Personal Technology Use, Social Media, and Daily Affect in Emerging Adults

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Introduction

- Previous research has explored the relationship between psychological factors and technology use. **Some previous findings indicating that technology use and social media could be related to harmful outcomes, such as symptoms of depression anxiety, body image problems, among others** (Frost & Rickwood, 2017).
- However, **these findings have failed to replicate in various longitudinal** (Heffer, Good, Daly, Macdonnell, & Willoughby, 2019) and **ecological momentary assessment** (Jensen, George, Russell, & Odgers, 2019) **designs**, with **reported mental health symptoms not worsening in relation to technology use.**
- Some of the explanation for these mixed findings is that **self-report measurements of technology use do not correlate to actual measurements, such as screen time** (Andrews, Ellis, Shaw, & Piwek, 2015).
- **The purpose of this study is to use actuarial measurements of technology use and social media (iPhone screen time) in a daily diary format in order to see if they predict changes in affect.**

Hypotheses

Hypothesis #1: Daily screen time will be associated with psychological well-being

Hypothesis 1A: Daily screen time will be associated with daily positive affect
Hypothesis 1B: Daily screen time will be associated with daily negative affect
Hypothesis 1C: Daily screen time will be negatively associated with daily sleep factors

Hypothesis #2: Daily social media use will be associated with psychological well-being

Hypothesis 2A: Daily social media use will be associated with daily positive affect
Hypothesis 2B: Daily social media use will be associated with daily negative affect
Hypothesis 2C: Daily social media use will be negatively associated with daily sleep factors

Method

Participants

Participants were recruited through Murray State's Intro to Psychology course through online SONA systems. (n=97, 78 female, 19 male, 19.4 mean age)

Materials and Procedures

- Participants completed a daily diary survey once per day, for seven consecutive days.
- This survey asked questions about daily screen time data (hours/minutes per day, on social media apps and screen time overall), the Positive and Negative Affect Schedule (PANAS-SF) (Watson, Clark, & Tellegen, 1988) and certain items of the Pittsburgh Sleep Diary (PghSD) (Monk, Reynolds, Kupfer, Buysse, Coble, Hayes, Machen, Petrie, & Ritenour, 1993)
  - Specifically, items from the PghSD about sleep time, sleep quality, mood upon awakening, or alertness upon awakening were used
- The PANAS has previously been used in this daily measurement format (Merz & Roesch, 2011)

Figure 1
The Relationship between Daily Screen Time Minutes on an iPhone and Negative Affect

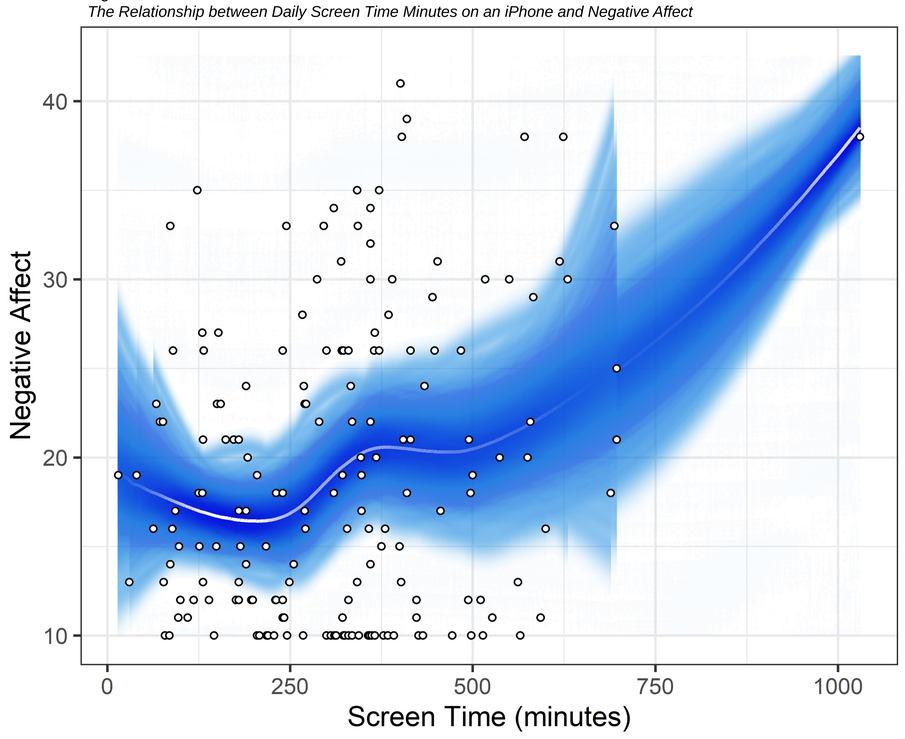


Figure 2
The Relationship between Daily amount of time spent on Social Media applications on an iPhone in minutes, and Negative Affect

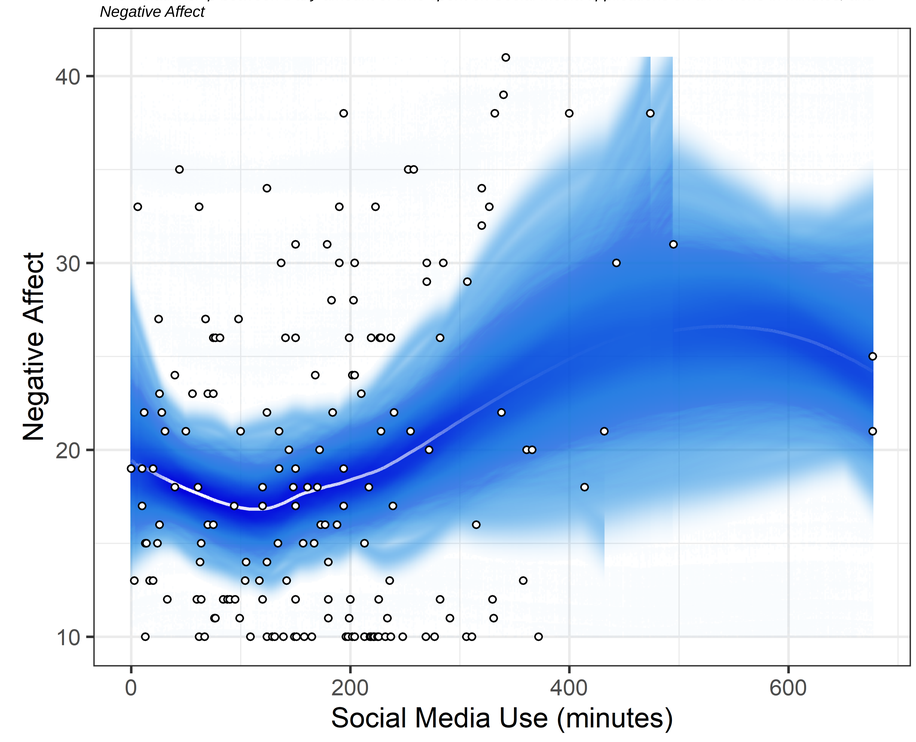


Figure 3
The Relationship between Daily Screen Time Minutes on an iPhone and Positive Affect

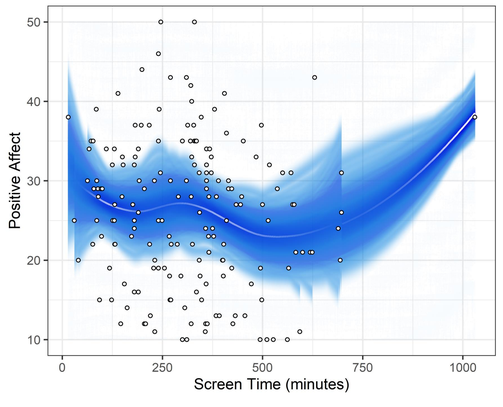
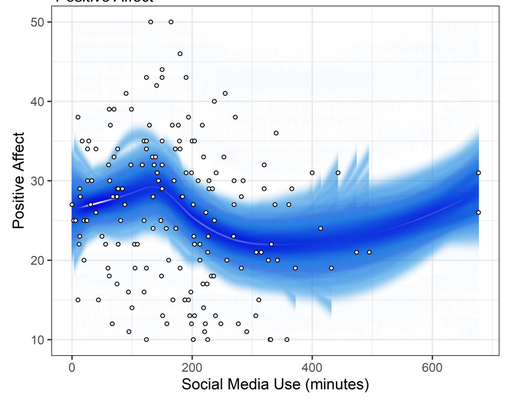


Figure 4
The Relationship between Daily amount of time spent on Social Media applications on an iPhone in minutes, and Positive Affect



Results

- Results of the Generalized Estimating Equation (GEE) analysis indicated that:
  - **Daily screen time (*b* = 0.012, *SE*=0.005, *p* =0.023) and social media screen time (*b* = 0.016, *SE*= 0.008, *p* = 0.045) are significantly positively related to negative affect**
    - However, this **effect is small (*b* = 0.012 for screen time, *b* = 0.016 for social media screen time)** and is **likely to be explained by multivariate outliers** (i.e., some individuals reported substantially higher amounts of screen time and negative affect)
  - **Daily screen time (*b* = -0.005, *SE*=0.006, *p* = 0.403)and social media screen time (*b* = -0.011, *SE*= 0.007, *p* = 0.13) are not significantly related to positive affect**
  - **Daily screen time and social media screen time are not related to sleep time, sleep quality, mood upon awakening, or alertness upon awakening**
- Overall, a wide range of reported screen time and social media screen time, with some outliers including over 10 hours in a single day of screen time

Discussion

- While some previous literature may have suggested that technology use and social media are substantially related to negative mental health outcomes (see Eijnden, Lemmens, & Valkenburg, 2016; Frost & Rickwood, 2017; Keles, McCrae, & Graelish, 2019), the present study did not find much evidence to support this claim.
  - **More specifically, the evidence from the current study points to a small but statistically significant relationship between smartphone screen time, social media screen time, and negative affect**
- Context matters: data were collected during the COVID-19 pandemic, which may have led to vast increases in screen time overall due to social distancing protocols limiting face-to-face social interactions
- Future research should explore if moderate or strong reductions in screen time could potentially improve mood for individuals with a high negative affect as a possible intervention.

References

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