

**Financial Hardship and Mental Health during the Pandemic**

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### **Extended Abstract**

The U.S. governments implemented strict anti-contagion measures at the start of the COVID-19 pandemic to protect the public's health, including nationwide lockdowns and social distancing. The stay-at-home orders exacerbated household financial problems such as forced workforce separations and negative income shocks (Moreland et al., 2020; Tappe, 2020). Unemployment led to household financial hardship, making it difficult for them to meet the necessities of daily living due to a lack of resources. In the meantime, the general population has experienced high rates of stress, anxiety and depression symptoms during the COVID-19 pandemic (Xiong et al., 2020). Extensive research has shown that unemployment (Paul & Moser, 2009; Salari et al., 2020; Wilson et al., 2020) and financial hardship (Mirowsky & Ross, 2001) negatively impacts mental health.

We used the COVID-19 Household Pulse Survey (HPS) to study the relationships between financial hardship and mental health during the COVID-19 pandemic. The HPS is a nationally representative cross-sectional survey that started shortly after the start of the pandemic to observe the socioeconomic effects of the pandemic on American population. It is funded by the U.S. Census Bureau and conducted by the Census Bureau via online Qualtrics. The total sample size was 2,621,824. For the purpose of this study, we selected households that reported COVID-related reasons for not working for pay and did not provide missing values. The final sample size was 1,342,722.

Our outcome variable was mental health, assessed by anxiety disorder and depressive disorder. Anxiety disorder was measured by the two-item Generalized Anxiety Disorder (GAD-2), and depressive disorder was evaluated by the two-item Patient Health Questionnaire (PHQ-2) (National Center for Health Statistics 2020). Financial hardship was our main explanatory variable, measured by having food insecurity and/or housing insecurity. At least sometimes not having enough food to eat was defined as having food insecurity (1=Yes; 0=No). Not catching up with housing payments was defined as having housing insecurity (1=Yes; 0=No). Logistic regressions were constructed using mental health problems as dependent variables and job loss as an independent variable.

Table 1 shows the sample statistics. Among the 1,342,722 total respondents, 33.4% and 24.1% respondents were screen-positive for anxiety and depressive disorders, respectively. About 12.2% of respondents reported that their household experienced financial hardships, with 7.4% and 7.1% respondents were food insecurity and housing insecurity, respectively. Logistic regression results (Table 2) showed that financial hardship significantly increased the risk of having anxiety and depressive disorders. Compared to individuals whose household did not experience financial hardship, those who did were 1.85 times more likely to experience anxiety disorder and 1.83 times more likely to experience depressive disorder during the COVID-19 pandemic.

Our results resonate with prior studies in showing that financial hardship increases the likelihood of mental disorders (Butterworth et al., 2009; Glantsman et al., 2022; Linton et al., 2021; Mirowsky & Ross, 2001). Further research is needed to identify if financial hardship manifested due to the job loss during the pandemic. It is crucial that households are financially sound so that emergencies such as the pandemic would not cause financial hardship for them. It is also important for the government to design policies to provide material financial assistance during national disasters to households to prevent them from encountering financial hardship. In the case of increased mental disorders, community access to mental health services should be available.

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Table 1 Sample statistics

Employment status	Employed (N=1,214,224)	Job loss (N=128,498)	Total (N=1,342,722)
<b>Anxiety disorder</b>			
GAD-2<3	69.3%	52.2%	66.6%
GAD-2≥3	30.7%	47.8%	33.4%
<b>Depressive disorder</b>			
PHQ-2<3	78.8%	60.2%	75.9%
PHQ-2≥3	21.2%	39.8%	24.1%
<b>Financial hardship</b>			
0	90.6%	72.5%	87.8%
1	9.4%	27.5%	12.2%
<b>Food insecurity</b>			
0	94.7%	80.7%	92.6%
1	5.3%	19.3%	7.4%
<b>Housing insecurity</b>			
0	94.4%	85.2%	92.9%
1	5.6%	14.8%	7.1%
<b>Generation</b>			
Silent	1.7%	3.5%	2.0%
Baby Boomers	30.8%	37.7%	31.8%
Generation X	37.7%	32.4%	36.9%
Millennials	27.6%	22.9%	26.9%
Generation Z	2.2%	3.5%	2.4%
<b>Gender</b>			
Female	58.0%	59.0%	58.1%
Male	42.0%	41.0%	41.9%
<b>Race</b>			
White	77.1%	67.9%	75.7%
Black	6.4%	10.6%	7.1%
Hispanic	7.6%	11.4%	8.2%
Others	8.9%	10.2%	9.1%
<b>Income</b>			
Less than \$50,000	23.2%	51.0%	27.5%
\$50,000-\$99,999	32.2%	28.9%	31.7%
\$100,000 and above	44.6%	20.1%	40.8%
<b>Education</b>			
Less than high school	1.1%	3.4%	1.5%
Highschool or GED	8.8%	15.7%	9.8%
Some college	29.1%	40.0%	30.8%
College and above	61.0%	40.8%	57.9%

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Employment status	Employed (N=1,214,224)	Job loss (N=128,498)	Total (N=1,342,722)
<b>Region</b>			
Northeast	15.9%	16.2%	15.9%
Midwest	21.5%	17.6%	20.9%
South	31.0%	33.3%	31.4%
West	31.5%	33.0%	31.8%

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Table 2 Odds ratios from logistic analysis of mental disorders measures

	Anxiety disorder	Depression disorder
<b>Financial hardship</b>	2.85***	2.83***
<b>Generation (Ref. Baby boomer)</b>		
Silent	0.61***	0.64***
X	1.53***	1.43***
Millennials	2.08***	1.92***
Z	2.56***	2.76***
<b>Male</b>	0.66***	0.85***
<b>Race (Ref. White)</b>		
Black	0.68***	0.76***
Hispanic	0.89***	0.90***
Others	0.77***	0.90***
<b>Education (Ref. Less than high school)</b>		
Highschool or GED	1.02	1.03
Some college	1.23***	1.16***
College and above	1.22***	0.98
<b>Income (Ref. Less than \$50,000)</b>		
\$50,000-\$99,999	0.81***	0.76***
\$100,000 and above	0.62***	0.52***
<b>Job loss</b>	1.74***	1.87***
<b>Region (Ref. Northeast)</b>		
Midwest	0.88***	0.94***
South	0.97***	1.06***
West	1.06***	1.12***

Note: \*, \*\*, and \*\*\* indicate statistical significance at an alpha level of 0.05, 0.01, and 0.001, respectively