Digital Childhoods: a cross-sectional and longitudinal investigation into technology use.

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Introduction

- Overwhelming consensus that play benefits children's health and psychosocial development (e.g. Gleave & Cole-Hamilton, 2012; Gray, 2013).
- The nature of children's play has changed considerably in recent years (Downey, Hayes,& O'Neill, 2007; Gray, 2011).
- Theoretical lens:
  - Bronfenbrenner's bioecological model of development (Bronfenbrenner, 1979, 1992; Bronfenbrenner & Morris, 2006)
  - The new social studies of childhood (James & Prout, 2004; Greene & Smith, 2014)

Macro Level Factors

- Macro level factors impacting children's free-time activities:
- Mass consumerism: children as consumers and marketing targets (Hill, 2015; Schor, 2004)
- Shortage of children's outdoor play spaces (Singer, Golinkoff, & Hirsh-Pasek, 2006; Heritage Council of Ireland, 2010)
- Concerns about child safety / traffic volume (Carver, Timperio, & Crawford, 2008; Clements 2004, Singer et al., 2009; Veitch et al., 2006).
- More structured and organised activities (Christensen 2002; Elkind, 2008; IPPA, 2006; McCoy, Byrne, & Banks, 2012)
- Technology is increasing as an important part of children's free time activities (Downey, Hayes, O'Neill, 2007; Elkind, 2003; Singer & Singer 2005; Singer, Golinkoff, & Hirsh-Pasek 2006).

„Room to Roam“

Image courtesey of the Irish Times

Literature on Technology

- Positive impacts on learning, socialisation and communication (de Haan & Huysmans, 2004; Wartella & Jennings, 2000)
- Sedentary time associated with lower self-esteem, less prosocial behaviour and a higher risk of depression (Mammen & Faulkner, 2013;Tremblay et al.; 2011)
- Link with obesity, independent of activity levels (Tremblay et al,. 2011; Lane, Harrison, & Murphy, 2013)
- Guideline for technology use: <2hours per day

(US, Canada & Australia)

Research Questions

The current study:

1. What is the frequency of technology use amongst 9 year olds in Ireland?

2. How is technology use mediated by child, parent, family and community characteristics?

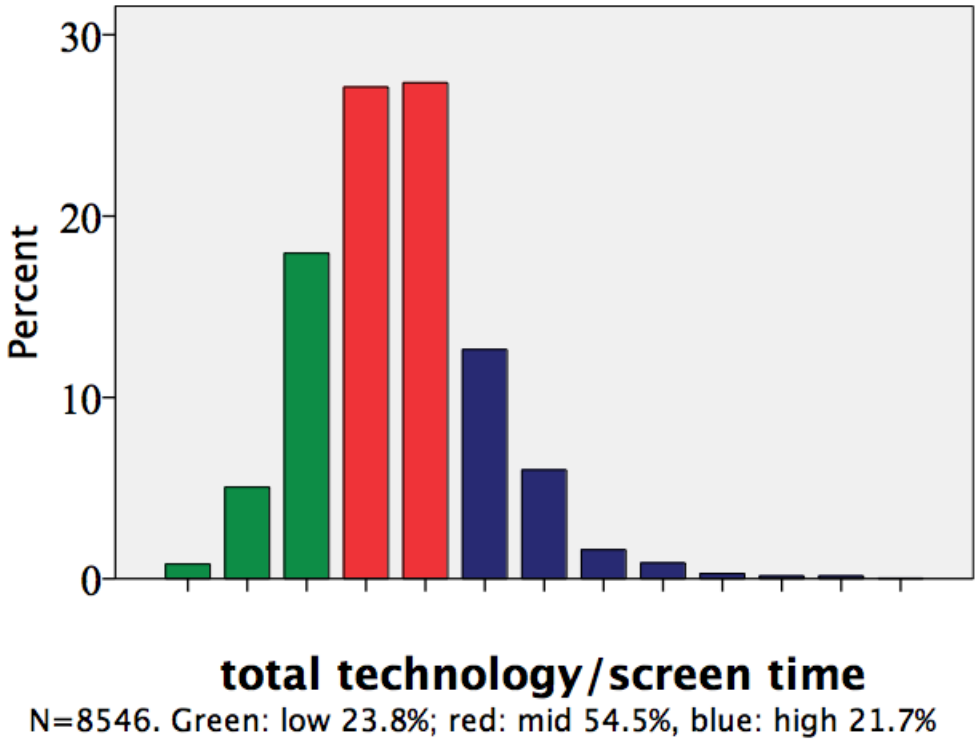
3. Does technology use predict socio-emotional wellbeing at age 13?

Analytic strategy

- Descriptives on technology usage
- Comparing low, mid & high technology usage groups on child, parent, family and community characteristics and child outcomes
- Regression analysis with dummy variables (top 25%/bottom 25%), Dependent Variable: SDQ

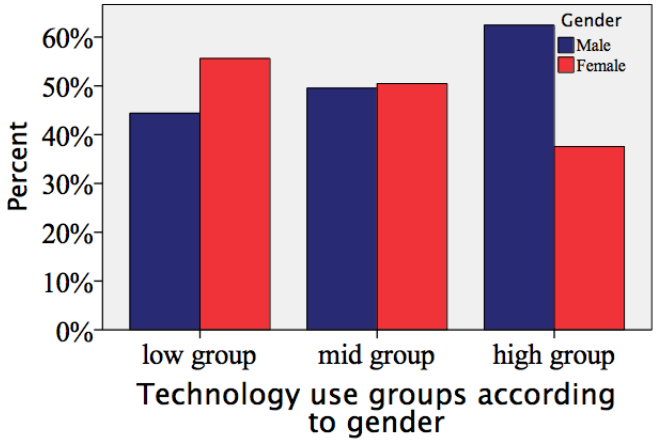
  Indendent Variable: Technology use (age 9)
- <u>Mediating Factors:</u>
- *Child Characteristics*: gender, health, learning difficulty (y/n), temperament (EAS), adverse life events
- *Parent Characteristics*: PC‘s parenting style, PC depression, child-parent relationship (Pianta), PC education level
- *Family Characteristics*: income, household type, „together time“
- *Community Characteristics*: Region, neighbourhood safety perception

Technology use (age 9)

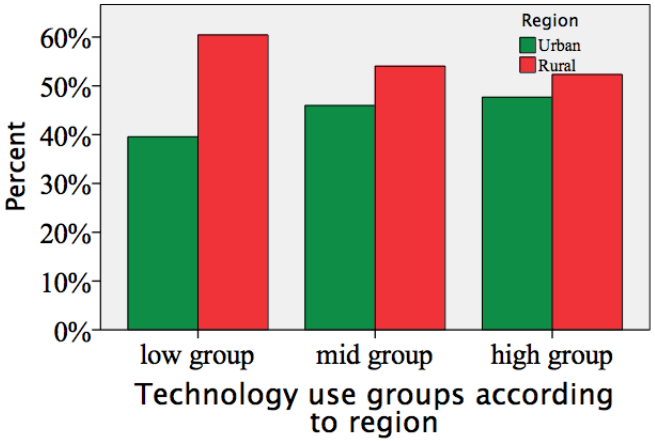


Total technology use:
G1.Average time spent watching TV/videos/DVDs +
G3. Average time spent using computer +
G4. Average time spent playing video games

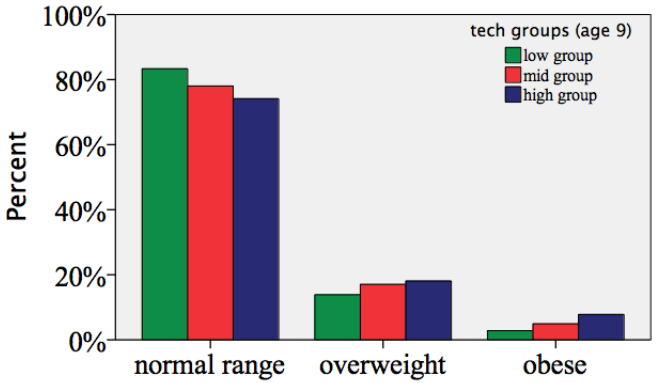
Descriptives



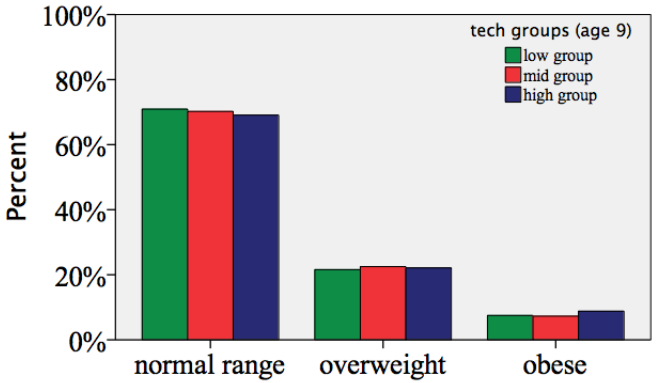
Technology use groups according to gender



Technology use groups according to region

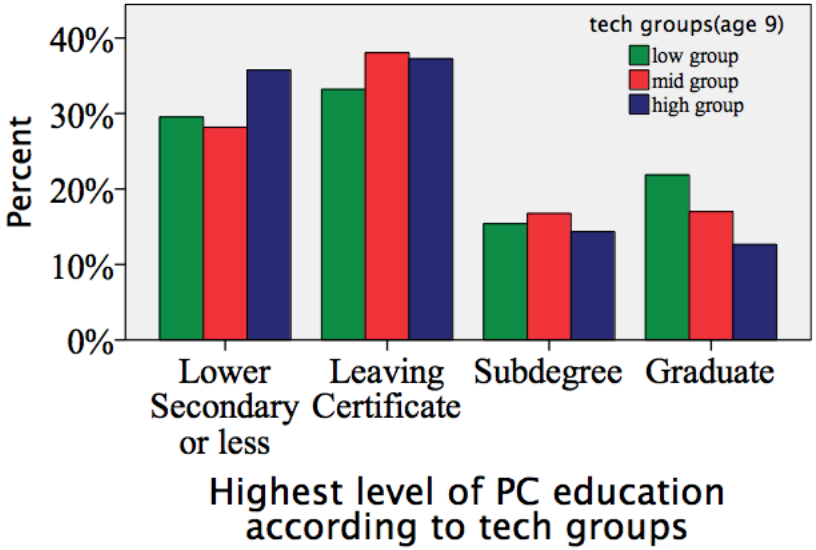


BMI classification according to tech group for boys

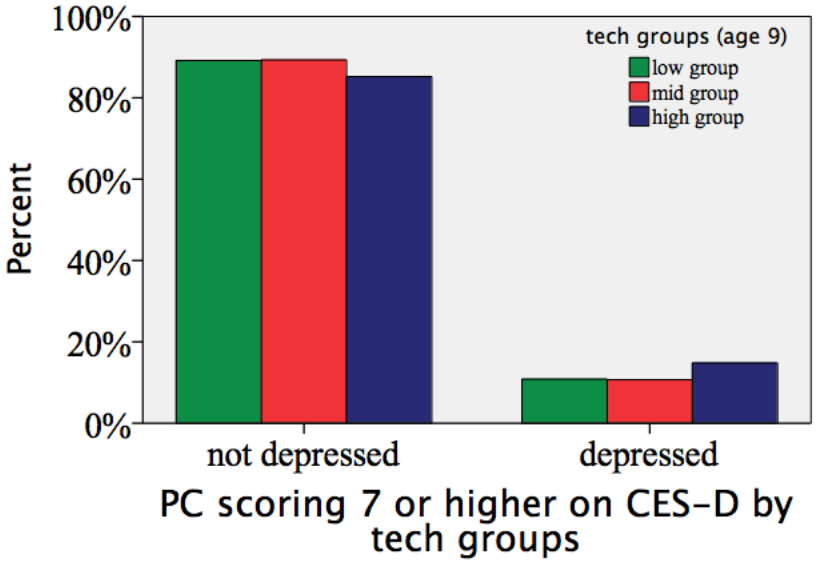


BMI classification according to tech group for girls

Parent Characteristics



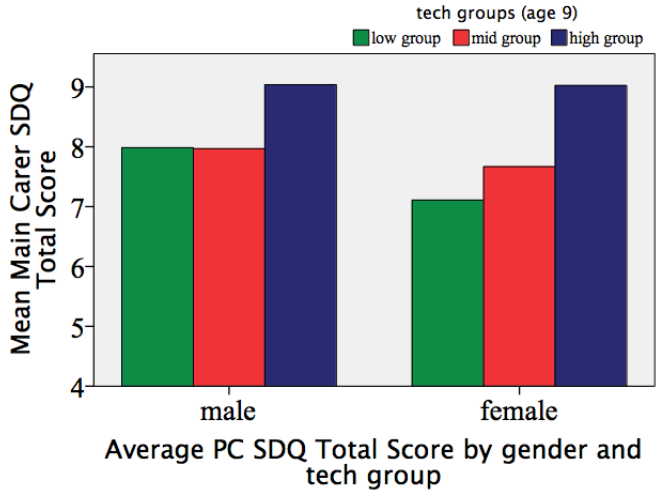
Highest level of PC education according to tech groups

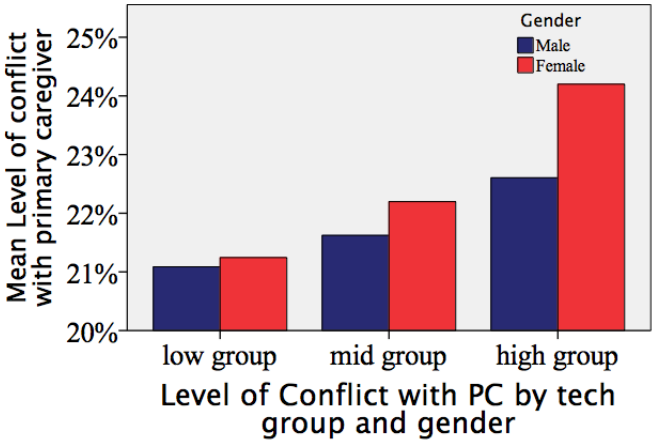


PC scoring 7 or higher on CES-D by tech groups

Parents of children in the high tech group report less “together time“ and perceive their neighbourhood not as safe as parents of children in the low tech group

Socio-emotional Aspects





Abnormal range SDQ (PC Total):

Total:	L: 6.6%	H: 10.3%
Boys:	L: 8.9%	H: 10%
Girls:	L: 5.1%	H: 11.6%

High tech group scores higher on the Pianta conflict scale

...asking the children

What makes you happy?	Total	Low Tech	High Tech
Family	21%	(L: 22.3%	H: 17.8%)
Friends	20.1%	(L: 20.1%	H: 21.8%)
Sport	19.6%	(L: 18.6%	H: 21.2%)
Computer/video games	2.1%	(L: 1.3%	H: 4%)
Watching TV	1.9%	(L: 1.6%	H: 2.9%)

Favourite hobby:	Total	Low Tech	High Tech
Sport	66.2%	(L: 67.2%	H: 67.7%)
Playing video games	3.1%	(L: 1.6%	H: 5.9%)
Watching TV	1.2%	(L: 1%	H: 1%)

Regression Analysis age 9

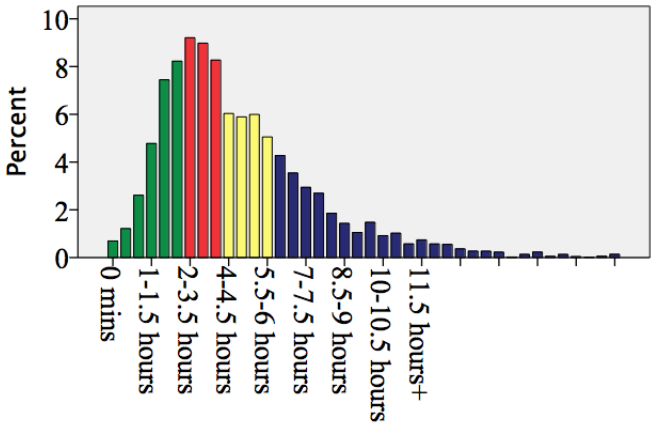
- Dependent Variable: **Main Carer SDQ Total Score (Age 9)**
- Model 1: **Technology Use** (1.2%) **1.2%**
- Model 2: Technology Use + **Child Characteristics** (34.9%) **36%**
- Model 3: Technology Use + Child Characteristics +**Parent Characteristics** (34%) **49.1%**
- Model 4: Technology Use + Child Characteristics + Parent Characteristics + **Family Characteristics** (4.9%) **49.4%**
- Model 5: Technology Use + Child Characteristics + Parent Characteristics + Family Characteristics + **Community Characteristics** (3.2%) **50%**

Biggest singular contributors:

Learning Difficulty **+**	High Conflict **+**	Low conflict **-**
High emotionality **+**	Low emotionality **-**	Higher degree **-**

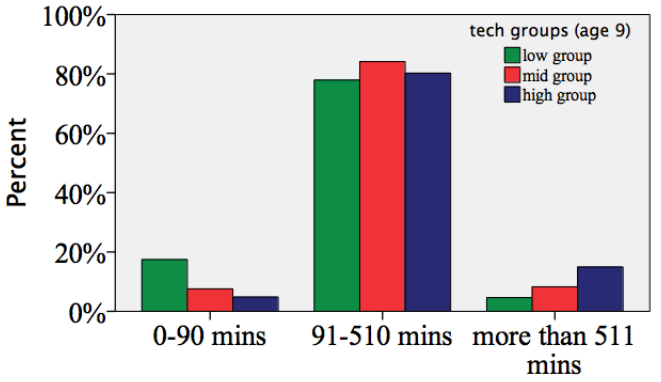
Longitudinal analysis exploring tech use and outcomes at age 13

- Mean tech use age 13: 4.8 hrs per day
- L(9): 3.6 hrs H(9): 5.7 hrs
- H(9) more likely to be in H(13) (more pronounced for boys)



Technology consumption at age 13

N: 7240. Green: 0–2.5 hrs; Red: 2.5–4 hrs; Yellow: 4–6 hrs; Blue: 6+ hrs



Tech use at age 13 according to tech use at age 9

Longitudinal Aspects

- H(9) more likely to be overweight or obese at age 13
- Boys: L(9): 14.2% H(9): 23.4%
- Girls: L(9): 28.4% H(9): 31.8%

SDQ(emotional) abnormal range:

L(9): 8.7% H(9): 15.1%

Regression

(Model 1: Technology Use): 0.6%

(Model 5: Tech, Child, Parent, Family & Community): 32.1%

Summary

- Descriptives highlight differences between tech groups
- Regardless of technology consumption, children‘s preference usually not technology
- Child, parent, family and community characteristics more determening when predicting SDQ scores than technology use
- High tech use at age 9 associated with high tech use at age 13

...more questions

- How do other (non-tech) activities relate to child wellbeing (e.g. enrollment in clubs, reading, playing with friends)?
- What role do content and context of technology use play?
- If children prefer sports – what are the barriers?
- What are the children's perspectives on technology?

Thank you!

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