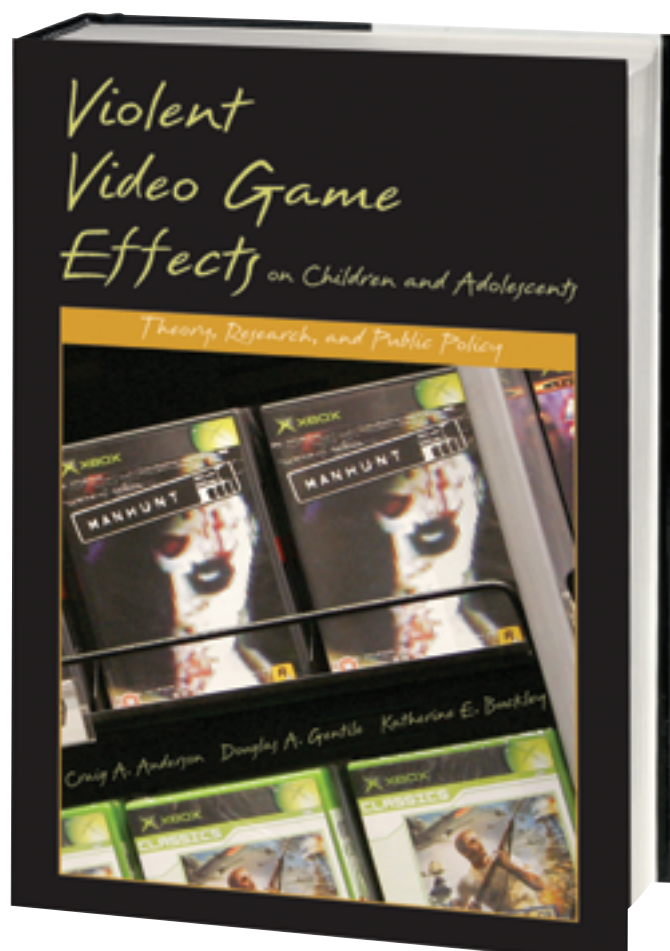# Violent Video Game Effects on Children and Adolescents

Theory, Research, and Public Policy

CRAIG A. ANDERSON, DOUGLAS A. GENTILE and KATHERINE E. BUCKLEY, *all at Iowa State University*

"This is a 'must read' for anyone concerned about the effects that video games have on children and teens! Anderson and Gentile are leading researchers in the field who have done a masterful job of pulling together what we know about video game effects and presenting them so that they are accessible to those who need to understand and can make the most difference—parents, teachers, clinicians, and all who work with children."
—Michael Rich, M.D., MPH, *Director, Center on Media and Child Health; Director, Video Intervention/Prevention Assessment (VIA), Children's Hospital Boston*

"An indispensable tool for parents and professionals who want to have important knowledge to make wise decisions about video game use in the lives of children and teens."
—Gloria DeGaetano, *founder and CEO, The Parent Coaching Institute*

"This book delivers on all accounts. The authors are widely regarded as the foremost experts on the effects of violent video games and the media, and this book is by far the most significant addition to the study of developmental psychology this year."
—*Doody's*

"This is a shocking but necessary read for anyone working or living with children or adolescents. In fact the information contained within the book is a must read for anyone who knows anyone who plays video games, whether the games played appear to be overtly violent or not...Although this is a controversial subject, this book successfully opens the readers' eyes to the psychological, sociological and political implications of violent video games for the mass population."
—*The Psychologist*

Violent video games are successfully marketed to and easily obtained by children and adolescents. Even the U.S. government distributes one such game, *America's Army*, through both the internet and its recruiting offices. Is there any scientific evidence to support the claims that violent games contribute to aggressive and violent behavior? As the first book to unite empirical research and public policy options for violent video games, *Violent Video Game Effects on Children and Adolescents* will be an invaluable resource for student and professional researchers in social and developmental psychology and media studies.

Violent Video Game Effects
on Children and Adolescents

Theory, Research, and Public Policy

Craig A. Anderson, Douglas A. Gentile, & Katherine E. Buckley

"Craig Anderson, a leading investigator of the consequences of exposure to violence in the mass media, and his colleagues Douglas Gentile and Katherine Buckley, here give us an extremely scholarly and highly sophisticated explanation of both why participation in these violent games can indeed promote violence by the players and why the public at large, including many of our nations' most eminent newspapers and journals, find it difficult to accept the great amount of carefully collected evidence that now exists documenting these ill effects."
--Leonard Berkowitz, Vilas Research Professor Emeritus, University of Wisconsin-Madison

"This book is a must read for scholars interested in the effects of media violence. It combines a concise summary of past research with reports of three new important studies elucidating the effects of violent video games on children, adolescents, and young adults."
--L. Rowell Huesmann, Amos N. Tversky Collegiate Professor of Communication Studies and Psychology Institute for Social Research, The University of Michigan

"The studies reported in this book provide the most rigorous and compelling evidence to date about the harmful effects of violent video games. In particular, the authors' longitudinal study of video game violence effects should silence the critics who complain about the validity of short-term, experimental lab research. Policy-makers will cite this research as a cornerstone in their future efforts to address concerns about video game violence."
--Dale Kunkel, Department of Communication, University of Arizona

"This is a 'must read' for anyone concerned about the effects that video games have on children and teens! Anderson and Gentile are leading researchers in the field who have done a masterful job of pulling together what we know about video game effects and presenting them so that they are accessible to those who need to understand and can make the most difference- parents, teachers, clinicians, and all who work with children."
--Michael Rich, MD, MPH, Director, Center on Media and Child Health, Director, Video Intervention/Prevention Assessment (VIA), Children's Hospital Boston

"With the growing interest of researchers, public policy makers, parents, and educators on the negative effects of video games, this book is a most welcome addition to the communications literature. The authors present an excellent blend of theory and research, including their own studies, and numerous suggestions for public policy debates that will hopefully lead to more positive game content and a more considered use of videos. The chapter on methodology is particularly well written and is a must for anyone contemplating entering the field of video game research."
--Dorothy G. Singer, Senior Research Scientist, Department of Psychology, Yale University, and Co-Director, Yale University Family Television Research and Consultation Center

Violent Video Game Effects on Children and Adolescents

Theory, Research, and Public Policy

Summary

Violent video games are increasingly popular with children, creating concern about potential negative effects. This book covers the major scientific issues and public policy options concerning violent video games in modern society. Though a few issues are specific to U.S. society, most are relevant to researchers, public policy makers, parents, and concerned citizens in all modern societies. The first section describes the history of violent video games and their explosive growth in the lives of youth. The next section provides a general overview of scientific research on media violence effects. Included are discussions of relevant research and review methodologies, philosophy of science issues regarding how to establish causality in the scientific analysis of aggression, and summaries of prior research on the effects of exposure to violent television, film, and video games. The authors then present an updated version of the General Aggression Model, with a focus on developmental processes and on how media violence exposure can increase the likelihood of aggressive and violent behavior in both short and long term contexts. A risk and resilience approach is used to understand media violence as an important risk factor in the development of an aggressive personality. The authors identify gaps in the violent video game research literature, and present three new empirical studies designed to fill the most important gaps. Study 1 is an experimental laboratory study in which elementary students and college students were randomly assigned to play either a violent or nonviolent video game. Game play was followed by a number of measurements, including a standard laboratory measure of aggressive behavior. The main result was that even children's games that contained cartoonish violence increased aggression for children and college students. Study 2 was a survey study of high school students' media habits and several aspects of aggressive personality. The main result was that high levels of exposure to violent video games predicted aggressive personality measures of anger, hostility, and aggressive and violent behavior, even after statistically controlling for theoretically relevant variables. Study 3 was a longitudinal study of the effects of elementary school children's media habits on aggressive behavior across part of a school year. Children who had higher exposure to violent video games early in the school year became more verbally and physically aggressive later in the school year, and less helpful. These effects were partially mediated by children's hostile attribution bias. Additional analyses suggest that the violent video game effects are larger than violent television and movie effects, and are at least as large as several other known risk factors for youth violence. The general discussion integrates these new findings with the risk and resilience approach and the developmental aspects of the General Aggression Model. The role of scientific findings in public policy is described, as are industry responses to the scientific findings and to legislative attempts to increase parents' ability to control their children's access to the most graphically violent video games. A wide array of public policy options are briefly described without endorsement by the authors. The book concludes with a plea for public policy debates to begin with acknowledgement of the basic scientific fact that exposure to violent video games (and other forms of media violence) constitute a significant risk factor for later aggressive and violent behavior, and to move into a more productive debate about whether modern society should take action to reduce the high rates of exposure of children and youth to media violence, and if so, what public policies would likely be the most effective.

Book reviews

War games – what are they good for?

THIS is a shocking but necessary read for anyone working or living with children or adolescents. In fact the information contained within the book is a must read for anyone who knows anyone who plays video games, whether the games played appear to be overtly violent or not.

Anderson, Gentile and Buckley combine reviewed and ongoing research, conceptual viewpoints and implications for public policy to address the issue of increased aggressive behaviour as one of the negative effects of exposure to violent media, particularly video games. The findings and conclusions drawn in this book have significant consequences for the future, especially considering the increase in examples of aggressive incidents, such as knife-crime and school shootings, and the government's emphasis on the physical and emotional well-being of all children.

The layout of this book contributes to

Violent Video Game Effects on Children and Adolescents: Theory, Research, and Public Policy
CRAIG A. ANDERSON, DOUGLAS A. GENTILE & KATHERINE E. BUCKLEY
OXFORD: OXFORD UNIVERSITY PRESS; 2007; HB £17.99
(ISBN 978 0 19 530983 6)
REVIEWED BY **Melanie Adkins**

the strong case posed for the necessary actions needed in response to the research. *Violent Video Game Effects on Children and Adolescents* begins by including background material, effects of exposure to violent media, outlining previous research and introducing the general aggression model, which is used to make sense of the findings in Part 3. Part 2 builds on this foundation by outlining new research studies that fill the gaps left previously and explores other risk and resilience factors that affect consequences following exposure to violent entertainment media. The third part of the book focuses on making sense of these findings with particular emphasis on public policy and ways of reducing the harmful effect of such games.

After reflecting and discussing the

contents of this book with fellow psychologists, I was struck by the overwhelming amount of research involving multiple methods that currently exists in this area, the impact of supposedly 'happy' games involving light-hearted music and cartoon characters and the unwillingness of the game industry to take responsibility for the findings and warn game players and, where relevant, parents of the possible effects of short-term and long-term exposure. Although this is a controversial subject, this book successful opens the reader's eyes to the psychological, sociological and political implications of violent video games for the mass population.

■ *Melanie Adkins is an educational psychologist in Luton.*

Anderson, C. A., Gentile, D. A., & Buckley, K. E. (2007). *Violent video game effects on children and adolescents.* (ISBN13: 9780195309836; ISBN10: 0195309839; Hardback, 200 pages)
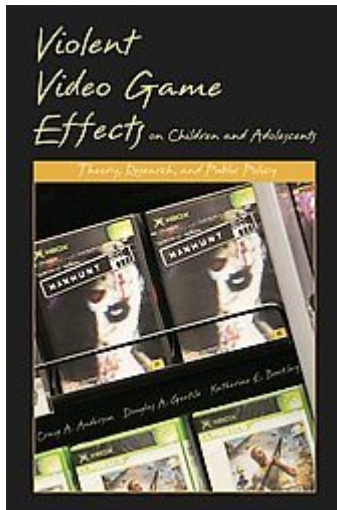
Reviewed by Adrienne McFaul

The causal link between violent media consumption and increases in aggressive behaviors has been known since the 1970s, and has been demonstrated through laboratory and field studies as well as through longitudinal research (Anderson et al., 2003; Bushman & Huesmann, 2006). The bulk of the extant research has focused on the effects of violent television and movies. Video games became popular in the US in the 1980's and since their inception have become increasingly both violent in their content and seemingly realistic due to advances in graphic and interactive game play technologies. It has been hypothesized that precisely because of their interactive nature, video games should lead to greater increases in aggressive behavior as compared to more passive media consumption such as television viewing (Anderson & Bushman, 2001). For example, a recent study published in *Aggressive Behavior* demonstrated via a mixed experimental-naturalistic design that playing violent video games produced greater aggressive behavior than did watching violent video games being played (Polman, Orobio de Castro, & van Aken, 2008).

Despite recent provocative findings, investigation of violent video game effects is a relatively new area of inquiry in contrast to other types of violent media effects. *Violent Video Game Effects on Children and Adolescents,* written by Craig Anderson, Douglas Gentile, and Katherine Buckley (Oxford University Press, 2007) addresses the critical need for scholarship on the risks of violent video game use for children and adolescents. Researchers as well as policymakers, parents and students interested in gaining a greater understanding of the power and the dangers of playing violent video games would do well to avoid relying on popular journalism on the subject, written by non-specialists and often gleaned from secondary sources. Luckily, with Anderson et al.'s new volume, readers can bypass incomplete and occasionally unreasonable interpretations of the media effects literature. Anderson, Gentile, and Buckley have written a brilliant, highly accessible volume on the effects that playing violent videogames have on kids and teens. *Violent Video Game Effects on Children and Adolescents* explains the logic, history, and science behind the domain of media effects research and introduces the emerging focus on video games in the field to a broad readership.

The book's introduction provides an overview of the methods used by media effects researchers, explaining terms and measurements that have informed decades of media effects research and providing a clear and necessary explanation of how scientists think about and demonstrate causality. When presented with findings from research on violent media, a common response from teens is often: "I play a lot of violent video games, but I haven't killed anyone," and adolescents tend not to endorse exposure to violent media as a causal influence on aggressive behavior (Boxer & Tisak, 2003). The authors place individual experiences in context, explaining the importance of the presence of cumulative, multiple factors in understanding the development of violent behavior. They also explain that aggression is much more than just violence and offer a lucid discussion of what aggression is and how it is measured within the

laboratory. According to Anderson and colleagues, aggression can be conceptualized as occurring on a continuum with extreme violence at one end and less severe and more mundane behaviors (such as being rude and disruptive) at the opposite end. Readers will understand how laboratory measures of aggression, as well as questioning research participants about their beliefs and attitudes toward aggression, inform the understanding of more severe forms of aggression.

Three new studies on video game violence follow. As basic questions have been preempted by the introduction, the reader is well-prepared to understand the fundamental background and logic behind these three studies. Making the new studies even more accessible are page-long synopses embedded near the end of each study. The casual reader will be able to breeze through technical details without missing out on the main methodological features and important findings.

Study 1 involved children and college students playing either a violent or non-violent video game, and then having the chance to punish an ostensible opponent with a noise blast. The findings of this study provided a challenge to assumptions about whether children grow out of their susceptibility to the effects of violence exposure as they become young adults. Past theory assumed that individuals become less susceptible to the effects of exposure to violent media. These findings indicate that susceptibility to the effects of violent video game exposure continues into early adulthood. Study 1 also has important implications for the ESRB (Entertainment Software Rating Board) video game rating system. Games rated E, meaning appropriate for everyone, were associated with increases in aggressive behavior analogous to games rated as only appropriate for teens and adults.

Next, in Study 2 high school students completed surveys on their aggressive behaviors, aggressive beliefs and attitudes, and media exposure. The results of the survey indicated that, after controlling for the effects of gender, aggressive beliefs and attitudes, and total time spent consuming media, the amount of violent video games that an adolescent plays still predicts aggressive behavior, including more severe violence. This means that female high school students, along with the boys, are also susceptible to the negative effects of violent video game play. The survey results also had implications for media use and academic success. Increased time spent consuming media was associated with decreases in academic achievement.

Finally, Study 3 queried children, their peers and teachers on aggressive behaviors and violent media consumption twice during a school year. The first published longitudinal study on the effects of violent video game use, this study was able to capture changes in children's behavior over time. What they found was that children who played a lot of violent videogames changed over the school year, becoming more aggressive. In other words, higher levels of violent video game play at time 1 were associated with increases in aggressive behavior at time 2. These changes were observed during an average of only five months. Again, these changes were seen in girls as well as boys. And again, these results also had implications for media use and academic success. Increased time spent consuming media was again found to be associated with decreases in academic achievement.

In the last third of the book, the authors discuss what the three new studies might mean within the broader contexts of violence prevention efforts, parenting practices, and public policy. The authors emphasize that scientific facts are only one element of an informed public policy and highlight the importance of scientific ethics in making sense of implications that the research might have for society. As the authors remind us, science does not exist in a vacuum. Legal issues, personal values, and political realities make up the context in which scientific facts might affect policy decisions. Recent political actions taken regarding policy on violent video games as

well as potential avenues of policy reform are then reviewed. Common problems encountered in creating ratings and warning labels, entertainment licensing, and government restrictions are discussed. Research by Bushman (2006) indicated that warning labels may actually attract people to violent programming. Such issues illustrate difficulties inherent in creating effective public policy.

The book concludes with a much needed list of tips for parents and care-givers on how to responsibly discern which games may be appropriate for the children and adolescents in their lives. An important point that the authors make throughout the monograph is that no one is immune to the negative outcomes associated with violent video game use. However, two potential mitigating factors did emerge from this research. Both greater parental involvement in children's media use and being characteristically forgiving were associated with smaller increases in aggressive behavior in children exposed to violent video games. Additionally, an important tip for parents is to not rely on the ESRB video game rating labels. Parents should play games themselves or watch someone else demonstrate the game. Many parents will be surprised to find what the games their kids are playing actually entail.

Readers should walk away understanding that video games are not to be feared, but should be enjoyed responsibly. Responsibility is predicated upon an understanding of the science behind violent media effects. *Violent Video Game Effects on Children and Adolescents* is an important tool that will help kids, teens, and families become more responsible gamers.

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