

Mobile media device use and symptoms of problematic media use in a preschool-age sample

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Introduction

Excessive media use in children is associated with poorer executive function, obesity, poorer sleep quality and quantity, and cognitive, social-emotional and language delays¹. Recent surveys show young children are getting increasingly more screen time, especially on mobile devices, and have greater access to mobile devices². Media use on touch screen devices frequently reinforce engagement³. We explored whether such media use is differentially associated with problematic media use behaviors at a young age.

Methods

- Baseline data was analyzed for parents and children, aged 2-5 years old, enrolled in a prospective cohort study in rural New Hampshire and Vermont.
- Bivariate analyses of demographics and media use characteristics and problematic media use (PMU) score.
- Multivariable linear regression was used to model associations between PMU and child media use, adjusted for covariates.
- Bivariate analyses of PMU and child media nag behaviors.

Measures

Problematic media use (PMU): validated 9-item parent reported scale used to assess addictive-like characteristics of children's media use⁴

Child media nag: developed by Emond lab, measure of externalized behaviors related to media use in children (includes crying, whining, making physical gestures)

Results

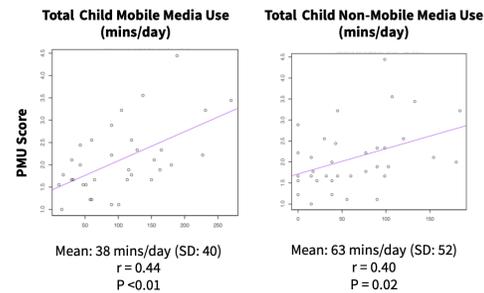
Demographics and PMU

Higher child PMU score associated with:

- Male sex ($p=0.01$)
- Higher annual household income ($p>0.1$)
- Higher household chaos score ($r = 0.53$ [$p<0.01$])
- More frequent child use of screen media during dinner ($p<0.01$)
- More parent media use ($p<0.01$)

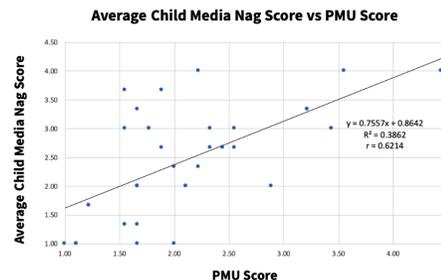
Child Media Use and PMU

Child PMU score is positively and linearly associated with child mobile (Pearson's $r = 0.44$ [$p<0.01$]) and non-mobile ($r=0.40$ [$p<0.01$]) media use.



Child Media Nag and PMU

Strong positive correlation ($r = 0.62$ [$p=0.001$]) between child media nag score and child PMU score.



Linear regression models

Adjusting for child age and sex, household income, household chaos, and child use of media when eating dinner, each 15-minute increase in daily mobile media use was associated with a 0.10 increase in child PMU score (95% CI: 0.02, 0.18, $p=0.02$; $R^2=0.53$), while non-mobile media use was not associated with child PMU ($p=.24$). Results were consistent when further adjusting for parent daily media use.

Results (cont.)

Sample characteristics

Number of children	35 children
Age	2-5 years at time of enrollment
Race	94% non-Hispanic white
Sex	60% female
Parent Education	78% Bachelor's degree or higher

Conclusions

- Greater use of mobile media devices was associated with higher PMU scores while non-mobile media use was not.
- Higher PMU scores were associated with increased child media nag behaviors (crying, whining, physical gestures).
- Effects were small and causality cannot be inferred, yet findings support research to assess if media use relates to PMU differentially by media device type.
- Future studies are needed to elucidate direction of effect between problematic media use, media characteristics, and child media nag behaviors and how much screen time is associated with clinically relevant manifestations of problematic media use.

References

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