

The Remote, the Mouse, and the No. 2 Pencil

The Household Media Environment and Academic Achievement Among Third Grade Students

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FROM ABSTRACT

Background

Media can influence aspects of a child's physical, social, and cognitive development; however, the associations between a child's household media environment, media use, and academic achievement have yet to be determined.

Objective

To examine relationships among a child's household media environment, media use, and academic achievement.

Methods

During a single academic year, data were collected through classroom surveys and telephone interviews from an ethnically diverse sample of third grade students and their parents from 6 northern California public elementary schools.

The data included academic achievement assessed through the mathematics, reading, and language arts sections of the Stanford Achievement Test.

Results

The household media environment is significantly associated with students' performance on the standardized tests.

It was found that having a bedroom television set was significantly and negatively associated with students' test scores, while home computer access and use were positively associated with the scores.

Absence of a bedroom television combined with access to a home computer was consistently associated with the highest standardized test scores.

Conclusion

This study adds to the growing literature reporting that having a bedroom television set may be detrimental to young elementary school children.

It also suggests that having and using a home computer may be associated with better academic achievement.

THESE AUTHORS ALSO NOTE:

Many parents assume that television is bad and computers are good, at least when it comes to children's cognitive development and academic achievement.

"A common argument is that watching television is passive, promoting zombie-like behaviors, while computer use is active, encouraging problem solving and mental stimulation."

"United States households with children have an average of 2.8 television sets, and 97% of these households have at least 1 VCR or DVD player."

"More than two thirds of households with children have at least 1 computer and more than half (53%) have home Internet access."

"Youth concurrently use screen-based electronic media for up to 6 hours per day."

People who use media more heavily are at greater risk for obesity and aggressive behavior.

Children's advocates have claimed that media use interferes with how children allot time and focus on their studies.

Greater television access and use are associated with less time reading and doing homework.

"In a recent experiment, those doing homework with a television soap opera broadcast in the background performed significantly more poorly and slowly than those with music videos, radio, and nothing playing in the background."

A study found that boys who spent more time playing video games were less academically successful than their peers who played infrequently.

"Researchers have found that computer use, which includes playing games, word processing, and seeking information, is associated with more advanced spatial, iconic, and visual skills."

"Those who use computers heavily had better school grades than their peers who reported less computer use."

This study assessed third graders in mathematics, reading, and language arts. Students also reported on their household media environments, including the number of working television sets, computers, VCRs, and video game players in the home. Students also reported the presence of a television set in the room they regularly slept in and whether they had access to and used a home computer.

Because self- and parent-reported child media use is subject to measurement error, each having its own strengths and weaknesses, we performed 2 sets of analyses. Each parent estimated, in hours and minutes, how much time his or her child spent on an average school day and an average weekend day watching regular television (broadcast, cable, or satellite), using a computer (not for homework), watching video tapes, playing video games, reading (not for school), and doing homework. Students reported the time they spent watching television, playing on a computer, watching movies or videos, playing video games, reading (not for school), and doing homework, reporting separately for before and after school.

Students' academic performance in mathematics, reading, and language arts were assessed with the Stanford Achievement Test.

"Students reported an average of 3.3 television sets per household, with only 5% of students indicating just 1 home television set."

"The surveys revealed that VCRs were ubiquitous, with 2% of students saying that no television sets in their homes were connected to VCRs."

"90% reported that they had a video game player that used either a television set or handheld platform."

71% said that they had a bedroom television set.

71% indicated that there was a home computer to which they had access.

97% boys reported video game ownership vs. 80% girls.

"Media environment variables were not significantly associated with the parents' education, student's ethnicity, or primary language spoken in the household."

Children with a bedroom television set reported watching 12.8 hours per week; children without a bedroom television set reported watching 10.7 hours per week.

"Students with a bedroom television scored significantly lower on all the tests compared with their peers without bedroom television sets." **[Important]**

"Consistently, those with a bedroom television but no home computer access had, on average, the lowest scores and those with home computer access but no bedroom television had the highest scores." **[Important]**

"Regardless of whether we used the parents' or students' estimates, a bedroom television had a negative relationship with the predicted test scores."

COMMENT BY AUTHORS

"This research shows that even after accounting for demographics and reported activities, third grade students' academic achievement was significantly related to their household media environment; consistently, having a bedroom television was related to worse test performance whereas having home computer access was associated with better performance. The observed differences were substantial, with scores varying by 10 to 20 points on a normal equivalence-based scale."

"Children with bedroom television sets have more trouble falling asleep and have decreased sleep duration. Such sleep disturbances, rather than viewing hours, might be impacting students' academic performance."

Studies indicate that children with poorer grades are more likely to watch violent content television.

These authors "recommend that parents not allow televisions in the children's bedrooms or remove them if they are already present."

"We know of no research suggesting that children benefit from having a bedroom television while other evidence shows that children who have bedroom televisions are at greater risk for being overweight and having trouble sleeping."

"Our results add worse performance on standardized tests to the list of adverse risks associated with having a bedroom television."

These authors note that this study focuses on academic achievement, but acknowledge that media also influences children physically, socially, and cognitively.

KEY POINTS FROM DAN MURPHY

- 1) Media influences a child's physical, social, and cognitive development, and academic achievement.
- 2) Having a bedroom television results in significantly worse performance on standardized tests.
- 3) Having access to a home computer and using it is positively associated with test scores.
- 4) The best test scores were had by those children with no bedroom television combined with access to a home computer.
- 5) This study adds to the growing literature reporting that having a bedroom television set is detrimental to young elementary school children.

- 6) "United States households with children have an average of 2.8 television sets, and 97% of these households have at least 1 VCR or DVD player."
- 7) Children use screen-based electronic media for up to 6 hours per day.
- 8) Children and adults who use media more heavily are at greater risk for obesity and aggressive behavior.
- 9) Greater television access and use are associated with less time reading and doing homework.
- 10) Boys who spent more time playing video games are less academically successful than their peers who played infrequently.
- 11) "Students reported an average of 3.3 television sets per household, with only 5% of students indicating just 1 home television set."
- 12) "The surveys revealed that VCRs were ubiquitous, with 2% of students saying that no television sets in their homes were connected to VCRs."
- 13) "90% reported that they had a video game player that used either a television set or handheld platform."
- 14) 71% of children had a bedroom television set.
- 15) 97% boys reported video game ownership vs. 80% girls.
- 16) Children with a bedroom television set watched 12.8 hours per week.
- 17) "Students with a bedroom television scored significantly lower on all the tests compared with their peers without bedroom television sets." **[Important]**
- 18) The lowest test scores were from children who had a television in their bedroom and no access to a computer.
- 19) Children with bedroom television sets have more trouble falling asleep and have decreased sleep duration, which impact their academic performance.
- 20) Children with poorer grades are more likely to watch more violent television.
- 21) These authors "recommend that parents not allow televisions in the children's bedrooms or remove them if they are already present."
- 22) No children benefit from having a bedroom television.
- 23) Bedroom televisions increase being overweight and having trouble sleeping.