Weighing the Evidence: Comparison of Two Amicus Briefs Submitted to U.S. Supreme Court Violent Video Game Case

Brad J. Bushman

The Ohio State University & VU University, Amsterdam, the Netherlands

Craig A. Anderson

Iowa State University

Author Notes

Brad J. Bushman, School of Communication and Department of Psychology; Craig A. Anderson, Department of Psychology.

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Address correspondence to: Brad J. Bushman, School of Communication The Ohio State University, 3127 Derby Hall, 154 North Oval Mall, Columbus, OH 43210-1339, USA, Tel: (614) 688-8779, Fax: (614) 292 – 2055, Email: bushman.20@osu.edu

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"Exposure to violence in media, including television, movies, music, and video games, represents a significant risk to the health of children and adolescents. Extensive research evidence indicates that media violence can contribute to aggressive behavior, desensitization to violence, nightmares, and fear of being harmed."

— The American Academy of Pediatrics (2009)

"comprehensive analysis of violent interactive video game research suggests such exposure a.) increases aggressive behavior, b.) increases aggressive thoughts, c.) increases angry feelings, d.) decreases helpful behavior, and, e.) increases physiological arousal."

— The American Psychological Association (2005)

"It's clear that the 'big fears' bandied about in the press - that violent video games make children significantly more violent in the real world; that children engage in the illegal, immoral, sexist and violent acts they see in some of these games - are not supported by the current research, at least in such a simplistic form. That should make sense to anyone who thinks about it. After all, millions of children and adults play these games, yet the world has not been reduced to chaos and anarchy."

— Lawrence Kutner & Cheryl K. Olson (2008)

"We found that depressed mood and association with delinquent peers were the

> strongest and most consistent risk factors for youth violence across outcome measures. Parents' use of verbal cruelty in domestic relationships and the child's antisocial personality traits were also reasonably strong predictors of violent behavior. By contrast video game violence exposure and television violence exposure were not found to be predictors of youth violence."
>
> — Christopher Ferguson (2009)

The State of California is trying to pass a law forbidding the selling of M- and AO-rated video games to minors. The Entertainment Software Rating Board Game Ratings and Descriptor Guide gives the following descriptions for M- and AO-rated games (ESRB, 1998-2011):

> “Titles rated M (Mature) have content that may be suitable for persons ages 17 and older. Titles in this category may contain intense violence, blood and gore, sexual content and/or strong language.”
>
> “Titles rated AO (Adults Only) have content that should only be played by persons 18 years and older. Titles in this category may include prolonged scenes of intense violence and/or graphic sexual content and nudity.”

This case, called Arnold Schwarzenegger v. Video Software Dealers Association and Entertainment Software Association, has made it all the way to the U.S. Supreme Court. Two briefs of amicus curiae were submitted to the U.S. Supreme Court regarding this case. One is from “California State Senator Leland Y. Yee, Ph.D., the American Academy of Pediatrics, and the California Psychological Association.” Steven F. Gruel is the Counsel of Record on this brief, and we will call it the Gruel brief. The Appendix of

the Gruel brief includes the following statement:

> “Both the American Psychological Association (APA, 2005) and the American Academy of Pediatrics (AAP, 2009) have issued formal statements stating that scientific research on violent video games clearly shows that such games are causally related to later aggressive behavior in children and adolescents. Extensive research has been conducted over many years using all three major types of research designs (experimental, cross-sectional, and longitudinal). Numerous original empirical research studies have been conducted on children and adolescents. Overall, the research data conclude that exposure to violent video games causes an increase in the likelihood of aggressive behavior. The effects are both immediate and long term. Violent video games have measurable and statistically significant effects on both males and females. Theoretically important effects of violent video games have been confirmed by many empirical studies. The effects have been replicated by researchers in different settings and in numerous countries. The psychological processes underlying such effects are well understood and include: imitation, observational learning, priming of cognitive, emotional and behavioral scripts, physiological arousal, and emotional desensitization. These are general processes that underlie all types of social behavior, not just aggression and violence; they have been confirmed by countless studies outside of the media violence domain. In addition to causing an increase in the likelihood of aggressive behavior, violent video games have also been found to increase aggressive thinking, aggressive feelings, physiological desensitization to violence, and to decrease pro-social behavior” (p. 1a)

This statement was written by 13 media violence experts (including the two authors of this article) and signed by 102 other scholars (115 scholars in all). The appended statement focused solely on the research on violent video game effects, not on the California law or constitutional issues.

The other brief is from “Social Scientists, Medical Scientists, and Media Effects Scholars.” Patricia A. Millett is the Counsel of Record on this brief, and we will call it the Mallett brief. Authorship of the Mallett brief is unclear, but it was signed by 82 individuals, some are academic scholars, some are medical scientists, and others are industry representatives. It states:

> “California’s ban on the sale and rental of violent video games to minors is based on profoundly flawed research and disregards recent empirical evidence contradicting the harm to minors that California asserts arises from the playing of violent video games (or any other harm).” (p. 1)

The first two quotes at the beginning of this article were written by organizations cited by the authors who wrote the appendix in the Gruel brief, whereas the last two quotes were written by two of the individuals who signed the Mallett brief. The claims in the two briefs are contradictory. The Gruel brief states that video game violence can cause harm to children and adolescents, whereas the Mallett brief states that violent video games cause no harm.

We disagree with much of the information contained in the Mallett brief. For example, those authors dismiss all longitudinal studies on the effects of violent video games because the studies did not analyze participants on “many occasions” and over an “extended period” (although they do not define these terms). For example, they say

"there is nothing 'longitudinal'" about the violent video game longitudinal studies conducted in the United States and Japan because they contained two measurements and the time periods ranged from 3 to 6 months (Anderson et al., 2008).

The purpose of this article is not to examine the validity of the evidence presented in the two briefs, but rather to examine the credentials of those who wrote and signed the two briefs. We believe the U.S. Supreme Court should take these credentials into account when examining the contradictory claims made in the two briefs.

Method

The data for this article were obtained from PsycINFO database, which provides over 3 million references to the psychological literature from the 1800s to the present (we searched the literature to 2011). For each individual on both briefs we searched for general articles on violence or aggression using the search terms AU=(LAST, FIRST) AND AB=(*violen** or *aggress**), where AU=author and AB-abstract. The asterisk is a wildcard symbol that allows one to retrieve various forms of the word. For example, *violen** will retrieve the words *violent*, *violently*, and *violence*. The abstracts (and sometimes entire articles) were examined to make sure the article was relevant. Publications were divided into three categories: (1) peer-reviewed journal articles, (2) book chapters or essays, and (3) books. We also searched for original empirical research on violence or aggression using the following syntax: AU=(LAST, FIRST) AND AB=(*violen** OR *aggress**) AND ME=(*empirical study*) AND PT=(*peer reviewed journal*) NOT ME=(*meta analysis* or *qualitative study*), where ME=methodology and PT=publication type.

In addition to searching for general publications on violence or aggression, we also searched for specific original empirical articles on media violence. The following syntax was used: AU=(LAST, FIRST) AND AB=(*violen** or *aggress**) AND AB=(*video** OR *media* OR *tv* OR *television* OR *console* OR *computer** OR *game** OR *film* OR *movie**) AND ME=(*empirical study*) AND PT=(peer reviewed journal) NOT ME=(*meta analysis* OR *qualitative study*). The abstracts (and sometimes entire articles) were examined to see if the research tested for a media violence effect (measured or manipulated) on an outcome variable related to aggression or violence. A number of articles did not meet this criterion (e.g., articles that reported content analyses of video games). Next, we determined whether the peer-reviewed journal was a top-tier journal. Although there is no universally agreed-upon criterion for what constitutes a top-tier journal, we used 5-year impact factors from the ISI Web of Knowledge Journal Citation Report. Journals with a 5-year impact factor of 2.5 or higher were defined as top tier journals.

Results

Two independent raters coded all studies retrieved in all the literature searches. In the few cases in which disagreements arose about coding, these disagreements were resolved by discussion.

The results of the various searches are depicted in Table 1. As can be seen in the top portion of Table 1, the authors and signees of the Gruel brief have much more expertise on violence and aggression than do the signees of the Mallett brief. The average number of violence or aggression articles is over 18 times greater for the Gruel authors and over 8 times greater for the Gruel signers than for the Mallett signers. The

differences are even larger for peer-reviewed articles reporting the results of original empirical research on violence or aggression — over 28 times greater for Gruel authors and over 14 times greater for Gruel signers than for Mallett signers. Significant differences also exist for most non-peer-reviewed publications (i.e., book chapters, essays, books), but these differences are not as large. The only nonsigificant difference is between for books published by the signees of the Gruel and books published by the signees for the Mallett brief. Of course, in the scientific community peer-reviewed publications are more prestigious than are non-peer-reviewed publications.

More relevant to the case before the U.S. Supreme Court, the authors and signees of the Gruel brief have much more expertise on media violence than do the signees of the Mallett brief. The average number of media violence articles is over 22 times greater for the Gruel authors and over 5 times greater for the Gruel signers than for the Mallett signers. Similar differences are found for media effects articles. When it comes to media effects articles published in top-tier journals, the differences are largest (i.e., over 338 times greater for Gruel authors and over 48 times greater for Gruel signers than for Mallett signers). Of course, it is much more difficult to publish articles in top-tier journals than in lower-tier journals.

Discussion

The authors of the Mallett brief state they have “extensive experience with the research regarding the effects on individuals of media violence, including violence in video games” We disagree with this claim. Only 13% of the authors have published at least one article on media violence. In contrast, 100% of the authors and 37% of the signees of the appendix in the Gruel brief have published at least one article on media

violence. In fact the authors of the Mallet brief do not even have much expertise on violence or aggression in general — only 17% of them have published at least one article on violence or aggression or violence. In contrast, 100% of the authors and 60% of the signees of the appendix in the Gruel brief have published at least one article on violence or aggression.

In summary, the appendix in the Gruel brief was written by and endorsed by many true aggression and violence experts, and by media violence research experts. The authors and signees of this appendix have concluded that violent video games can harm children and adolescents. In contrast, the signees of the Mallett brief claim that violent video games are not harmful. However, the Mallett brief signees have very little expertise conducting general research on aggression or violence, or in conducting more specific research on violent media. The U.S. Supreme Court should take this information into consideration while examining the evidence-of-harmfulness claims discussed in the two briefs.

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Table 1. *Comparison of publications for authors of the Gruel brief, signers of the Gruel brief, and signers of the Mallett brief*. Asterisks indicate that the Gruel authors or Gruel signees differ significantly from the Mallett signees at the .05 significance level.

	Gruel authors (*N*=13)	Gruel signees (*N*=115)	Mallett signees (*N*=82)
AGGRESSION/VIOLENCE			
Mean number of peer-reviewed journal articles	22.31* (*SD*=22.59)	10.53* (*SD*=18.14)	1.21 (*SD*=3.26)
Mean number of peer-reviewed journal articles based on original empirical research	13.54* (*SD*=13.54)	7.05* (*SD*=13.45)	0.48 (*SD*=1.67)
Mean number of book chapters or essays	6.77* (*SD*=8.97)	2.24* (*SD*=4.46)	0.37 (*SD*=1.31)
Mean number of books	1.31* (*SD*=2.75)	0.38 (*SD*=1.11)	0.21 (*SD*=0.68)
At least one peer-reviewed journal publication (%)	100%*	60%*	17%
MEDIA VIOLENCE			
Mean number of original peer-reviewed journal articles	6.38* (*SD*=6.37)	1.45* (*SD*=3.28)	0.28 (*SD*=0.89)
Mean number of original peer-reviewed media effects articles	4.54* (*SD*=4.09)	0.73* (*SD*=2.05)	0.12 (*SD*=0.53)
Mean number of original peer-reviewed media effects articles in top-tier journals (impact factor ≥ 2.5)	3.38* (*SD*=3.52)	0.48* (*SD*=1.59)	0.01 (*SD*=0.11)
At least one peer-reviewed publication (%)	100%*	37%*	13%