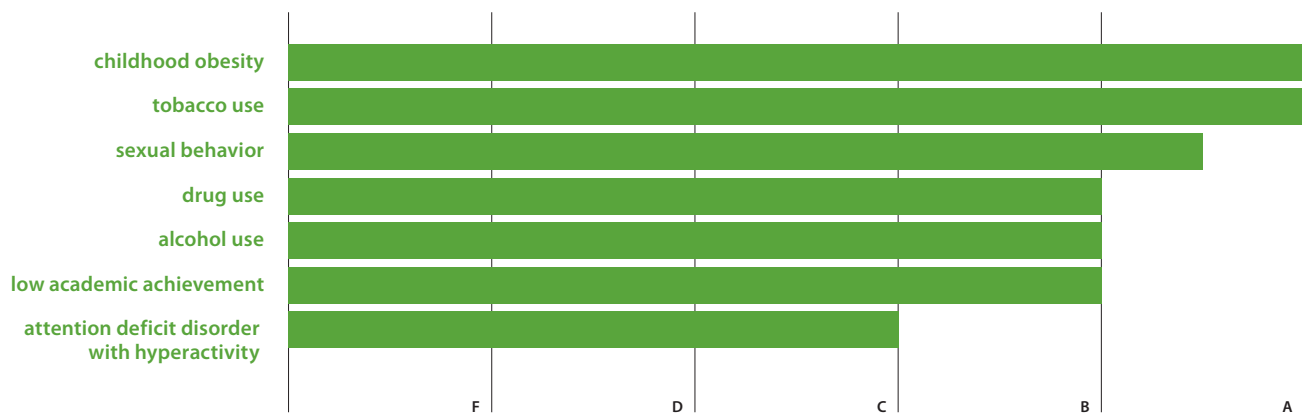


The Impact of Media on Child and Adolescent Health

Executive Summary of a Systematic Review



Media's Association to Seven Negative Health Outcomes Studies Graded by Strength of Evidence



Strength of Evidence by Grade

An expert panel reviewed the studies, and calculated an overall strength of evidence grade for each health outcome.

* For more information, see Strength of Evidence Grading, on page 9.

The media is increasingly pervasive in the lives of children and adolescents. The average kid today spends nearly 45 hours per week with media, compared with 17 hours with parents and 30 hours in school. However, until now there has been very little comprehensive analysis of the different research tracking the impact of media on children's health.



Researchers from Yale University School of Medicine, National Institutes of Health, and California Pacific Medical Center reviewed 173 quantitative studies examining the relationship between media exposure and seven health outcomes:

- > childhood obesity
- > tobacco use
- > sexual behavior
- > drug use
- > alcohol use
- > low academic achievement
- > attention deficit hyperactivity disorder (ADHD)

In 80% of the studies, greater media exposure is associated with negative health outcomes for children and adolescents. This meta-analysis of the best studies on media and child health published in the last 28 years clearly shows the connection between media exposure and long-term negative health outcomes, especially childhood obesity, tobacco use, and sexual activity.

Overview

Several systematic reviews have investigated the relationship between media and violent behavior, but there has not been a comprehensive evaluation of the many studies examining other ways that the media impacts children's health.

Common Sense Media and the Department of Clinical Bioethics at the National Institutes of Health arranged this review to evaluate the best research on the impact of media exposure (both the amount consumed and the content) on children's health and development. This review was designed to compare the connections between media and seven health outcomes:

- 1 childhood obesity
- 2 tobacco use
- 3 sexual behavior
- 4 drug use
- 5 alcohol use
- 6 low academic achievement
- 7 attention deficit hyperactivity disorder (ADHD)

In addition to summarizing the evidence from 173 of the best studies in the field, this review evaluated the relative strength of those studies and outlined areas where more research is still needed.

The reviewers searched for studies on all types of media (including television, movies, the Internet, video games, magazines, and music), but most of the quality studies found involved television, movies, and music. Fewer studies were available that examined the impact of the Internet and video games, and no studies were available on the impact of cell phones. (For details on the process for selecting the studies on Data Sources and Strength of Evidence Grading, see page 9.)

Because use of new media by kids is rising dramatically, future studies should clearly focus on new media to improve the understanding of the impact on kids.

Results

From 1980 to the present, researchers found 173 studies that met the standard for quality. Overall, 80% of the studies concluded that increased media exposure was associated with a negative health outcome. In addition:

- > 46 of the 173 studies evaluated exposure to specific media content (such as scenes with smoking or music genres) and 93% of these studies found that exposure to specific media content was associated with negative health outcomes. Only one study found a positive association between exposure to specific types of media content (certain types of Web pages) and a positive health out-come (better school performance).
- > 127 of the 173 studies evaluated the number of hours children watched, played, or listened to media. Of these studies, 75% reported that more time spent with media was associated with a negative health outcome, while 20% found no statistically significant association between media and the health outcomes. Only seven studies reported an association between media quantity and a positive health outcome.



Results by specific health outcome

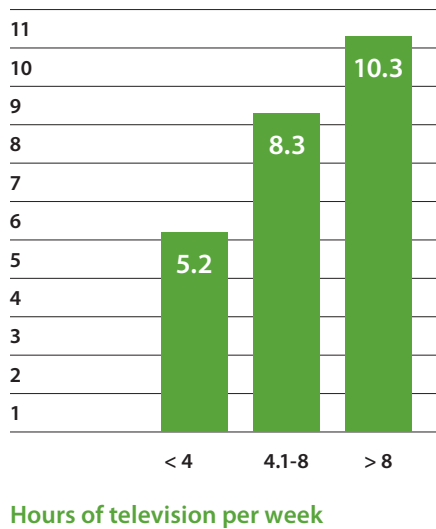
Childhood Obesity

Strength of Evidence: Grade A

All 73 of the studies evaluating media and weight assessed the quantity of media (rather than media content) in terms of daily or weekly hours of exposure. Eighty-six percent of these studies found a statistically significant relationship between increased media exposure and an increase in childhood obesity.

In addition, of the 22 longitudinal studies, 18 (82%) concluded that more hours of media predicted increased weight over time.

Prevalence of childhood obesity (%)



Tobacco Use

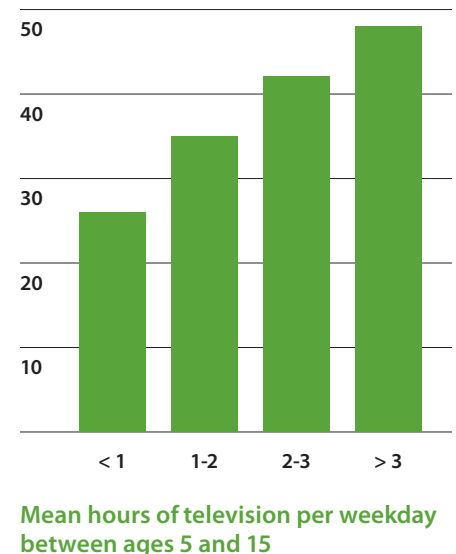
Strength of Evidence: Grade A

Twenty-four studies examined media and tobacco use, and 88% reported a statistically significant relationship between increased media exposure and an increase in smoking, usually defined as children trying smoking or beginning to smoke at an earlier age.

Nineteen of the 24 studies assessed media content. Of these, 16 (84%) reported that viewing tobacco use in media had a significant association with an increase in tobacco use.

Of the five studies analyzing the number of hours spent watching television, four (80%) reported a significant relationship between greater media exposure and increased tobacco use.

Prevalence of smoking at age 26 (%)



Source: Reilly, Armstrong, et al.
BMJ / British Medical Association, May 20, 2005

Source: Hancox, Milne, Poulton.
Lancet, July 17, 2004

Results by specific health outcome (continued)

Sexual Behavior

Strength of Evidence: Grade B+

Fourteen articles evaluated media and sexual behavior, and 13 (93%) found a statistically significant association between media exposure and a more rapid progression of initiation of sexual behavior. Eight studies examined media content (defined as exposure to sexual content on television, film, or the Internet), while six measured media quantity.

“A longitudinal study of 1,792 children in the U.S. aged 12-17, found that more exposure to sexual content on TV was significantly associated with initiating intercourse and other sexual activities in the subsequent year.”

Dr. Cary Gross, Yale University

Drug Use

Strength of Evidence: Grade B

Eight studies evaluated media and drug use – seven examined media content, and one examined media quantity – and 75% reported a statistically significant relationship between media exposure and drug use, usually defined as past or current use of specific recreational drugs including cocaine, marijuana, methamphetamines, and Ecstasy.

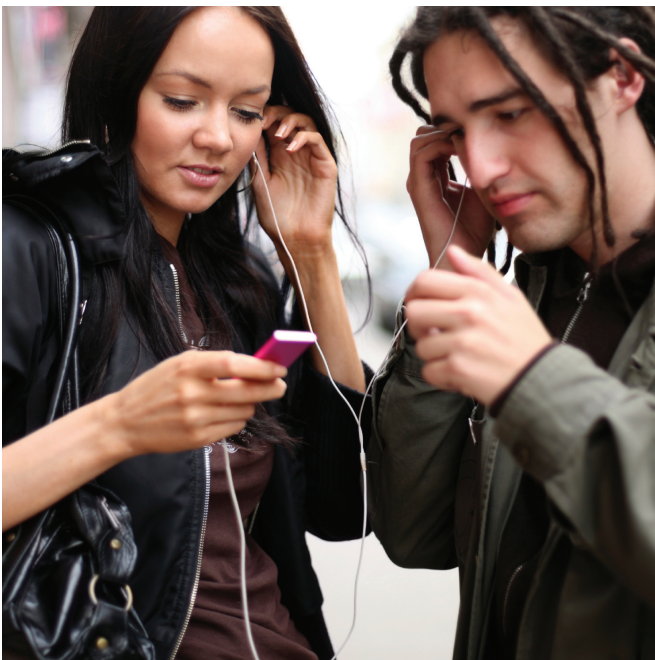
Alcohol Use

Strength of Evidence: Grade B

Ten studies examined media and alcohol use – four examined media content and six examined media quantity – and eight studies (80%) reported a statistically significant association between media exposure and an increase in alcohol use (usually defined as children trying alcohol or the number of alcoholic beverages they consumed over a certain time period).

“One study that followed 2,406 children for up to 2 years found that more exposure to scenes with alcohol use in movies was associated with early-onset teen drinking.”

Dr. Marcella Nunez-Smith, Yale University



Results by specific health outcome (continued)

Low Academic Achievement

Strength of Evidence: Grade B

Thirty-one studies evaluated media and academic achievement, and 65% reported a statistically significant association between increased media exposure and poor academic outcomes (measured through standardized test scores or school grades).

Of the 26 studies analyzing the number of hours spent watching TV, 62% reported a significant relationship between greater media exposure and low academic achievement.

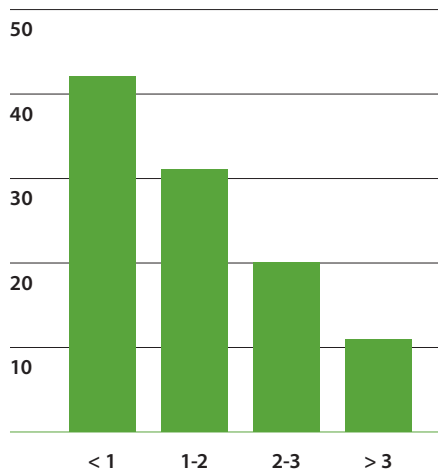
Five of the studies looked at media content (either the type of TV show viewed or musical genre preference). Four (80%) found an association between media content and lower school performance. One study of Internet use showed that increased access to certain types of Web sites was associated with better school performance.

Attention Deficit Hyperactivity Disorder (ADHD)

Strength of Evidence: Grade C

Thirteen articles assessed media and ADHD (identified either by clinical assessment or use of a validated numerical scale). Three studies examined media content, and 10 examined media quantity. Nine studies (69%) found an association between media exposure and increased attention problems.

Students earning a B.A. degree or higher at age 26 (%)



Mean hours of television per weekday between ages 5 and 15



Source: Hancox, Milne, Poulton. Archives of Pediatric and Adolescent Medicine, July 5, 2005

Recommendations

While there are many factors that contribute to negative health results for children, media is a crucial one. There are several steps this nation can take to reduce the negative impact of media on kids, and encourage positive growth and learning.

What parents can do:

- **Limit and balance the amount of time kids use media.** Monitor their use, set clear limits, and explain to them why too much time in front of a screen is harmful.
- **Talk with kids about media.** Discuss positive and negative media messages and images. Watch, listen, and go online with them.
- **Choose appropriate media.** Check ratings and reviews to make sure the media they use is appropriate for their age and level of development.

What policymakers can do:

- **Develop and fund a major national media literacy and education effort.** Make it available to every school in America, to help kids learn how to navigate the 24/7 media world in which they live.
- **Fund more research and development on media and kids.** More research is especially needed on digital media like the Internet, video games, and cell phones, which kids are using in dramatically larger amounts today. Policymakers should also support more research on the impact of media content (rather than only the amount of media that kids consume) and provide new funds for producing educational content.
- **Establish clear limits on advertising to kids.** As the amount of time kids spend with media has grown, so has the amount of money spent advertising to kids – much of it advertising junk food. Policymakers should restrict this advertising, especially for younger children who cannot tell the difference between advertising and entertainment.
- **Fund public service advertising campaigns that encourage healthy habits.** Advertising campaigns, like the current anti-smoking effort, can change behavior. Targeted campaigns could reduce the impact of negative media messages, promote safe behavior on the Internet, and encourage kids to spend more time outside, engaged in healthy activities.

What the media industry can do:

- **Be more responsible and responsive to kids and families.** Media companies should self-regulate their content, and provide more messages that are age appropriate.
- **Educate kids and families about media.** Media companies should fund and distribute ongoing campaigns to educate consumers about both the negative and positive uses of media, and to encourage kids to limit the time they spend in front of a screen.
- **Create more and better educational media.** Dedicate increased resources to developing high-quality educational content for the Internet, television, and all media platforms.

What schools can do:

- **Adopt a media literacy curriculum.** Every school in America should have a curriculum to teach the basics of media literacy as an essential part of a 21st-century education.
- **Teach kids and families to be smart and safe media users.** Schools can help children – and parents – learn simple ways to manage the media in their lives, and to balance media use with more healthy activities.
- **Promote digital citizenship.** In a 24/7 world of cell phones and social networking sites, schools should educate all students about the basics of digital citizenship and Internet safety.

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Methodology

Researchers conducted a primary review of articles that quantitatively assessed the relationship between media and the health outcomes of interest. Researchers defined media as television, movies, the Internet, electronic/video games, magazines, and music, excluding advertising, journalism, and public service announcements.

Data Sources

Researchers conducted electronic searches in MEDLINE, EMBASE, the Cumulative Index to Nursing and Allied Health Literature, PsycINFO, and Current Contents from 1980 to 2008 using appropriate database-specific search terms for media as well as the health outcomes of interest.

Articles were included in this review if they met the following criteria:

- 1 quantitative analysis of the relationship between media quantity or content and one or more of the health outcomes of interest
- 2 published in or after 1980
- 3 published in a peer-reviewed journal
- 4 written in English
- 5 provided a description of methods and results

Each article was formally extracted and evaluated for quality of reporting as well as threats to internal and external validity using validated instruments.

Strength of Evidence Grading

An expert panel of two researchers and one pediatrician reviewed the data on each health outcome. Following independent grading, a modified Delphi technique was used to achieve expert panel consensus on the quality score of each individual study. A quality score of 6 or higher was the definition of a “good” study. The panel’s mean scores in each of three domains – quality, quantity, consistency – were combined to yield an overall mean score for each topic area. Scores ranged from 0 (poor) to 10 (excellent) in each domain, and the maximum overall score possible was 30 points in each outcome area. Scores were converted into strength of evidence grades for each topic area, corresponding to U.S. Preventive Service Task Force grades.

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