

Growing Up With Media: Exposure to Violence and Sex in Media

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Researchers, public policy officials, and the general public as a whole have long been concerned about the consequences of youths' exposure to violence and sex in the media. Recent studies have documented the explosion of different types of media available to youth^{1,2} and the widespread presence of violence in these media outlets.³

This is the third in a series of 6 bulletins summarizing the methodology for and findings of the Growing up with Media (GuwM) Study. GuwM is a longitudinal survey of 1,586 youth aged 10-15 years at baseline. Data were collected initially between August - September, 2006, again between November, 2007 - January, 2008, and finally between August - November, 2008. The survey protocol was reviewed and approved by the Centers for Disease Control and Prevention Institutional Review Board (IRB).

The emergence of new and easily accessible media (e.g., video and computer games, Internet websites, television) has potentially increased opportunities for children and youth to be exposed to violence. Previous research has shown linkages between violence on TV⁴⁻⁶ and video games,^{7,8} suggesting that media violence is one of many important factors contributing to violent and aggressive behavior among youth. However, the extent to which this earlier research is relevant for understanding the potential harmful effects of newer, more realistic and graphic games is unclear.⁹

What is Growing up with Media?

- GuwM is a longitudinal online survey of a national sample of 1,586 young people, ages 10 to 15 years at Wave 1.¹
- Because exposures and experiences online were a main interest of the survey, youth were required to have used the Internet at least once in the past 6 months. The inclusion criteria was purposefully broad to ensure a wide variability in internet experience and exposure.
- Caregivers were members of the Harris Poll Online (HPOL) opt-in panel and residents of the U.S.
- Caregivers first completed a short online survey (approximately 5 minutes).
- With caregiver permission, youth completed an online survey; approximately 25 minutes.
- The sample was purposefully balanced on youth age and sex.
- Adult participants received \$10 and youth a \$15 gift certificate at Waves 1 and 2. To increase the response rate at Wave 3, adult participants received \$20 and youth a \$25 gift certificate.
- Data were collected across three time points:
 - Wave 1: August – September, 2006
 - Wave 2: November, 2007 – January, 2008
 - Wave 3: August – November, 2008
- Data were weighted to match the U.S. Population of adults with children between the ages of 10 and 15 years. Adults were the weighting target because they were the recruitment target.
- Propensity scoring was applied to adjust for the adult's (i.e., recruitment target) propensity to be online, in HPOL, and to respond to the particular survey invitation.
- A full report on the methodology of the GuwM study is posted online at: <http://innovativepublichealth.com/guwm-methodology-bulletin>.

¹ As a result of data cleaning activities, the final sample size for Wave 1 is 1,581 (See the Methodological Details bulletin for more details).

With the increase in new media, it is important to first gain a current understanding of how many youth are exposed to violent and sexual content and where this content exposure is occurring (e.g., video games, television, Internet websites) before further investigation into the consequences of such exposure.

In this report, we examine the frequency of exposure to violence and sex in media content. We also examine trends across time (i.e., Wave). The report includes the following sections:

- Section 1: A comparison of exposure to violent content by medium
- Section 2: A detailed examination of exposure to violent content on the Internet
- Section 3: A comparison of exposure to X-rated and other sexual content by medium

SECTION 1: A COMPARISON OF EXPOSURE TO VIOLENT CONTENT BY MEDIUM

Youth were asked, in the last 12 months, how many [*media type; e.g., TV or movies*] showed violence, such as physical fighting, hurting, shooting, or killing. Four mediums were queried:

- TV or movies
- Music
- Video, computer, or Internet games
- Websites (either with real people or cartoons)¹



¹ Focus groups were conducted to inform the survey design. In these focus groups, boys talked about cartoon websites, such as stickdeath.com, which seemed to be different from sites showing real people engaging in violence (e.g., death sites showing real people dead or dying). As such, the survey queried two different types of online exposures: those of real people, and those of cartoons.

Youth reported exposure to violence across all media types but most commonly on TV and in movies.

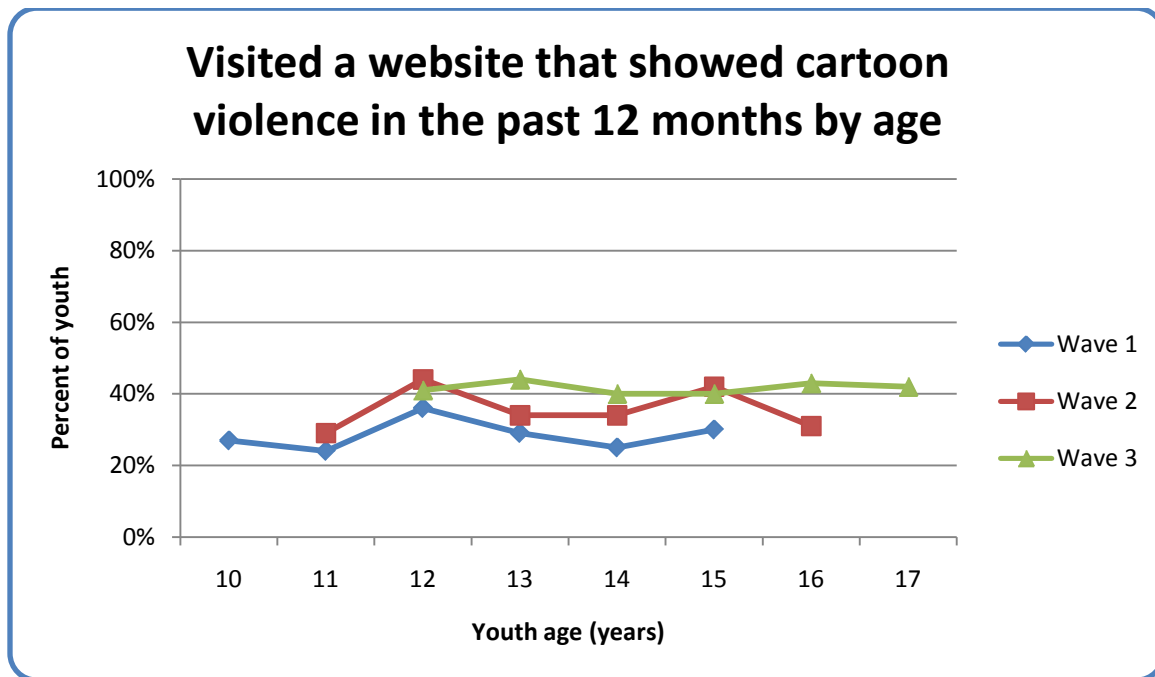
<i>Exposure to violent media in past 12 months by medium</i>	<i>Wave 1 (n = 1,581)</i>	<i>Wave 2 (n = 1,195)</i>	<i>Wave 3 (n = 1,150)</i>
TV or movies showing violence			
Almost all/ all of them	8%	6%	9%
Many of them	23%	25%	25%
Some of them	53%	51%	50%
Almost none/ none of them	16%	17%	16%
Music songs talking about violence			
Almost all/ all of them	4%	2%	3%
Many of them	11%	9%	9%
Some of them	42%	43%	43%
Almost none/ none of them	43%	46%	45%
Video, computer or Internet games showing violence			
Almost all/ all of them	8%	9%	10%
Many of them	16%	15%	19%
Some of them	38%	35%	32%
Almost none/ none of them	30%	34%	32%
Did not play video, computer or Internet games in past 12 months	7%	7%	7%
Websites showing violence- real people			
Almost all/ all of them	<1%	1%	1%
Many of them	2%	2%	3%
Some of them	11%	12%	15%
Almost none/ none of them	86%	85%	81%
Websites showing violence- cartoons			
Almost all/ all of them	2%	1%	1%
Many of them	7%	6%	4%
Some of them	33%	29%	23%
Almost none/ none of them	58%	65%	71%

Between 31-34% of youth said that many, almost all, or all of the television and movies that they watched depicted physical fighting, shooting, or killing. Similar rates were reported for video, computer, and Internet games (24-29%). In contrast, 11-15% of youth said that many, almost all, or all of the music they listened to depicted violence, and only 2-9% of youth said that many, almost all, or all of the websites they visited showed violence involving either real people or cartoons.

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Rates of non-exposure followed similar trends across mediums: more than 3 of every 5 youth said that almost none or none of the websites they viewed in the last 12 months showed cartoon violence; 4 of every 5 youth said that almost none or none of the websites they viewed showed violence with real people; 2 of every 5 youth said that almost none or none of the music; and 1 of every 3 youth said that almost none or none of the games they played showed violence. Conversely, few youth (16-17%) said that almost none or none of the television they watched showed violence.

Rates of exposure to violence were stable over time for all types of media except websites showing cartoon violence, which decreased from 42% at Wave 1 to 28% at Wave 3. This difference was not explained by the increased age of the cohort (see Figure below).



Although exposure to violence may be common, it does seem possible to allow children to use varied medium types while also limiting their exposure to violence. This seems to be particularly true for online use, but also is likely attainable for other mediums that have high rates of violence exposure as demonstrated by the 16-17% of youth reporting no violence exposure even when watching television.

<i>Any (i.e., at least ‘some’) exposure to physical fighting, shooting, killing in past 12 months</i>	<i>Medium</i>				
	<i>TV shows or movies</i>	<i>Video, computer, & Internet games ²</i>	<i>Websites showing real people</i>	<i>Websites showing cartoons</i>	<i>Music / songs</i>
Wave 1					
Male (n=794)	90%	87%	16%	49%	59%
Female (n=787)	78%	47%	11%	35%	55%
Wave 2					
Male (n=604)	90%	84%	20%	42%	56%
Female (n=591)	76%	42%	9%	29%	52%
Wave 3					
Male (n=582)	91%	85%	24%	37%	57%
Female (n=568)	77%	44%	14%	20%	53%

Boys (84%-87%) were nearly twice as likely as girls (42%-47%) to report being exposed to at least some violence in the video, computer, and Internet games played. Sex differences were noted, although comparatively attenuated, for exposure to violence in television and online as well. Interestingly, about half of boys as well as girls reported listening to at least some violent songs.

Video, Computer, or Internet Games:

Youth who more strongly relate to the characters in video games are more likely to be affected by the violent content.^{10,11} Youth who, in the past 12 months, played at least some video, computer or Internet games that showed violence ($N_{Wave1} = 969$; $N_{Wave2} = 700$; $N_{Wave3} = 691$) were asked how much they thought that the games were like real life and how much the characters were like them or people they know.

<i>Video, computer, and Internet games played showing physical fighting, shooting, killing in past 12 months are ‘like real life’</i>	<i>Wave 1 (n = 969)</i>	<i>Wave 2 (n = 700)</i>	<i>Wave 3 (n = 691)</i>
Almost exactly like real life	7%	5%	4%
Somewhat like real life	40%	34%	38%
Nothing like real life	53%	61%	58%

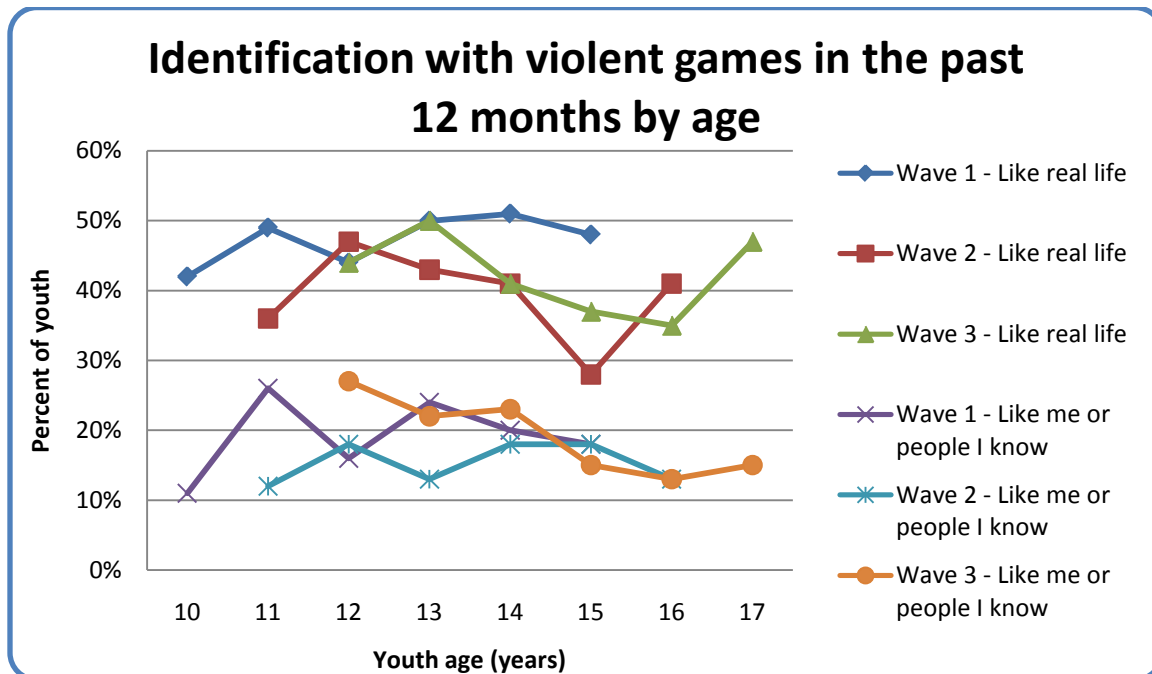
² This question was only asked of youth who reported playing video, computer, or Internet games in the past 12 months ($N_{Wave1}=1,481$ [boy=773; girl=708]; $N_{Wave2} = 1,124$ [boy=594; girl=530]; $N_{Wave3} = 1,059$ [boy=568; girl=491]).

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About 2 of every 5 youth who played video, computer, or Internet games showing physical fighting, shooting, or killing in the past 12 months said that the games were *somewhat* or *almost exactly* like real life (see last Table on page 5).

<i>Video, computer, and Internet games played showing physical fighting, shooting, killing in past 12 months are 'like me or people I know'</i>	<i>Wave 1 (n = 969)</i>	<i>Wave 2 (n = 700)</i>	<i>Wave 3 (n = 691)</i>
Just like me or people I know	2%	2%	2%
Kind of like me or people I know	17%	13%	17%
Nothing like me or people I know	81%	85%	81%

However, only about 1 of every 5 of these youth said that the game characters were *kind of* or *just like* them or people they knew. It may be that the situations, not the characters, more fully resonate with youth who play violent games.



As youth grow older, one would think they would be better able to distinguish between real life and what they see and hear in media. Our data suggest that of youth who at least sometimes watched violence in the games they played, older youth were *not* less likely to report that the situations in the games they played were at least somewhat like real life. On the other hand, as young people got older, generally they were less likely to report that the characters in the games they played were at least somewhat like them or people they knew.

Violent Wii and MMOGs³:

It may be that the more interactive a game is, the greater the influence that the lessons in the game have. This effect may be true both for violent games and for pro-social games that teach positive behaviors or reinforce healthy behaviors (e.g., taking your medication). When GuWM was being conducted, the popularity of Wii increased substantially from 32% at Wave 2 to 52% at Wave 3. The Wii is a home video game console which includes a wireless controller that can be used as a handheld pointing device that detects movement in three dimensions. It seemed likely that the Wii game environment and other particularly interactive gaming environments such as that of massively multiplayer online games (MMOGs)—multiplayer games played in Internet environments that can include many, many players simultaneously in at least one persistent world—may qualify as environments in which the game experience is heightened through greater interactivity.

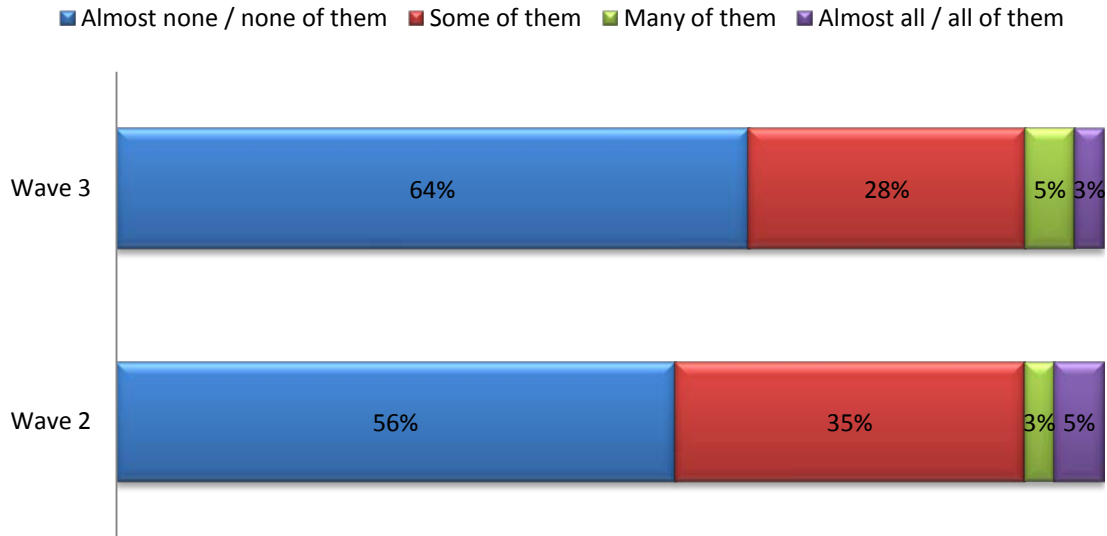
Questions were added at Wave 2 to better understand how youth were using and experiencing games through the Wii and MMOGs. Youth who reported playing Wii ($N_{\text{Wave2}} = 389$; $N_{\text{Wave3}} = 597$); or MMOGs ($N_{\text{Wave2}} = 316$; $N_{\text{Wave3}} = 349$), were asked, in the last 12 months, how many Wii and MMOG games (respectively) showed violence, such as physical fighting, hurting, shooting, or killing.

Less than half of youth who played games on Wii in the past 12 months reported violent content in the games.

As shown in the figure on the next page, almost half (44%) of youth at Wave 2 who had played Wii games in the past 12 months reported at least some of the Wii games they played were violent in nature; this decreased to 36% one year later. This is lower than rates of exposures to violence reported by gamers generally (59-62% over time).

³ In Wave 2 and Wave 3, additional questions were included that asked specifically about violence in Wii and MMOG games.

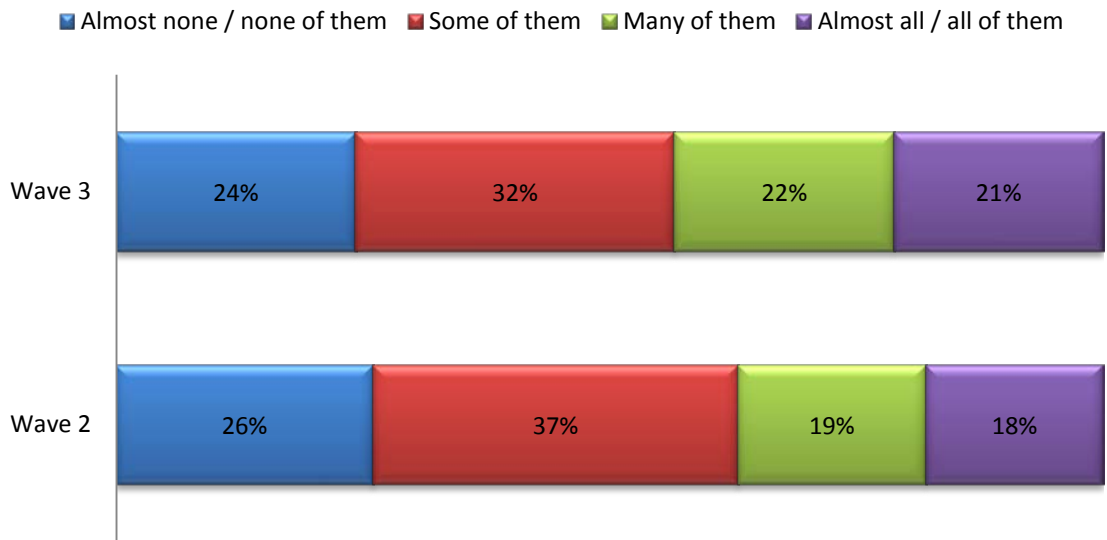
Wii games that show violence



Violent game play was more commonly reported among youth who played MMOGs than Wii in the past 12 months.

About 3 of every 4 youth at both time points who had played MMOGs in the past 12 months reported at least some of the MMOGs they played were violent (see Figure below).

MMOGs that show violence



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About half of youth (47-62%) who played violent Wii games or MMOGs in the past 12 months said that those games were *somewhat* or *almost exactly* like real life. Furthermore, there was an increase over time in youth who said that those games were representative of real life.

<i>Wii/ MMOG games played showing physical fighting, shooting, killing in past 12 months are 'like real life'</i>	<i>Wave 2</i>	<i>Wave 3</i>
Wii	(n =209)	(n =199)
Almost exactly like real life	9%	5%
Somewhat like real life	29%	40%
Nothing like real life	62%	54%
MMOG	(n =247)	(n =263)
Almost exactly like real life	4%	8%
Somewhat like real life	33%	45%
Nothing like real life	62%	47%

A much smaller percentage of youth (21-30%) who played violent Wii games or MMOGs in the past 12 months believed that the game characters were *kind of* or *just like* them or people they knew than reported that these games were representative of real life.

<i>Wii/ MMOG games played showing physical fighting, shooting, killing in past 12 months are 'like me or people I know'</i>	<i>Wave 2</i>	<i>Wave 3</i>
Wii	(n =209)	(n =199)
Just like me or people I know	5%	4%
Kind of like me or people I know	16%	26%
Nothing like me or people I know	79%	70%
MMOG	(n =247)	(n =263)
Just like me or people I know	2%	5%
Kind of like me or people I know	19%	21%
Nothing like me or people I know	79%	74%

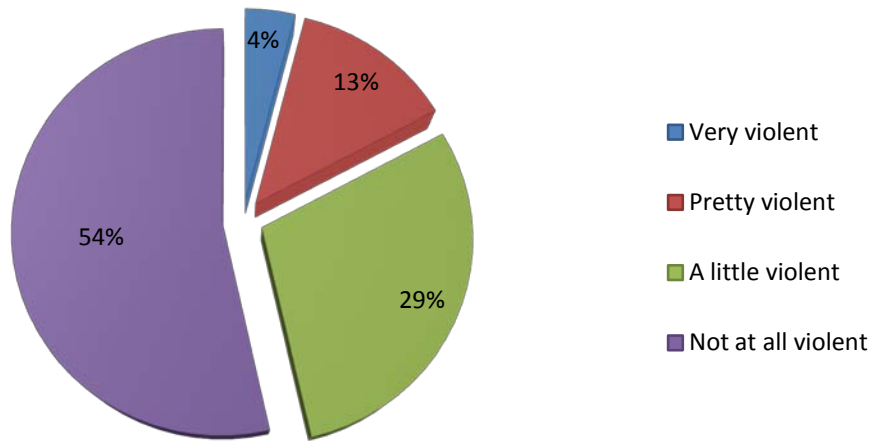
Wii and MMOG players reported rates of perceived realism in the game similar to those reported for players of video, computer, and Internet games. It may not be then, that players of these more intensive or interactive games are more likely to deem the experience or characters to mimic real life.

Favorite video game ⁴:

Perhaps in addition to one's general media diet, one's favorite game is predictive of aggressive and violent behavior because it is a particularly salient influence on the gamer.

Over half of youth who had a favorite video game (n=1,054) reported that their favorite video game was not at all violent.

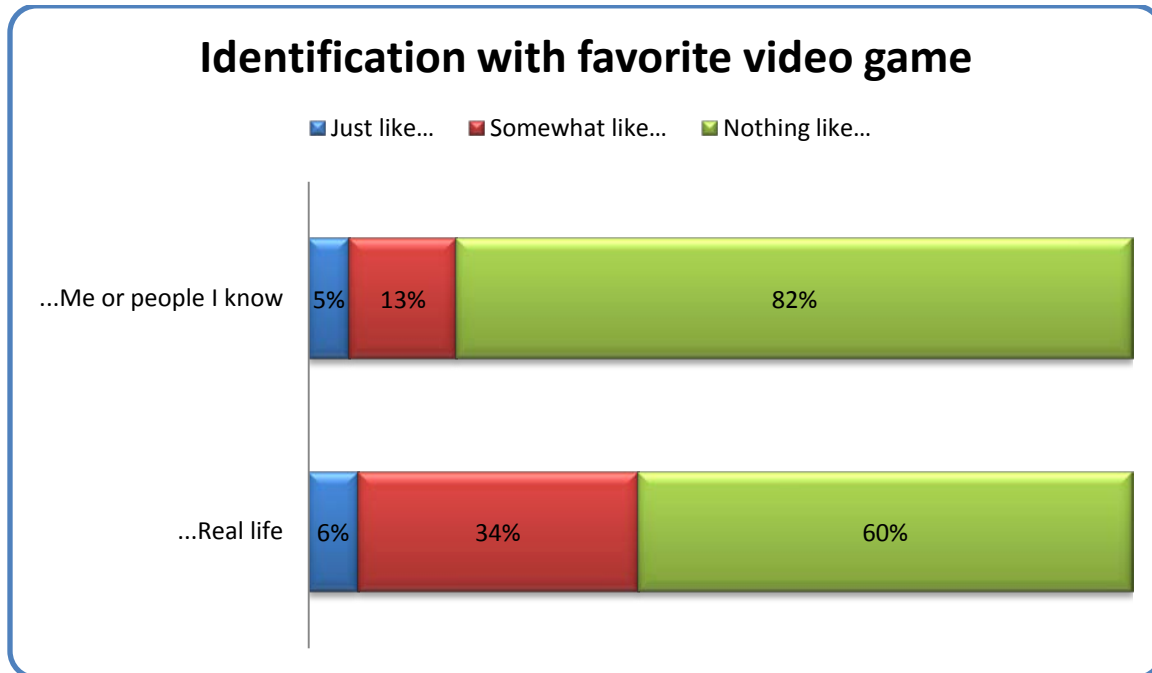
Amount of violence in favorite video game



Game players were asked to name their favorite computer, video, or Internet game. Those who had a favorite game were asked to rate how violent it is. Over half deemed their favorite game 'not at all violent' whereas less than 1 of every 20 thought it was 'very violent'.

Among youth who said that their favorite game was at least 'a little violent' (n=461), 2 of every 5 said that the violence was at least somewhat like real life and 18% said that the characters in their favorite video game were at least somewhat like themselves or people they know (see Figure on page 11). Again, these rates were similar to those reported about video, computer, and Internet games in general, as well as those reported for Wii games and MMOGs.

⁴ Questions regarding favorite video games were asked only at Wave 2.



SECTION 2: A DETAILED EXAMINATION OF EXPOSURE TO VIOLENT CONTENT ON THE INTERNET

Given the survey’s focus on violence and new media, we included survey questions that examined violent exposures on the Internet (i.e., online) specifically. Questions were based on those included in the first Youth Internet Safety Survey.¹² We asked youth, in the last 12 months, if they had gone to or seen the following six types of websites:

- 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
- A website that shows pictures of dead people or people dying. Some people call these “snuff” sites
- A website that shows satanic rituals, like devil worship or Satan worship
- A website, including news-related sites, that shows pictures of war, death, “terrorism”
- A website (that’s not an online game) that shows cartoons, like stick people or animals, being beat up, hurt, or killed

It should be noted that this is not necessarily an exhaustive list of violence that youth might come across online; nor are all of these sites necessarily violent. As one participant pointed out, satanic sites are not always violent, whereas Christian sites can show extremely violent pictures (e.g., of abortion). As such, it is important to appreciate the ambiguity that exists in this list.

In our pre-survey development focus groups, it became clear that some youth were not familiar with some of these websites. To measure this, we included two negative response options: one

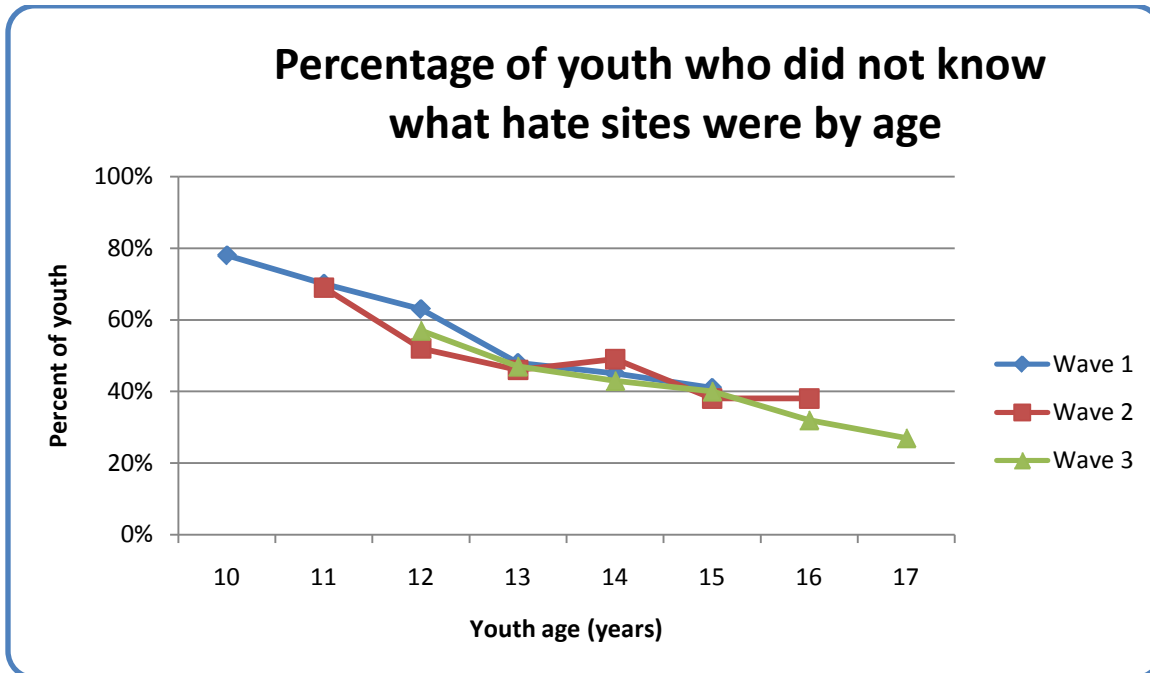
indicating that the respondent knew what the website was, but had never been to one; and one indicating that the respondent did not know what the website was.

Very few youth (2-4%) reported that they visited a violent hate, death, or satanic ritual site in the past 12 months.

<i>Seen this type of violent website in the past 12 months...</i>	<i>Wave 1 (n = 1,581)</i>	<i>Wave 2 (n = 1,195)</i>	<i>Wave 3 (n = 1,150)</i>
Hate site			
No, don't know what this is	57%	48%	41%
No, heard of it but never been to one	41%	50%	56%
Yes	3%	2%	3%
Death site			
No, don't know what this is	66%	57%	52%
No, heard of it but never been to one	30%	39%	44%
Yes	4%	3%	4%
Satanic ritual site			
No, don't know what this is	57%	50%	42%
No, heard of it but never been to one	40%	47%	56%
Yes	2%	2%	2%
Site showing pictures of war, death, and "terrorism" (including news sites)			
No, don't know what this is	32%	30%	28%
No, heard of it but never been to one	47%	48%	48%
Yes	21%	22%	24%
Violent cartoon site			
No, don't know what this is	44%	39%	41%
No, heard of it but never been to one	37%	45%	45%
Yes	19%	16%	14%

The most common type of online violence exposure was to websites showing pictures of war, death, and "terrorism" (21-24%). Close behind these exposure rates however, were those noted for cartoon websites (14-19%).

The percentage of youth who reported visiting websites with violent content did not change across the three waves. In fact, prevalence rates for exposure to hate sites, death sites, and satanic ritual sites were almost exactly the same across wave, even though youth were getting older and potentially more curious and exploratory over time.



There was a persistent percentage of youth who indicated they did not know what the websites were even at Wave 3 after we had described the sites in each of the two previous waves. Indeed, once age was taken into account, the percentage of youth who said they did not know what the website in question was, was quite stable over time (see Figure above as an example).

Of youth who visited a violent website in the past 12 months, biological sex differences were most apparent for violent cartoon sites.

<i>Type of website showing violent content by biological sex</i>					
<i>Any exposure in past 12 months</i>	<i>Hate site</i>	<i>Death site</i>	<i>Satanic ritual site</i>	<i>Site showing pictures of war, death, and "terrorism"</i>	<i>Violent cartoon site</i>
Wave 1					
Male (n=794)	1%	5%	2%	23%	25%
Female (n=787)	4%	4%	2%	20%	14%
Wave 2					
Male (n=604)	2%	3%	2%	25%	23%
Female (n=591)	2%	3%	3%	20%	10%
Wave 3					
Male (n=582)	4%	5%	2%	26%	21%
Female (n=568)	3%	3%	2%	22%	8%

Nearly 1 of every 4 boys said they had visited a violent cartoon site compared to 1 of every 10 girls. Boys also were more likely to report visiting sites showing pictures of war, death, and “terrorism” compared to girls, but the differences were slight. Rates of exposure to hate, death, and satanic ritual sites were similar however, for boys and girls.

Over half of youth who had been to a hate site in the past 12 months learned about the site from a friend.

<i>Hate site characteristics</i>	<i>Wave 1 (n = 40)</i>	<i>Wave 2 (n = 29)</i>	<i>Wave 3 (n = 45)</i>
Learned about hate site by...			
A friend told me about it	60%	55%	63%
Typed in website address to see what came up	40%	33%	2%
Used a search engine	24%	9%	7%
Clicked on link from other websites	19%	32%	13%
Email link from other people	17%	23%	8%
Clicked on banner ad	14%	3%	2%
Magazine/ newspaper	11%	6%	9%
Pop-up ad	12%	17%	1%
Some other way	11%	26%	12%
Online newsgroup	8%	16%	6%
A family member	5%	3%	7%

For each type of website, youth who had been to that type of site in the past 12 months were asked: 1) how they learned about that type of site, and 2) how often they visited that type of site.

In addition to friends, a large percentage of youth also learned about hate sites from a typed website address (although this had the most significant decrease across time from 44% at Wave 1 to 2% Wave 3).

<i>How often visit hate site in the...</i>	<i>Wave 1 (n = 40)</i>	<i>Wave 2 (n = 29)</i>	<i>Wave 3 (n = 45)</i>
Typical Month			
Every day/ almost every day	1%	2%	---
Once or twice a week	5%	0%	---
Once or twice a month	4%	14%	---
Less often than once a month	90%	84%	---
Past Year			
Every day/ almost every day	---	2%	1%
Once or twice a week	---	0%	13%
Once or twice a month	---	20%	17%
Less often than once a month	---	78%	68%

The vast majority of youth who visited hate sites did so infrequently. This changed over time, however, such that 1 of every 3 youth reported going to hate sites monthly or more often by Wave 3. This change could be an artifact of a modification of wording over time (i.e., typical month versus past year); but data in Wave 2 suggest that responses are quite similar for both wordings.

About 3 of every 4 youth who had been to a dead people site in the last 12 months learned about the site from a friend.

<i>Death site characteristics</i>	<i>Wave 1 (n = 67)</i>	<i>Wave 2 (n = 42)</i>	<i>Wave 3 (n = 43)</i>
Learned about death site by...			
A friend told me about it	76%	73%	75%
Clicked on link from other websites	27%	24%	34%
Pop-up ad	26%	5%	22%
Email link from other people	25%	32%	30%
Typed in website address to see what came up	17%	18%	20%
Used a search engine	17%	26%	26%
A family member	15%	16%	18%
Clicked on banner ad	14%	5%	16%
Magazine/ newspaper	10%	3%	15%
Some other way	10%	1%	13%
Online newsgroup	8%	6%	13%

Other common ways to learn about death websites included pop-up advertisements, clicking on a link from another website, or clicking on a link in an email from another person.

<i>How often visit death site in the...</i>	<i>Wave 1 (n = 67)</i>	<i>Wave 2 (n = 42)</i>	<i>Wave 3 (n = 43)</i>
Typical Month			
Every day/ almost every day	4%	2%	---
Once or twice a week	10%	2%	---
Once or twice a month	17%	8%	---
Less often than once a month	70%	87%	---
Past Year			
Every day/ almost every day	---	2%	4%
Once or twice a week	---	0%	13%
Once or twice a month	---	6%	19%
Less often than once a month	---	91%	63%

Thirty-one percent of youth who visited “death sites” showing people dead or dying did so at least once or twice in a typical month at Wave 1, compared to 12% at Wave 2. At Wave 2, 8% of exposed youth reported going to death sites at least once or twice a month in the past year; as

did 36% at Wave 3. Again here, youth responses to a ‘typical month’ were similar to those elicited for the ‘past year’.

Most youth who had been to a satanic site in the past 12 months learned about the site from a friend.

<i>Satanic site characteristics</i>	<i>Wave 1 (n = 38)</i>	<i>Wave 2 (n = 31)</i>	<i>Wave 3 (n = 25)</i>
Learned about satanic site by...			
A friend told me about it	37%	26%	34%
Email link from other people	29%	26%	8%
Some other way	20%	20%	22%
Clicked on link from other websites	21%	8%	30%
Typed in website address to see what came up	20%	19%	52%
Pop-up ad	13%	11%	9%
Magazine/ newspaper	9%	5%	8%
Used a search engine	7%	18%	21%
Online newsgroup	6%	4%	10%
Clicked on banner ad	5%	20%	25%
A family member	2%	0%	1%

Unlike hate and death sites, sources for satanic sites shifted across time. Friends were the most frequent way to learn about satanic sites, but were much less common than as reported for hate and death sites. Email links from other people were common in Waves 1 and 2, but clicking on a link from another website was more common in Wave 3. Also of interest, more youth in Waves 1 and 2 said they found out about the satanic site ‘some other way’ than was reported for hate and death sites.

<i>How often visit satanic site in the...</i>	<i>Wave 1 (n = 38)</i>	<i>Wave 2 (n = 31)</i>	<i>Wave 3 (n = 25)</i>
Typical Month			
Every day/ almost every day	4%	8%	---
Once or twice a week	8%	3%	---
Once or twice a month	10%	2%	---
Less often than once a month	77%	87%	---
Past Year			
Every day/ almost every day	---	8%	1%
Once or twice a week	---	1%	9%
Once or twice a month	---	3%	20%
Less often than once a month	---	88%	69%

Similar to hate and death sites, few youth visited satanic sites frequently (see last Table on page 16). This shifted in Wave 3, again similar to hate and death sites, with almost one in three youth who visited satanic sites reported going to them monthly or more often.

Youth who had gone to sites showing pictures of war, death, and “terrorism” (including news sites) in the past 12 months learned about the sites from a variety of sources.

<i>Site showing pictures of war, death, and “terrorism” characteristics</i>	<i>Wave 1 (n = 367)</i>	<i>Wave 2 (n = 280)</i>	<i>Wave 3 (n = 299)</i>
Learned about site showing pictures of war, death, and “terrorism” by...			
Clicked on link from other websites	28%	13%	21%
A family member	28%	24%	20%
Some other way	24%	25%	21%
A friend told me about it	22%	19%	28%
Online newsgroup	20%	15%	16%
Magazine/ newspaper	18%	19%	15%
Used a search engine	15%	21%	20%
Email link from other people	13%	9%	8%
Clicked on banner ad	10%	5%	7%
Typed in website address to see what came up	9%	6%	7%
Pop-up ad	9%	7%	9%

Unlike other types of violent media, most youth did not learn about sites showing war, death, or “terrorism” (including news sites) from a friend, except at Wave 3 (28%). Instead, the most common sources in Wave 1 were clicking on a link from another site, and learning about the news site from a family member (both 28%). At Wave 2, most youth learned about this type of news site some other way (25%).

<i>How often visit news-related site in the...</i>	<i>Wave 1 (n = 367)</i>	<i>Wave 2 (n = 280)</i>	<i>Wave 3 (n = 299)</i>
Typical Month			
Every day/ almost every day	4%	5%	---
Once or twice a week	15%	15%	---
Once or twice a month	18%	21%	---
Less often than once a month	63%	59%	---
Past Year			
Every day/ almost every day	---	4%	4%
Once or twice a week	---	11%	13%
Once or twice a month	---	22%	22%
Less often than once a month	---	63%	62%

Compared to other types of websites, it was much more common for youth to report visiting sites showing pictures of war, death, and “terrorism” monthly or more often. Frequency of exposure tended to be stable over time (see last Table on page 17).

Youth who had gone to a violent cartoon site in the past 12 months most commonly learned about the site from their friends.

<i>Cartoon site characteristics</i>	<i>Wave 1 (n = 333)</i>	<i>Wave 2 (n = 211)</i>	<i>Wave 3 (n = 172)</i>
Learned about cartoon site by...			
A friend told me about it	63%	68%	60%
Clicked on link from other websites	25%	20%	25%
A family member	21%	13%	11%
Used a search engine	17%	18%	8%
Some other way	16%	17%	21%
Clicked on banner ad	12%	13%	8%
Email link from other people	13%	16%	14%
Typed in website address to see what came up	11%	7%	11%
Pop-up ad	11%	7%	8%
Magazine/ newspaper	7%	7%	2%
Online newsgroup	4%	1%	2%

Three of every five youth who went to violent cartoon sites that showed things like stick people or animals being hurt or killed, learned about the site from a friend. Clicking on a link from another website also was a common way of discovering these sites. Interestingly, one of every five youth said they learned about the site from a family member in Wave 1.

<i>How often visit cartoon site in the...</i>	<i>Wave 1 (n = 333)</i>	<i>Wave 2 (n = 211)</i>	<i>Wave 3 (n = 172)</i>
Typical Month			
Every day/ almost every day	4%	3%	---
Once or twice a week	18%	13%	---
Once or twice a month	23%	28%	---
Less often than once a month	55%	56%	---
Past Year			
Every day/ almost every day	---	3%	2%
Once or twice a week	---	13%	12%
Once or twice a month	---	26%	30%
Less often than once a month	---	59%	56%

More youth who visited violent cartoon sites in the past 12 months reported doing so frequently compared to youth who visited other types of violent sites. Indeed, two of every five youth (44-45%) visited violent cartoon sites at least once or twice in a typical month.

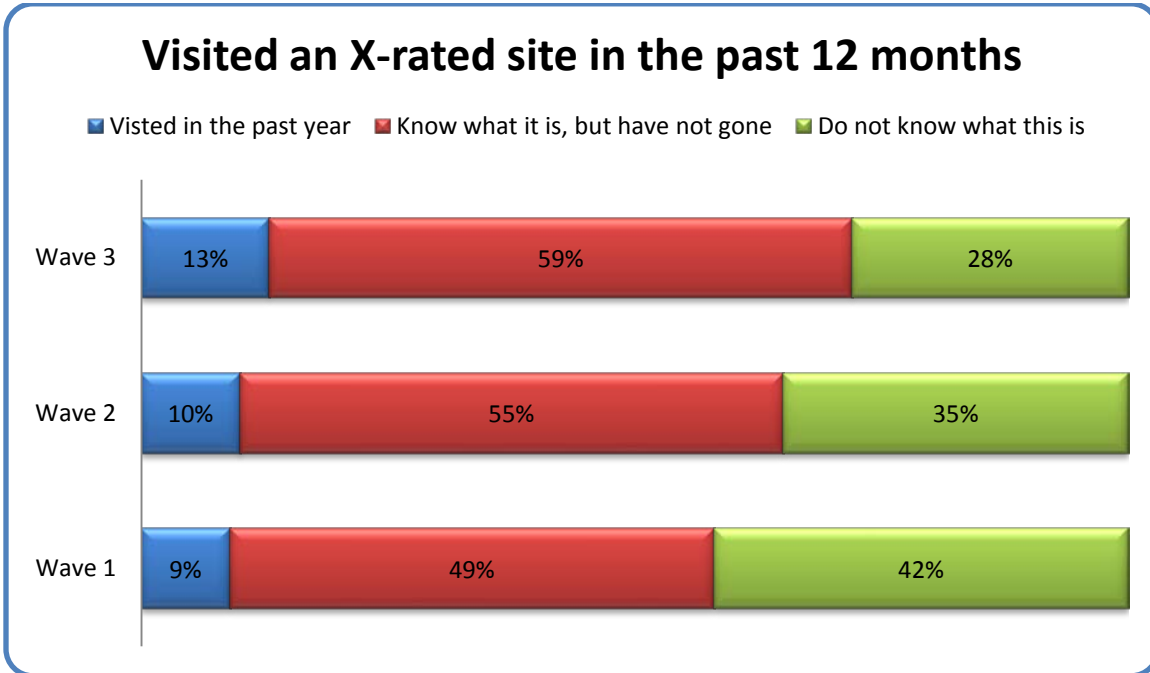
SECTION 3: A COMPARISON OF EXPOSURE TO X-RATED AND OTHER SEXUAL CONTENT

The contribution of X-rated material and pornography to deviant sexual behavior, negative attitudes towards women, and the acceptance of deviant or aggressive sexual behavior among peers and adults has been studied for decades. Most studies report that sexually aggressive behavior and attitudes are elevated for adults who report pornography consumption.¹³⁻¹⁶ Men who are at ‘high risk’ for sexual aggression seem to be particularly affected by frequent pornography consumption¹³ suggesting that it is important to measure frequency of exposure. Furthermore, violent pornography may be particularly influential in affecting behavior compared to non-violent pornography.¹⁷⁻¹⁹ Our analyses of the GuwM data suggest that among youth, exposure to violent X-rated material is significantly associated with sexually aggressive behavior, whereas non-violent X-rated material is not.²⁰ In this section, we share detailed findings about exposure rates among youth. The survey questions regarding X-rated material exposure were adapted from the Youth Internet Safety Survey,¹² whereas the sexual content questions are developed specifically for GuwM.

X-rated websites:

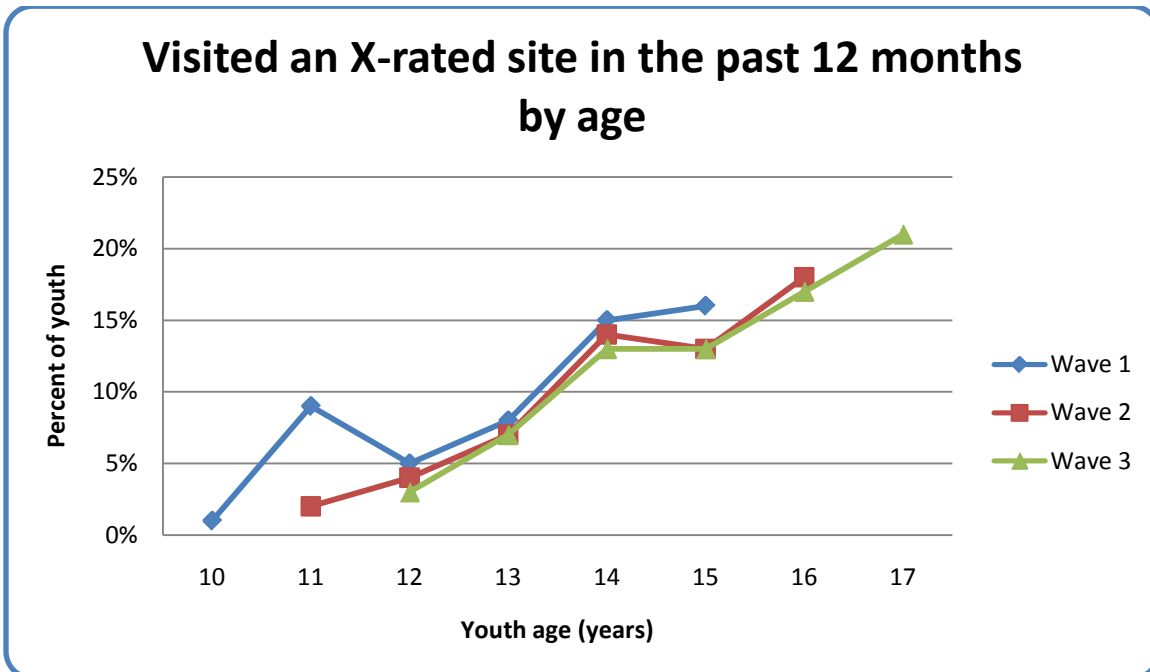
We asked youth whether, in the past 12 months, they have gone to or seen an X-rated or “adult” website where the main topic was sex.

Less than 1 of every 7 youth across Wave had gone to or seen an X-rated or “adult” website where the main topic was sex in the past 12 months.



It is interesting to note that between 28-42% of youth said they had never heard of an X-rated site. Too often, perhaps, we assume youth to be savvier about sex than they actually are.

Increases in exposure to X-rated material online were completely explained by the cohort getting older. Once age was taken into account, the actual likelihood of exposure did not change at all over the three year period (note the overlapping lines in the figure below).



Youth who had gone to an X-rated website in the past 12 months most commonly learned about the site from a friend or by using a search engine.

<i>X-rated website characteristics</i>	<i>Wave 1 (n = 137)</i>	<i>Wave 2 (n = 135)</i>	<i>Wave 3 (n = 146)</i>
Learned about X-rated site by...			
A friend told me about it	51%	46%	52%
Used a search engine	43%	33%	41%
Typed website address to see what came up	31%	19%	36%
Clicked on link from other websites	29%	26%	28%
Pop-up ad	29%	26%	20%
Clicked on banner ad	22%	15%	19%
Some other way	17%	14%	10%
Email link from other people	11%	15%	9%
Magazine/ newspaper	10%	6%	4%
A family member	7%	9%	8%
Online newsgroup	2%	3%	3%

As shown in the table above, fifty percent of youth who had been to an X-rated website in the past 12 months learned about it from a friend. Other common ways to learn about X-rated websites included using a search engine, typing in a website address to see what came up, or clicking on a pop up ad.

<i>How often visit X-rated site in the...</i>	<i>Wave 1 (n = 137)</i>	<i>Wave 2 (n = 135)</i>	<i>Wave 3 (n = 146)</i>
Typical Month			
Every day/ almost every day	2%	3%	---
Once or twice a week	16%	16%	---
Once or twice a month	16%	30%	---
Less often than once a month	66%	51%	---
Past Year			
Every day/ almost every day	---	4%	5%
Once or twice a week	---	12%	26%
Once or twice a month	---	32%	27%
Less often than once a month	---	53%	41%

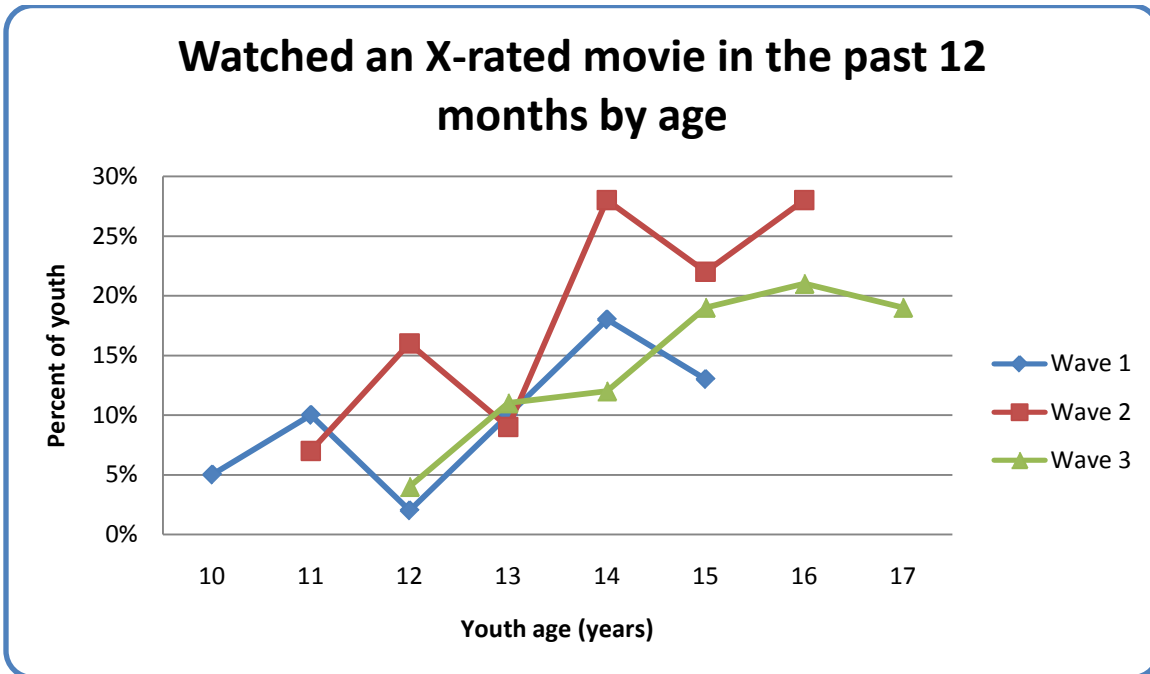
Thirty-four percent of youth who went to X-rated sites in the past 12 months at Wave 1 reported visiting them at least once or twice in a typical month; this increased to 49% at Wave 2. Of these youth, 2-3% went to X-rated sites every day/ almost every day. Data were similar if youth were asked about a typical month versus the past year (see Wave 2).

X-rated movies:

We asked youth whether, in the past 12 months, they had seen an X-rated movie where the main topic was sex. This included at a friend’s house, at their house, or at a movie theater.

Less than 1 of every 5 youth across Wave had gone to or seen an X-rated movie where the main topic was sex in the past 12 months.

In Wave 1, 10% of all youth surveyed said that they had seen an X-rated movie in the past 12 months. In Wave 2, 19% had seen an X-rated movie in the past 12 months, as did 14% in Wave 3.



Similar to X-rated websites, age strongly predicted exposure to X-rated materials. Interestingly however, trends over time were less clear. It appears that the highest rates were seen in Wave 2 (i.e., the red line trend is higher than the other lines), with Wave 1 and Wave 3 rates similar to each other.

<i>X-rated movie characteristics</i>	<i>Wave 1 (n = 149)</i>	<i>Wave 2 (n = 217)</i>	<i>Wave 3 (n = 158)</i>
How often watched X-rated movie in the last year...⁵			
Every day/ almost every day	---	7%	5%
Once or twice a week	---	10%	10%
Once or twice a month	---	16%	28%
Less often than once a month	---	67%	57%
Who wanted to watch X-rated movie...			
I selected movie to watch	30%	23%	33%
Other people were watching and I was in the room	36%	44%	36%
I felt pressured	23%	16%	20%
Something else	17%	20%	19%

The majority of youth who watched an X-rated movie in the past 12 months reported watching them infrequently: fewer than one in five (15-17%) watched them weekly or more often.

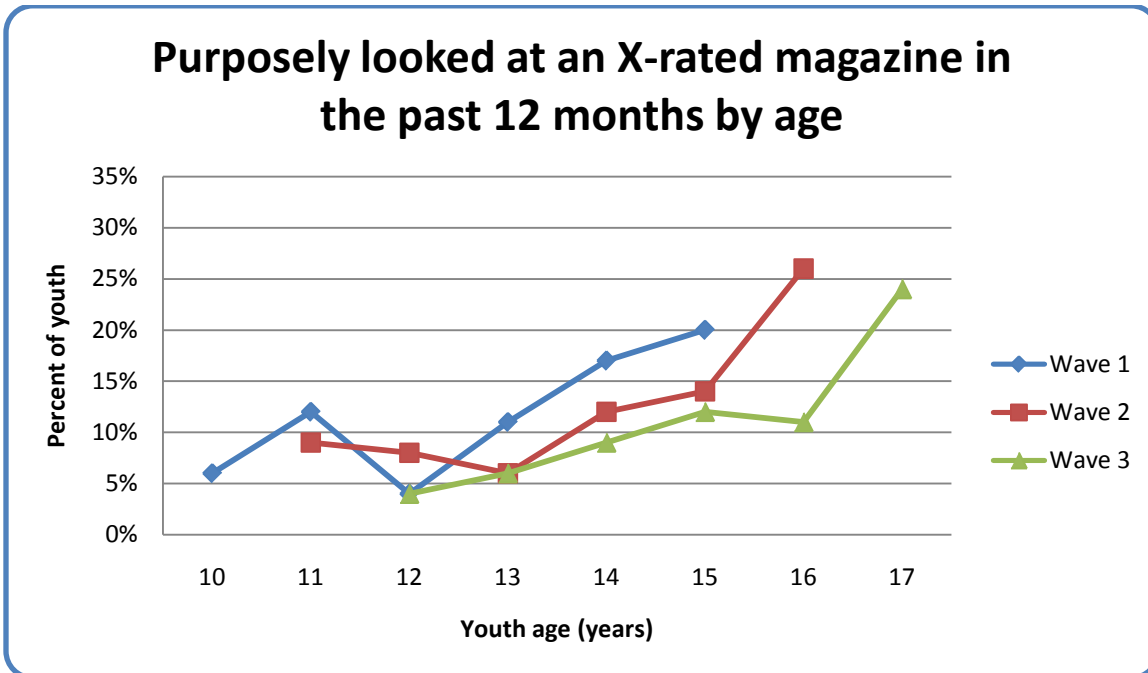
Most youth who had seen an X-rated movie in the past 12 months reported personally selecting the movie (23-33%). Other commonly reported reasons youth watched the film included being there when someone else was watching it (36-44%) or feeling pressure to watch it (16-23%). Thus, viewing X-rated material may be an individual behavior, but it also may be a peer experience.

X-rated magazines:

Less than 1 of every 7 youth across Wave looked at an X-rated magazine where the main topic was sex in the past 12 months.

At Wave 1, 12% of all youth surveyed reported looking at X-rated magazines where the main topic was sex at least once in the past 12 months. Similar rates were reported in Wave 2 (13%) and Wave 3 (11%).

⁵ At Wave 1, youth were asked if they had watched an X-rated movie in the past 12 months (yes/ no response option) but were not asked how often they had watched this type of movie. At Wave 2, all youth were asked the frequency they had watched an X-rated movie and a never response option was added. Eighty-one percent endorsed 'never'. At Wave 3, all youth were first asked if they had watched an X-rated movie (yes/ no) and then for those that indicated 'yes' the follow-up questions were asked.



As expected base upon other types of X-rated exposures, age strongly predicted an increased likelihood of reporting exposure to X-rated magazines. Trend lines suggest that these rates decreased from Wave 1 to Wave 3, once age was taken into account (i.e., the Wave 3 line is below the Wave 1 line).

<i>X-rated magazine characteristics</i>	<i>Wave 1 (n = 180)</i>	<i>Wave 2 (n = 157)</i>	<i>Wave 3 (n = 135)</i>
How often looked at X-rated magazine in the last year...⁶			
Every day/ almost every day	---	---	2%
Once or twice a week	---	---	13%
Once or twice a month	---	---	26%
Less often than once a month	---	---	58%
Who wanted to see X-rated magazine...⁷			
I selected magazine to look at	---	31%	31%
Other people were looking and I was in the room	---	35%	49%
I felt pressured	---	15%	10%
Something else	---	23%	17%

⁶ This question was asked only at Wave 3.

⁷ This question was asked only at Waves 2 and 3.

About two in five youth who looked at X-rated magazines in the past year did so once a month or more often. Similar to movies, most youth said that they personally selected the magazine (31%), or other people were looking at the magazine when the youth was in the room (35-49%).

Boys more commonly reported seeing X-rated content in magazines, movies, and on websites in the past 12 months compared to girls.

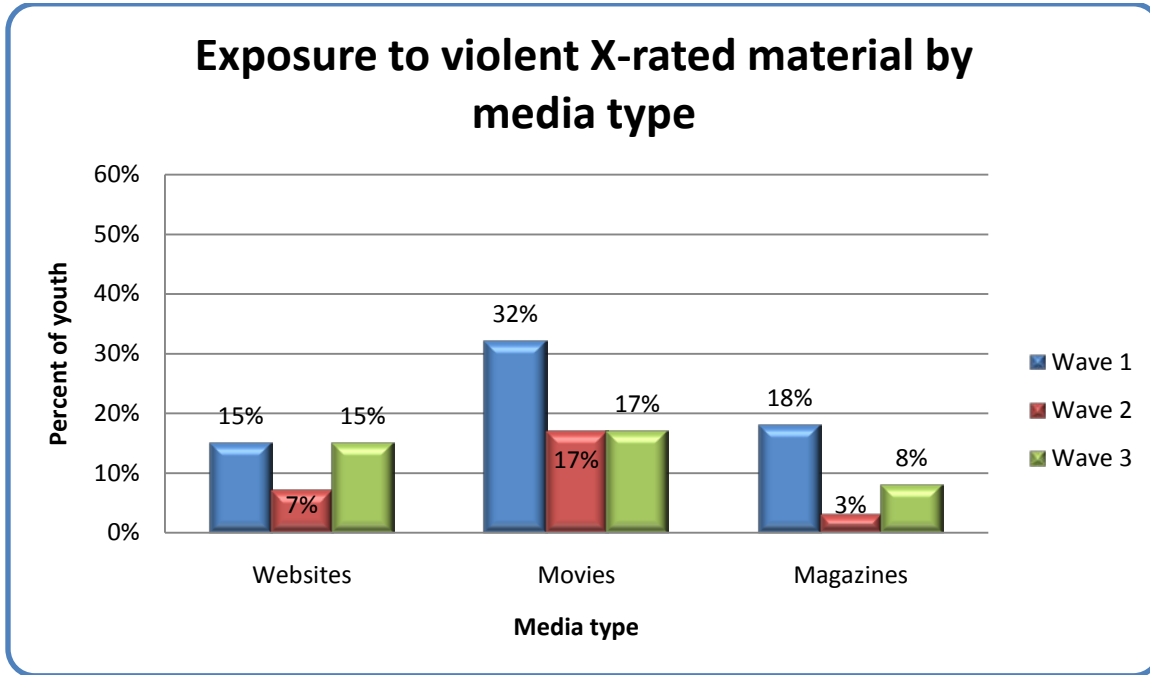
<i>Any X-rated exposure in past 12 months</i>	<i>Type of media showing X-rated material by biological sex</i>		
	<i>Websites</i>	<i>Movies</i>	<i>Magazines</i>
Wave 1			
Male (n=794)	12%	11%	16%
Female (n=787)	6%	9%	8%
Wave 2			
Male (n=604)	16%	21%	20%
Female (n=591)	4%	16%	6%
Wave 3			
Male (n=582)	19%	19%	18%
Female (n=568)	7%	10%	4%

As shown in the previous table, biological sex differences were most apparent for magazines, although boys were more likely than girls to report seeing X-rated material in all three types of media queried. Indeed, about 1 of every 4 boys reported seeing X-rated content in magazines in the past 12 months, whereas less than 1 of every 10 girls reported this.

Violent X-rated material:

Exposure to violent X-rated material was relatively uncommon among those who reported exposure to X-rated material generally.

Youth who reported exposure to X-rated material on websites (N_{Wave1} = 137; N_{Wave2} = 135; N_{Wave3} = 146), movies (N_{Wave1} = 149; N_{Wave2} = 209; N_{Wave3} = 158), or magazines (N_{Wave1} = 180; N_{Wave2} = 157; N_{Wave3} = 135) were next asked if they had seen X-rated material that showed a person being physically hurt by another person while they were doing something sexual.



Of the youth who saw X-rated material in the past 12 months, violent X-rated content was most commonly seen in movies. Wide variation in rates of exposure to violent X-rated material across Wave is likely due to the small number of youth who were asked the question.

<i>Frequency of exposure in past 12 months</i> ⁴	<i>Type of media showing violent X-rated material</i>		
	<i>Websites (n=146)</i>	<i>Movies (n=30)</i>	<i>Magazines (n=11)</i>
Every day/ almost every day	1%	1%	3%
Once or twice a week	3%	10%	22%
Once or twice a month	9%	26%	18%
Less often than once a month	87%	63%	56%

The majority of youth who saw violent X-rated material reported seeing it infrequently. Nonetheless, about 40% of youth who saw violent X-rated material in magazines or movies reported looking at it monthly or more often in Waves 2 and 3. Notably and contrary to expectations perhaps, exposure to violent X-rated material was no more likely to happen online than in movies or magazines (although it should be noted that website exposure was queried in a different part of the survey than movies and magazines).

Exposure to Other Types of Sexual Media⁸:

At Wave 3, youth were asked about exposures in the last 12 months to media that showed people kissing, fondling, or having sex. Four types of media were queried:

- TV or movies
- Music
- Video, computer, or Internet games
- Websites (either with real people or cartoons)

Of the media that youth were exposed to in the past 12 months, TV shows or movies had the most sexual content.

Amount of exposure in past 12 months	Type of media showing sexual content (n=1,150)				
	TV shows or movies	Video, computer, & Internet games	Websites showing real people	Websites showing cartoons	Music / songs
Almost all/ all of them	4%	<1%	1%	<1%	3%
Many of them	12%	1%	2%	1%	13%
Some of them	53%	13%	19%	12%	48%
Almost none/ none of them	31%	85%	78%	86%	36%

Sixty-nine percent of youth reported at least some of the content they consumed in television or movies was sexual in nature, as did 64% about the music they listened to. On the other hand, only 14-22% of youth said that at least some of the games or websites they visited had sexual content.

CONCLUSION:

It is often assumed that the Internet is responsible for youths' exposure to deviant content (e.g., violence, sex). Our data suggest however, that about 90% of youth are **not** exposed to X-rated or "adult" websites where the main topic is sex (although rates vary by age). Moreover, 85% of youth are **not** exposed to violent content online. Instead, youth are more likely to consume violent material on TV or in movies, or in video games; and to be exposed to sexual content on TV or in movies, or in music songs. Although parents should be aware about what their youth are doing online, it is equally if not more important for parents to be aware of, and perhaps

⁸ These questions were asked only at Wave 3.

concerned about, the content that their youth are exposed to on other media types, especially TV. One simple step in potentially reducing youth exposure to violent or sexual content would be to increase parents' familiarity with rating systems for all types of media such as TV (<http://www.tvguidelines.org/>) and Internet and computer games (<http://www.esrb.org/index-js.jsp>). This information could empower caregivers to make sure youth are playing age-appropriate games (e.g., video game rated as Teen (T) is intended for ages 13 or older).

Youth who have been to violent websites most commonly learned about the sites from their friends. Additionally, youth commonly learned about sites by typing a website address to see what came up. Exposures are not just a function of having access to a computer, but also can be influenced by peers. As such, reducing youth exposure to violent content online requires a multi-faceted approach. In addition to having blocking software installed on home computers, it is important for parents to be aware of their children's activities when they are with friends and to have clear guidelines of appropriate and inappropriate content regardless of media type.

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Selection of Other Publications:

Ybarra M, Diener-West M, Markow D, Leaf P, Hamburger M, Boxer P. Linkages between Internet and other media violence with seriously violent behavior by youth. *Pediatrics*. 2008;122(5):929-937.

Ybarra ML, Mitchell KJ, Hamburger M, Diener-West M, Leaf PJ. X-rated material and perpetration of sexually aggressive behavior among children and adolescents: Is there a link? *Aggress Behav*. 2011;37(1):1-18.

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