A Large-Scale Test of the Goldilocks Hypothesis

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## Authors

Przybylski A.;Weinstein N.

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## Sample

120,115 participants aged 15 years identified through the Department for Education National Pupil Database.

## Implications For Parents About

Parental practices / parental mediation

## Implications For Educators About

Other

# Abstract

Although the time adolescents spend with digital technologies has sparked widespread concerns that their use might be negatively associated with mental well-being, these potential deleterious influences have not been rigorously studied. Using a preregistered plan for analyzing data collected from a representative sample of English adolescents ( n = 120,115), we obtained evidence that the links between digital-screen time and mental well-being are described by quadratic functions. Further, our results showed that these links vary as a function of when digital technologies are used (i.e., weekday vs. weekend), suggesting that a full understanding of the impact of these recreational activities will require examining their functionality among other daily pursuits. Overall, the evidence indicated that moderate use of digital technology is not intrinsically harmful and may be advantageous in a connected world. The findings inform recommendations for limiting adolescents’ technology use and provide a template for conducting rigorous investigations into the relations between digital technology and children’s and adolescents’ health.

# Outcome

"In this study, we found that the relationships between digital-
screen time and mental well-being are nonlinear and
that moderate engagement in digital activities is not harmful.
The consistently observed concave-down quadratic
relations and empirically derived inflection points provide
evidence supporting our Goldilocks hypothesis, indicating
that post hoc screen-time groupings featured in past
research oversimplify the nature of the relations between
digital-screen time and adolescents’ well-being. We quantified
moderate screen engagement and found that the categories
of digital activity we examined are unlikely to present a material risk to mental well-being at these moderate
levels, although high levels of engagement may have
a measurable, albeit small, negative influence... The relation between
screen time and well-being depended, in part, on whether
the activities occurred on weekdays or weekends. The adolescents could engage in digital activities between 22
min and 2 hr 13 min longer on weekend days than on
weekdays before we found evidence of negative effects.
Second, we found evidence that not all digital activities
are “created equal.” Those that were pervasive (i.e., using
smartphones) or required effortful task switching (i.e.,
playing video games) had noticeably lower inflection
points on weekdays compared with other digital activities.
It is possible that some tech activities do interfere
with other structured activities during weekdays. For
example, it is likely that adolescents are less likely to
engage in academic pursuits if they are overusing certain
forms of media on weekdays (Junco, 2012), and it may
also be the case that these adolescents are less engaged
in structured after-school activities that support intrapersonal
and social development, and as a result promote
well-being (Fletcher, Nickerson, Wright, 2003). Despite these possibilities, our statistical models suggested that
the possible harmful influence of screen time on young
people is fairly small, even if one assumes that our correlational
data indicate direct causal relations." (Przybylski and Weinstein, 2017: 210-12).