

## FAQs on Violent Video Games and Other Media Violence

Craig A. Anderson, Ph.D.

Professor & Chair

Department of Psychology

Iowa State University

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Reprinted in:

Anderson, C.A. (2002). FAQs on violent video games and other media violence: Part I. *Small Screen*, 179, September, pp. 1-2, 7-8.

Anderson, C.A. (2002). FAQs on violent video games and other media violence: Part II. *Small Screen*, 180, October, pp. 1-1, 7-8.

*small screen* is the news digest of the Australian Council on Children and the Media (trading name: Young Media Australia). Their web site is at: [www.youngmedia.org.au](http://www.youngmedia.org.au).

1. You have been reviewing 50 years of research on media violence and aggression: what have the main research steps been ?

Most of the early research focused on two questions: 1. Is there a significant association between exposure to media violence and aggressive behavior? 2. Is this association causal? The results, overall, have been fairly consistent across types of studies (experimental, cross-sectional (often called "correlational"), and longitudinal (which are also a type of "correlational" study). There is a significant relation between exposure to media violence and aggressive behavior. Increased exposure leads to increased aggressive behavior. A single exposure can increase aggression in the immediate situation. Repeated exposure leads to general increases in aggressiveness over time. This relation is causal.

2. How does exposure to media violence increase later aggressive behavior?

Although a few of the early studies investigated underlying psychological mechanisms, more recent research focused somewhat more on the underlying psychological mechanisms, as well as

on longitudinal results. We now have a pretty clear picture of how exposure to media violence can increase aggression in both the immediate situation as well as in long term contexts. Immediately after exposure to media violence, there is an increase in aggressive behavior tendencies because of several factors. 1. Aggressive thoughts increase, which in turn increase the likelihood that a mild or ambiguous provocation will be interpreted in a hostile fashion. 2. Aggressive (or hostile) affect increases. 3. General arousal (e.g., heart rate) increases, which tends to increase the dominant behavioral tendency. 4. People learn new aggressive behaviors by observing, and will reenact them almost immediately afterwards if the situational context is sufficiently similar.

Repeated exposure to media violence over time increases aggression across a range to situations and across time because of several related factors. 1. Repeated exposure creates more positive attitudes, beliefs, and expectations regarding aggressive solutions to interpersonal problems. 2. It leads to the development of aggressive scripts, which are basically ways of thinking about how the social world works. Heavy media violence consumers tend to view the world in a more hostile fashion. 3. It decreases the cognitive accessibility of nonviolent ways to handle conflict. 4. It produces an emotional desensitization to aggression and violence. Normally, people have a pretty negative emotional reaction to conflict, aggression, and violence, and this can be seen in their physiological reactions to observation of violence (real or fictional, as in entertainment media). 5. Repetition increases learning, including learning how to aggress.

3. Is there a difference between the effects of TV/movie violence versus Video-Games violence?

Most of the research has focused on TV/movie violence (so-called "passive" media), mainly because they have been around so much longer than video games. However, the existing research literature on violent video games has yielded the same general types of effects as the TV and Cinema research. Of course, there currently are no large scale longitudinal studies of violent video game effects. That will require additional time and resources.

At a theoretical level, there are reasons to believe that the violent video game effects may prove larger than TV and Cinema effects. However, this is a very difficult research question, and to date it has not been adequately examined, so there currently is no definitive answer.

4. Are results of video game studies consistent? Are some social groups more susceptible to the negative effects of violent video games than others? Are some groups immune to these effects?

There is some research suggesting that individuals who are already fairly aggressive may be more affected by exposure to violent video games, but it is not yet conclusive. There has not yet been enough studies using video games to yield a clear answer.

However, there is some reason to believe that the negative effects of exposure to media violence in general (including TV/movies) may be larger for some groups than others. Occasionally, they appear larger for boys than girls, but that may no longer be true (at least, in U.S. society). Some of the observed gender differences in media violence studies may have occurred because measures of aggression often focus on boy-type aggression (e.g., physical aggression) rather than girl-type aggression (e.g., relational aggression).

In general, people who already are highly aggressive sometimes appear to be more affected by media violence in the immediate situation than those who are not highly aggressive. But again, this doesn't always occur. Those from poorer backgrounds may be more at risk, but that may be because they tend to be exposed to higher levels of media violence, or because of other aggression-enhancing factors present in their environments.

Two additional points are worth remembering. 1. No one has ever identified a group of people who consistently appear immune to the negative effects of media violence. 2. Extreme aggression, such as aggravated assault and homicide, typically occurs only when there are a number of risk factors present. Exposure to violent media is only one risk factor. In other words, none of the risk factors are "necessary and sufficient" causes of extreme aggression. Of course, cigarette smoking is not a necessary and sufficient cause of lung cancer, even though it is a major cause of it.

5. How important is the distinction between realistic violence versus fantasy violence?

This is an extremely important question because it is so frequently misunderstood. Many a

person, including psychiatrists and psychologists, tend to think: "Well, it is just a game, the boy (girl) is able to make the difference between it and reality. Let us not worry about it." One of the great myths surrounding media violence is this notion that if the individual can distinguish between media violence and reality, then it can't have an adverse effect on that individual. Of course, the conclusion does not logically follow from the premise. And in fact, most of the studies that have demonstrated a causal link between exposure to media violence and subsequent aggressive behavior have been done with individuals who were fully aware that the observed media violence was not reality. For instance, many studies have used young adult participants who knew that the TV show, the movie clip, or the video game to which they were exposed was not "real." These studies still yielded the typical media violence effect on subsequently aggressive behavior.

6. Aren't there studies of violent video games that have found no significant effects on aggression?

Yes, such studies do exist. In any field of science, some studies will produce effects that differ from what most studies of that type find. If this weren't true, then one would need to perform only one study on a particular issue and we would have the "true" answer.

Unfortunately, science is not that simple. As an example, consider the hypothesis that a particular coin is "fair," by which I mean that upon tossing it in the air it is equally likely to come up "heads" as "tails." To test this hypothesis, you toss it 4 times, and it comes up heads 3 times (75% heads). I toss it 4 times and get 2 heads (50%). My two graduate students toss it 4 times each, getting 4 tails and 2 heads (0% heads, 50% heads, respectively). What is the answer? Is the coin fair? Why have different people gotten different results? Well, part of the problem is that each of us has conducted a "study" with a sample size that is much too small to produce consistent results. We each should have tossed the coin at least 100 times. Had we done so, each of us would have had about 50% heads (if the coin was truly a "fair" coin). But we still wouldn't have gotten the exact same results. Chance plays some role in the outcome of any experiment. So even if all the conditions of the test are exactly the same, the results will differ to some extent. Of course, in the real world of science, the situation is much more complex. Each study differs somewhat from every other study, usually in several ways

So, given that we know that scientific studies of the same question will yield somewhat different results, purely on the basis of chance, how should we go about summarizing the results of a set of studies? One way is look at the average outcome across studies. This is essentially what a meta-analysis does. And when one does a meta-analysis on the media violence research literature, the clear conclusion is that the results are quite consistent. Similarly, meta-analyses of the violent video game studies also yield surprisingly consistent results. On average there is a clear effect: exposure to media violence (including violent video games) increases subsequent aggression. Some of the few contradictory studies can be explained as being the result of poor methods, others may suffer from a too small sample size. But the main point is that even well conducted studies with appropriate sample sizes will not yield identical results. For this reason, any general statements about a research domain must focus on the pooled results, not on individual studies.

7. But what about the claims made by the media industries and by some other media violence experts, who say that the existing research evidence shows no effects of violent media?

The various entertainment media industries have lots of money to spend on trying to convince the general public as well as political leaders that there is nothing to worry about. And they do spend large sums on this. Unlike the research community, which has no vested interest in the topic, the media industry is very concerned about profits and will do almost anything to protect those profits. A recent book by James Steyer titled "The Other Parent: The Inside Story of the Media's Effect on Our Children," reveals much about how this works in the U.S. I suspect that most people would be shocked by many of the revelations contained in this book (published by Simon & Schuster, 2002). I personally have witnessed media industry lobbyists lie about a factual issue, watched them get caught in that lie, and then seen the same lobbyist deliver the same lie to a different group a year later. So, one must distinguish between real vs. industry experts.

8. But haven't other media violence experts also claimed that there is no valid scientific evidence

linking media violence to aggression?

Yes, and no. The media industries seek out, promote, and support "experts" who will make such claims. There are several such "experts" who have made their careers by bashing legitimate research. Examining the credentials of these industry-supported experts is quite revealing. Many do not have any research training in an appropriate discipline. Of those who do have advanced degrees in an appropriate discipline (for example, social psychology), almost none of them have ever conducted and published original empirical research on media violence. That is, they have never designed, carried out, and published a study in which they gathered new data to test scientific hypotheses about potential media violence effects. In other words, they are not truly experts on media violence research. Again, to get at the truth, one must distinguish between actual vs. self-proclaimed (and often industry-backed) experts.

9. Are there any evaluations of the media violence research literature done by groups who have the appropriate expertise but who are not themselves media violence researchers?

Interestingly, a number of professional organizations have asked their own experts to evaluate the media violence research literature. One of the most recent products of such an evaluation was a "Joint Statement on the Impact of Entertainment Violence on Children," issued by six medical and public health professional organizations at a Congressional Public Health Summit on July 26, 2000. This statement noted that "...entertainment violence can lead to increases in aggressive attitudes, values, and behavior, particularly in children." The statement also noted that the research points "...overwhelmingly to a causal connection between media violence and aggressive behavior in some children." The six signatory organizations were: American Academy of Pediatrics, American Academy of Child & Adolescent Psychiatry, American Medical Association, American Psychological Association, American Academy of Family Physicians, and the American Psychiatric Association. Along the same line, several reports by the U.S. Surgeon General have concluded that exposure to media violence is a significant risk factor for later aggression and violence.

10. The claim has been made that in terms of the general public's beliefs about media violence effects, we are currently in a situation that is very similar to where the public was some 30 years ago in the tobacco/lung cancer issue. In what ways are these two cases similar? Dissimilar?

The medical research community knew that cigarette smoking causes lung cancer long before the general public came to hold such beliefs. In fact, there are still sizable numbers of smokers who don't really believe this to be true. The tobacco industry was quite effective keeping the public confused regarding the true causal effect of tobacco on lung cancer. Among other tactics, they promoted "experts" who claimed that the research was badly done, or was inconsistent, or was largely irrelevant to lung cancer in humans. The media industries have been doing much the same thing, seeking out, promoting, and supporting "experts" willing to bash media violence research.

The tobacco industry successfully defended itself against lawsuits for many years. There have been several lawsuits filed in the U.S. against various video game companies in recent years. As far as I know, none have been successful yet.

One big difference between the tobacco industry case and the violent media case is that the main sources of information to the public (e.g., TV news shows, newspapers, magazines) are now largely owned by conglomerates that have a vested interest in denying the validity of any research suggesting that there might be harmful effects of repeated exposure to media violence. The tobacco industry certainly had some influence on the media, because of their advertising revenues, but the violent media industries are essentially a part of the same companies that own and control the news media. Thus, it is likely to be much more difficult for the general public to get an accurate portrayal of the scientific state of knowledge about media violence effects than it was to get an accurate portrayal of the tobacco/lung cancer state of scientific knowledge. Given that it took 30-some years for the public to learn and accept the tobacco/lung cancer findings, it seems unlikely that we'll see a major shift in the public's understanding of media violence effects. Indeed, a recent study that my colleague Brad Bushman and I published (*American Psychologist*, volume 56, 2001) suggests that the media violence/aggression link was firmly established scientifically by 1975, and that news reports on this research have gotten less accurate over time.

11. The U.S. Senate invited you to deliver an expert's opinion on violent video games in March, 2000. Has anything changed in the video game research literature since then?

Yes, since that time a number of new video game studies have been published. In addition, my colleagues and I have done several meta-analyses of all of the video game studies. It is even clearer today than it was at that earlier date that violent video games should be of concern to the general public. That is, even stronger statements can now be made on the basis of the scientific literature. There are still gaps and many unanswered questions, of course.

12. What is your advice concerning public policy towards violent entertainment media, particularly violent video games violence managing?

I try very hard to restrict my role in this debate to that of an expert media violence researcher. After all, that's what my training is in, and what I have devoted much of my life and career to doing. So, when the U.S. Senate (or anyone else) asks what the current scientific research literature shows, I tell them as plainly and clearly as possible. There is a "correct" answer to such a question, and I do my best to convey that answer. When asked what society should do about it, well, that's a political question that should (in my view) be publicly debated. There is no single "correct" answer to this public policy question because a host of personal values are relevant to the debate, in addition to the relevant scientific facts.

Nonetheless, I am willing to give a vague answer to the public policy question. Given the scientific evidence that exposure to media violence increases aggression in both the short-term and the long-term, and given my belief that the level of aggression in modern society could and should be reduced, I believe that we need to reduce the exposure of youth to media violence. My preference for action is to somehow convince parents to do a better job of screening inappropriate materials from their children. It is not an easy task for parents, and perhaps there are appropriate steps that legislative bodies as well as the media industries could take to make it easier for parents to control their children's media diet. But of course, as long as the media

industries persist in denying the scientific facts and persist in keeping the general public confused about those facts, many parents won't see a need to screen some violent materials from their children. Ironically, the industry's success in keeping parents confused and in making parental control difficult is precisely what makes many citizens and legislators willing to consider legislation designed to reign in what they perceive to be an industry totally lacking in ethical values.

### 13. Does violence sell?

Clearly, violence does sell, at least in the video game market. But it is not clear whether the dominance of violent video games is due to an inherent desire for such games, or whether this is merely the result of the fact that most marketing dollars are spent on promoting violent games instead of nonviolent ones. One great irony in all of this is the industry belief that violence is necessary in their product in order to make a profit. One result of that belief is that most of marketing efforts go into marketing violence. In fact, the media has seemingly convinced many people in the U.S. that they like only violent media products. But nonviolent and low violent products can be exciting, fun, and sell well. *Myst* is a good example of an early nonviolent video game that sold extremely well for quite some time. A more recent example is *The Sims*. Interestingly, in some of our studies college students have to play nonviolent video games. Some of these students report that they have never played nonviolent games, and are surprised to learn that they like some of the nonviolent ones as much as their violent games.