American Academy
of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

Virtual Violence

COUNCIL ON COMMUNICATIONS AND MEDIA

abstract

In the United States, exposure to media violence is becoming an inescapable component of children's lives. With the rise in new technologies, such as tablets and new gaming platforms, children and adolescents increasingly are exposed to what is known as "virtual violence." This form of violence is not experienced physically; rather, it is experienced in realistic ways via new technology and ever more intense and realistic games. The American Academy of Pediatrics continues to be concerned about children's exposure to virtual violence and the effect it has on their overall health and well-being. This policy statement aims to summarize the current state of scientific knowledge regarding the effects of virtual violence on children's attitudes and behaviors and to make specific recommendations for pediatricians, parents, industry, and policy makers.

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Media violence is woven into the fabric of American children's lives. As recently as the year 2000, every G-rated movie contained violence, as did 60% of prime time television shows.[1] In 1998, the most comprehensive assessment of screen violence was completed. It estimated that the typical child will have seen 8000 murders and 100 000 other acts of violence (including rape and assault) before middle school.[2] The 1998 report was limited to television, which was appropriate at the time, because it was the primary platform exposing children to violence. Today's children experience screen violence on many different platforms, including computers, video games, and touch-screen devices, in addition to longstanding platforms, such as televisions. Increasingly, media researchers and pediatricians refer to children's "media diets" as a way of conveying the amount and type of media that is consumed. Like food diets, media diets can be healthy or unhealthy, balanced or imbalanced, or healthy in quality but unhealthy in quantity.

This policy statement uses the term "virtual violence" to discuss all forms of violence that are not experienced physically and, in particular, to encompass the extent to which children increasingly experience violence in more realistic ways than they have before. Virtual violence includes first-person shooter games and other realistic video games and applications. Furthermore, the terms "aggression" and "violence"

are not used interchangeably. For the purposes of this policy statement, human *aggression* is defined as any behavior *intended* to harm another person who does not want to be harmed. The harm can be psychological or physical. *Violence* is defined as aggression that has as its goal extreme physical harm, such as injury or death. For example, a snarling dog is behaving aggressively; once it bites, it has resorted to violence. A person who verbally abuses another would not be committing an act of violence by this definition. Thus, all violent acts are aggressive, but not all aggressive acts are violent.[3] By analogy, passing a roaring monster as an avatar in a video game is experiencing virtual aggression and being shot to death in a first-person shooter game is experiencing virtual violence.

LEGISLATIVE ACTION

Although there is broad scientific consensus that virtual violence increases aggressive thoughts, feelings, and behaviors, there has been little public action to help mitigate children's exposure to it.[4] In fact, the single broadest legislative action taken by the state of California, which made it illegal to sell video games labeled for mature audiences to minors, was struck down by the US Supreme Court. It is important to note, however, that the ruling was not based on the absence of data linking media violence to aggression. Rather than rule on scientific merit, the Court invoked first-amendment protection for the games insofar as the Court construed their primary purpose to be to confer ideas and social messages.[5] Currently, there is no federal authority governing content and ratings, which are issued by the Entertainment Software Ratings Board, compliance with which is optional for industry.

EVIDENCE OF THE IMPACT OF VIRTUAL VIOLENCE

Since the first congressional hearings were held on the potential linkage between television violence and homicides in 1952, hundreds of studies exploring the effects of media violence have been conducted.[6] Notably, over the ensuing decades, media violence has evolved to become both more prevalent and more intense.[6]

Some brief mention of the types of studies performed is necessary to set the stage for the conclusions that can be, and have been, drawn. Studies have been observational and experimental as well as laboratory and field based. End points have included aggressive thoughts, angry feelings, and actual observed or reported aggression. Finally, studies have assessed short- and long-term exposure and proximate or distant aggressive actions. Accordingly, the scientific landscape is complex, because researchers have used different methods on different populations over time. Although individual research approaches may have shortcomings, when one considers the overall body of research the linkage between virtual violence and aggression has been well supported and is robust.

One research challenge has been to conclude that laboratory aggression can act as a proxy for what may happen in the real world. Consider a typical laboratory study in which subjects are randomly assigned to play a violent or nonviolent video game. They are then assessed for their willingness to administer pain in the form of unpleasant sounds (eg, mixture of fingernails scratching on blackboards, dentist drills, blow horns, and fire alarms), at a decibel of their choice within the limits of a nondamaging range, to a person who, unbeknownst to the participants, is part of the research team. Those who played a violent video game administered the sounds at a higher

level and for a longer period of time.[7] Although it is true that the situation of having a pain-inflicting auditory device at one's disposal does not occur in the real world, there is no reason to doubt the tendency or willingness to inflict pain would be less in the real world than in the laboratory, especially given study subjects' awareness that they were being observed while in the laboratory.

It is true that an experimental, real-world study that links virtual violence with real-world violence has not been conducted. Such a study will never be undertaken for several reasons, including the fact that actual violence is, fortunately, so rare that an exceedingly large sample size would be needed, and inducing and observing actual violence by manipulating subjects would never pass ethical scrutiny. But experimental linkages between virtual violence and real-world aggression have been found. For example, a recent experimental study conducted in the real world motivated parents to change their children's media diet by substituting prosocial programs in place of violent ones. This study found decreases in aggression and improvement in overall behavior.[8]

Understanding the risks of media violence can be complicated when research studies have found mixed results using varying methods. Fortunately, meta-analyses have been performed to combine the available research findings and to provide an overall estimate of the risks.[9–11] Summarizing the results of >400 studies including violent media of all types, researchers found there was a significant association between exposure to media violence and aggressive behavior (effect size: 0.19; 95% confidence interval [CI]: 0.19–0.20), aggressive thoughts (effect size: 0.18; 95% CI: 0.17–0.19), angry feelings (effect size: 0.27; 95% CI: 0.24–0.30), and

physiologic arousal (effect size: 0.26; 95% CI: 0.20–0.31).[11] Another study performed a similar analysis focusing only on video games. The results, based on 140 such studies, found slightly larger negative effect sizes.[10] Some contend, rightly, that these correlations are in the small to moderate range, but they are stronger than the associations between passive smoking and lung cancer, and many municipalities have banned smoking because of that risk.[12]

PUTTING THE FINDINGS INTO PERSPECTIVE

A national discussion regarding the risks of media violence is necessary and critical for the health of our children and youth. Unfortunately, media reports frequently present "both sides" of the media violence and aggression issue by pairing a research scientist with an industry expert or spokesperson or even a contrarian academic, which creates a false equivalency and the misperception that research data and scientific consensus are lacking. A sizable majority of media researchers both in pediatrics and psychology believe that existing data show a significant link between virtual violence and aggression.[4] One might justifiably wonder why the contrarian position to media violence is so frequently presented when it is no longer presented for passive smoke exposure.

The full implications of virtual violence are best understood at a population level. Although the majority of Americans believe there is a causal relationship between screen violence and real-world aggression, most believe that they and their children are immune to these effects. The so-called third-person effect causes people to believe that other people, not themselves, but some small, susceptible fraction of people, are influenced in a way

the majority of the population is not. Stipulating that this belief is true, even if it is assumed that only 2% of the public is induced to behave more aggressively after being exposed to violent media, it can be expected that 400 000 of the 20 million viewers of the latest violent blockbuster film will exhibit increased aggression after viewing the movie, at least for a short period of time. Surely, even that figure is large enough to warrant some public attention and action.

RECOMMENDATIONS

1. Pediatricians should consider making children's "media diets" an essential part of all well-child examinations. In particular, emphasis must be placed on guiding the content of media and not only limiting quantity.[13] Impartial ratings, such as those issued by Common Sense Media, can be used to help guide selection.

2. Parents should be mindful of what shows their children watch and which games they play. When possible, they should coplay games with their children so as to have a better sense of what the games entail. Young children (under the age of 6 years) need to be protected from virtual violence. Parents should understand that young children do not always distinguish fantasy from reality. Cartoon violence can seem very real, and it can have detrimental effects. Furthermore, first-person shooter games, in which killing others is the central theme, are not appropriate for any children.

3. On state and local levels, policy makers should consider promoting legislation that provides caregivers and children better and more specific information about the content of media of all forms, especially with regard to violence, and should

enact laws that prohibit easy access to violent media for minors.

4. Pediatricians are encouraged to advocate for more child-positive media. Pediatricians should support and collaborate with the entertainment industry to create more shows and games for children of all ages that do not include violence, especially as a central theme. The American Academy of Pediatrics makes the following recommendations for the entertainment industry:

   o Avoid the glamorization of weapon carrying and the normalization of violence as an acceptable means of resolving conflict.

   o Eliminate the use of violence in a comic or sexual context or in any other situation in which violence is amusing, titillating, or trivialized.

   o Eliminate gratuitous portrayals of interpersonal violence and hateful, racist, misogynistic, or homophobic language or situations unless explicitly portraying how destructive such words and actions can be. Even so, violence does not belong in media developed for very young children.

   o If violence is used, it should be used thoughtfully as serious drama, always showing the pain and loss suffered by the victims and perpetrators.

   o Video games should not use human or other living targets or award points for killing, because this teaches children to associate pleasure and success with their ability to cause pain and suffering to others.

5. The news and information media should acknowledge the proven scientific connection between virtual violence and real-world aggression and the current consensus of credentialed experts

in this field and should avoid equating unscientific opinions and industry marketing tracts with peer-reviewed and vetted scientific research.

6. The federal government should oversee the development of a robust, valid, reliable, and "parent-centric" rating system rather than relying on industry to do so.

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ABBREVIATION

CI: confidence interval

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FROM THE AMERICAN ACADEMY OF PEDIATRICS

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