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Longitudinal Research on Violent Video Game Effects and Implications for Public Policy

Munich, Germany, November 20, 2008

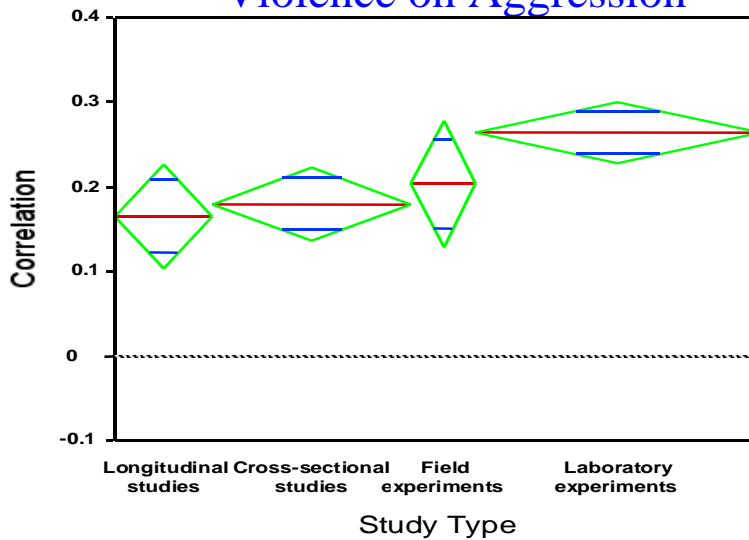
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Effects of Media Violence on Aggression



46 longitudinal studies involving 4,975 participants, 86 cross-sectional studies involving 37,341 participants, 28 field experiments involving 1,976 participants, and 124 laboratory experiments involving 7,305 participants. Center lines indicate the mean effect sizes. Upper and lower lines indicate upper and lower 95% confidence interval bounds. Diamonds widths are proportional to the number of studies. (Anderson & Bushman, 2002)

Defining Aggression

- Aggression is defined as behaviors that are *intended to harm* another person, and the intended victim would want to avoid the harm



Correlations with Exposure to Video Game Violence among Adolescents

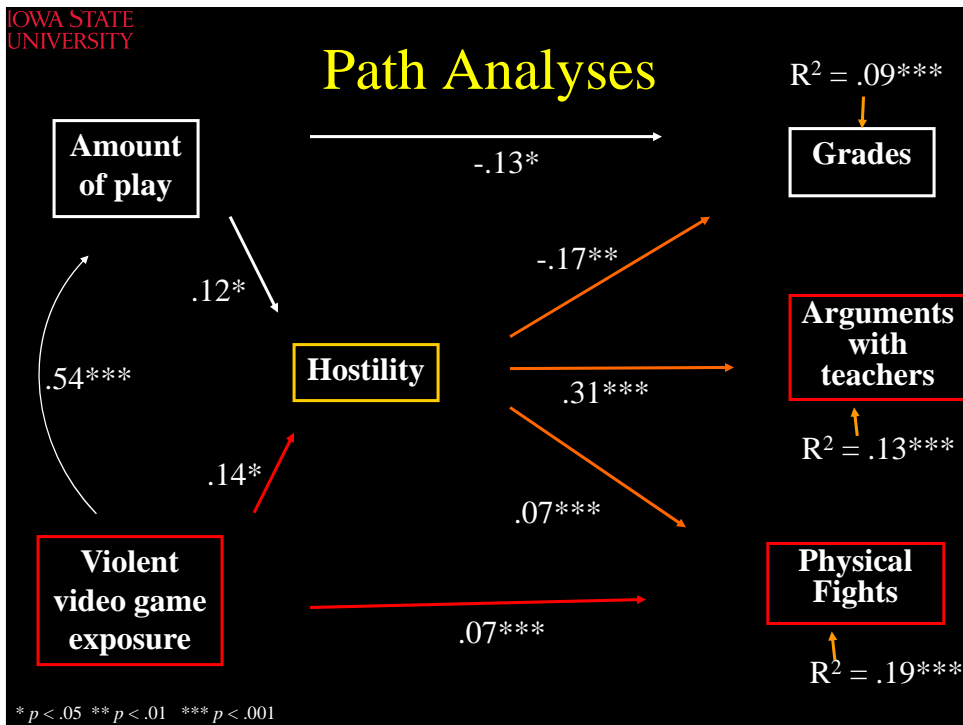
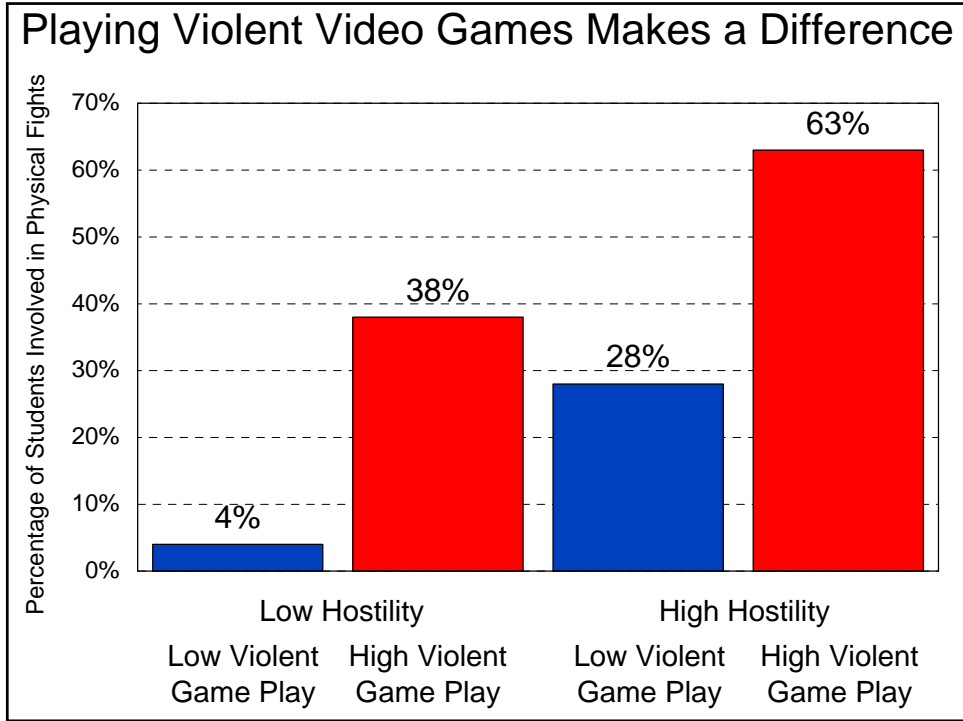
(Gentile, Lynch, Linder, & Walsh, 2004)

- Hostile attribution bias ($r = .11$)
- Arguments with teachers ($r = .20$)
- Physical fights ($r = .32$)
- Negatively correlated with grades ($r = -.23$)



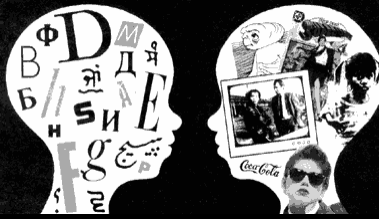
All correlations $p < .001$

(Gentile, Lynch, Linder, & Walsh, 2004)



The Good News

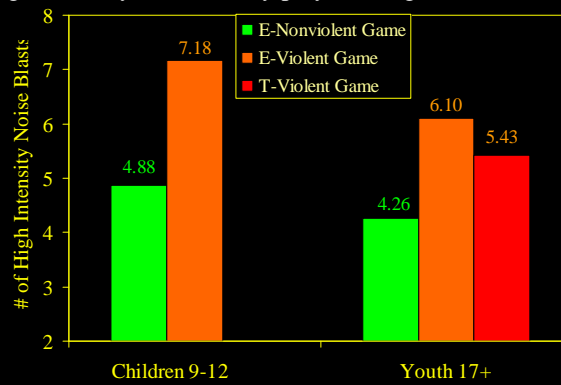
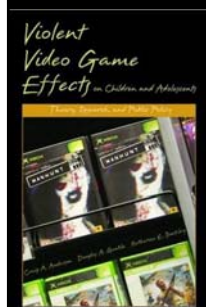
- Children who report that their parents “always” check the ratings before allowing them to play:
 - get into fewer physical fights
 - have better grades in school



Three Studies

(Anderson, Gentile, & Buckley, 2007)

- **Study 1 - Experimental:** 161 9- to 12-year-olds and 354 college students
 - Played V or NV video game (E or T rated)
 - Given opportunity to punish an “opponent”
 - Gave over 40% more high intensity blasts if they played a V game



Study 2

Violent Video Game Effects on Children and Adolescents



- **Correlational:** 189 high school students
 - Playing violent games linked to:
 - More pro-violence attitudes
 - More hostile personalities
 - Less forgiving
 - Believe violence to be normal
 - Use more physical aggression in their every day lives (even controlling for sex, total screen time, aggressive beliefs and attitudes)

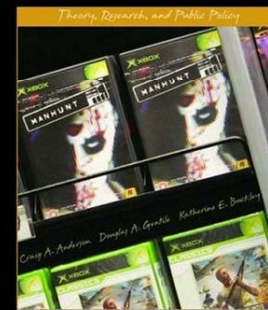
Study 3 - Longitudinal

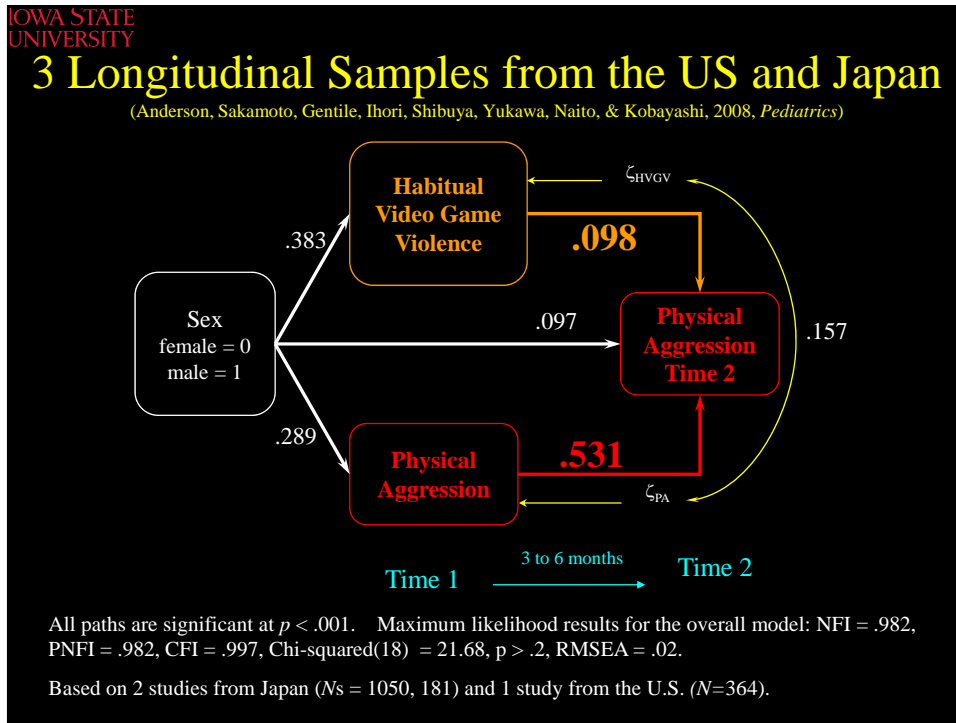
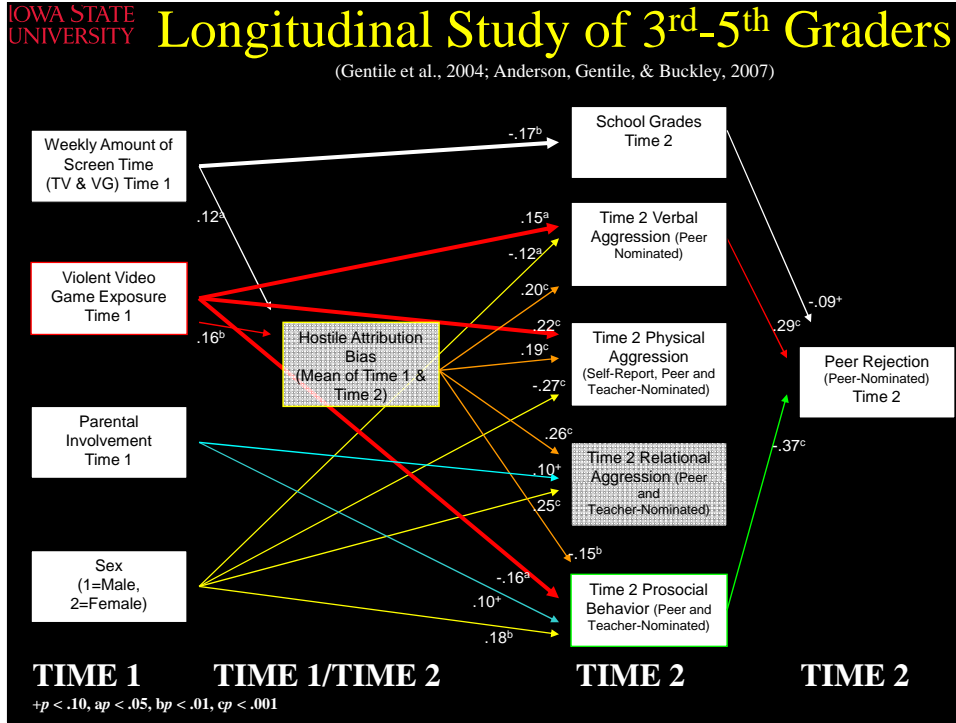
(Anderson, Gentile, & Buckley, 2007)

Participants

- 430 3rd ($N = 119$), 4th ($N = 119$), & 5th ($N = 192$) graders
- Five MN schools:
 - 1 Private, 4 Public
 - 4 Suburban, 1 Rural
- 51% Male, 49% Female
- 7-11 ($M = 9.7$; $SD = 1.0$)
- 86% Caucasian

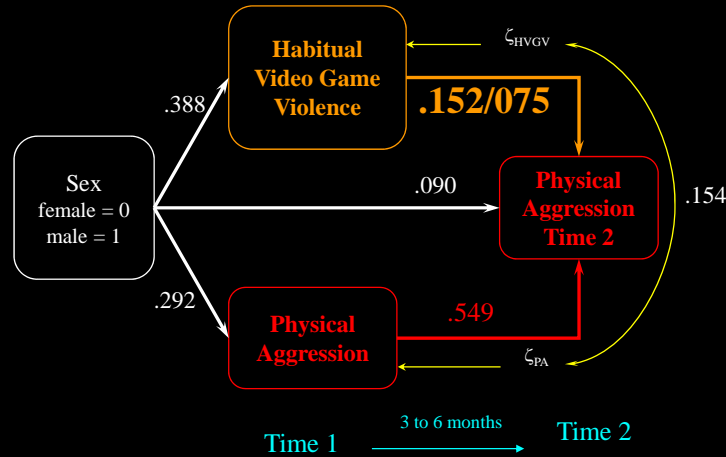
Violent Video Game Effects on Children and Adolescents





Allowing Younger/Older Children Paths to Differ

(Anderson, Sakamoto, Gentile, Ihori, Shibuya, Yukawa, Naito, & Kobayashi, 2008, *Pediatrics*)

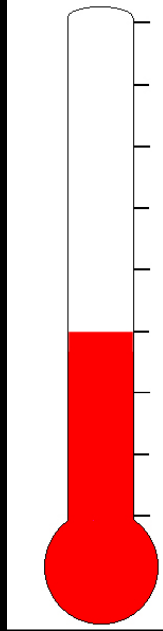


N s = 1050, 181, & 364.

The two path weights for the Habitual Video Game Violence path to Time 2 Physical Aggression are for the younger/older samples (p s < .0001 & .01, respectively). All other paths were constrained to be equal across samples and are statistically significant at p < .0001. Path coefficients are standardized

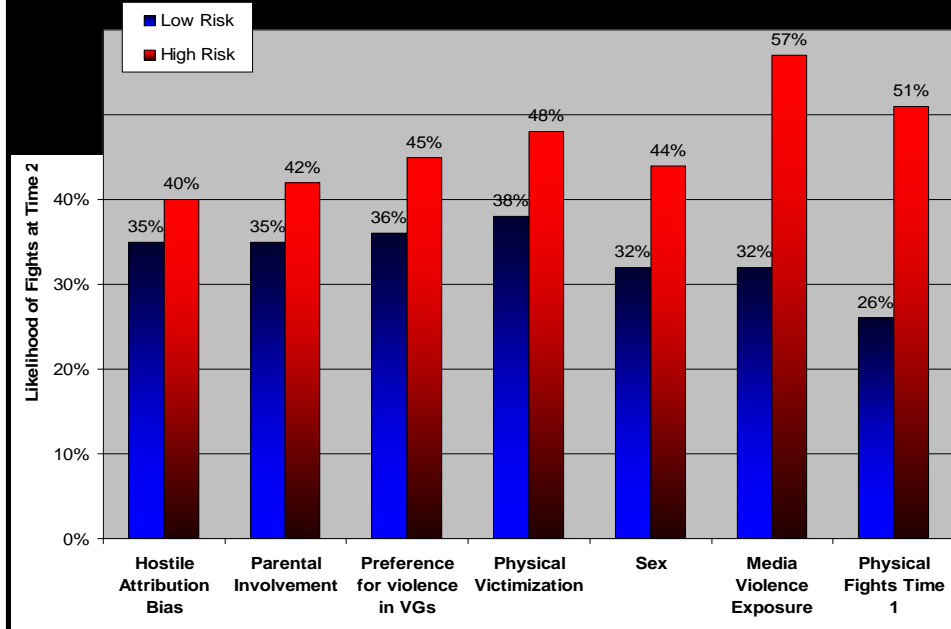
Although there are far fewer studies of the effects of prosocial video games, the research suggests that playing games where you help and support other characters increases prosocial behaviors, both in the short term and the long term.

Media Violence as a Risk Factor



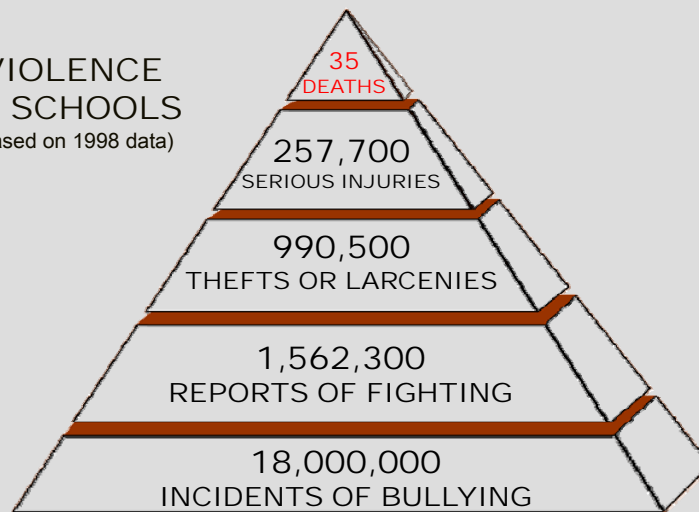
- Shooting or stabbing someone
- Hitting with intent to injure
- Occasional threats of violence
- Pushing and shoving
- Occasional violent thoughts/fantasies
- Verbally aggressive behavior
- Occasional aggressive thoughts/fantasies
- Occasional rude behavior
- Routinely respectful and polite behavior

Gentile & Sesma, 2003



VIOLENCE IN SCHOOLS

(Based on 1998 data)



Source: Bryan Vossekuil, Co-Director of the
"Interim Report on the Prevention of Targeted Violence in Schools,"
October 2000, U.S. Secret Service National Threat Assessment Center

Implications for Public Policy

- Should governments be involved?
It's unclear to me that they should, but if they are, where would they be most effective?
- One important role for government is to provide a public forum for discussion about media effects
 - Scientists often have difficulty presenting the data in a way the public can understand
 - Also important to get the information out correctly





In America

- Almost all policy has been directed at access restriction
- Ineffective for several reasons
 - Struck down by the courts as unconstitutional
 - How would we define what to restrict?
 - Most games include violence, regardless of rating

Using The ESRB's Ratings

(Gentile, 2008)

Rating	E	E10+	T	M
• % with any violent content	31%	91%	91%	89%
• % with any sexual content	1%	17%	18%	19%
Number of Games Rated:	8011	296	3059	1034

E (Everyone)

E10+ (Everyone 10 and older)

T (Teens ages 13 and older)

M (Mature; 17 and older)

AO (Adults only; 18 and older)

These are likely underestimates -
Content analysis of **E** games
showed 64% included violence

(Thompson & Hanninger, 2001)



In America

- Almost all policy has been directed at access restriction
- Ineffective for several reasons
 - Struck down by the courts as unconstitutional
 - How would we define what to restrict?
 - Most games include violence, regardless of rating
 - Not all violence is equal
 - What matters may be whether you practice intentional harm to victims; Blood and gore may not matter much
 - Therefore, using ratings for policy cutoffs is likely to be ineffective

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The Implications?

- There are probably many more effective policy options than access restriction, but we almost never consider them
 - We should improve ratings
 - We should get research-based information to the public, so that they understand why they should use ratings
 - We should be doing more media education
 - We could consider other levels of policy, such as in medical schools, parent education, etc.

Ratings Improvement May be the Best Place to Start



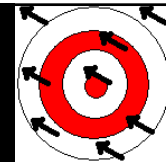
- Research on the ESRB ratings in the US shows:

- A lack of scientific **reliability**
- A lack of **validity**
- Furthermore, parents would prefer **content information** to age-based ratings

(see Gentile, 2008 and Gentile, Humphrey, & Walsh, 2005, for details)



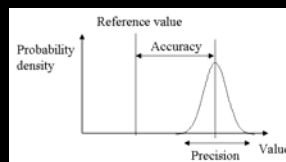
Ratings: Scientific Reliability



Not reliable

- Several types, all of which are important
 - **Inter-rater reliability**: Judges rate the same way
 - **Consistency**: Different media products with same content should get same rating
 - **Temporal stability**: Ratings would not shift across time (e.g., ratings “creep”)

Note that all these require *clear definitions* of what is being rated





Reliable but not valid

Scientific Validity



Reliable and valid

- Ratings *must* be reliable in order for them to have a chance at being valid
- **Validity**: Ratings accurately measure what they are intended to measure
 - **Content validity**: Measures what it claims to
 - **Construct validity**: Measures relate appropriately to other relevant constructs
 - **Criterion validity**: Measure corresponds to other measures already shown to be valid



How Often Do You Use the Ratings to Decide?

(2007 Harris Poll)

	Movie	TV	VGs
• Every time	24%	13%	16%
• Most of the time	24%	18%	18%
• About half the time	11%	13%	7%
• Rarely	13%	18%	14%
• Never	16%	24%	24%

I don't do this 12% 14% 21%

Conclusion about Ratings

- Clearly, parents recognize that the ratings have real problems with reliability and validity
- They do not provide the information parents want
- This explains why parents do not use them regularly
- Parents are ready for a change

Summary

- Until recently we were lacking good longitudinal research on the effects of violent video games
- The evidence now seems clear that games are a causal risk factor for aggression, both in the short-term and in the long-term
- Nonetheless, they are only one risk factor for aggression among many
- If we could do only one thing, providing reliable and valid content ratings to parents would probably be the most valuable

For more information, see Gentile, Saleem, & Anderson (2007)
available at www.DrDouglas.org

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