

Centers for Disease Control and Prevention: Violence Research Meeting
June 26, 2009, Atlanta, GA

Associations between violent media and violence behavior over a 24-month period for children and adolescents

Michele Ybarra MPH PhD



* Thank you for your interest in this presentation. Please note that analyses included herein are preliminary. More recent, finalized analyses may be available by contacting CIPHR for further information.



Acknowledgements

This survey was supported by Cooperative Agreement number U49/CE000206 from the Centers for Disease Control and Prevention (CDC). The contents of this presentation are solely the responsibility of the authors and do not necessarily represent the official views of the CDC.

I would like to thank the entire Growing up with Media Study team from Internet Solutions for Kids, Harris Interactive, Johns Hopkins Bloomberg School of Public Health, and the CDC, who contributed to the planning and implementation of the study. Finally, we thank the families for their time and willingness to participate in this study.

Background: Media violence

- There has been a longstanding concern about the consequences of youths' exposure to violence in the media (Browne & Hamilton-Giachritsis, 2005; Huesmann & Taylor, 2006), with particular concern about the effects of such exposure on violent behavior.
- As evidence grows about the potential deleterious effects of violent exposures via television (Huesmann & Taylor, 2006; Huesmann, 2007), new technologies have emerged that present increased opportunities for such exposure by young people.

Background: Technology use

- More than 9 in 10 youth 12-17 use the Internet (Lenhart, Arafeh, Smith, Rankin Macgill, 2008; USC Annenberg School Center for the Digital Future, 2005).
- 77% of 12-17 year olds own a game console (Lenhart, 4/10/2009)
- 71% of 12-17 year olds have a cell phone (Lenhart, 4/10/2009) and 46% of 8-12 year olds have a cell phone (Nielson, 9/10/2008)

Background: Benefits of technology

- Access to health information:
 - About one in four adolescents have used the Internet to look for health information in the last year (Lenhart et al., 2001; Rideout et al., 2001; Ybarra & Suman, 2006).
 - 41% of adolescents indicate having changed their behavior because of information they found online (Kaiser Family Foundation, 2002), and 14% have sought healthcare services as a result (Rideout, 2001).

Background: Benefits of technology

- Teaching healthy behaviors (as described by My Thai, Lownestein, Ching, Rejeski, 2009)
 - Physical health: Dance Dance Revolution
 - Healthy behaviors: Sesame Street's Color me Hungry (encourages eating vegetables)
 - Disease Management: Re-Mission (teaches children with cancer about the disease)

Gaps in the literature

Data are scarce that estimate the **prevalence of youth exposure to violence online**, as well as whether this exposure has been **increasing over time**. Rates of exposure to violence in other new media such as the wii also are under-reported.

Little is known about how these technologies may **fit into the greater picture** of a 'violent media diet', as well as whether these new technologies are **related to aggressive and violent behavior over time**

Growing up with Media survey: Eligibility criteria

- Adult:
 - Be a member of the Harris Poll Online (HPOL) opt-in panel
 - Be a resident in the USA (HPOL has members internationally)
 - Be the most (or equally) knowledgeable of the youth's media use in the home
 - English speaking
- Youth:
 - Between the ages of 10-15 years
 - Use the Internet at least once in the last 6 months
 - Live in the household at least 50% of the time
 - English speaking

Growing up with Media: Sampling

- Sample selection was stratified based on youth age and sex.
- To control the sample and the increase response rate, the following steps were taken:
 - Password-protected access to the online survey
 - 1 reminder invitation to non-responders
 - Cash incentives (\$10 for adults, \$15 for youth)
- A balance between “novice” and “experienced” survey participants was forced through additional stratification. (In general, panelists are invited to participate in surveys no more frequently than once every three weeks).

Growing up with Media: Data collection

- Baseline:
 - August – September, 2006
 - 26% response rate (average is 10%)
- 12-month follow-up:
 - September – December, 2007
 - 76% response rate of baseline participants
- 24-month follow-up:
 - August – December, 2008
 - 72% response rate of baseline participants

Growing up with Media: Data adjustments

- Data were weighted to match the US population of adults with children between the ages of 10 and 15 years
- Propensity scoring was applied to adjust for the adult’s (i.e., recruitment target) propensity to be online and in the HPOL.
 - *We are currently working on a score that will account for one’s propensity to respond across data collection time points.*

Growing up with Media: Data cleaning

- To be included in the analyses, respondents were required to have valid data for at least 85% of responses (i.e., not ‘don’t know’).
 - Baseline: n=1577 (11 youth dropped)
 - 12-month follow-up: n=1189 (17 youth dropped)
 - 24-month follow-up: n=1149 (10 youth dropped)

Youth Demographic Characteristics

- 48% Female
- Mean age: 12.6 years (Range: 10-15)
- 70% White, 13% Black, 9% Mixed, 8% Other
- 18% Hispanic
- Median household income: \$50,000-\$74,999
- Median time spent online on a typical day: 31 minutes – 1 hour

Defining **exposure** to violent media

- In the **last 12 months**, when you...
 1. Watch TV or movies
 2. Listen to music
 3. Play video, computer, or Internet games
 4. Surf the web (websites showing real people)
 5. Surf the web (websites showing cartoons, like stick people or animals)
 ...how many show physically fighting, hurting, shooting, or killing?
- Response options:
 - Almost none / none of them
 - Some of them
 - Many of them
 - Almost all / all of them

Defining **exposure** to violent web sites

- Hate site:** A website that people would call a "hate" site. A "hate" site is one that tells you to hate a group of people because of who they are, how they look, or what they believe.
- Death site:** A website that shows pictures of dead people or people dying. Some people call these "snuff" sites.
- Satanic site:** A website that shows satanic rituals, like devil worship or Satan worship
- News site:** A website, including news-related sites, that shows pictures of war, death, "terrorism"
- Online cartoons:** A website (that's not an online game) that shows cartoons, like stick people or animals, being beat up, hurt, or killed
- Response options:
 - I don't know what this is
 - I know what this is, but I have not been
 - Yes, I've been to this type of site in the past year

Defining **seriously violent behavior**

- Aggravated assault:
 - Threatened someone with a weapon (gun, knife, club)
 - Hurt someone badly enough that they needed to be treated by a doctor or nurse
- Robbery: Used a knife or gun or some other kind of weapon like a bat to get something from someone else
- Sexual assault: Kissed, touched, or done anything sexual with another person when that person did not want you to
- Stabbed or shot someone
- Response options: *Everyday / almost everyday, once or twice a week, once or twice a month, a few times a year, less often than a few times a year, never*
- Cronbach's alphas: *baseline = 0.88, 12-month follow-up = 0.95, 24-month follow-up = 0.91*

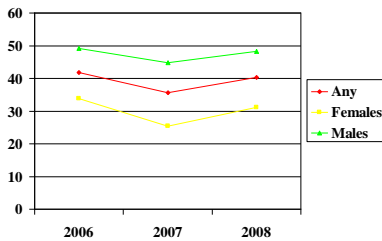
Defining delinquency

- Banged up or damaged something that did not belong to you
- Started a fire on purpose, where you wanted something to get damaged or destroyed
- Broken into someone else's house, building or car
- Lied to someone to get something that you wanted, or to get someone to do you a favor, or to get out of doing something you didn't want to do
- Taken something that was valuable, like shoplifting or using someone else's credit card, when no one was looking
- Stayed out at night even though you knew your parents would not want you to
- Run away from home and stayed away overnight
- Ditched / Skipped school
- Hurt an animal on purpose, like cutting off its tail, hitting or kicking it, or killing it for fun
- Response options: Everyday / almost everyday, once or twice a week, once or twice a month, a few times a year, less often than a few times a year, never*
- Cronbach's alphas: baseline = 0.74, 12-month follow-up = 0.87, 24-month follow-up = 0.81*

Defining aggressive behavior

- Been in a fight in which someone including yourself was hit
- Gotten into a fight where a group of your friends were against another group of people
- Threatened to hurt a teacher
- Physical bullying: Shoved, or pushed, or hit or slapped another person your age
- Relational bullying:
 - Not let another person your age be in your group any more because you were mad at them
 - Spread a rumor about someone, whether it was true or not
- Response options: Everyday / almost everyday, once or twice a week, once or twice a month, a few times a year, less often than a few times a year, never*
- Cronbach's alphas: baseline = 0.77, 12-month follow-up = 0.79, 24-month follow-up = 0.78*

Exposure to (any) violent web site



Prevalence of youth exposure to violence online

	2006			2007			2008		
	No, I don't know what this is	No, I've heard of it, but never been	Yes	No, I don't know what this is	No, I've heard of it, but never been	Yes	No, I don't know what this is	No, I've heard of it, but never been	Yes
Hate site	57%	41%	3%	47%	51%	2%	37%	59%	4%
Death site	64%	31%	5%	55%	41%	4%	49%	47%	4%
Satanic site	58%	40%	2%	47%	51%	2%	40%	57%	2%
News-related sites showing pictures of war	31%	45%	24%	29%	48%	22%	26%	48%	25%
Violent cartoon sites	42%	37%	21%	37%	43%	18%	36%	48%	16%
X-related site (any)	40%	49%	10%	31%	59%	11%	25%	60%	15%
Violent x-related site			2%			1%			1%

How do new technologies fit into the greater picture of a media diet?

	Television	Music	Computer or video games	Internet games	MMOG	Wii	Internet
Music	.16						
Computer or video games	.26	.10					
Internet games	.21	.14	.60				
MMOG	<0.001	-.02	.39	.48			
Wii	.03	-.07	.24	.21	.28		
Internet	.21	.34	.31	.43	.20	.02	
Text messaging	.11	.37	-.03	.04	-.07	-.04	.24

Correlations of different media use 'on a typical day' – based upon 2008 data

How do new technologies fit into the greater picture of a **violent** media diet?

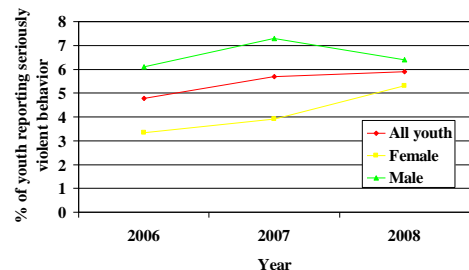
	Television	Music	Video, computer, Internet games	Wii	MMOG	Websites - real people
Music	.44					
Video, computer, Internet games	.48	.32				
Wii	.15	.09	.30			
MMOG	.22	.19	.46	.33		
Websites – real people	.24	.30	.25	.24	.18	
Websites cartoons	.32	.25	.35	.28	.33	.49

Correlations of violent media use, based upon 2008 data

Summary

- Little change in exposure to violent websites was observed from 2006-2008
- Less than 1:20 report exposure to hate, death, or satanic sites – even as the cohort gets older
- Music use is highly correlated with Internet and text messaging use.
- Violent media is strongly related across different types of media

1-year prevalence rates of seriously violent behavior



Associations between exposure to violent media and violent behavior

Population of interest	Seriously violent behavior		Aggression		Delinquency	
	beta	95% CI	beta	95% CI	beta	95% CI
All youth	0.34	.27, .41	1.10	0.9, 1.2	0.93	.79, 1.1
Sex						
Boys	0.23	.13, .33	0.88	.71, 1.04	0.76	.56, .96
Girls	0.48	.38, .58	1.30	1.1, 1.5	1.10	.96, 1.34
Age						
10-12 year olds	0.28	.17, .40	1.21	0.82, 1.2	0.90	0.7, 1.1
13-15 year olds	0.39	.31, .47	1.24	1.1, 1.4	1.00	0.8, 1.1
Response to stimuli with anger						
2 SD above the mean	1.83	1.2, 2.5	2.60	1.8, 3.4	5.20	4.5, 5.8
All others	0.23	.17, .29	1.10	0.9, 1.2	0.80	0.71, 0.96

Population average models (i.e., marginal models) assuming an exchangeable correlation matrix. Adjusted for time, self-rated honesty in completing the questions, being alone during the survey, sex, age, alcohol use, and propensity to respond to stimuli with anger

Limitations

- We are still data cleaning!!!
- Definitions have changed over time (e.g., it used to make sense to talk about different types of websites, but now we focus more on content)
- Non-observed data collection
- Although our response rates are strong (above 70% at each wave), this still means that we're missing data from 30% of participants