

Children's Use of Digital Devices for Learning at Home in 2017 and 2022

Michele Stites, Ed.D., Susan Sonnenschein, Ph.D., Hatice Gürsoy, M.A., Besjane Kraniqi, M.A.
University of Maryland, Baltimore County



Introduction

- Most studies examining children's use of digital devices have examined device-based learning in school but not at home.
- Parents play a more central role in the home (Hoover-Dempsey et al., 2005) and children's use of devices at home, therefore, is likely very different from that in school (Hadlington et al., 2019; Ronimus & Lyytinen, 2015).
- Moreover, digital usage at home no doubt has changed since COVID-19 with its demands for virtual instruction.

Research Questions

1. What digital devices do children have access to at home and how often do children use these devices to support their reading, mathematics, writing, and science learning? Are there any differences in device use based on academic subject or grade?
2. What are parents' views regarding children's use of digital devices for reading, mathematics, writing, and science?
3. Do parents report their children's use of digital devices at home has changed since the onset of COVID-19?
4. Do parents report a change in their confidence to assist their children with digital devices since the onset of COVID-19?

Method

Participants

- **2017:** On average, parents (N=177) who responded to the survey were mothers (91%), White (82%), college-educated or higher (77%) and 39-years-old (SD = 6.02) and indicated a yearly income above \$74,999 (75%).
- **2022:** On average, parents (N = 392) who responded were mothers (59%), White (53%), college-educated or higher (77%) and 34-years-old (SD = 6.16) and indicated a yearly income above \$50,000 (32%).
- Children of participating parents were about 6.6 years of age (SD= 0.63) and evenly distributed between genders (52% female).

Measure

- Parents of elementary aged children reported on their child's access to devices, amount of use, subject-specific use, and their own confidence and beliefs about device use via an online survey developed by authors.
- Sample items from parent questionnaire in 2017 and 2022

Do you have internet access at home?	Yes/No
Can your children use the internet at home (either supervised or unsupervised)?	Yes/No
What devices does your child use for Math and for Reading?	List all that apply
How confident are you in your ability to assist with activities for which your child uses a digital device? - Reading, Writing, Math and Science	Likert (1-5)

Results

RQ1. Access to digital devices and frequency of usage by subject

- Parents reported that children used digital devices most frequently for reading ($p=.00$).
- Tablets were the most popular digital devices used.

RQ2. Parents' view regarding their children's use of digital device

- Most parents agreed that they had good basic computer skills (93%) & were comfortable working with new devices (89%).
- However, parents were more confident about supporting their children's reading & writing and less confident about supporting math & science ($p<.01$).

Results continued

RQ3. Changes in digital device use since COVID-19

- About half of the parents reported that their children's use of digital devices increased or increased a lot since the start of COVID-19 ($p<.001$).
 - Reading (54%)
 - Mathematics (53%)
 - Writing (50%)
 - Science (49%)

RQ4. Changes in confidence to assist children

- Slightly fewer than half the parents reported that their confidence to use digital devices to assist their children's learning increased or increased a lot since before COVID-19 ($p<.01$):
 - Reading (46%)
 - Mathematics (44%)
 - Writing (44%)
 - Science (41%)

Discussion

- Children used digital devices more frequently for reading. It may be because parents encourage children to engage in reading more than other subjects.
- Although parents are more confident in supporting their children's digital use at home since COVID-19, they are less so for mathematics or science.
- These findings can inform the efforts of researchers exploring the use of digital devices as a tool in the home learning environment and educators working with families already making use of these devices at home.