Confidence in aggression studies is also hampered by several issues. First is the failure to meaningfully operationalize or contextualize the concepts of either "violent video game" or "aggression." The concept of violent video game is used in the field so broadly that almost all video games are, technically, violent video games—given that video games commonly feature opposing forces that must be overcome through some sort of direct physical means. Indeed the field often contextualizes the issue such that games such as *Pac-Man* and *Zaxxon* ought to have similar effects to *Grand Theft Auto*. *Pac-Man*, *Zaxxon*, and *Grand Theft Auto* all have actions (eating ghosts, destroying ships, shooting people) that are aggressive toward others. Thus, the concept of violent video game has more emotional appeal that scientific precision. Differences in the use of the term "violent video game" in the scholarly field compared to how the idea is conceptualized in the general public are rarely explained publicly when broad pronouncements about effects are made. The equivalent would be combining religious texts such as the Judeo-Christian Bible and Hindu Ramayana alongside the Harry Potter books, *Moby Dick*, the works of Shakespeare, the works of Stephen King, and Goosebumps into a single "violent literature" category and pretending this had any conceptual value.

Likewise, the concept of aggression is poorly conceptualized in the field. The explication of concepts in a broader arena is one issue, but so is their operationalization within the field. First, many of the aggression measures used in video game research are known to be of poor reliability and validity. These measures, particularly when used in an unstandardized way, are known to inflate effect sizes (Ferguson, 2015b). This is because researchers can extract from them outcomes that best fit their hypotheses while ignoring other outcomes. Researchers have demonstrated, for instance, that the popular Taylor Competitive Reaction Time "noise blast" test can be used to show that video games increase aggression, decrease aggression, or have no impact at all *with the same sample* (Elson, Mohseni, Breuer, Scharkow, & Quandt, 2014).

The meaning of aggression, similarly, is poorly contextualized. For instance, the APA's 2015 task force statement attempts to link video games to aggression, but, even if this is to be accepted, the APA never defines aggression or puts this statement into context. Most of the aggression measures used in laboratory experiments include filling in the missing letters of words (such that *kill* is more aggressive than *kiss* when filling the blanks in *ki__*), delivering harmless bursts of white noise, or giving other people hot sauce to eat. These are not out-comes of pressing social concern, as a 2011 US Supreme Court case on video games noted (*Brown v. Entertainment Merchants Association*, 2011). Nor are outcomes contextualized in relation to normal human life. Even if we were to accept that violent games increase aggres-sion, is this any different from the emotional impact of playing cards, watching a sporting event, drinking coffee, or engaging in a debate over the potential impact of violent games? There is, at present, no evidence that video game use is contextually different from myriad normal life experiences accepted by society.

Last, there is evidence that other aspects of video game play, rather than violent content, may produce what minor aggression effects are being observed. Adachi and Willoughby (2010) noted that most video game experiments fail to match games carefully on variables other than violent content, introducing systematic confounds. They later demonstrated that controlling for competitiveness eliminated any impact of violent content on aggression (Adachi & Willoughby, 2011). Other studies have suggested that it is frustration (associated with los-ing), not the in-game (violent) content, that increases aggression (Przybylski, Deci, Rigby, & Ryan, 2014). And yet other studies suggest that, once pre–post designs are used, all video games including violent games *reduce* aggression (Valadez & Ferguson, 2012), not increase it.

Ultimately, for the reasons given, is not currently possible to make conclusive statements about links between video games and aggression—and, perhaps, these links are more complex and contingent that has been considered to this point.

## The Need for New Theorizing

### Hypodermic Needle Models

Historically, theories of media effects have focused on "hypodermic needle"-type theories, in which it is implied that media is essentially injected into passive viewers who automatically model viewed behaviors through the activation of cognitive scripts (see Sherry, 2004, for a discussion). The general aggression model (GAM) is one such model that is both commonly used and commonly criticized. Theories such as the GAM may *mention* personological vari-ables, but they rarely explain them in detail, and theorists applying GAM to video game vio-lence effects have often explicitly stated that no one is immune to effects, whatever their

background (see Ferguson & Dyck, 2012, for a discussion). Thus, mention of personological variables appears to be little more than window dressing to mask the blank slate nature of such theories. Such theories arguably have not been well supported by the current literature and may suffer from problematic assumptions such as that the brain treats fictional media similarly to real-life violence exposure, that aggression is primarily learned rather than emotional, or that cognitive scripts are a procedural mechanism in the production of aggression. Given that research suggest that children's processing of fictional media begins to differ from nonfictional data at an early age and develops over time (e.g., Woolley & Van Reet, 2006), these cognitive script theories may lack the proper developmental approach to understanding media effects.

As we have covered above, evidence to support the types of general, predictable effects hypothesized by hypodermic models such as the general aggression model have been weak. It may have been a serious mistake to assume that media influence all consumers the same way; that stimuli have predictable effects on consumers; that consumers are passive in selecting, processing, and interpreting stimuli; and that the formation of cognitive scripts is either a meaningful or a passive process. Instead, evidence increasingly suggests that media consumers are active in shaping and interpreting their media worlds and that fictional media are treated by the brain very differently from real-world experiences.

## Idiosyncratic Models

More idiosyncratic models, such as uses and gratifications (Sherry, Lucas, Greenberg, & Lachlan, 2006) and self-determination theory (Przybylski, Rigby, & Ryan, 2010), have also been enlisted to explain links between video game use and various outcomes. While the use of such frameworks is popular within the field, they also fail to fully explain the links between the use of video games and behavioral outcomes.

Adopting a uses and gratifications framework, one would argue that individuals who are prone to aggressive acts are drawn to video games as playing them would "gratify" their desires. Put another way, "an individual's media use and the effects of that media are largely (though not completely) a function of the individual's purpose for using the media" (Sherry et al., 2006, p. 4). From this perspective, the popularity of violent games is attributed to their ability to gratify a desire to experience certain emotions (Jansz, 2005) and, as applied to the current debate, would suggest that individuals who are inherently more aggressive would "use" violent video games in order to "gratify" their preexisting violent and aggressive tendencies.

While a uses and gratifications framework has been successfully enlisted to explain some of the appeal of violent video games (Jansz, 2005), some have called into question the appropriateness of enlisting such a perspective in order to explain behavior changes due to media use. Taking an alternative perspective, Przybylski and colleagues (2010) have adopted a self-determination perspective to explain how video game play can hold the potential to satisfy basic psychological needs for competence, autonomy, and relatedness regardless of age, gender, personality, or culture—findings replicated by Tamborini, Bowman, Eden, Grizzard, and Organ (2010).

This perspective is in contrast to the tenets of uses and gratifications in relation to video game play, as it contends that all players are equally capable of deriving satisfaction from video game play despite their propensity for aggressive or violent personalities, behaviors, or desire to play violent video games.

Using self-determination theory to better understand the relationships between violent video game use and violent or aggressive behavior has garnered some empirical support. In 2010, Przybylski and colleagues conducted a series of studies specifically evaluating the motivation behind playing violent video games. They found that violent content in and of itself did not significantly contribute to the appeal of video games but rather that individuals are motivated to play violent games for the competence and autonomy need satisfaction they provide. Thus, violent video games are satisfying much more basic needs than simply a desire to engage in simulated violence.

## Advancing the Content–Effect Link: Player Agency

Often, research is this area has been conducted and discussed as if there were only one kind of "blank slate" player. This is problematic, because any kind of influence of the media on the individual is moderated by the idiosyncrasies of the player (i.e., age, gender, other interpersonal variables) as well as the player's agency.

In a sense, we might suggest that, in video games, media effects are moderated by the player for (at least) three core reasons. First (and perhaps not uniquely to video games), the player has to actively choose to select the gaming content, and the motivations for this selection hold sway over both the intended and unintended effects of that content. For example, a gamer who purposefully chooses to play a round of *Quake 3: Arena* might find themselves engaged in intense, 10-minute gun battles with humanoid aliens—but selection of this game as a matter of stress release or mood repair might result in a qualitatively different experience from selecting the same game as way to ruminate in bloody violence; the former is likely more aligned with mood management processes (Bowman & Tamborini, 2015) and the latter is more aligned with potential clinical concerns. This would not be much different from differences in experiences between a person who reads the Bible to learn to be a better person a person who uses the Bible as a rationale to hate others who are different from themselves.

Second, the player has to process the on-screen content as being particularly associated with its referent. For example, while it might seem obvious on its face that all players will see the same violent portrayal as a violent one, recent research suggest that (1) perceptions of violence are multidimensional and based on an individual's assessment of the act's justification, realism, and graphicness (Tamborini, Weber, Bowman, Eden, & Skalski, 2013) and (2) players have widely varying interpersonal associations with their on-screen avatar, from the amoral "avatar-as-tool" orientation to the highly internalized "avatar-as-me" perspective (Banks & Bowman, 2015)—with these orientations impacting how players perceive whether their on-screen behaviors are more or less "part of a game" or "part of a narrative" (Bowman et al., 2016; Bowman, Schultheiss, & Schumann, 2012). Finally, and perhaps most unique to video games, game players are required to cocreate the content that they see on screen. Borrowing from Barthes' (1967) arguments about the "death of the author"—according to which the author's intended meaning of a given text is less important than the audience's extracted meaning of the same—Bowman (2016) argues that video games are a ready space for player cocreation; that is, video games can be understood as unfinished texts that require a player's input to be fully completed. This position has also been recognized in media effects research, with scholars such as Schmierbach (2009) highlighting the inherent difficulty of conducting traditional media content analyses regarding video games, when variables such as player skill have a drastic impact on the on-screen content that players are exposed to.

## Concluding Thoughts

Based on the evidence discussed throughout this chapter, we would like to call for a shift in focus away from an attempt to *directly* link violent video game use to aggressive and violent outcomes, particularly without consideration of the idiosyncrasies of the user. When all of the evidence is considered, it is perhaps not particularly surprising that the hundreds of studies conducted in this area have been unable to reach definitive conclusions. In addition to the numerous interpersonal variables that need to be taken into consideration, we have demonstrated throughout this chapter that directly linking violent video game play to violent and aggressive outcomes is exceedingly difficult theoretically and methodologically. Not only is violent media, including violent video games, incredibly pervasive throughout 21st-century culture, making it difficult to control exposure levels, but also accurately measuring how this exposure translates into aggressive or violent thoughts or actions is incredibly difficult.

Importantly, *it is not our position that there are no media effects nor that this research is not valuable and cannot be enlightening to our understanding of media use and effects.* Rather, it is our position—and the purpose of this chapter—to suggest a need for player-centered models that focus on the agency of the player over either/both (1) the content and (2) the effects of that content. That is, and perhaps echoing early media effects scholars such as Klapper (1960), we need to start looking at what individuals do with the media rather than what the media does to the individual. Similar arguments have been made by scholars more recently (Lang, 2013) as well. Such research should not treat individual differences in players as between-subjects error or controllable variance, especially in a field plagued by often miniscule effect sizes. In fact, effect sizes can be increased when more complicated and personal associations between user motivation and media use are identified, and our knowledge of media psychology has (or should have) progressed to understand these more sophisticated interactions. Undoubtedly, some players are affected by some content some of the time, but studies that continue to quixotically seek out direct effects between content and effect will not answer this question. Nor are effects likely to conveniently track societal moral concerns. A particular game, whether violent or nonviolent, may have divergent (though typically small and temporary) impacts on different players, with nonviolent games just as likely (and other media as well) to influence aggression as violent games, as other aspects beyond violence appear to be key. Evidence for cumulative long-term impacts of entertainment experiences that elevate video games to the level of a public health concern are simply nonexistent.

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ABSTRACT

Most prior research has examined whether not violent content in games could be linked to aggressive behavior. Despite several decades of research, clear links between violent content and player aggression have not been established, with much debate remaining. This chapter argues that research would be more fruitful in focusing its attention away from content issues and instead on players themselves. Increasing evidence suggests that player motivations, frustration, and the social context of play are more crucial to understanding the media experience than are morally salient concerns with violence or other objectionable content. It is concluded that players have considerable agency in regard to selecting, interpreting, and shaping their media experience.

KEYWORDS

agency, aggression, frustration, GAM, moral panic, motivation, self-determination theory, video games, violence