

Investigating the Effects of Screen Time on Infants Aged 0-2

New Mexico Supercomputing Challenge

Final Report

New Futures High School

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Executive Summary

With the rapid rise of smartphones, tablets, and other electronic devices, screen time for young children, including infants, has increased significantly. Our project aims to investigate how screen time impacts the development of infants aged 0-2. Research suggests early exposure to screens may affect key developmental areas such as cognitive abilities, language, and social interactions. Understanding these effects is vital for parents and caregivers to support healthy child development. This interim report outlines our progress, methodology, and expected outcomes.

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Overview

This study examines the impact of screen time on early childhood development by collecting survey data from parents at New Futures High School and local parent groups. The survey, designed with the assistance of ChatGPT and hosted on Google Forms, gathers information on children's screen time habits, media consumption, and observed developmental changes. Statistical methods will be used to analyze correlations between screen exposure and developmental delays, particularly in language and social skills. Research from sources such as JAMA Pediatrics and UNICEF informed the survey design, emphasizing concerns about excessive screen time. Preliminary expectations suggest that increased screen time may be linked to developmental challenges, with comparisons to past generations offering further insights.

The findings aim to provide guidance on media exposure recommendations, helping parents make informed decisions to support their children's cognitive, emotional, and social development. The survey distributed received 6 responses of baby ages of currently pregnant to 19 months. The respondents reported no hours to 1-2 hours a day. They reported never introducing screen time to introducing it at 6-12 months. The content watched on screens in order of highest to lowest frequency is children's programs, educational apps, and family movies. Children's programs were most reported at 50% of respondents. 50% put no limits on their child's screen. 33% was not sure about limits on screen time and 16% said they slightly follow guidelines. 66% reported zero changes in their child's behavior when screen time was taken away. 16% reported yes, occasional behavior changes and 16% were not sure. It was reported that 66% no effects on sleep, 16% yes sleep was effected by screen time, and 16% were not sure. 50% reported no impact on their child's development due to screen time, 33% not sure, 16% reported a positive impact. 33% of respondents reported the current guidelines for screen time are just right, 50% were not sure, 16% reported the guidelines are too lenient. 50% reported they would limit screen time more for their next child, 33% reported they would keep screen time the same, 16% would allow more screen time.

Our Approach

To explore the effects of screen time, we have designed a survey to collect data from parents at New Futures High School and other local parent groups. The survey asks about the amount of screen time, the types of media children engage with, and any developmental changes parents have observed, such as delays in language, behavior, and social skills.

Computationally, we will analyze the data using basic statistical methods to identify correlations between screen time and developmental outcomes. We used ChatGPT to help design the survey, ensuring that the questions would capture the relevant data based on existing research. The survey was then created using Google Forms, making it accessible to participants. By analyzing the survey results, we hope to better understand how screen time impacts early childhood development.

The Impact

This research is important because the early years of life are critical for cognitive, emotional, and social development. If screen time negatively impacts children's development, it could have long-term consequences on their academic performance, social interactions, and mental health. The findings from this study will help guide future recommendations for screen time and support parents in making informed decisions about media exposure.

Next Steps

- Find published data and collect more data
- Create computations based on data
- Create recommendations and screen alternatives for parents
- Compare a control group and experimental group that follows the recommendations

References

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