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Social media use may explain little of the recent rise in depressive symptoms among
adolescent girls

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National increases in suicide-related cognitions (Kann et al., 2016) and suicide (Curtin, Hedegaard, Minino, Warner, & Simon, 2017) have been documented among adolescents in the United States over the past decade. Notably after a period of decline from 1990-2007 the suicide rate for females aged 15-19 doubled (2.4 to 5.1 per 100,000 population) from 2007 to 2015 (Curtin et al., 2017). Twenge and colleagues (2017) added to this evidence by documenting a rise in depressive symptoms among adolescent girls from 2010 to 2015 ($d = 0.27$). Crucially, the authors explored how changes in time use may underpin recent increases in adolescent mental health issues. In particular, they found potentially promising interlinkages between electronic device use and suicide-related outcomes.

In contrast, the positive association identified between social media use and depressive symptoms was minimal ($r = 0.06$ in girls, $r = 0.01$ in boys) and arguably not a strong basis for suggesting that screen activities could account for recent increases in depressive symptoms. To test this contention further I re-examined the 2010 and 2015 Monitoring the Future (MtF) survey data (Johnston, Bachman, O'Malley, Schulenberg, & Miech, 2016). I found very weak correlations between social networking site use and depressive symptoms among girls in each wave when examined separately (average $r = 0.03$). I then ran a two-stage hierarchical regression which showed that the portion of the association between survey year (2010 compared to 2015) and increases in depressive symptoms (Model 1: $d = 0.27$) explained by increases in social media use over the same period (added in Model 2) was approximately 4% ($d = 0.27$ reduced to $d = 0.26$).

This re-assessment suggests that recent increases in the time teenage girls have devoted to social media use may account for little of the sharp increase in depressive symptoms over the same period. However, this inference should be interpreted with some caution. This is because the MtF social media use variable was hampered by considerable restriction of range. This item failed to assess the frequency of social networking website use

beyond “almost every day”, a very broad category which I found contained over 85% of the female sample in 2015. Given that variation above this upper limit was not captured strong conclusions about the likely population association between social media use and depressive symptoms cannot be made.

These findings point to a need for alternative explanations (e.g. increased academic strain, prolonged effects of the Great Recession) for the rise in depressive symptoms to be examined. Further, they suggest that the potential contribution of the full range of time spent on social media and screen activities (e.g. as measured in hours/minutes per day) to recent trends in depression among adolescent girls remains unknown.

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