These slides were created by Michael A. Britt, Ph.D., host of The Psych Files podcast. The slides accompany episode #115, which can be viewed by clicking here: Video Game Violence.
VIDEO GAME VIOLENCE

A Comparison of Two Recent Studies

These slides prepared by Michael A. Britt, Ph.D.
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Psychology: A Matter of Opinion or a Science?
• **Intro:**

• Desensitization to violence: “...a reduction in emotion-related physiological reactivity to real violence”

• “fits well with earlier systematic desensitization research in cognitive-behavioral treatment of phobias (Wolpe, 1958, 1982)”

• “…abundance of research demonstrating negative effects of violent media exposure” including “lower responsiveness to real world violence”
There is a lot of correlational research on this topic, but to establish causation we need:

- random assignment to violent and non-violent exposure
- exposure to violence and non-violence that is equally exciting
- emotion-related physiological indicators (heart rate & GSR)
- the use of real violence as the emotion-provoking stimulus
- ...no published study has experimentally examined whether exposure to violent video games decreases physiological responsiveness to real-life violence.”
• **Theory:** “The initial response of children and many adults to violent media is **fear and anxiety**. When violent stimuli are repeatedly presented in a positive emotional context (exiting background music, sound effects, visual effects...), these **initial distressing reactions are reduced**. One indicator that desensitization has occurred is **a reduction in physiological arousal** (heart rate, GSR) **during exposure to real violence** after individuals have been repeatedly exposed to media violence.

• “...desensitized people might be less likely to:
  
  • **notice** aggressive events
  
  • **perceive fewer or less severe injuries**
  
  • **feel less sympathy** for violence victims
  
  • **have less negative attitudes** towards violence
CARNAGEY, ET. AL.

Baseline

20 Minutes Playing Violent Video Games

20 Minutes Playing Non-Violent Video Games

Random Assignment

GSR

HR

257 Ss
CARNAGEY, ET. AL.

Violent Games:
- Mortal Combat
- Duke Nukem
- Carmageddon
- Future Cop

Non-Violent Games:
- Glider Pro
- 3D Pinball
- 3D Munch Man
- Tetra Madness
CARNAGEY, ET. AL.

1) Baseline
2) After Playing Game
3) While Watching Real Violence

20 Min

257 Ss

HR

GSR

10 Min

HR

GSR

HR

GSR

I) Baseline

2) After Playing Game

3) While Watching Real Violence
HEART RATE RESULTS

Baseline
Non Violent Game: 66
Violent Game: 66.5

After Gameplay
Non Violent Game: 68
Violent Game: 68.5

Watching Violence
Non Violent Game: 71
Violent Game: 68
GALVANIC SKIN RESPONSE

Heart Rate

Baseline  After Gameplay  Watching Violence

Non Violent Game

Violent Game
VIOLENT CONTENT ENHANCES VIDEO GAME PERFORMANCE

- Argues that...**VVGs feature fun and excitement**...that interactive violent content **is associated with or will raise positive emotions**; and finally...players **actually prefer to have violence in their games** because of the positive valence of mock aggression.

- playing VVGs is similar to how “juvenile mammals” “enjoy engaging in **play-fighting** (or **rough-and-tumble play**)” that is not aimed at actually hurting the opponent. Such skills can be considered crucial for the development of social and other competencies.”
• He concludes that we should “...use game performance itself as [a] measure [of negative emotional reactions] such as fear and disgust”

• So: “...poor performance within a VVG can be considered a simple and straightforward indicator of inhibition of aggression.”

• ...if there are initially negative emotional responsive to virtual violence in VVGs, playing a video game that contains violence would be expected to result in inferior game performance compared to a game without violence.
3 CONDITIONS

**Non-Violent**

**Goal:** get carrot in rabbit’s mouth

**Success:** chewing & “heehee” sounds

**Moderately Violent**

**Goal:** hit rabbit on head

**Success:** “cartoonish screaming” & clapping sound

**Extremely Violent**

**Goal:** hit rabbit on head

**Success:** “pain noises” & rabbit’s head was dismembered
WEAKNESSES OF BOSCHE

• Number of Subjects per condition is **small** (20, 20, 10)

• Is the activity in the each game really comparable? **Feeding** a rabbit compared to **hitting** a rabbit

• **Theoretical**: The “violence” is very clearly mock violence - hitting rabbits - not people hitting people. It’s unlikely that the “violent” condition in Bosche elicited the kind of anxiety (and therefore hesitation, fear and disgust) that human-directed violence tends to create.
WEAKNESSES OF CARNEGEY, ET. AL

• Short amount of time playing the game (20 min)

• Only college students

• Long term effects?

• Another question concerns the duration of desensitizing effects of violent video games. Although no studies have been conducted on this topic, some violent film studies show that without repeated exposure, the laboratory effects of media violence exposure on perceived victim injury can deteriorate in a matter of days (Mullin & Linz, 1995). Of course, most youths and many adults are exposed to violent media on a regular basis.” - Carnegey, et. al (2007)
SPECIOUS ARGUMENTS

“I’ve been playing violent video games my whole life and I haven’t killed anybody”

“Sales of violent video games have been increasing for years, but during that same time acts of violence have decreased”
Sales of Violent Video Games
Acts of Violence

# of Adolescent Males

1995

2009
AND THE WEIGHT OF THE EVIDENCE GOES TO...
The effect of video game violence on physiological desensitization to real-life violence

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Abstract

Past research shows that violent video game exposure increases aggressive thoughts, anger feelings, physiological arousal, aggressive behaviors, and decreases helpful behaviors. However, no research has experimentally examined violent video game effects on physiological desensitization, defined as showing less physiological arousal to violence in the real world after exposure to video game violence in the virtual world. This experiment attempts to fill this gap. Participants reported their media habits and then played one of eight violent or nonviolent video games for 20 min. Next, participants watched a 10-min video clip containing scenes of real-life violence with least-rate (100) and greatest skin response (GSR) were monitored. Participants who previously played a violent video game had lower HR and GSR while viewing filmed real violence, demonstrating a physiological desensitization to violence. Results are interpreted using an expanded version of the General Aggression Model. Links between desensitization, antisocial, and procedural behavior are discussed.

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Keywords: Violent video games; Violent media; Desensitization; Helping; Prosocial

Over the last three decades the video game industry has evolved from offering a handful of games on bulky home systems to offering scores of video games on console systems, personal computers, handheld systems, PDAs, and even cell phones. Accompanied with the success of this thriving industry has been public debate concerning the impact of video game exposure. Currently, one of the primary public and political issues concerns the effect of exposure to excessively violent video games on aggression and violence.

One reason for this debate is the high prevalence of violence in current video games. Over 85% of games contain some violence, and approximately half of video games include serious violent actions (e.g., Children Now, 2001). Video games rated "E" (Everyone: Ages 6+) by the industry are rated as considerably violent by parents (Thompson & Hastings, 2001). In addition, the Federal Trade Commission found that many game manufacturers market violent games to children (FTC, 2000).

Another reason for this debate is the abundance of research demonstrating negative effects of violent media exposure. Youth exposed to violent media tend to become more aggressive immediately after exposure, and become more aggressive adults (e.g., Anderson et al., 2003). The effect of violent television exposure at an early age (between 6 and 11 years old) on later violent behavior has been shown to be larger than the effects of low IQ, abusive parents, exposure to antisocial peers, and being from a broken home (US Department of Health & Human Services, 2001). The smaller video game literature has found that playing violent video games causes increases in aggressive behavior, aggressive affect, aggressive cognitions, physiological arousal, and decreases in prosocial behavior (Anderson et al., 2004). But what does the media violence research...
The effect of video game violence on physiological desensitization to real-life violence

Nicholas L. Carnegie, Craig A. Anderson, Brad J. Bushman

Abstract

Past research shows that violent video game exposure increases aggressive thoughts, angry feelings, physiological arousal, aggressive behavior, and decreases helpful behavior. However, no research has experimentally measured violent video game effects on physiological desensitization, defined as showing lower physiological arousal to violence in the new world after exposure to video game violence in the virtual world. This experiment exposed 180 12-year-olds to either a violent or a non-violent video game, and the adolescents were tested on their physiological response to a video game in the virtual world and real-life world. The adolescents were measured on physiological arousal (eg., heart rate, galvanic skin response) to violent and non-violent video game exposure. The results showed that the violent game group had lower physiological arousal than the non-violent group. The findings suggest that violent video games can desensitize adolescents to violence in the real world. The implications of these findings for the video game industry and public health are discussed.

Keywords: Violent video games, Violent media, Desensitization, Helping, Prosocial behavior

Over the last three decades the video game industry has evolved from offering a handful of games on bulky home systems to offering scores of video games on unmanned systems, personal computers, handheld systems, PDAs, and even cell phones. Accompanied with the success of this industry has been an increase in the consumption of video game content, particularly violent video games. A recent study showed that over 80% of games contain some violence, and approximately half of video games include serious violent actions (e.g., Children Now, 2001). Video games rated "E" (Everyone: Ages 6+) by the industry are rated as considerably violent by parents (Thompson & Hartinger, 2001). In addition, the Federal Trade Commission found that many game manufacturers market violent games to children (FTC, 2000).

Another reason for this debate is the abundance of research on the effects of violent media exposure. Youth who are exposed to violent media tend to become more aggressive and Impulsive after exposure, and become more loving and aggressive adults (e.g., Anderson et al., 2003). The effect of violent television exposure at an early age (between 6 and 11 years old) on later violent behavior has been shown to be larger than the effects of less violent, abusive parents, exposure to aerial weapon, and being from a broken home (U.S. Department of Health & Human Services, 2001). The younger game literature has found that playing violent video games causes increases in aggressive behavior, decreases in helpful behavior, desensitization to violence, and a decrease in physiological arousal and decreases in prosocial behavior (Anderson et al., 2004). But what does the media violence research
• “Children receive high doses of media violence. It initially is packaged in ways that are not too threatening, with cute cartoon-like characters, a total absence of blood and gore, and other features that make the overall experience a pleasant one, arousing positive emotional reactions that are incongruent with normal negative reactions to violence.” - p. 495

• In short, the modern entertainment media landscape could accurately be described as an effective systematic violence desensitization tool. Whether modern societies want this to continue is largely a public policy question, not an exclusively scientific one” - p. 495

• Anderson, et. al (2010 - in press) Psychological Bulletin

  • Violent Video Game Effects on Aggression, Empathy, and Prosocial Behavior in Eastern and Western Countries: A Meta-Analytic Review

  • “In sum, this much larger meta-analysis, with over 70 independent effects involving over 18,000 participants from multiple countries, ages and culture types, yielded strong evidence that playing violent video games is a significant risk factor for both short-term and long-term increases in physically aggressive behavior.”
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