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Emerging digital generations? Impacts of child digital use on mental and socioemotional well-being across two cohorts in Ireland, 2007 – 2018

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- This paper utilized data from the 1998 and 2008 Growing Up in Ireland (GUI) birth cohorts to investigate the **patterns and effects of digital usage on child socioemotional well-being** between two cohorts of children grown up in the ‘digital age’.
- **Multivariate linear regression models** were conducted using these two cohorts from the Growing Up in Ireland (GUI) study at age 9 (N = 13,203).
- **Objective:** Conduct the first analysis of **cohort changes** on the effect of child digital use on well-being outcomes by providing evidence on the persistence and changes in the impact of digital use on child socioemotional outcomes across two recent cohorts.

BACKGROUND: Digital Use & Child Well-being



- The literature on how children's digital engagement influences their well-being has provided results that are **mixed and inconclusive** (Castellacci and Tveito 2018; Orben and Przybylski 2019a, b; Stiglic and Viner 2019).
- Previous literature indicates the need for research that considers the **quantity, quality and context** of children's digital activities and how it impacts their well-being over the life course.



BACKGROUND: Cohort effects?

- Compared to children born in the late 1990s, children born around 2010 have been **socialized since birth** with the power, portability and ubiquity of newer **'digi-tod' technologies** and digital platforms e.g. smartphones, tablets, etc. (Livingstone and Helsper 2007; Mascheroni and Cuman 2014).
- In addition to widely **differing economic, social, and cultural conditions**, children born around 2010, compared to those born one decade earlier, are also more likely to be socialized in **digitally rich family contexts** at **very early ages** (Bennett et al. 2008; Brito et al. 2018; Mascheroni & Olafsson 2016).
- However, the existing body of research has – to our knowledge – not provided evidence on whether the **effect of digital use on child well-being outcomes has changed over the last decade**.



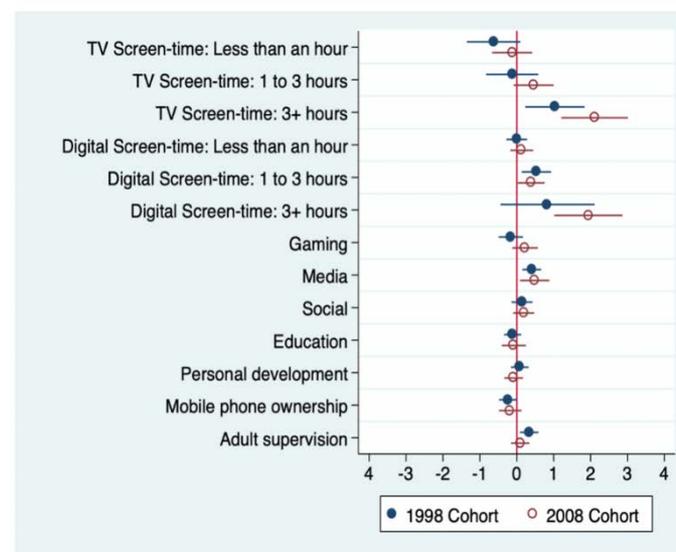


- We utilized **Age 9** waves of the GUI in both available cohorts:
 - Wave 1 of the ‘1998 Child Cohort’ (N = 8,568), interviewed in 2007/2008
 - Wave 5 of the ‘2008 Infant Cohort’ (N = 8,032), interviewed 2017/2018
- Our main dependent variable was the **Strengths and Difficulties Questionnaire Total Difficulties Score (TDS)**, ‘a concise and well-validated tool’ used to measure socioemotional well-being of 3 to 16-year-olds (Goodman and Goodman 2011).
- For our key independent variables, we utilized measures that aimed to assess both **quantity** (i.e. time spent on digital devices per average weekday) and **quality** (i.e. engagement in specific digital activities) of digital use.



- Our analyses consisted first of **OLS regression models** to assess the magnitude and significance of the various independent and control variables on SDQ scores.
- Second, we examined the digital effects on well-being outcomes separately by **gender and SES**, with interaction effects.
- Third, we ran additional **robustness checks** with 1) quantile regression models to examine how the impact of digital use varies across different SDQ scores, and 2) additional analyses for sub-scales included in the SDQ scores.

FIGURE A1: Linear Regression Models. Child Socioemotional Problems (SDQ) by Cohort



Note: Regression coefficients from models of Table 3 (Column 2 and Column 3) for selected variables differentiating between the 1998 cohort (N = 6628) and 2008 cohort (N = 6575), including Confidence Intervals at the 95% level, and adjusting for all the study control variables.



1) In 2017/18 children spent more time on digital devices and social media, while in 2007/2008 children spent more time watching TV and adopted less diversified forms of media engagement

Although there were modest increases to engagement in socializing and personal development activities, the far greatest change in child digital activity usage comes with **media/leisure activities** (e.g. watching Youtube videos, listening to music, streaming TV/movies), which went from 28% of users in the 1998 cohort to 88% of users among the 2008 cohort.



2) Spending more than 3 daily hours on digital activities was associated with significant declines in child socioemotional well-being, while such effects were stronger in 2017/18 than in 2007/08

Our results generally support recent research showing significant negative effects **high levels** of digital screen-time on child well-being (e.g., Twenge et al. [2018](#)).

Indicates potential **changes** in the magnitude of negative effects of digital screen-time on socioemotional well-being for younger cohorts, which could be explored in future longitudinal research.





3) Media engagement (but not other forms of digital engagement) was associated with moderate declines in socioemotional well-being, both in 2007/08 and in 2017/18

Engaging in educational, social, gaming, or ‘personal development’ activities were found to have **insignificant effects** on children’s socioemotional well-being

These findings link to literature implying that examining both the quantity and **quality of digital engagement** is crucial for the child well-being literature (Livingstone et al. 2018).



4) While children's media and digital engagement differed by the child gender and socioeconomic background, none of these variables moderated the effects of digital use on children's socioemotional well-being, neither in 2007/08 nor in 2017/18

Despite significant cohort changes in digital use, parental characteristics (e.g. employment, education, age), and economic circumstances, we found similar effects of digital engagement on child socioemotional well-being by gender and SES and across cohorts. This might indicate that gender and SES inequalities in socioemotional well-being are not driven by distinct forms of digital engagement.



- Our study makes **two key contributions** to the literature:
 - First, our study is – to our knowledge – the first analysis of **cohort changes** on the effect of child digital use on well-being outcomes. Our study makes an important contribution by providing evidence on the persistence and changes in the impact of digital use on child socioemotional outcomes across two recent cohorts.
 - Second, our paper examines whether digital engagement has affected children’s well-being differently across time by examining the **moderating role of socioeconomic status (SES) and gender**. In doing so, this study contributes to debates on the heterogeneous impact of digital technologies on child well-being across socioeconomic and demographic groups.

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