



Letter to the editor

Correspondence on gender disparities in the initial psychological impact of the U.S. COVID-19 pandemic



The COVID-19 pandemic has led to a variety of mental health symptoms, including increased stress, depression, and anxiety, which may be worse in women (Qiu et al., 2020). Gender-related factors, such as higher rates of mood disorders in women and differential utilization of coping strategies, may further exacerbate the pandemic's burden on women (Afifi, 2007). Additionally, young and elderly groups may be more vulnerable to psychological distress due to COVID-19 (Qiu et al., 2020). Our aim was to examine gender differences in the psychological impact of the first month of the U.S. COVID-19 pandemic. We hypothesized that women would report worse psychosocial outcomes, prior mental health diagnosis and age would exacerbate gender differences, and there would be gender differences in the utilization of coping strategies.

Participants were recruited at the end of March 2020 using Amazon's Mechanical Turk (MTurk). Participants were eligible if they were ≥ 18 -years-old and lived in the U.S. An initial sample of 500 adults participated in the study. Participants who responded incorrectly to ≥ 3 random responding checks ($n = 17$) were omitted. Due to a low rate of non-binary gender status ($n = 1$), one person was removed from analysis. This left a final study sample of 482 adults (Mean age = 38.0/SD = 11.6, age range 19–78, 74.9% White, 43.1% female, 30% with a prior mental health diagnosis). Participants were paid for their participation. All study procedures were reviewed and deemed exempt by the local Institutional Review Board. Measures included demographics (age, gender, race, and existing mental and physical health conditions), the Generalized Anxiety Disorder-2 scale (Kroenke et al., 2007), and the Patient Health Questionnaire-4 (Kroenke et al., 2009). Worry about COVID was assessed on a scale of 0 (no worry) to 100 (a large amount of worry). Coping efficacy was assessed on a scale of 0 (poor coping) to 100 (effective coping). Participants selected all coping strategies currently being used by them from a study-generated list of 29 strategies (i.e. seeking support, withdrawing/avoiding others, stress eating/overeating, etc.).

Women reported using more coping strategies ($M(\text{women}) = 6.8/SD = 3.3$, $M(\text{men}) = 5.4/SD = 2.8$; $t = 5.1$, $p < .001$), but worse coping efficacy ($M(\text{women}) = 72.6/SD = 21.2$, $M(\text{men}) = 77.6/SD = 18.2$; $t = -2.8$, $p = .005$). After controlling for age, race, and pre-existing conditions, women reported higher anxiety ($\beta = 0.13$, $p = .004$) and more worry about COVID-19 ($\beta = 0.17$, $p < .001$) as well as poorer coping ($\beta = -0.14$, $p = .002$). Higher age was related to lower anxiety ($\beta = -0.17$, $p < .001$), higher worry ($\beta = 0.13$, $p = .006$), and worse coping ($\beta = -0.11$, $p = .018$). Those with pre-existing health conditions reported lower anxiety ($\beta = -0.15$, $p = .001$), higher worry about COVID-19 ($\beta = 0.15$, $p = .002$), and worse coping ($\beta = -0.19$, $p < .001$).

Gender was not significantly related to depression, ($\beta = 0.24$, $p = .60$).

Several significant interactions emerged: The relationship between age and anxiety was significant in women ($B = -0.043$, $p < .001$), but not men ($B = -0.014$, $p = .18$) (interaction $B = -0.029$, $p = .048$). There was a negative relationship between age and worry for women ($B = -0.57$, $p < .001$), but not men ($B = -0.027$, $p = .87$) (interaction $B = -0.541$, $p = .02$).

Women with a mental health diagnosis reported significantly worse coping efficacy than men with a mental health diagnosis ($B = -8.89$, $p = .022$). There was a positive relationship between age and coping in women ($B = 0.42$, $p < .001$), but not men ($B = 0.037$, $p = .73$) (interaction $B = 0.387$, $p = .013$).

Chi-square results indicated significant gender differences in the following strategies (corrected $p < .002$): Focusing on thankfulness ($\chi^2 = 15.5$, $p < .001$); excessively checking for COVID-19 updates ($\chi^2 = 15.3$, $p < .001$); unhealthy food habits ($\chi^2 = 14.0$, $p < .001$); talking with friends ($\chi^2 = 13.4$, $p < .001$); and seeking support ($\chi^2 = 26.3$, $p < .001$). Men and women were equally represented in endorsing these coping strategies, but men were over-represented in not endorsing them.

Overall, women reported more mental health symptoms and poorer coping during the first month of the U.S. COVID-19 pandemic than men, despite utilizing a greater number of coping strategies. Younger women reported higher levels of anxiety and worry and lower levels of coping efficacy, whereas there was no relationship in men. Women with a pre-existing mental health diagnosis reported poorer coping than their male counterparts. Although older populations are at higher risk for worse COVID-19 health outcomes, younger women were experiencing poorer psychological outcomes. These results suggest that younger women, who are more likely to be caregivers of children or others while also engaged in a career, may be more affected by pandemic-related changes in school and childcare. Differences in psychological distress may also be due to gender-specific issues; women may be more adversely affected during this time by factors such as limited reproductive healthcare, family-related illness and caregiving, domestic violence, and decreased social support (Gausman and Langer, 2020).

This study uses cross-sectional, self-report data, which relies on subjective experience and may limit generalizability. This study provides preliminary evidence that men and women may be experiencing the psychosocial impacts of the pandemic differently, which should be tracked overtime. Failing to address gender-specific implications of the pandemic may deepen disparities for women, highlighting the need to implement targeted interventions.

<https://doi.org/10.1016/j.psychres.2020.113469>

Received 11 August 2020; Accepted 16 September 2020

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Acknowledgement

This research was supported by funding from the office of the Vice President of Research at Indiana University Purdue University – Indianapolis.

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References

- Affi, M., 2007. Gender differences in mental health. *Singapore Med. J.* 48, 385–391.
- Gausman, J., Langer, A., 2020. Sex and gender disparities in the COVID-19 pandemic. *J. Women's Health* 29, 465–466. <https://doi.org/10.1089/jwh.2020.8472>.
- Kroenke, K., Spitzer, R.L., Williams, J.B.W., Löwe, B., 2009. An ultra-brief screening scale for anxiety and depression: the PHQ-4. *Psychosomatics* 50, 613–621. [https://doi.org/10.1016/S0033-3182\(09\)70864-3](https://doi.org/10.1016/S0033-3182(09)70864-3).
- Kroenke, K., Spitzer, R.L., Williams, J.B.W., Monahan, P.O., Löwe, B., 2007. Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. *Ann. Intern. Med.* 146, 317. <https://doi.org/10.7326/0003-4819-146-5-200703060-00004>.
- Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B., Xu, Y., 2020. A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *Gen. Psychiatry* 33. <https://doi.org/10.1136/gpsych-2020-100213>.

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