



Media and Child's Health

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twitter



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מרכז רפואי הדסה
הדסה ילד



Total Media Use

Among all 8- to 18-year-olds, average amount of time spent with each medium in a typical day:

	2009
TV content	4:29
Music/audio	2:31
Computer	1:29
Video games	1:13
Print	:38
Movies	:25
TOTAL MEDIA EXPOSURE	10:45
Multitasking proportion	29%
TOTAL MEDIA USE	7:38

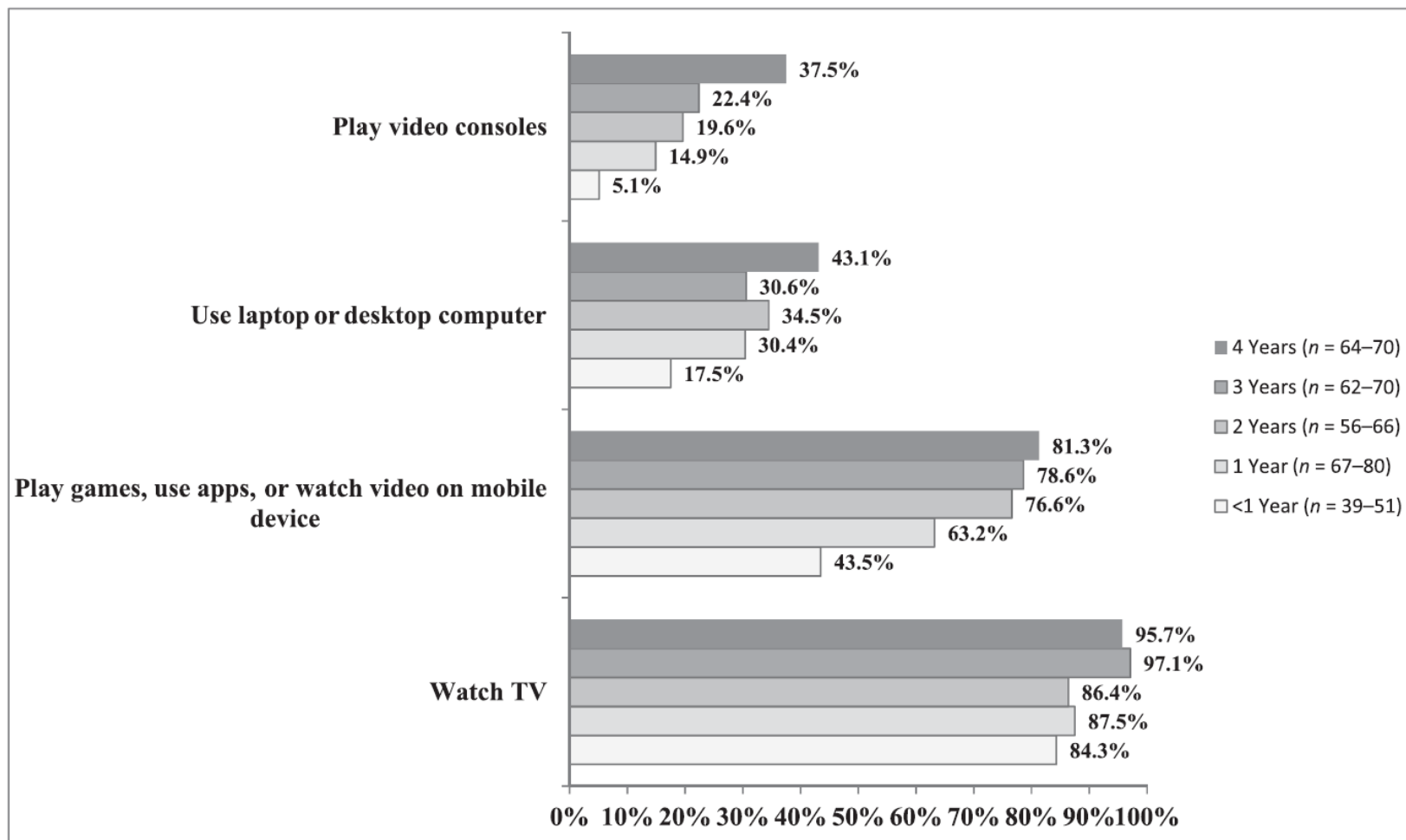


FIGURE 1

Percentage of children engaging in daily media use by activity and age cohort.

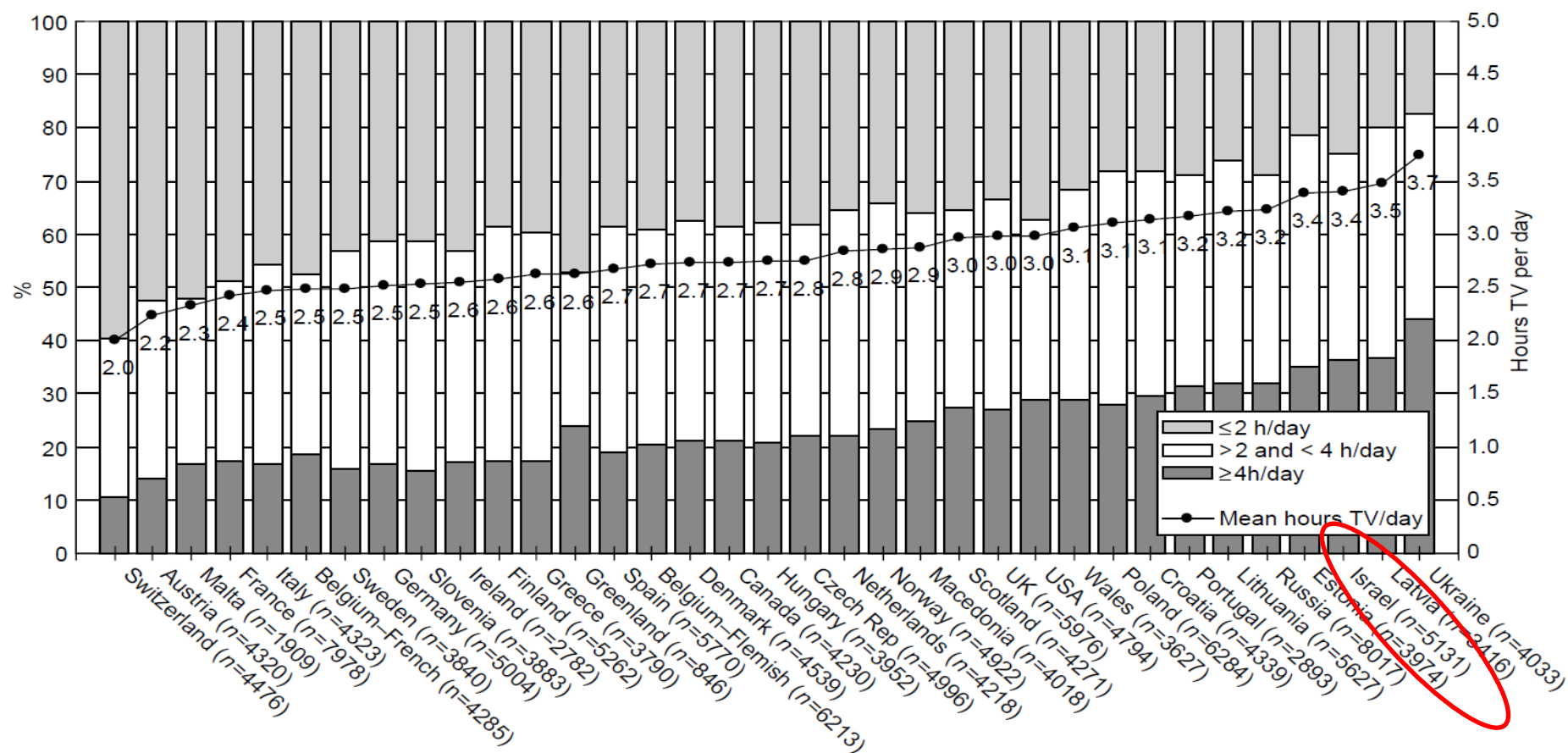
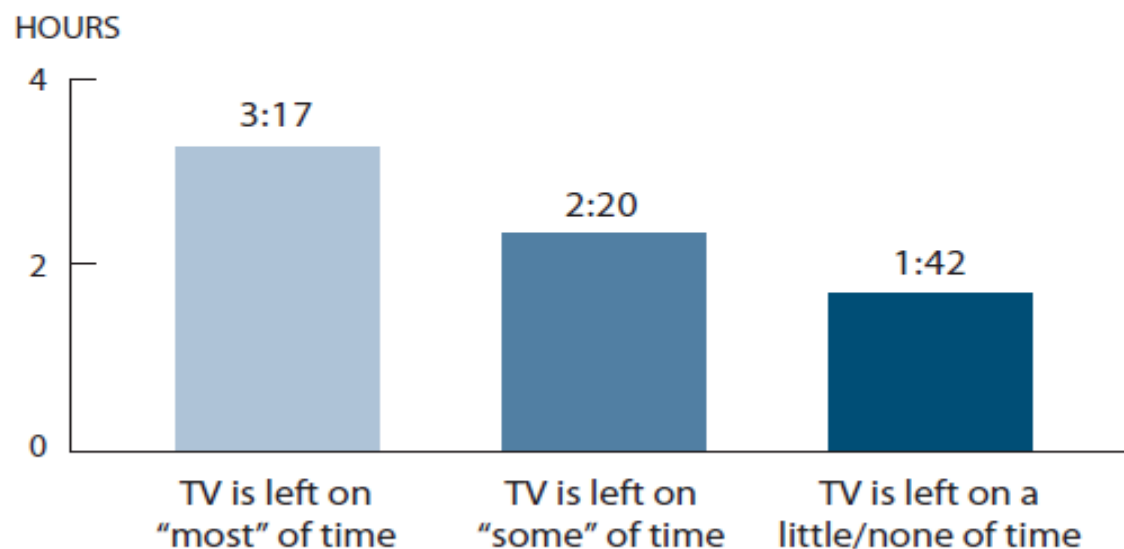


Fig. 1 Television (TV) viewing habits: percentage who watch 4 h or more, 2–4 h and 2 h or less per day and average TV viewing time per day by country (number of respondents)

TV in the Background TV and Time Spent Watching

Among all
is usually

Time spent watching live TV in a typical day among 8- to 18-year-olds in homes where:



Screens in children's rooms

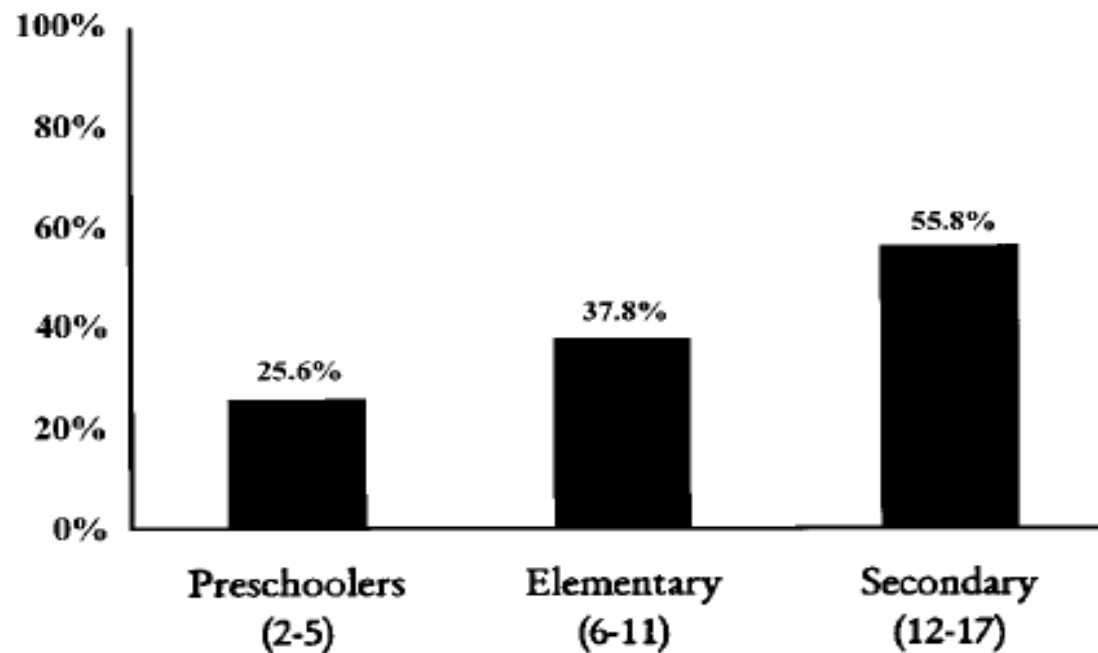
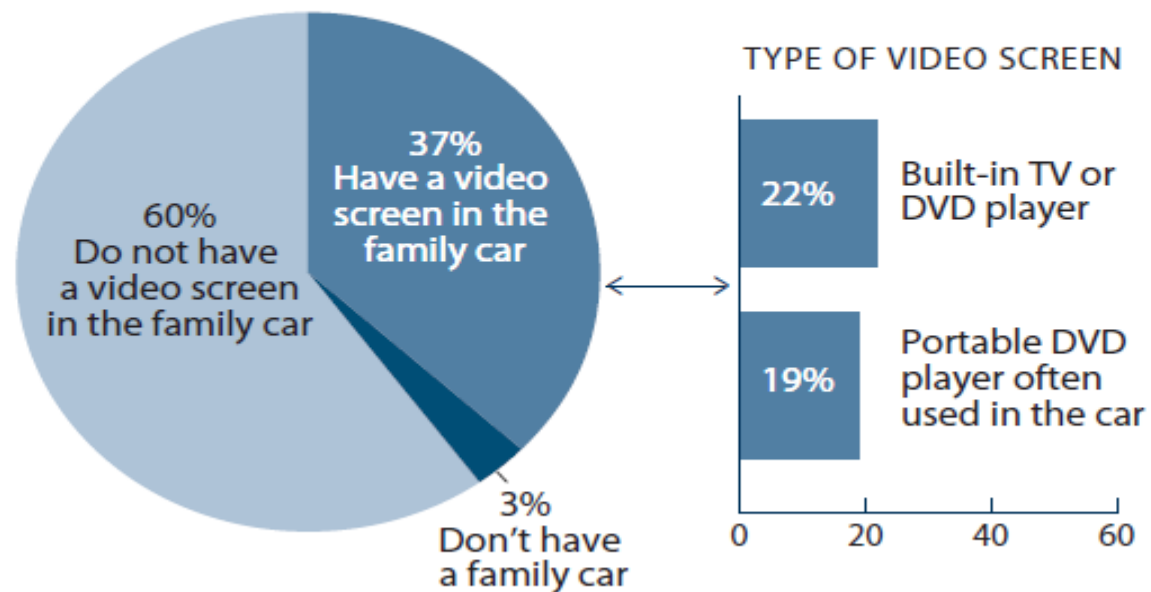


Fig 4. TV sets in the bedroom. As children age, they are increasingly likely to have a television set in their own bedroom. (From: Stanger JD. *Television in the Home: the 1997 Survey of Parents and Children*. Philadelphia, PA: Annenberg Public Policy Center; 1997. Used with permission.)

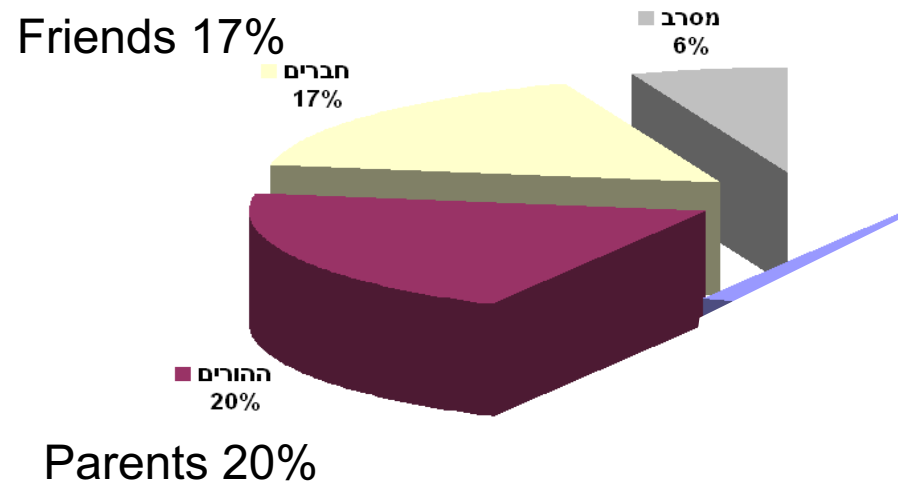


Media in the Car

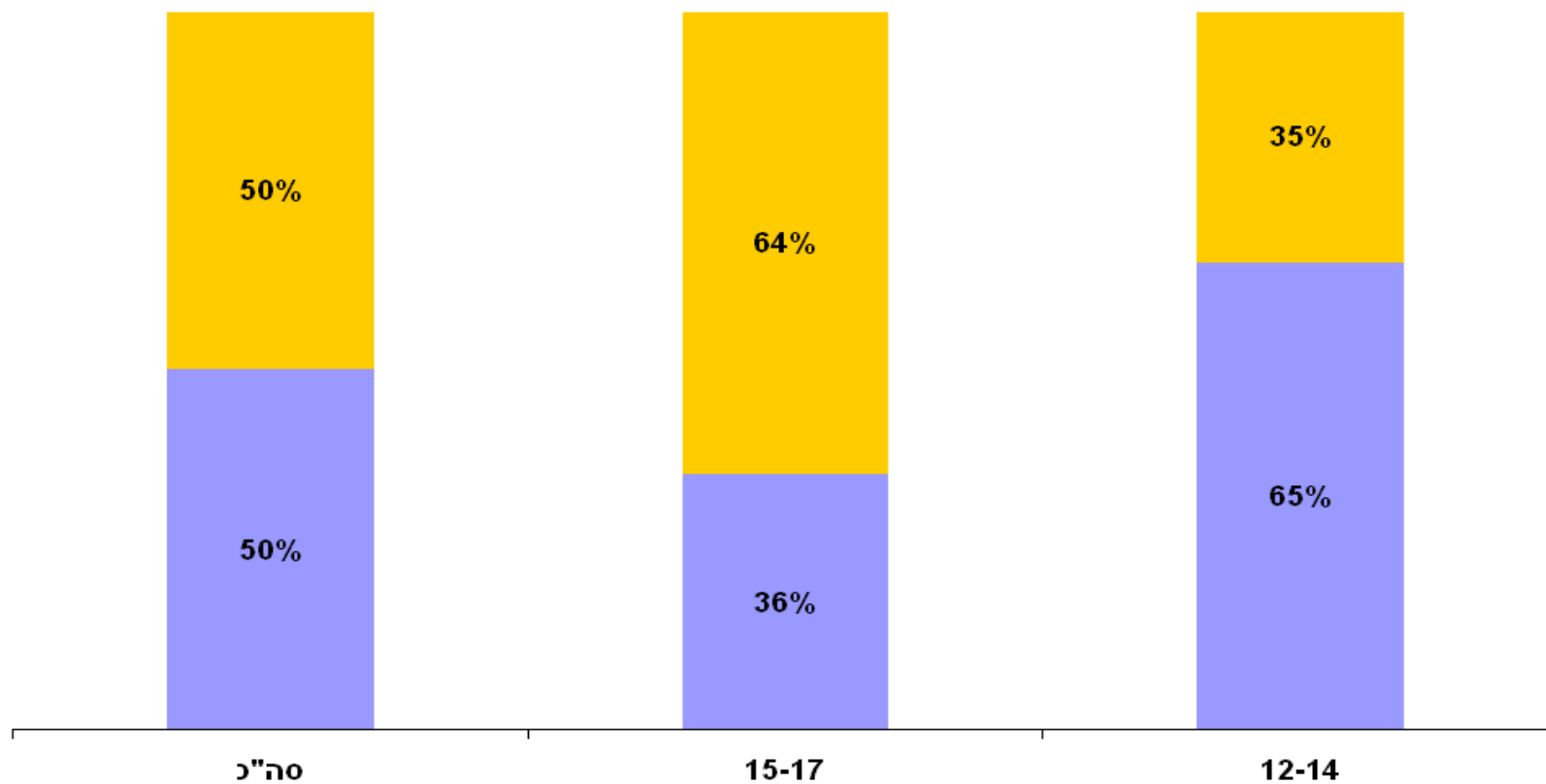
Among all 8- to 18-year-olds, percent who say they:



With who do you watch?



מסרב



■ עד חצות לכל המאוחר (לא כולל) ■ חצות ואילך

Until midnight

After midnight

Television and DVD/Video Viewing in Children Younger Than 2 Years

Frederick J. Zimmerman, PhD; Dimitri A. Christakis, MD, MPH; Andrew N. Meltzoff, PhD

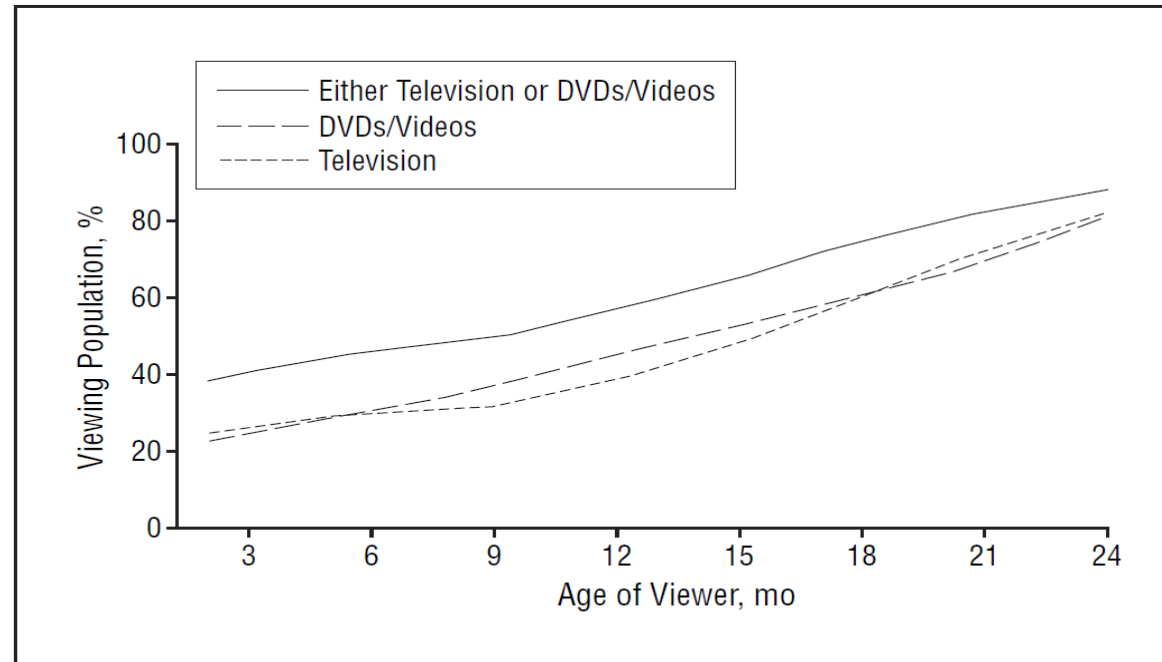


Figure 1. Initiation of television or DVD/video viewing by medium and age (locally weighted smoothing regression).

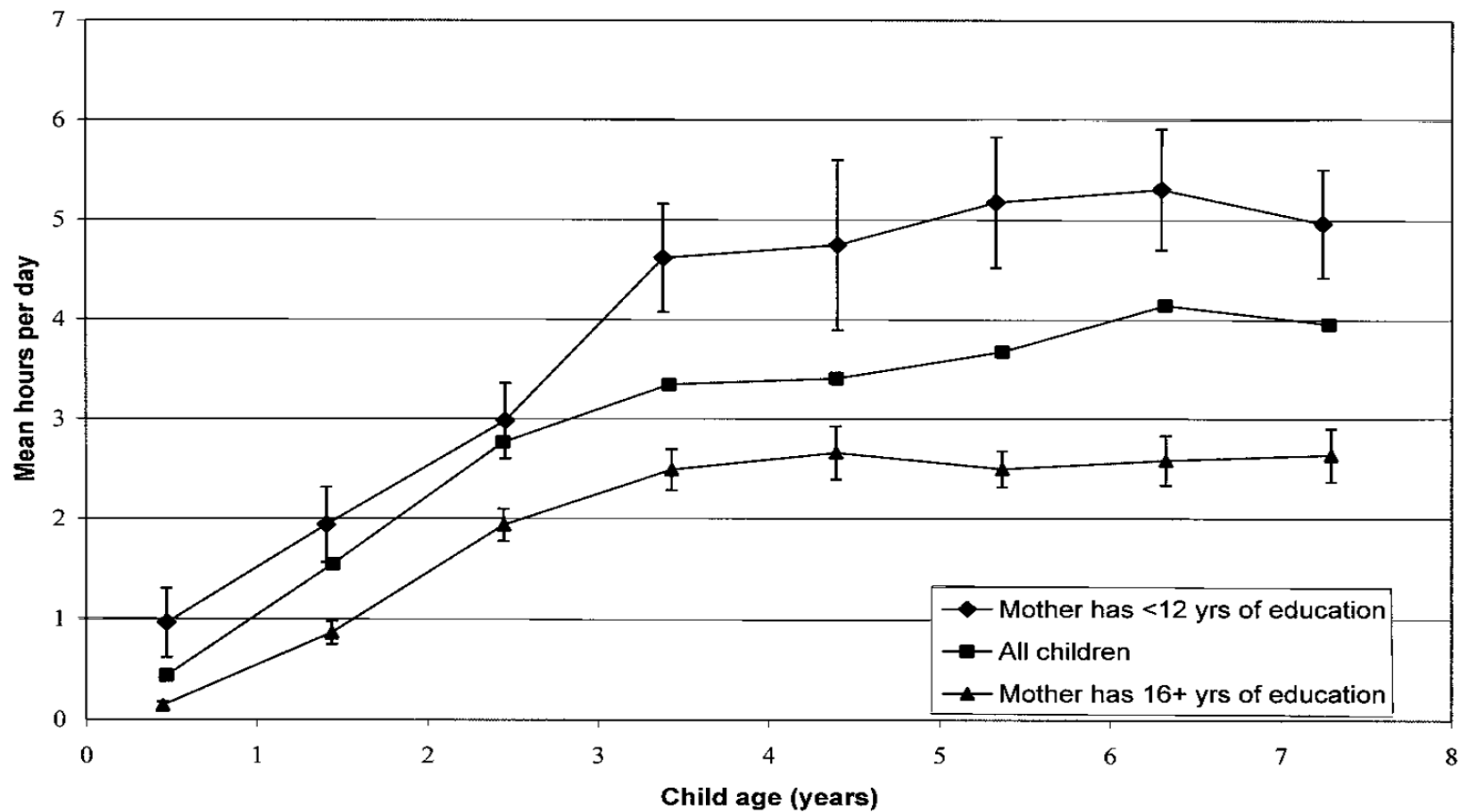
TABLE 2 Children's Ownership of Media Platforms by Age Cohort

Media Platform	Overall (<i>n</i> = 348), %	<1 y (<i>n</i> = 51), %	1 y (<i>n</i> = 85), %	2 y (<i>n</i> = 68), %	3 y (<i>n</i> = 72), %	4 y (<i>n</i> = 72), %
Television	32.8	23.5	23.5	23.5	43.1	48.6
Mobile media device						
Tablet	36.2	9.8	20.0	27.9	54.2	63.9
Smartphone	5.5	3.9	5.9	4.4	5.6	6.9

TABLE 3 Age at First Use of Mobile Media Device by Age Cohort, *N* = 348

Age at First Use	<1 y (<i>n</i> = 51), %	1 y (<i>n</i> = 85), %	2 y (<i>n</i> = 68), %	3 y (<i>n</i> = 72), %	4 y (<i>n</i> = 72), %
<1 y	92.2	69.4	50.0	48.6	40.3
1 y	0.0	28.2	41.2	31.9	20.8
2 y	0.0	0.0	7.4	15.3	23.6
3 y	0.0	0.0	0.0	2.8	12.5
4 y	0.0	0.0	0.0	0.0	0.0
Never used	7.8	2.4	1.5	1.4	2.8

Television viewing time and maternal education



TV and video viewing time among children aged 2 years (n=1868)

Oregon Pregnancy Risk Assessment monitoring survey 2006-2007

		% Over 2 hrs viewing time
Total		19.6
TV in child bedroom	yes	34.1
	no	16.3
Book or story read to child	every day	17.1
	< every day	24.0
Maternal depressive symptoms	yes	24.0
	no	18.3
Maternal BMI	<30	18.5
	>30	24.0
Child care	No child care	23.2
	Child care center	7.8
	Other child care	13.6



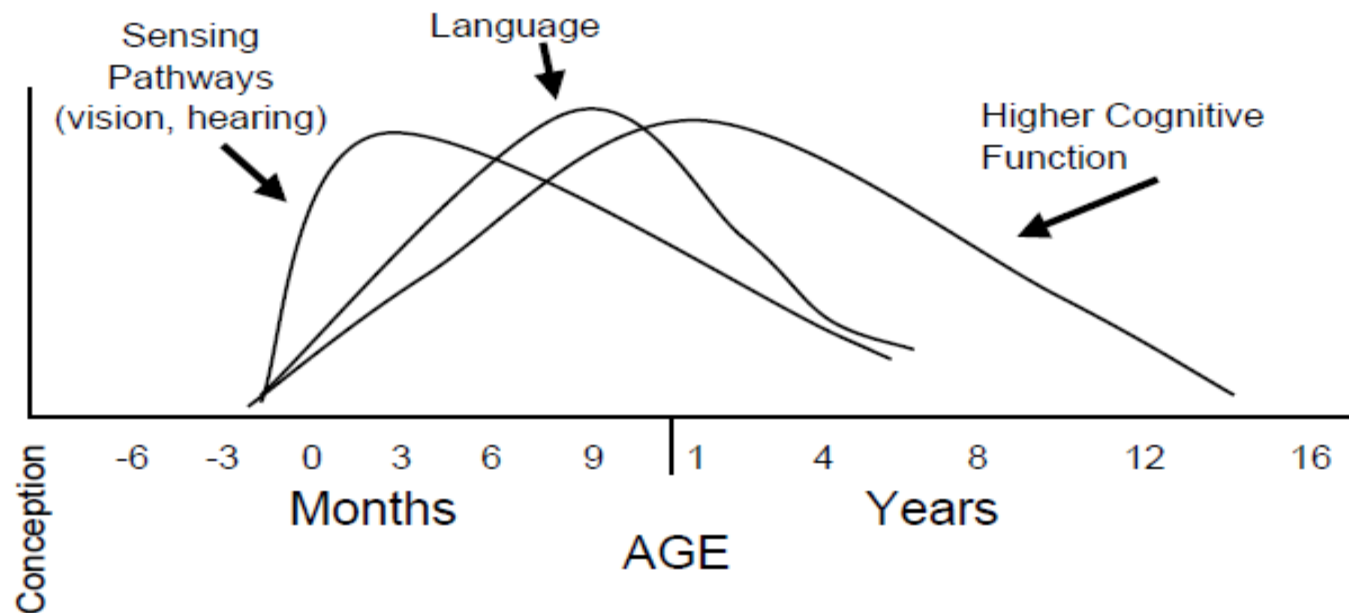
Health consequences of media exposure of children under 2 years of age

Child development



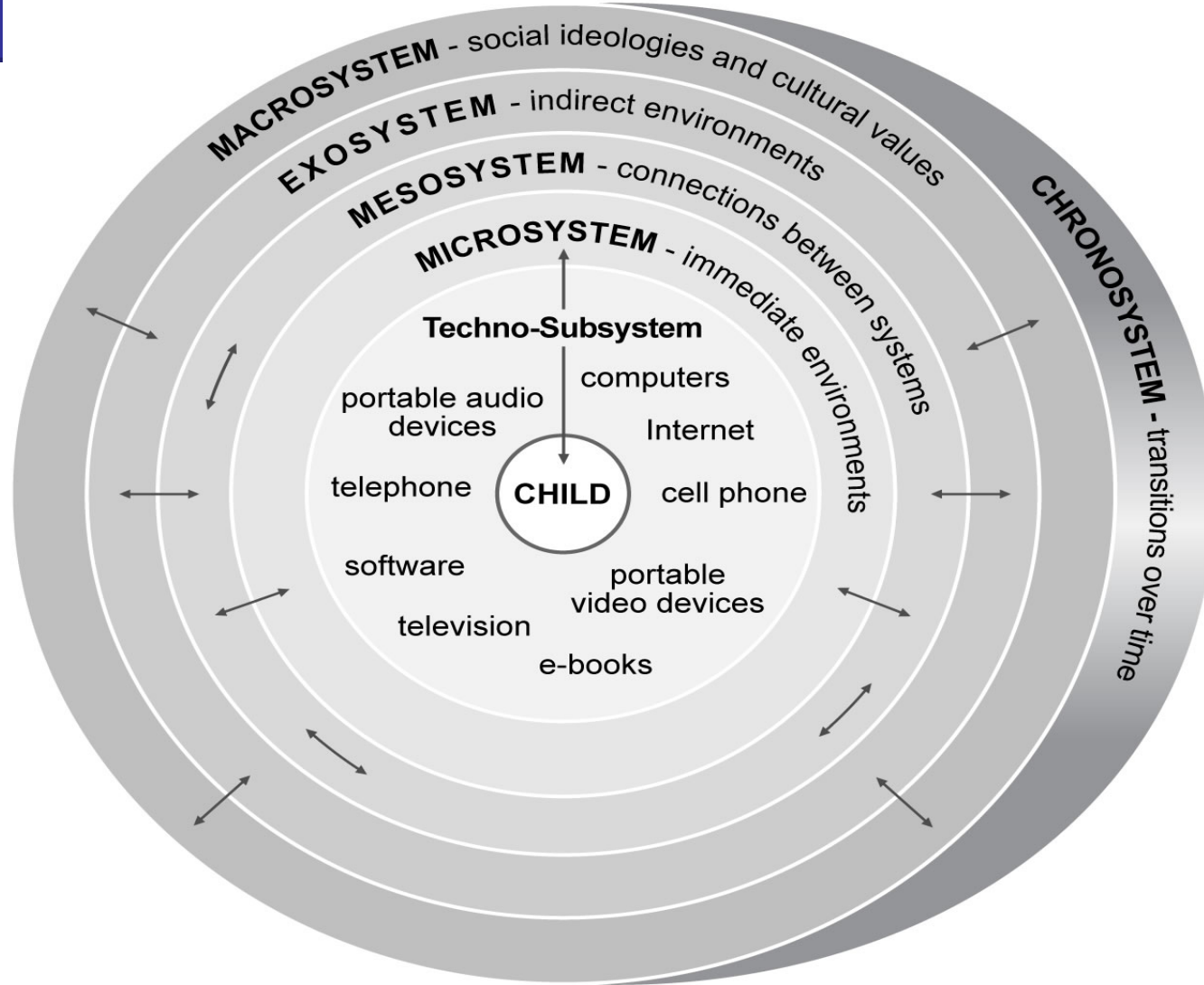
The newborn brain is developing rapidly and characterized by great plasticity in response to the child's environment

Human brain development - synapse formation



- C. Nelson, 2000

Int The screens became the most important ment



What do infants see when they watch infants' movies?

- Mixture
- Each s
- Violence
- No cor



Infants and the virtual world

- Infants have false perception of reality
- Do not understand virtual reality and believe it is real
- Believe that virtual figures are alive
- Confusion between evilness and goodness

Infant Media Exposure and Toddler Development

Suzy Tomopoulos, MD; Benard P. Dreyer, MD; Samantha Berkule, PhD;
Arthur H. Fierman, MD; Carolyn Brockmeyer, PhD; Alan L. Mendelsohn, MD

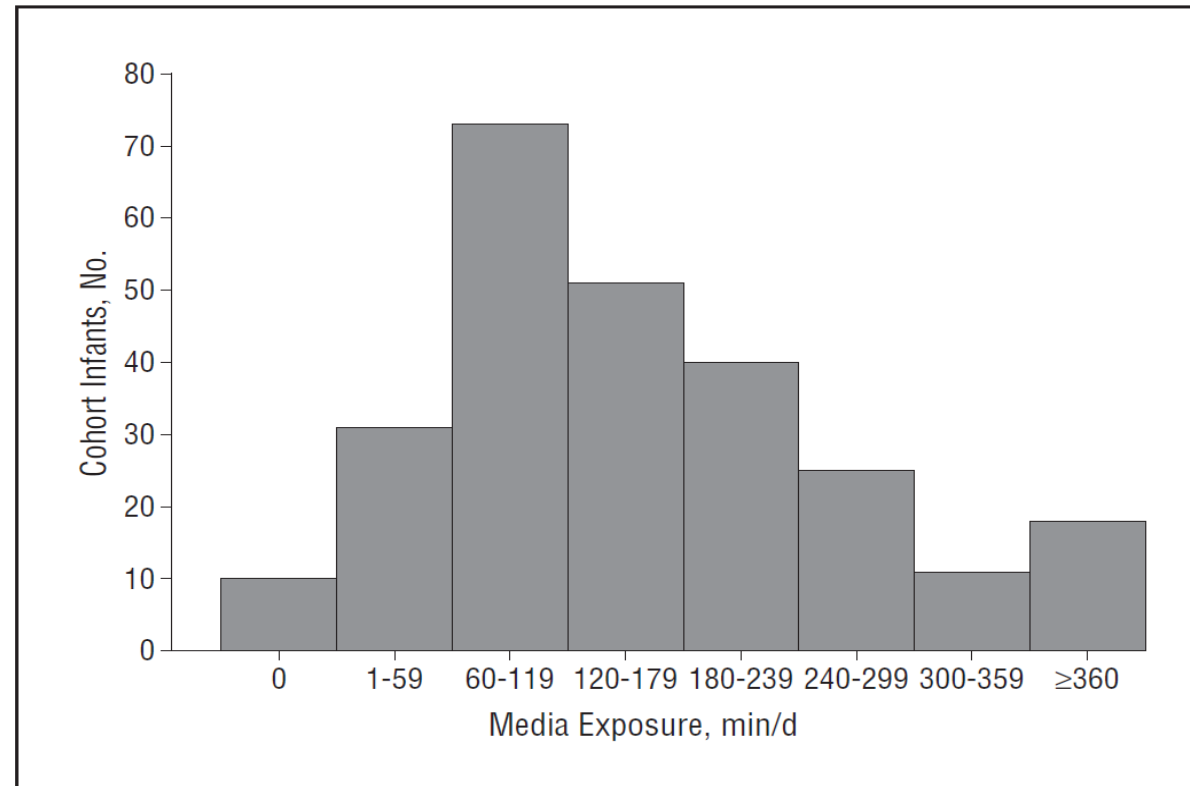
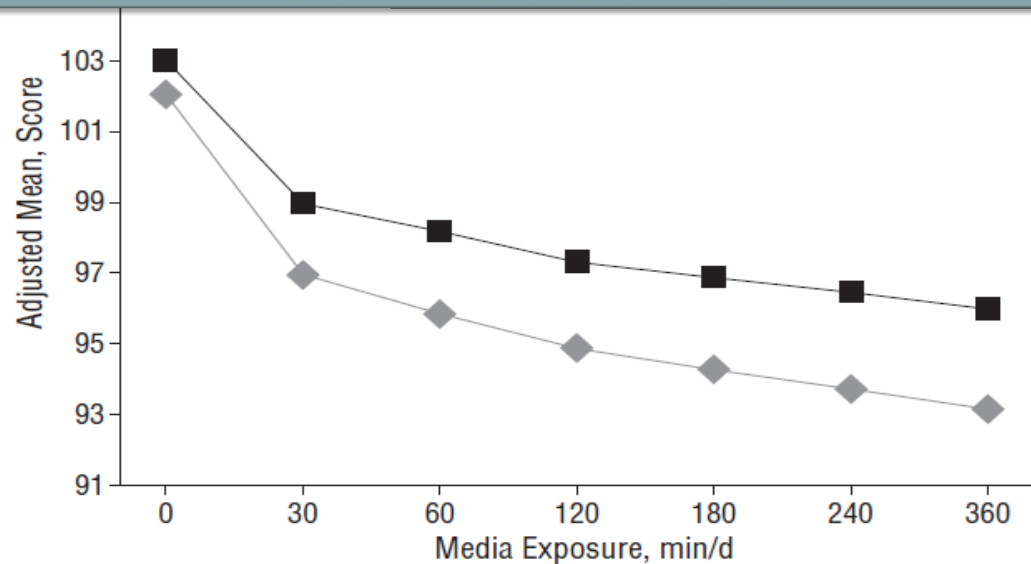


Figure 1. Total duration of media exposure at age 6 months.

Total duration of media exposure at age 6 mo predicted lower

Children with 60 min of media exposure had significantly lower developmental scores compared with those who had no exposure



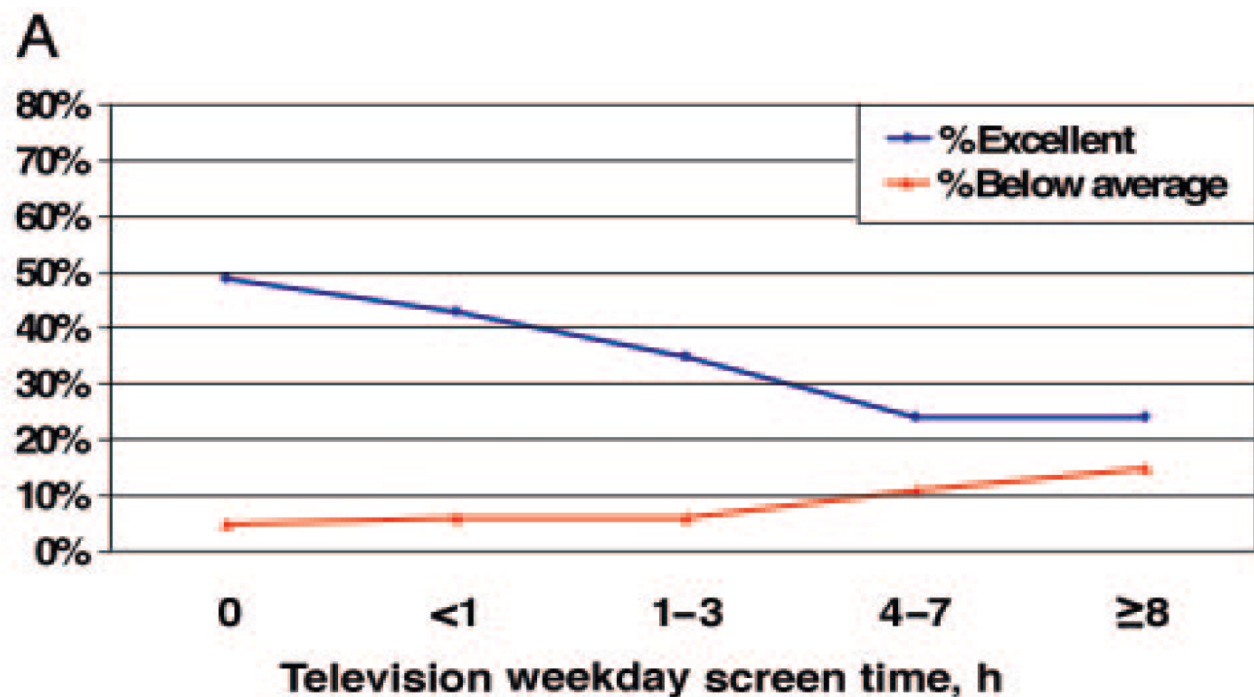
Exposure to educational or non-educational content did not make a difference

School performance

Association Between Television, Movie, and Video Game Exposure and School Performance

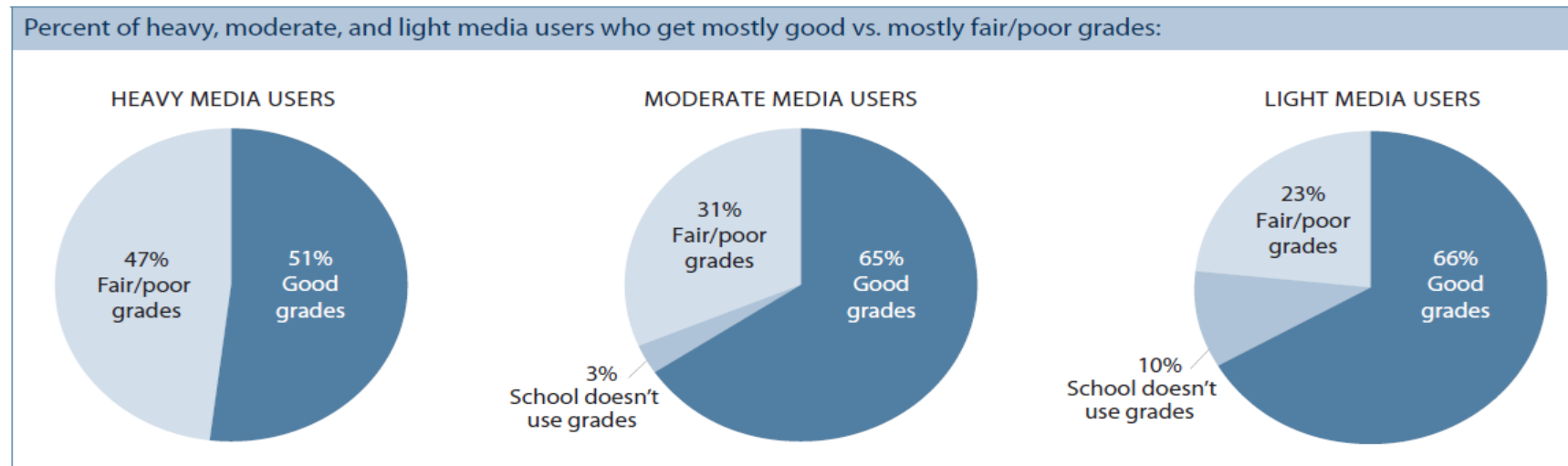
Iman Sharif, MD, MPH^a, James D. Sargent, MD^b

^aDepartment of Pediatrics, Children's Hospital at Montefiore/Albert Einstein College of Medicine, Bronx, New York; ^bDepartment of Pediatrics, Children's Hospital, Dartmouth Medical School, Lebanon, New Hampshire



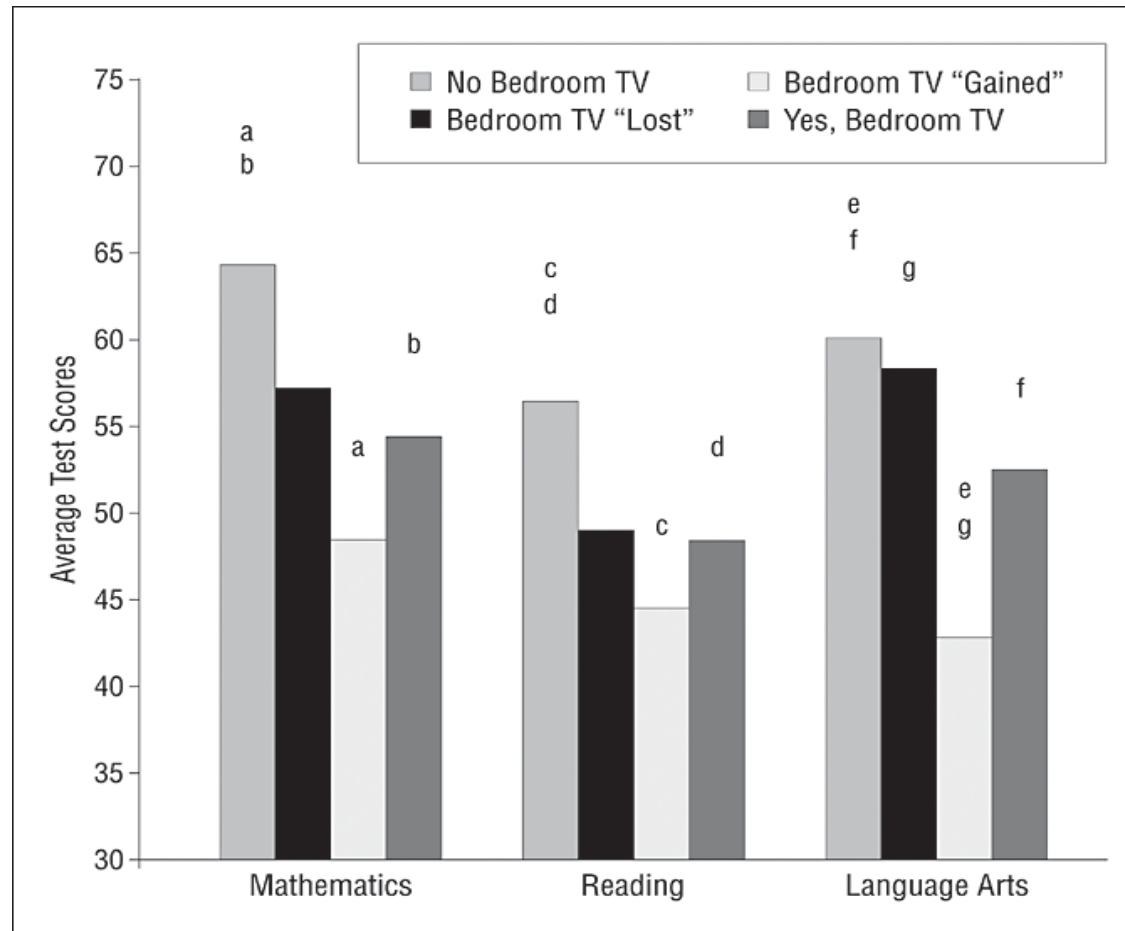
Media Use and Grades

could well run in both directions simultaneously.



*The contentedness index is a sum of responses to each of the items in Question 9 in the topline, with negative items reverse-coded. Respondents were then split into three groups of high (13%), medium (68%), and lower levels of contentedness (13%).

Average test scores for each bedroom television (TV) status



Sleep disturbances and insufficient sleep

TV exposure associated with sleep disturbances in 5- to 6-year-old children

E. JUULIA PAAVONEN¹, MARJO PENNONEN², MIRA ROINE², SATU VALKONEN² and ANJA RIITTA LAHIKAINEN²

¹Department of Child Psychiatry, University of Helsinki, Helsinki and ²Department of Sociology and Social Psychology, University of Tampere, Tampere, Finland

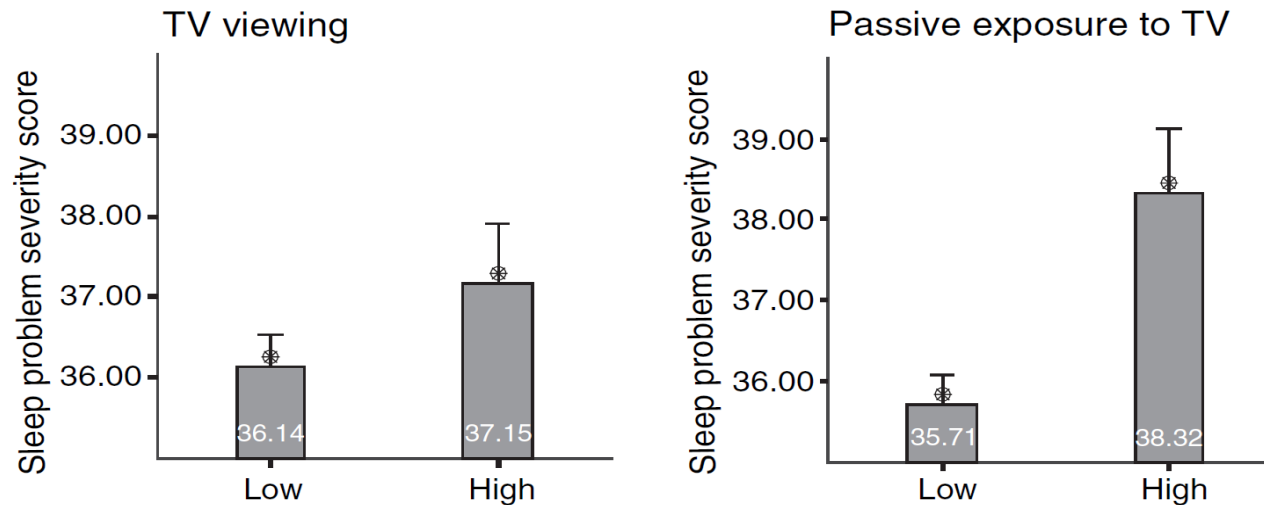


Figure 1. Mean sleep problem severity scores in children with low and high active TV viewing (dichotomized at 11.6 h week⁻¹) and passive exposure to TV (dichotomized at 15.0 h week⁻¹). The error bars represent the standard error of mean.

TV exposure associated with sleep disturbances in 5- to 6-year-old children

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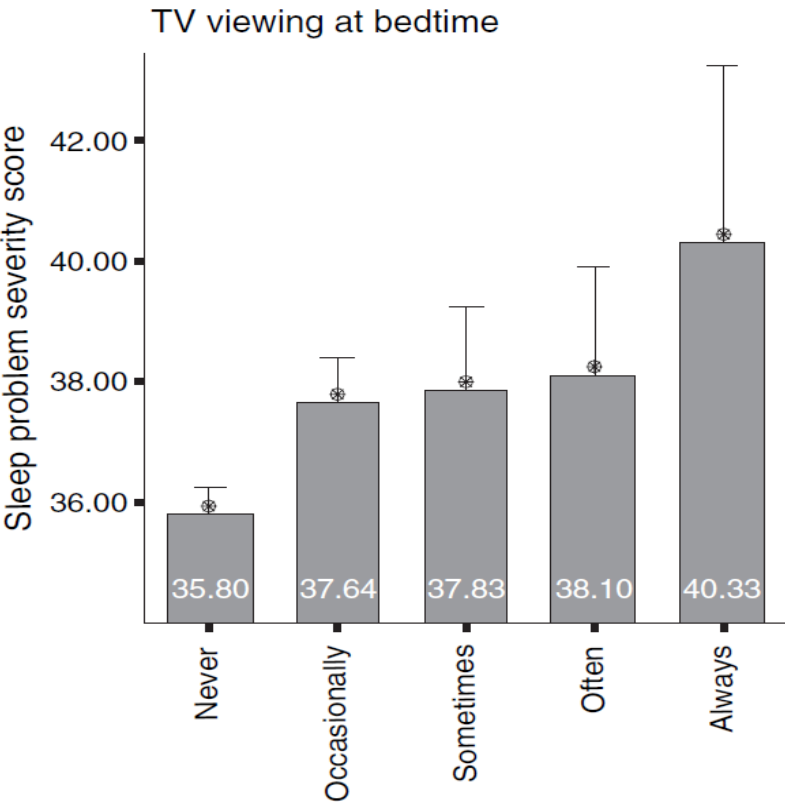


Figure 2. Mean sleep problem severity scores in children with different frequency of TV viewing at bedtime. The error bars represent the standard error of mean.

TV exposure associated with sleep disturbances in 5- to 6-year-old children

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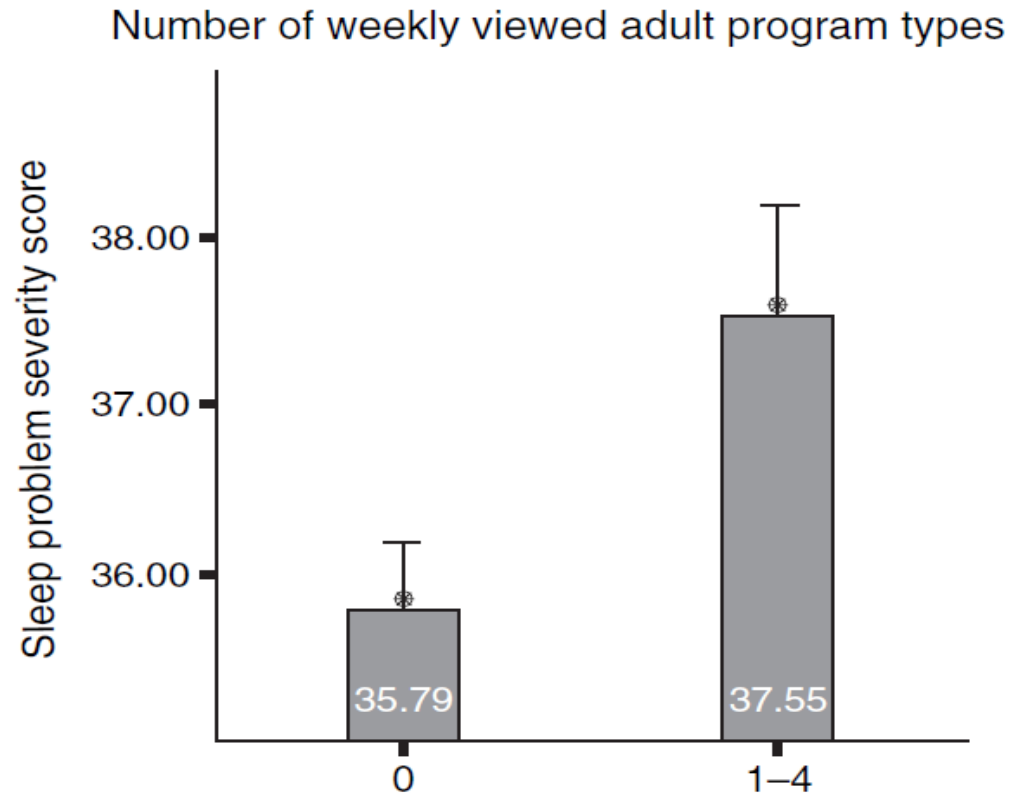


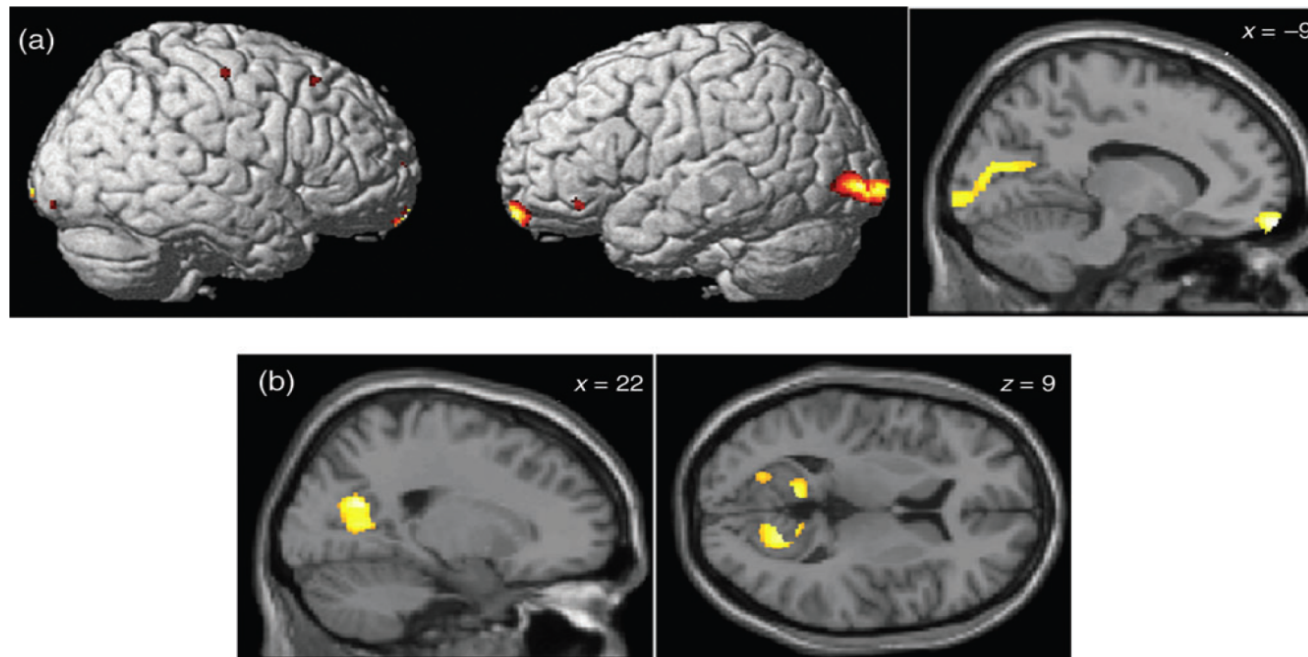
Figure 3. Mean sleep problem severity scores in children with no adult program exposure and others. The error bars represent the standard error of mean.

Attention Deficit and Hyperactive Disorder

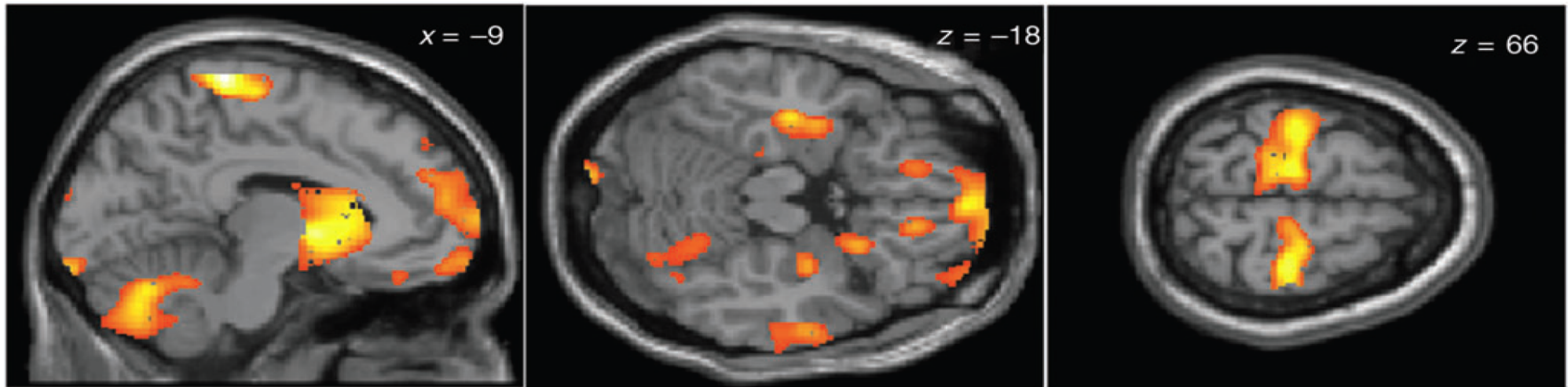
ADHD

The Impact of Television Viewing on Brain Structures: Cross-Sectional and Longitudinal Analyses

Hikaru Takeuchi¹, Yasuyuki Taki^{1,2,3}, Hiroshi Hashizume¹, Kohei Asano¹, Michiko Asano¹, Yuko Sassa¹, Susumu Yokota⁴, Yuka Kotozaki⁵, Rui Nouchi⁶ and Ryuta Kawashima^{2,4,7}

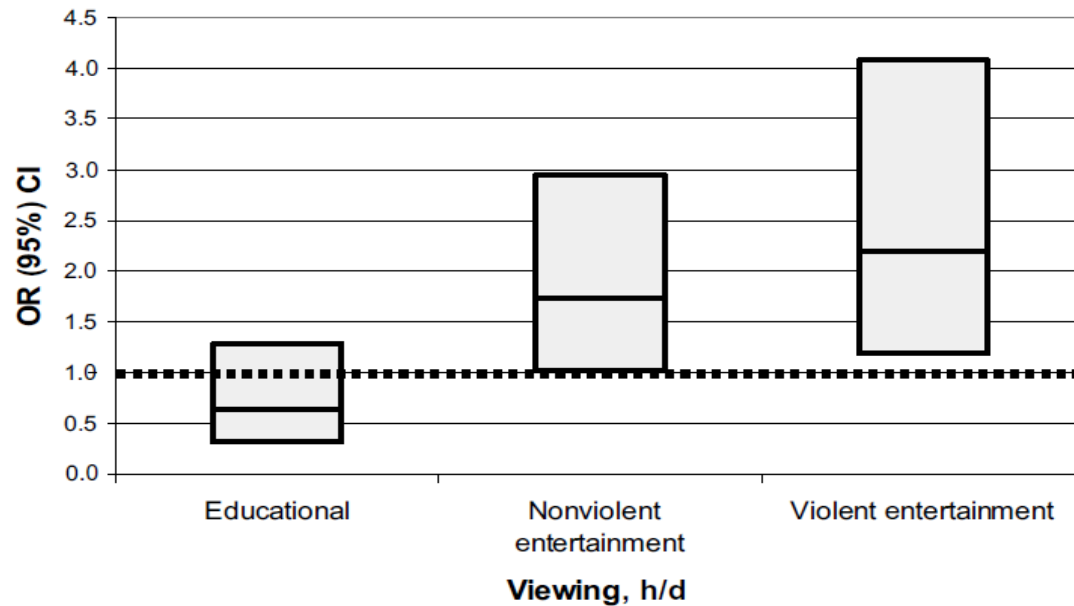


Effects of TV viewing on brain structures of children



Takeuchi et al. Cerebral cortex 2013

Media content at age 3 and rates of ADHD at age 8 years

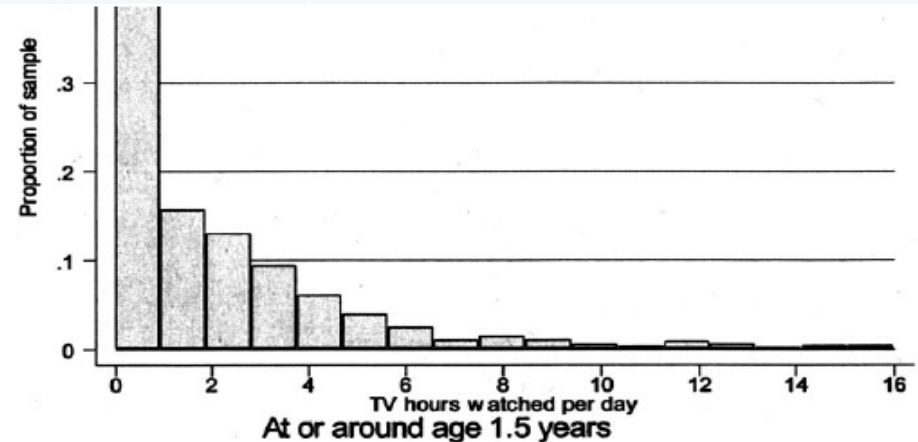
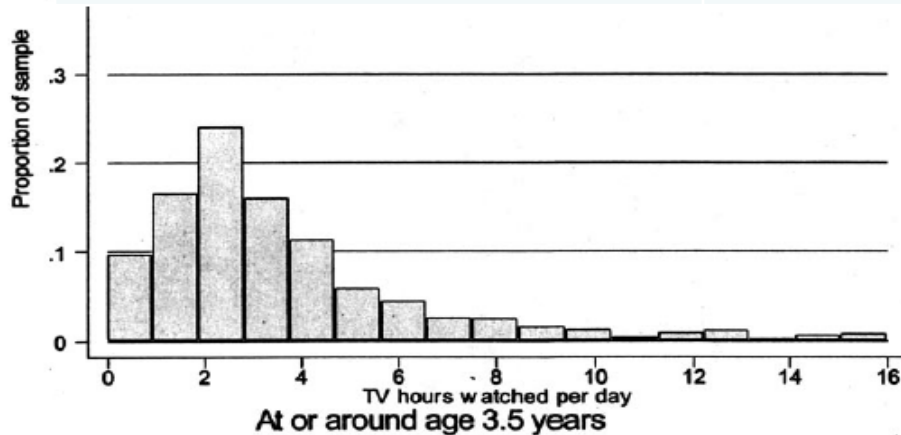


- Every hour of watching violent content was associated with 4 times risk of ADHD
- Watching non violent but non-educational content was associated with 3 times risk

FIGURE 1
ORs of having symptoms of attentional problems according to media content.

Each hour of watching was associated with increased 10% risk of ADHD

% risk for ADHD at age 7	Watching time at age 3	AGE
20 - 10	37% watch 1-2 hours	1 year
40 - 30	14% watch 3-4 hours	
20 - 10	44% watch 4-6 hours	3 years
40 - 30	10% watch >7 hours	



Aggression and Violence

Watching violent content leads to violent behavior



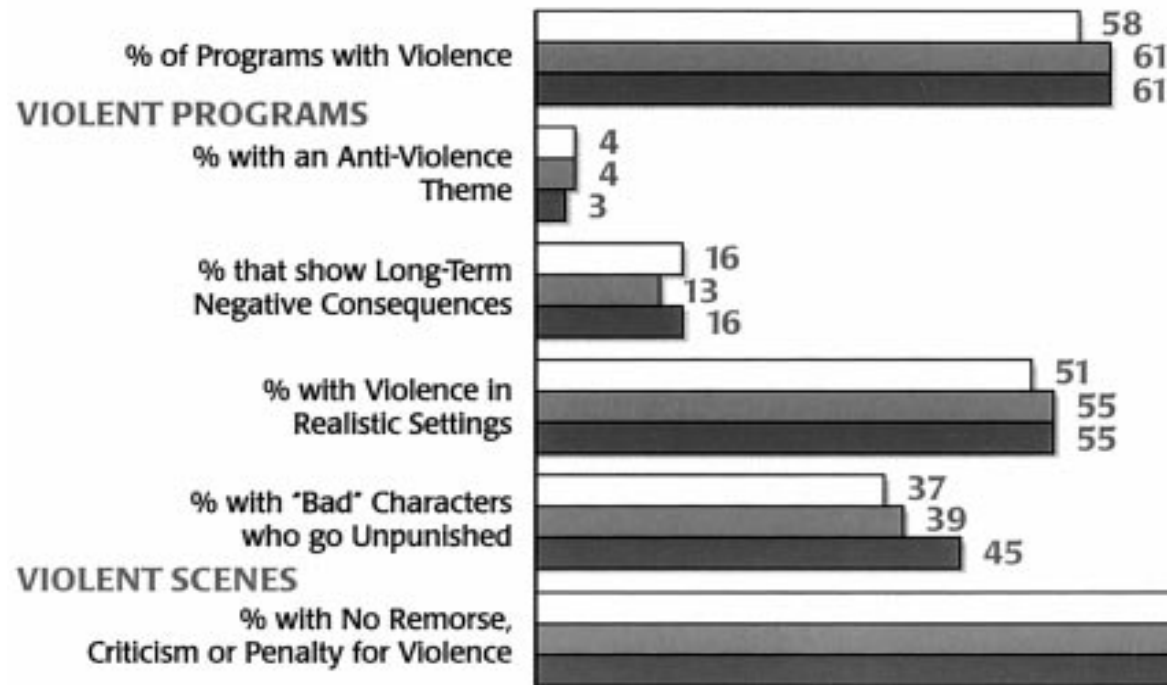
The Social Learning theory

BOBO the doll – Prof. Bandura

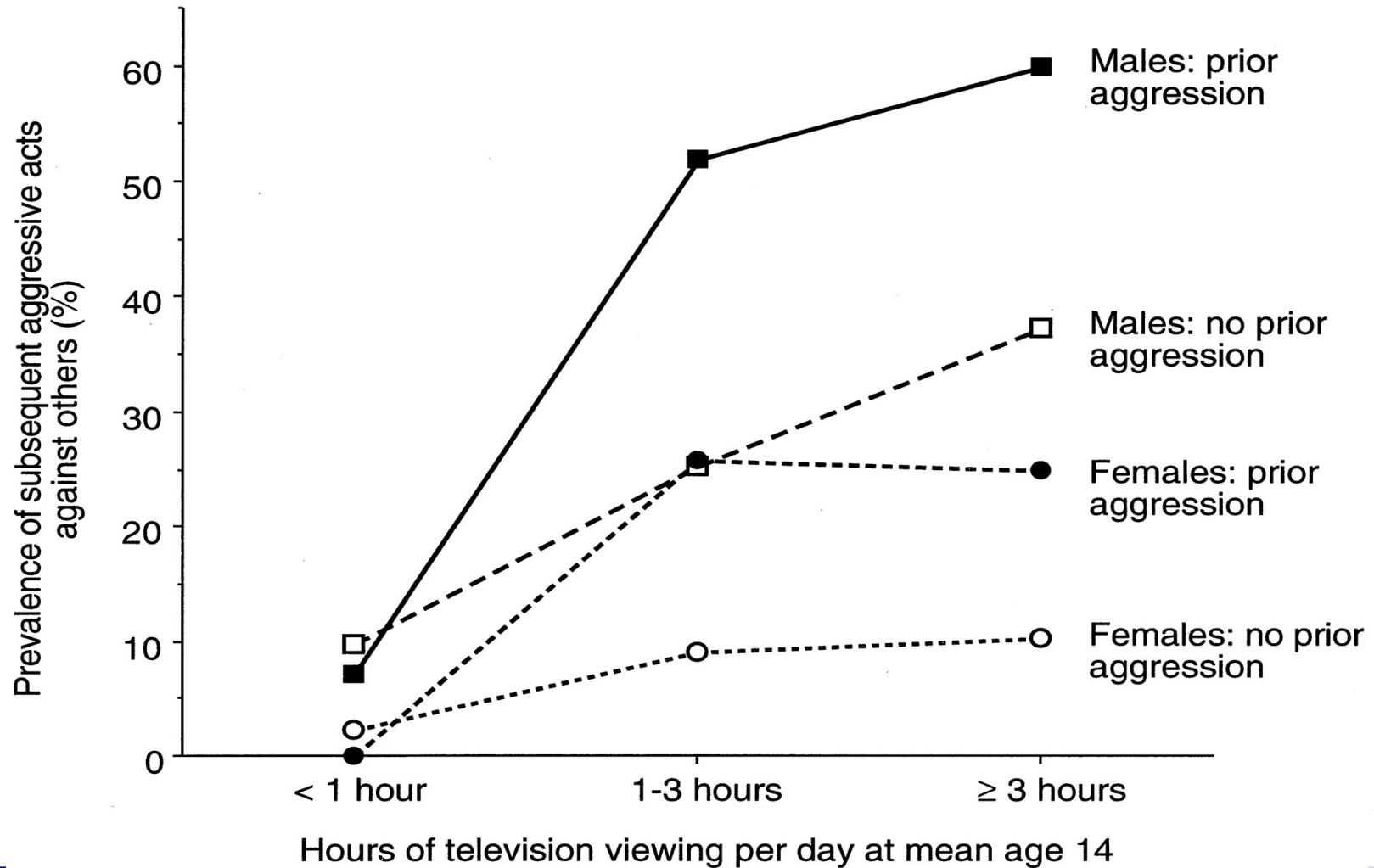
72 boys and girls from the
Stanford University



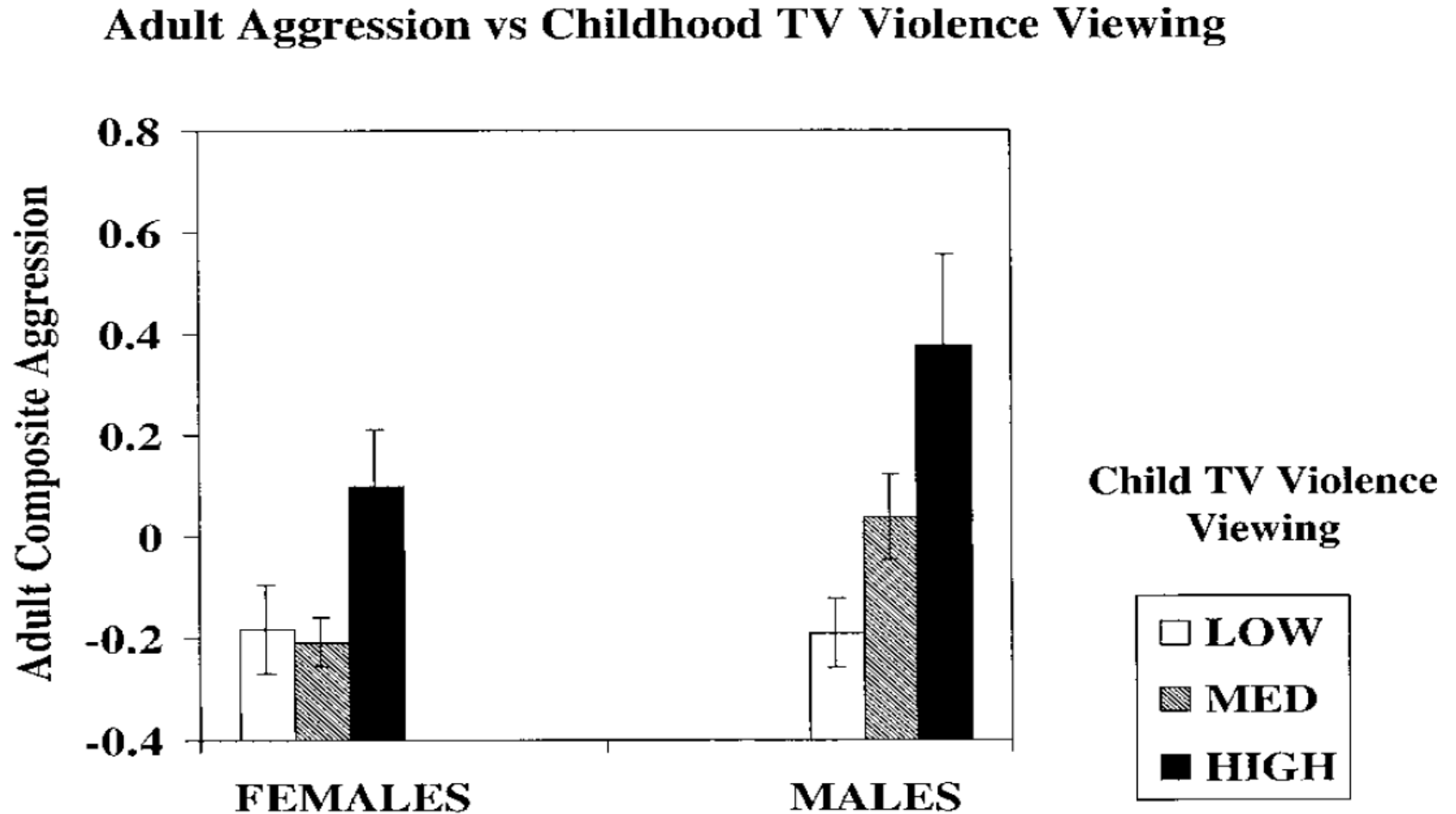
Analysis of 10,000 TV hours over 3 years



Television viewing and aggressive behavior over a 17-year interval in a community sample of 707 individuals



Relationship between TV-violence viewing at ages 6 - 10 and adult
aggressive behavior 15 years later
n=450



Childhood and Adolescent Television Viewing and Antisocial Behavior in Early Adulthood

Lindsay A. Robertson, Helena M. McAnally and Robert J. Hancox
Pediatrics 2013;131;439; originally published online February 18, 2013;
DOI: 10.1542/peds.2012-1582

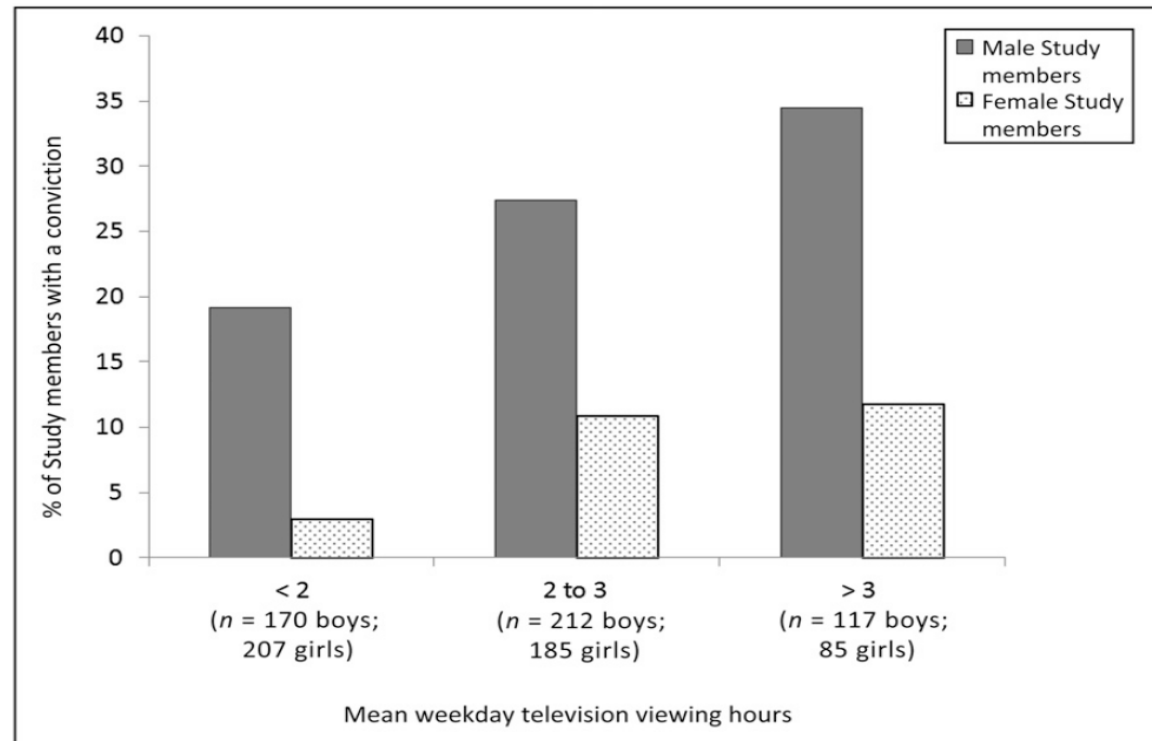


FIGURE 1

Proportion of male and female Study members with a criminal conviction by age 26, by mean weekday television viewing between ages 5 and 15 years.

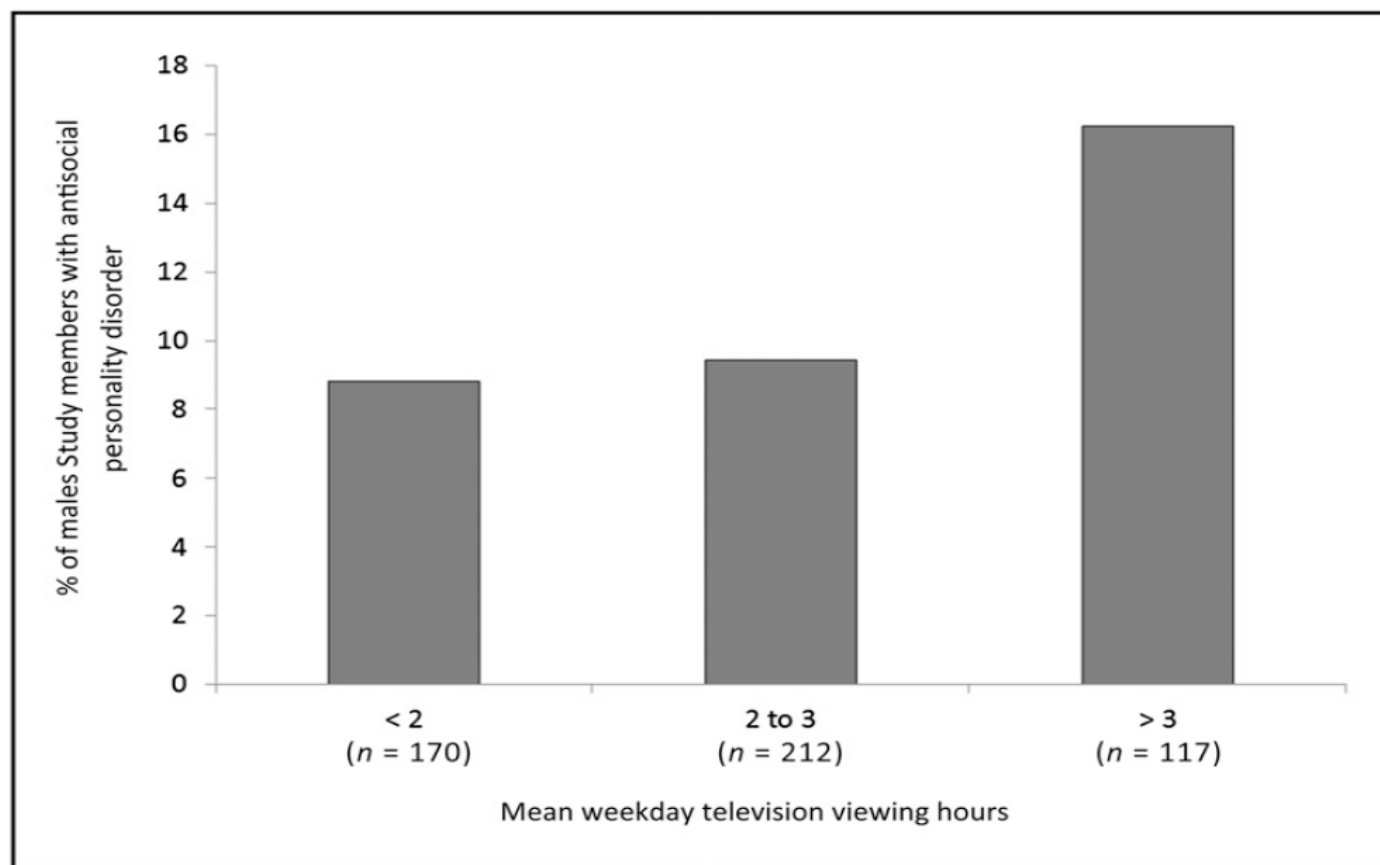


FIGURE 2
Proportion of male Study members diagnosed with antisocial personality disorder by age 26, by mean weekday television viewing between ages 5 and 15 years.

The media is not the cause of violence in our society, however, using violence as a mean to solve conflicts is acquired by the media as it acquired from the parents and the environment

Social and emotional difficulties

Media Use and Personal Contentment

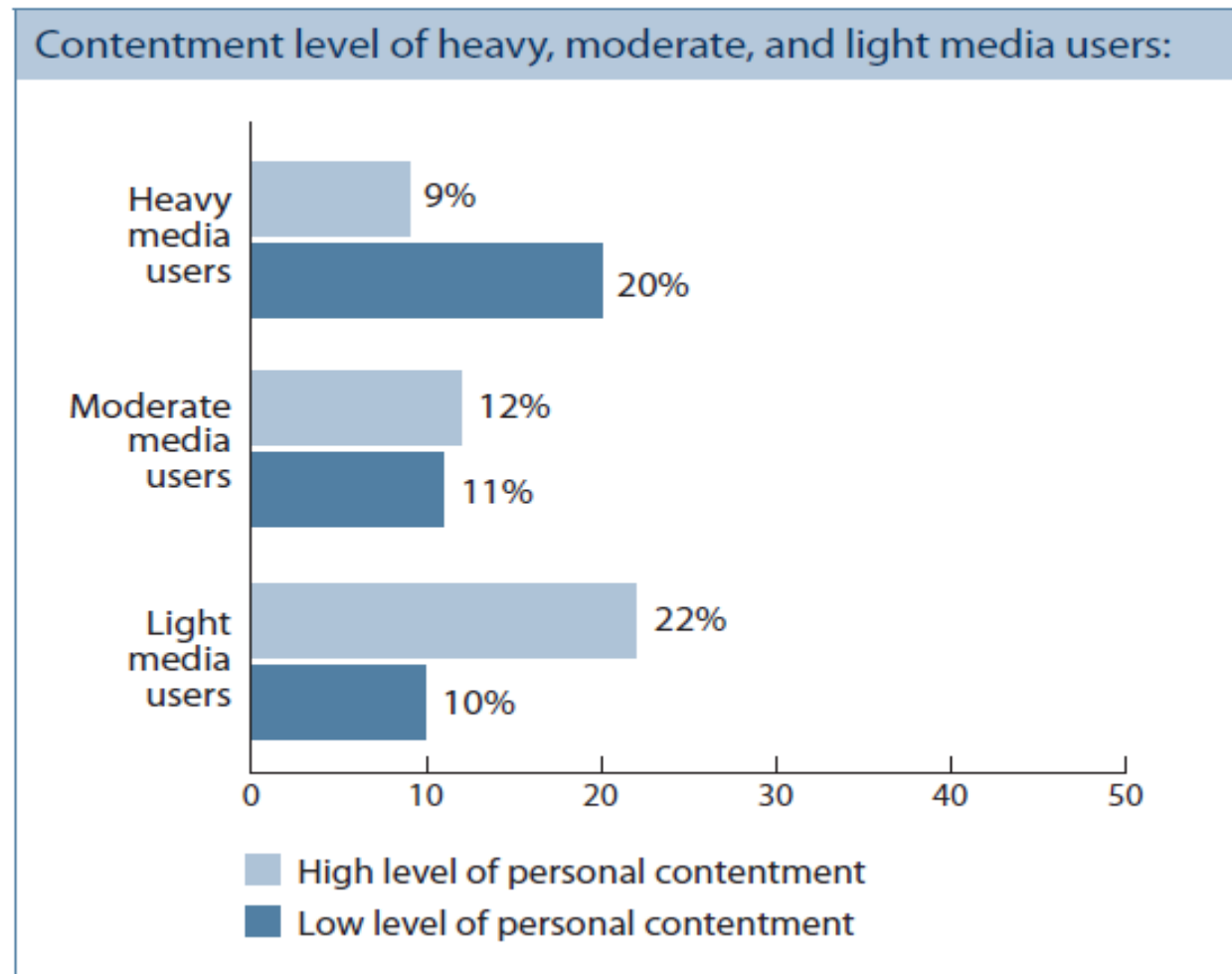


Table 2. Bivariate and Adjusted Associations Between Social-Emotional Difficulties and Likelihood of Mobile Media Use During Different Daily Situations^a

Response	Social-Emotional Difficulties on B/P-PSC, No./Total No. (%)	AOR (95% CI)
To calm down when upset		
Not at all/not too likely	21/73 (28.8)	1 [Reference]
Somewhat/very likely	34/66 (51.5)	2.67 (1.26-5.67)
For peace and quiet in the house		
Not at all/not too likely	17/58 (29.3)	1 [Reference]
Somewhat/very likely	39/82 (47.6)	3.63 (1.52-8.66)
While eating		
Not at all/not too likely	46/113 (40.7)	1 [Reference]
Somewhat/very likely	10/25 (40.0)	0.92 (0.36-2.38)
While in public (eg, riding on public transit)		
Not at all/not too likely	34/82 (41.5)	1 [Reference]
Somewhat/very likely	21/54 (38.9)	0.81 (0.37-1.75)
To keep occupied while parent does chores		
Not at all/not too likely	18/47 (38.3)	1 [Reference]
Somewhat/very likely	38/94 (40.4)	1.40 (0.60-3.27)
At bedtime		
Not at all/not too likely	46/115 (40.0)	1 [Reference]
Somewhat/very likely	11/26 (42.3)	1.04 (0.41-2.62)

Media use and depression: Exposure, household rules, and symptoms among young adolescents in the United States

David S. Bickham, PhD^{1,2,3}, Yulin Hswen, MPH^{1,2,4}, and Michael Rich, MD, MPH^{1,2,3,4}

Depression was associated with time spent on mobile phone and TV

	(n = 120)	(n = 104)	EMA (n = 120)
	M (SD)	M (SD)	M (SD)
Television	1.87 (1.52)	3.09 (2.06)	14.68 (11.67)
Video games	1.06 (1.82)	0.75 (1.19)	2.84 (4.59)

Having rules in the home about television viewing and video game play is associated with lower levels of depression

Music	2.51 (3.21)	2.37 (2.80)	4.90 (5.37)
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Overweight and obesity

Less physical activity



Digital and Social media

Michigan children's hospital National Poll on Children's Health 2007

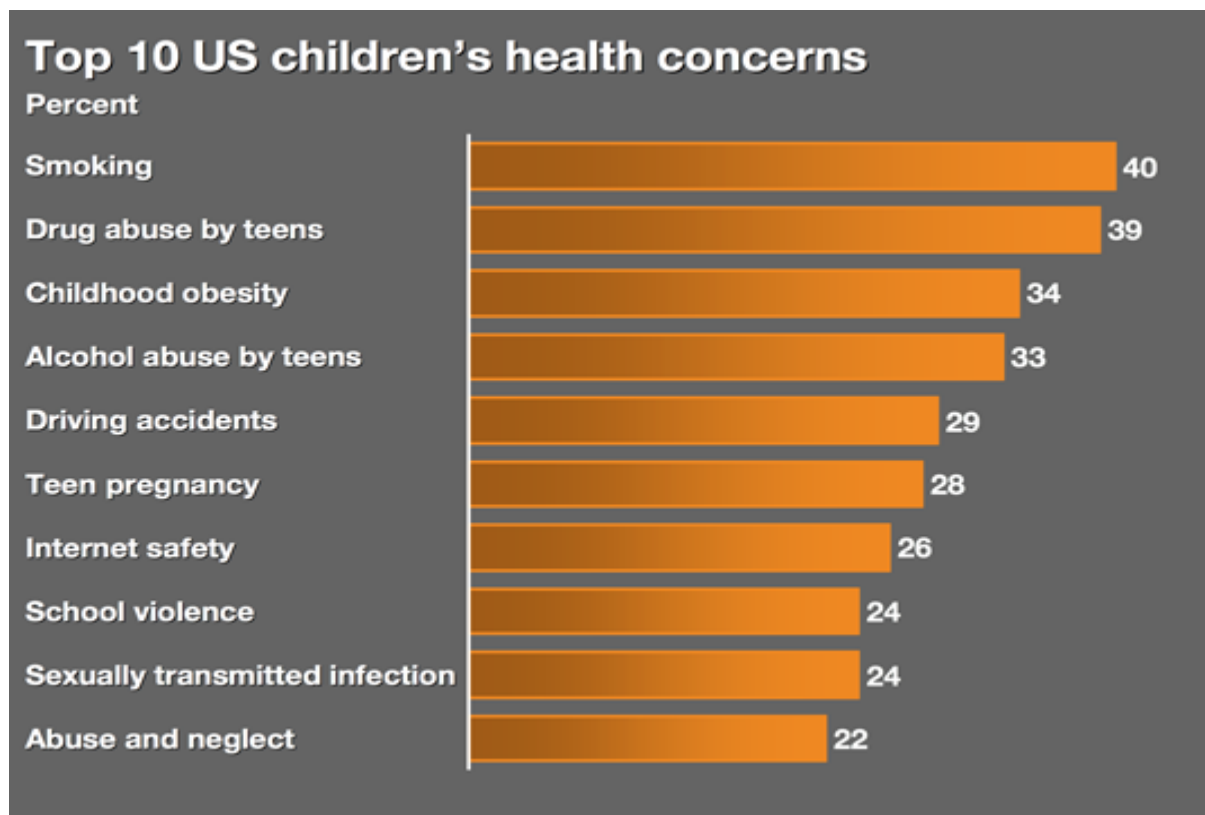


TABLE 2. Sources of Sexual Information for Teenagers*

Teachers, school nurses, or classes at school	40%
Media: TV, movies, or magazines	39%
Parents	36%
Peers	27%
Brothers, sisters, or cousins	12%
MD or nurse	9%

* Adapted from: Princeton Survey Research Associates: *The 1996 Kaiser Family Foundation Survey on Teens and Sex: What They Say Teens Today Need to Know, and Who They Listen to*. Menlo Park, CA: Kaiser Family Foundation; 1996.

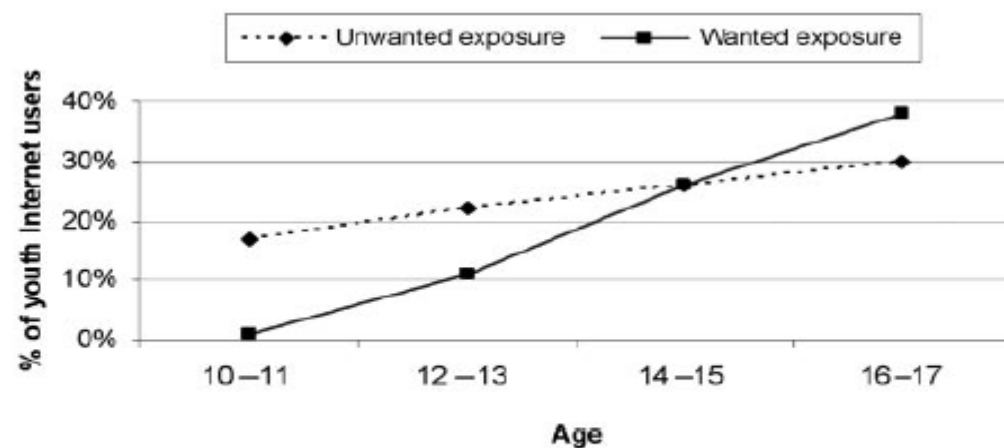


FIGURE 1

Unwanted and wanted exposure to online pornography among boys ($n = 727$). Gender data were missing in 2 cases.

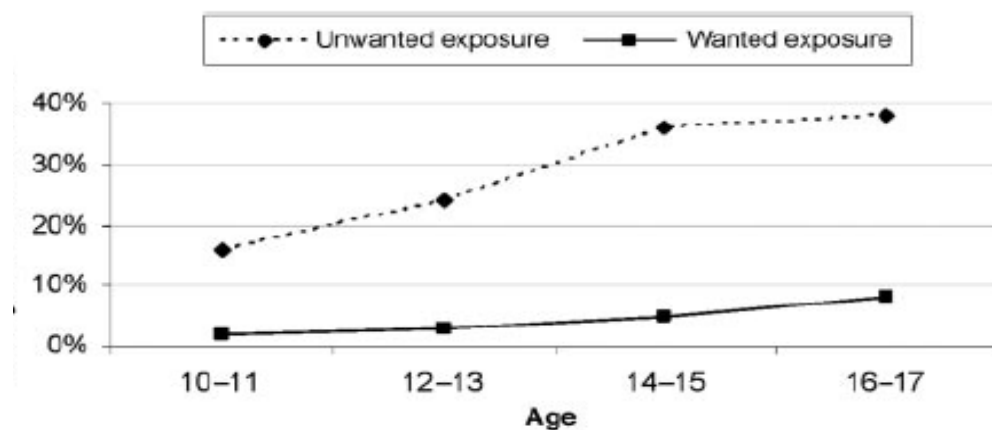


FIGURE 2

Unwanted and wanted exposure to online pornography among girls ($n = 693$). Gender data were missing in 2 cases.

WHAT

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Early childhood is an important time in the formation of lifelong media habits and may be a crucial window for intervention

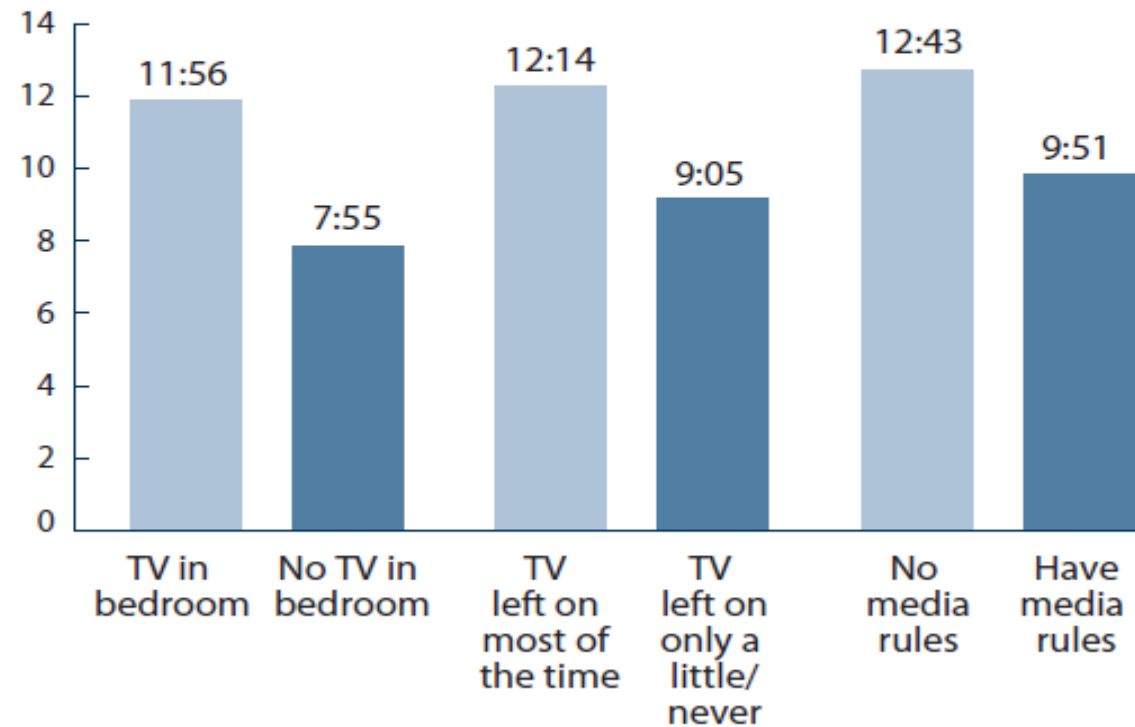


Children whose parents make effort to limit media use

Media Exposure, by TV Environment and Rules

Total media exposure among 8- to 18-year-olds with:

HOURS



Effects of reducing TV exposure on aggressive behavior

- 6-months school intervention to reduce screen time
- Behavior of the children was evaluated by their peers blinded to the intervention
- Children in the intervention group were described as having less violent behavior and language

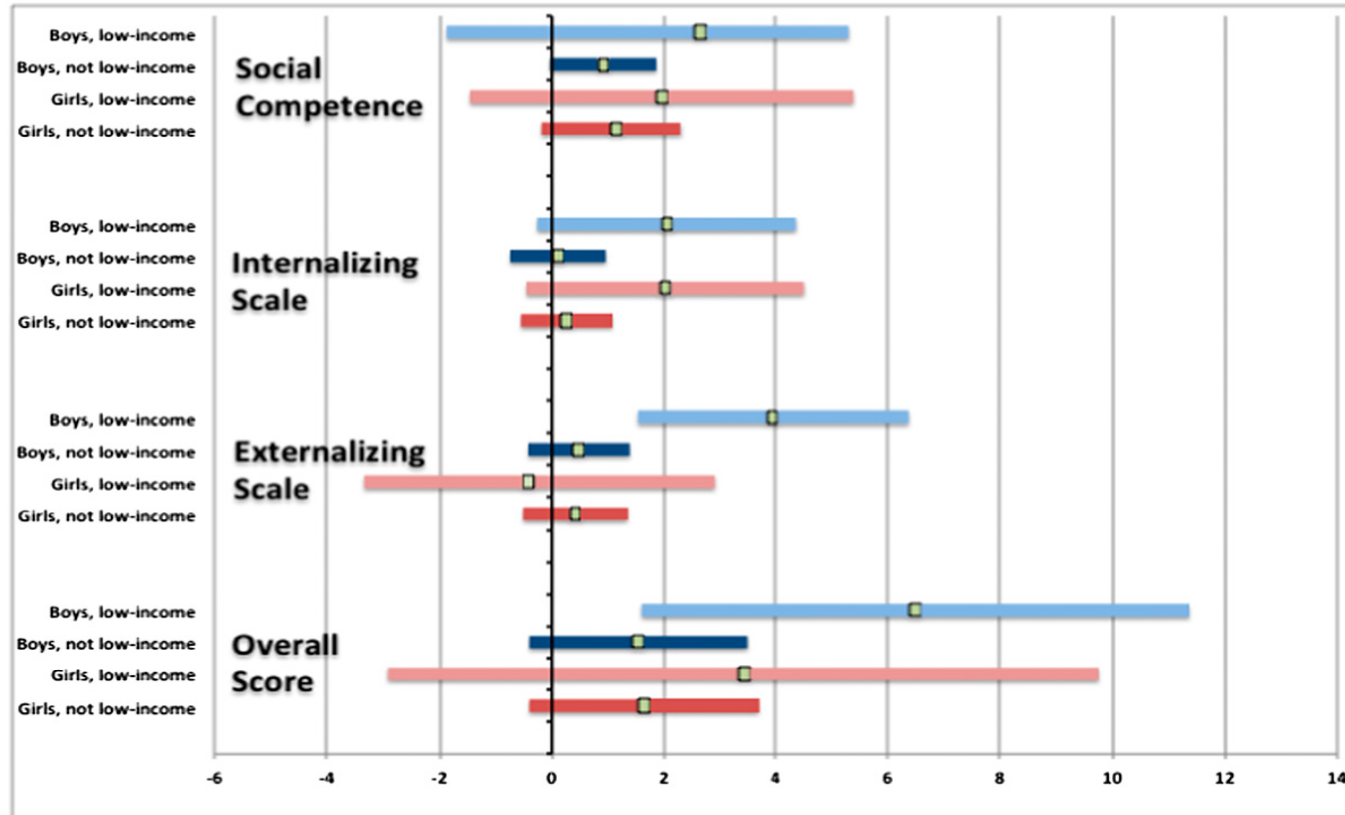
Modifying Media Content for Preschool Children: A Randomized Controlled Trial

Dimitri A. Christakis, Michelle M. Garrison, Todd Herrenkohl, Kevin Haggerty, Frederick P. Rivara, Chuan Zhou and Kimberly Liekweg

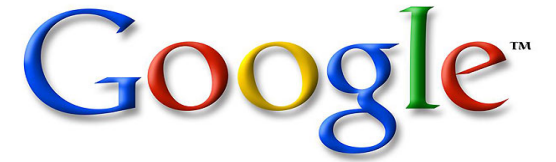
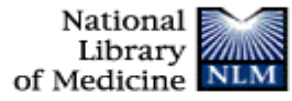
Pediatrics 2013;131;431; originally published online February 18, 2013;

DOI: 10.1542/peds.2012-1493

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Thank you

