

Parental Underestimation of Pandemic-related Stress Among Adolescents

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Background

As the COVID-19 pandemic surged in 2020, families suddenly faced a multitude of often-haphazard adaptations to school, work, and personal life. Intense social-distancing mandates accompanied these major transitions, distancing individuals further from friends and relatives. While a combination of factors affected pandemic-related stress, forced social isolation was perhaps most detrimental in terms of potential long-term effects, a particular concern for developing adolescents.¹

Adolescents who experienced worse pandemic-related stress may be at heightened risk of both immediate and long-term mental and behavioral health outcomes. Overall, adolescents are known to experience and react to psychosocial stress differently by gender.² Research indicates that females are more likely to make use of social supports as a preferred coping mechanism to alleviate stress compared to males.³

However, for many, social support was a scarcely available resource during the COVID-19 pandemic, when social distancing was mandated by law and periods of social isolation increased dramatically. Such gender differences may help explain findings from across the world that adolescent females struggled with higher degrees of pandemic-related stress compared to males.⁴⁻⁸

The Centers for Disease Control and Prevention (CDC) has reported that from 2011 to 2021, the rate of past-year suicide ideation among female adolescents increased from 19% to 30%, while the rate for males only changed from 12% to 13%.⁹

In 2021, nearly 60% of adolescent females reported experiencing persisting hopelessness or sadness, with nearly a quarter making an actual plan for suicide. It is imperative that research identifies contributing factors to this disparity in pandemic-related stress to prevent furthering the existing gender divide in health outcomes.

We explore parents' ability to estimate their adolescent children's level of pandemic-related stress, surmising that this ability affects the likelihood that parents will identify and respond to their child's stress levels and respond appropriately. If a parent underestimates their child's pandemic-related stress levels, then the child may be less likely to receive support and thus more likely to experience worsening degrees of stress in the longer-term.

Our main goal is to assess whether the odds of parental underestimation of their adolescent child's pandemic-related stress differ significantly by the child's gender. We hypothesized that female adolescents would report significantly higher self-ratings of pandemic-related stress and be at significantly higher risk of having their parent underestimate their level of pandemic-related stress.

Methods

We used the Population Assessment of Tobacco and Health (PATH)¹⁰ anonymized public-use data files to conduct this analysis. This study received IRB exemption from the KDH Research & Communication (KDHRC) internal IRB, FWA00011177, IRB 00005850.

Strengths of the PATH study include its weighted national representativeness and wide range of behavioral and psychographic questions.¹¹ The PATH study has collected data via telephone from youth respondents and a parent/guardian annually since its initial launch.¹⁰ This study uses youth data gathered from July 2020 to December 2020, (Wave 5.5).

Participant eligibility criteria: PATH study youth participant eligibility included nonincarcerated, noninstitutionalized citizens of the United States aged 12 to 17, who lived in the United States at the time of the survey. The final sample included 6,813 youth respondents, which represents a population of 18,824,942 United States youth between the ages of 12 and 17.

Dependent variable: We created a dummy variable for parental underestimation where 1 represented a parent whose overall rating of their child's pandemic-related stress was lower than that of their child, and 0 represented a parent whose overall rating was higher or equal to that of their child's.

Main exposure variable: We created a dummy variable for gender where 1 represented a respondent who was female and 0 represented a respondent who was male.

Analyses: We used a between groups t-test to explore significant differences by gender in pandemic-related stress ratings. We then conducted four logistic regression models to assess whether parental underestimation was associated with the gender of the child. Model 1 was a crude model. Model 2 adjusted for sociodemographic and health-related variables. Model 3 further adjusted for psychographic and behavioral variables. Finally, Model 4 added controls for past year substance use. Statistical significance was set to $p \leq 0.05$.

We controlled for relevant personal and social variables, as identified by the literature, that may affect pandemic-related stress and/or parental estimation of their adolescent child's pandemic-related stress, including: sociodemographic variables,^{12,13} parental education,¹⁴ whether the adolescent had been diagnosed with COVID-19,¹⁵ body mass index (BMI),¹⁶ physical activity,¹⁷ adolescent sleep trouble,¹⁸ TV screentime,¹⁹ the extent of social distancing practiced,²⁰ prior anxiety and depression levels,²¹ prior overall mental health,²² parental marital status,²² school performance,²³ past year tobacco use,²⁴⁻²⁷ and whether the adolescent reported using alcohol and/or illicit drugs during the past year.²⁸

Findings

Participants: Most participants were Non-Latino White (52.58%), aged 15-17 (60.74%), and male (51.27%). Nearly one quarter of adolescents overall had a parent underestimate their level of pandemic-related stress (23.84%). By gender, 27.38% of females and 20.48% of males had a parent/guardian underestimate their level of pandemic-related stress. Pandemic-related stress ratings were reported on a 4-point scale ranging from "none" to "severe." We were able to confirm previous findings that compared to males, female adolescents had significantly higher pandemic-related stress ratings at 2.1 compared to males 1.8 ($p < 0.001$).

Female adolescents had significantly higher odds of having their pandemic-related stress underestimated by their parent/guardian compared to males. The statistical significance of gender remained consistent in all four models, showing the association was not sensitive to changes in the covariates included. In the final model, females had 1.25 times the odds of having their pandemic related stress underestimated compared to males.

Model 1: (OR = 1.46 95% CI = [1.3-1.7]).

Model 2: (OR = 1.51 95% CI = [1.3-1.7]).

Model 3: (OR = 1.23 95% CI = [1.1-1.4]).

Model 4: (OR = 1.25 95% CI = [1.1-1.5]).

Discussion

By studying a nationally representative sample of adolescents aged 12 to 17 in the United States, we confirmed that female adolescents self-reported significantly higher levels of pandemic-related stress than males, and found that even while controlling for relevant covariates, female adolescents had significantly higher odds of having their parent/guardian underestimate their level of pandemic-related stress compared to adolescent males.

These findings are important for parents to be aware of, as well as for future research that undergirds the efforts of mental health support services, schools, and others directly engaged in promoting the healthiest outcomes for adolescents. Decreasing gender divides in health-related outcomes is an important health-equity concern, which, after the COVID-19 pandemic, may necessitate promotion of additional mental health screening and support for female adolescents.

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