

Social Media Use and Serious Psychological Distress Among Adolescents

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Social Media Use and Serious Psychological Distress Among Adolescents

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Abstract

This Research Letter describes the increasing trend of almost constant social media use among California adolescents aged 12-17 between 2019-2021 and an examination of the association between social media use with serious psychological distress. Using multivariate logistic regression models, this study finds a positive association between almost constant social media use and serious psychological distress, controlling for demographics, family connection, and adverse childhood experiences (ACEs). While acknowledging the cross-sectional nature of the data as a limitation, the findings add to the growing literature on the possible implications of growing social media use on mental health and underscore the importance of considering familial and experiential factors in examining mental health implications of pervasive social media use among adolescents.

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Original Manuscript

**JMIR Pediatrics and Parenting
Research Letter**

Title: Social Media Use and Serious Psychological Distress Among Adolescents

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Social Media Use and Serious Psychological Distress Among Adolescents

Background

There have been numerous calls for restraint and legal cases pointing to the potential dangers of excessive social media use on mental health, which are understudied according to the recent advisory issued by the United States Surgeon General.[1, 2, 3] We examine social media use trends between 2019-2021 among adolescents in California and examine the association between almost constant social media use and psychological distress using 2021 data, controlling for familial dynamics and adverse childhood experiences (ACEs), which are predictors of mental health but have largely been overlooked in previous studies.

Methods

We used the California Health Interview Survey (CHIS) 2019-2021 adolescent datasets of 12-17 year olds to examine trends in social media use. For the regression analysis examining the association between almost constant social media use and psychological distress among adolescents, we used the 2021 dataset which consists of 24,453 households of which 1,169 included participating adolescents. CHIS randomly selects one adult to interview in each randomly sampled household, wherein households are selected using geographically stratified address-based sample design. Following parental permission, surveys are conducted directly with a randomly sampled adolescent in the household. The survey, conducted either on the web or by telephone, includes a comprehensive set of health related questions. Respondents are asked to report on typical day use of social media on the scale of: less than a few times a day, a few times a day, many times a day, and almost constantly or more. Psychological distress was measured using the Kessler 6 series. We examine here the category of likely having had serious psychological distress in the past year. Family connection was measured through a series of questions including how often the adolescent felt they were able to talk to family about feelings, how often they felt family stood by them during difficult times, how often they felt safe and protected by the adult at home, and how often they had at least two non-parent adults in take genuine interest. Adolescents responding with little to never in any of these variables were assigned little to no family connection. Adolescents responding to having had at least one adverse childhood experience were assigned "yes" to the ACEs variable. Demographic variables - age, gender, race and ethnicity, and socioeconomic status - were included in the analysis. The data were weighted to account for the complex survey design and to generate population-level estimates. We used multivariate logistic regression models to examine the association between almost constant social media use and serious psychological distress, controlling for demographics, family factors, and ACEs. All analyses were conducted using STATA 16.1.

Results

Almost constant social media use for the youngest teens increased significantly between 2019 and 2021 but not for older teens. Among 12-15 year old females, use was 18.1% (95% CI: 11.2-25.0) in 2019, 22.2% (95% CI: 15.4-29.1) in 2020, and 28.9% (95% CI: 20.8-37.0) in 2021; among 15-17 year olds use was 33.0% (95% CI: 25.8-40.2) in 2019, 26.9% (95% CI: 20.8-32.9) in 2020, and 29.1% (95% CI: 20.8-37.3) in 2021. Among males, almost constant social media use increased significantly between 2019 and 2021 for both age groups. Among 12-15 year old males, use was 11.9% (95% CI: 6.2-17.6) in 2019, 22.7% (95% CI: 16.4-28.9) in 2020, and 23.7% (95% CI: 18.4-29.0) in 2021; among 15-17 year olds use was 14.1% (95% CI: 9.8-18.4) in 2019, 22.4% (95% CI: 17.3-27.6) in 2020, and 28.9% (95% CI: 22.9-34.9) in 2021. By 2021 there were no longer differences in use by age group.

Almost constant social media use was highest for teens living in poverty, those who have experienced ACEs, those who reported little to none family connection, and those who reported serious psychological distress (Table 1). Regression analyses suggest a significant positive association between almost constant social media use and psychological distress (OR: 1.6, 95% CI: 1.1-2.3) controlling for ACEs, family connection, and demographics (Table 2).

Discussion

Our work is the first to examine the association between social media use and psychological distress

controlling for ACEs and adolescent reported level of family connection, both of which are significantly associated with psychological distress. Even when controlling for these and other demographic variables almost constant social media use is associated with psychological distress. Our key limitation is the cross-sectional nature of our data. Other limitations include use of the use self-reported data on social media use, which may be subject to recall or social desirability bias, and possible other confounders not included in the analysis. Our work is consistent with prior research that finds increasing trends in use of social media among the youngest teens[4] and potential adverse mental health impacts from high or almost constant social media use.[5, 6, 7, 8]

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Tables

Table 1. Characteristics of adolescents (12-17 years) with almost constant social media use, California Health Interview Survey 2021, n=1,169

Characteristic	% almost constant social media use	95% Confidence Interval
Total (all 12-17 yr olds)	27.62	24.19-31.35
Age		
12-14yrs	26.23	21.48-31.61
15-17yrs	28.98	24.30-34.16
Sex		
Female	28.97	23.61-35.00
Male	26.35	22.40-30.72
Federal Poverty Level (FPL)		
<300%	33.19	27.65-39.23
>=300%	22.61	19.26-26.35
Race		
Asian	28.66	21.02-37.76
Latino	30.23	24.95-36.09
Black, African American, and other	22.72	12.81-37.04
Two or more	27.94	17.60-41.31
White	23.17	18.21-29.01
Serious psychological distress		
Yes	37.36	31.09-44.09
No	22.63	19.27-26.38
Adverse Childhood Experiences (ACEs)		
Yes	36.17	30.72-42.01
No	20.95	17.48-24.91
Family connection		
Little to none	34.02	28.47-40.04
More than little	22.21	18.42-26.52

Note: Sample size too small to produce reliable estimates for Black, African American population alone, American Indian or Alaska Native, and Native Hawaiian or Pacific Islander population; While CHIS collects data on nonbinary gender, for sample size considerations we report here male and female categories.

Table 2. Association between almost constant social media use and serious psychological distress among adolescents (12-17 years), California Health Interview Survey 2021, n=1,169

All adolescents (n=1,169)			
Variable	Adjusted Odds Ratio	95% Confidence Interval	p-value
Social media use per day			
Almost constant	1.673	1.204-2.323	0.003
Less than almost constant	reference		
Age			
12-14yrs	reference		
15-17yrs	1.710	1.205-2.429	0.003
Sex			
Female	1.597	1.155- 2.209	0.005
Male	reference		
Federal Poverty Level (FPL)			
<300%	1.017	0.709- 1.460	0.923
>=300%	reference		
Race			
Asian	0.641	0.377-1.089	0.099
Latino	0.674	0.469-0.967	0.033
Black, African American, and other	0.807	0.357-1.824	0.602
Two or more	1.133	0.617-2.079	0.684
White	reference		
Adverse Childhood Experiences (ACEs)			
Yes	2.403	1.736-3.327	<0.001
No	reference		
Family connection			
Little to none	2.171	1.502-3.139	<0.001
More than little	reference		

Note: Sample size too small to produce reliable estimates for Black, African American population alone, American Indian or Alaska Native, and Native Hawaiian or Pacific Islander populations; While CHIS collects data on nonbinary gender, for sample size considerations we report here male and female categories