



Media Exposure and Children's Health:

Is Excessive Screen Time Associated with Health Risks?



Angelika H. Claussen, PhD, Melody Johnson Morales, PhD, Ruth Perou, PhD, Susanna N. Visser, MS

Background and Rationale

- Electronic media are increasingly becoming a part of children's daily lives
- Excessive use is associated with negative health effects such as obesity, aggressive behaviors, and poor academic achievement
- The American Academy of Pediatrics (AAP) recommends limiting exposure to screen media to 1-2 hours per day for children ≥ 2 years (AAP, 2001)

Research Question

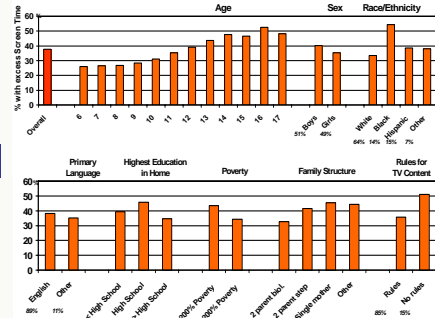
Is media exposure in excess of the limits recommended by AAP linked to health and behavior risks?

Methods

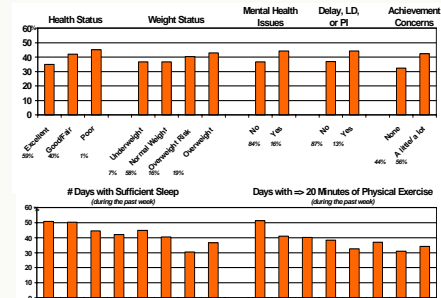
- Sample**
 - 61,211 children 6 to 17 years
 - from National Survey of Children's Health (2003)
- Variables**
 - Media exposure**
 - Parent report of screen media exposure per average school day
 - hours of TV use (including videos and video games)
 - hours of non-school related computer use
 - Excess screen time
 - sum of TV time + computer time > 2 hours
 - Risk indicators**
 - Mental health concerns
 - Diagnosis of ADHD, depression, behavior problem, or need for treatment for emotional, developmental, or behavioral concern
 - Developmental concerns
 - Achievement
 - Developmental delay, physical impairment, or learning disability
 - Physical health
 - Overall health rating
 - Obesity risk (BMI category)
 - Health behavior (during past week)
 - Exercise: days with 20 min of vigorous exercise
 - Sleep: days with insufficient sleep
- Analysis Software:** SPSS v.14 Complex Samples Module

Promoting the health of babies, children, and adults, and enhancing the potential for full, productive living.

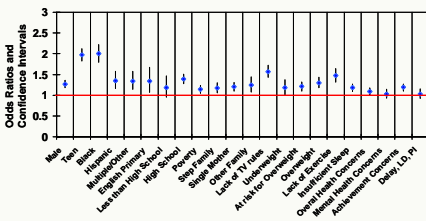
Excess Screen Time by Socio-demographic Factors



Excess Screen Time by Health and Behavior Factors



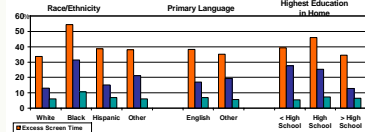
Significant Independent Associations with Excess Screen Time



Results of Logistic Regression: Excess Screen Time

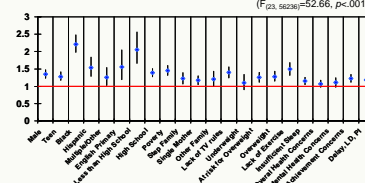
- Overall model was significant ($F_{(22,50130)}=58.99, p<.001$)
- Variance explained with socio-demographic factors: 7%, with health and behavior factors added: 8.7%
- Socio-demographic factors associated with excess screen time
 - Race/Ethnicity: Black > Hispanic, Other > White
 - Primary language: English vs. other
 - Teen age
 - Poverty
 - High school education
 - Family structure other than 2-parent biological family
- Health and behavior factors associated with excess screen time
 - Less than excellent overall health
 - Obesity risk
 - Lack of exercise
 - Poor sleep
 - Achievement concerns
 - Lack of rules about TV content
- NOT independently associated
 - Less than High School education
 - Mental health concerns
 - Developmental delay, or learning disability, or physical impairment

Factors Associated with Type of Media

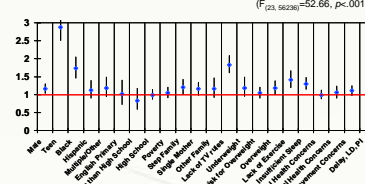


- Type of media
 - 17% of children used >2 hours of TV alone
 - 7% of children used >2 hours of Computer alone
- Patterns of excess use of TV vs. Computer different for
 - Household education
 - Race/Ethnicity
 - Primary language
- Different patterns of association emerged when examining use of each type of media separately

Logistic Regression: Excess TV Time (controlling for computer time)



Logistic Regression: Excess Computer Use (controlling for TV time)



Conclusions and Future Directions

- Rates of excessive screen time vary with socio-demographic factors
- Excess time with screen media is associated with a number of health and behavioral risk factors, even when controlling for socio-demographic factors
- Parental report of mental health concerns was not related to excessive screen time
- Further studies may be needed:
 - To understand patterns of exposure to TV, electronic games, and computer use separately
 - To examine the association of these factors with different types of media content

Limitations

- Data are cross-sectional, therefore no causal inferences can be made
- Parental report may under- or over-estimate media exposure and diagnosed conditions
- Information is on exposure only. No information on content of media was available

Reference: AAP Committee on Public Education. Children, adolescents, and television. Pediatrics 107 (2): 423-426, 2001.