



## Original article

## Job Insecurity and Symptoms of Anxiety and Depression Among U.S. Young Adults During COVID-19

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## A B S T R A C T

**Purpose:** This study aimed to estimate the associations between job insecurity and symptoms of anxiety and depression among U.S. young adults amidst the COVID-19 pandemic.**Methods:** We analyzed data on young adults aged 18–26 years from June 15 to June 30, 2020, from the weekly, cross-sectional Household Pulse Survey (n = 4,852) conducted by the U.S. Census Bureau. Two job insecurity measures and four anxiety and depression measures were analyzed using multivariable Poisson regression models adjusting for age, sex, race/ethnicity, education, and marital status.**Results:** Fifty-nine percent of participants experienced direct or household employment loss since the start of the COVID-19 pandemic, and 38% were expected to experience direct or household employment loss in the coming 4 weeks. Recent direct or household employment loss and expected direct or household employment loss, among participants who did not experience recent employment loss, were associated with a greater risk of poor mental health on all four measures.**Conclusions:** U.S. young adults experience a significant mental health burden as a result of job insecurity amidst the COVID-19 pandemic.

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IMPLICATIONS AND  
CONTRIBUTION

Job insecurity as a result of the COVID-19 pandemic results in symptoms of anxiety and depression for U.S. young adults. Public health professionals, clinicians, and policymakers all have a unique role in addressing these problems as the pandemic continues.

Young adulthood, ranging from 18 to 26 years, is often marked by important developmental transitions, including entering the workforce [1]. Although young adults are less susceptible to the serious adverse health outcomes associated with COVID-19 [2], young people have not been immune to the

economic and employment downturns [3]. Recent reports have shown that 25% of young people aged 16–24 years in the U.S. were unemployed in May 2020 [3] during the height of the pandemic lockdowns and social distancing. There are several reasons why young people experienced greater rates of unemployment compared with older adults. For one, young adults often work in industries most adversely affected by lockdowns and are not amenable to remote, work-from-home arrangements [3]. These economic and employment hardships may exacerbate the mental health of young people who may already be experiencing symptoms of anxiety, depression [4–6], and post-traumatic stress disorder [6] related to the pandemic. The

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combination of living through the uncertainty of a global pandemic and the subsequent economic and employment hardships may be particularly burdensome on the mental health of young adults. This study aimed to estimate the association between direct or household job insecurity and symptoms of anxiety and depression among young adults in the U.S.

## Methods

We analyzed data from June 15 to June 30, 2020, from the weekly, cross-sectional Household Pulse Survey (HPS;  $n = 4,852$ ), conducted by the U.S. Census Bureau in collaboration with five other federal agencies to produce data on the social and economic impacts of COVID-19 among adults in the U.S. The HPS questionnaire was reviewed by independent experts at the Center for Behavioral Science Methods, as well as the Demographic Directorate and representatives from the five partner federal agencies. HPS used the Census Bureau's Master Address File as the sampling frame and the online platform Qualtrics as the primary data collection method. The Census Bureau website [7] provides more information and access to publicly available data.

## Measures

### Dependent variables

Symptoms of *anxiety* and *worry* were assessed using two items adapted from the Generalized Anxiety Disorder 7-item scale [8]. Symptoms of *loss of interest* and *depression* were assessed using two items adapted from the Patient Health Questionnaire-9 [9]. Response options for all dependent variables were dichotomized to “any days” and “not at all.”

### Independent variables

*Job insecurity* was assessed using two measures. *Recent employment loss* was measured using the question, “Have you, or has anyone in your household, experienced a loss of employment income since March 13, 2020?” *Expected employment loss* was measured using the question, “Do you expect that you or anyone in your household will experience a loss of employment income in the next 4 weeks because of the coronavirus pandemic?” Response options for both measures were “yes” or “no.” These measures align with models of job insecurity previously proposed [10].

### Statistical analysis

We fitted modified multivariable Poisson regression models to estimate the associations between direct or household job insecurity and anxiety and depression symptoms (eight regression models total). The use of robust estimates of variance permits straightforward interpretation of the exponentiated regression coefficients as risk ratios (RRs) [11]. We adjusted for potential confounders, including age, sex, race/ethnicity, education, and marital status. Nonresponse sample weighting was applied. The analyses estimating the association between expected employment loss and anxiety and depression symptoms were restricted to the subset of participants whose households did not experience recent employment loss. We also conducted a sensitivity analysis by removing this sample

restriction and fitting these regression models to the entire sample. E-values corresponding to our estimates were calculated [12]. Analyses were conducted using Stata 15.1. (StataCorp LLC, College Station, TX) [13].

## Results

Fifty-nine percent of participants experienced direct or household employment loss since the start of the COVID-19 pandemic, and 38% were expected to experience direct or household employment loss in the coming 4 weeks (Table 1). The indicators of poor mental health were two- to six-fold higher among participants who experienced or anticipated employment loss (Supplementary Table 1). In multivariable regression models (Table 2), experiencing recent employment loss was associated with a higher risk of experiencing symptoms of anxiety (adjusted RR [ARR] = 1.22; 95% confidence interval [CI], 1.12–1.32), worry (ARR = 1.31; 95% CI, 1.18–1.44), loss of interest (ARR = 1.23; 95% CI, 1.12–1.36), and depression (ARR = 1.25; 95% CI, 1.13–1.37). The e-values corresponding to these estimates

**Table 1**

Weighted sample characteristics of U.S. young adults aged 18–26 years from the U.S. Census Household Pulse Survey, June 15–30, 2020 ( $n = 4,852$ )

	%
Age, years (mean $\pm$ SE)	22.5 $\pm$ 0.7
Sex	
Female	46.8
Male	53.2
Race/ethnicity	
Hispanic or Latino (may be of any race)	25.0
White alone, not Hispanic	54.3
Black alone, not Hispanic	10.2
Asian alone, not Hispanic	5.8
Two or more races + other races, not Hispanic	4.6
Education	
High school graduate or equivalent or less	41.3
Some college or more	58.7
Marital status	
Married	13.3
Not married	86.7
Job insecurity	
Direct or household employment loss, since March 13, 2020	
No	41.3
Yes	58.7
Expected direct or household employment loss, next 4 weeks	
No	61.8
Yes	38.2
Mental health symptoms	
Nervous, anxious, or on edge, past 7 days <sup>a</sup>	
Not at all	24.7
Any days	75.3
Not being able to stop or control worrying, past 7 days <sup>b</sup>	
Not at all	32.2
Any days	67.8
Little interest or pleasure in doing things, past 7 days <sup>c</sup>	
Not at all	33.2
Any days	66.8
Feeling down, depressed, or hopeless, past 7 days <sup>d</sup>	
Not at all	33.0
Any days	64.0

<sup>a</sup> “Over the last 7 days, how often have you been bothered by the following problems ... Feeling nervous, anxious, or on edge?”

<sup>b</sup> “Over the last 7 days, how often have you been bothered by the following problems ... Not being able to stop or control worrying?”

<sup>c</sup> “Over the last 7 days, how often have you been bothered by ... Having little interest or pleasure in doing things?”

<sup>d</sup> “Over the last 7 days, how often have you been bothered by ... Feeling down, depressed, or hopeless?”

**Table 2**

Estimated association between job insecurity and symptoms of poor mental health

	Anxiety <sup>a</sup>	<i>p</i>	Worry <sup>a</sup>	<i>p</i>	Loss of interest <sup>a</sup>	<i>p</i>	Depression <sup>a</sup>	<i>p</i>
	ARR (95% CI)		ARR (95% CI)		ARR (95% CI)		ARR (95% CI)	
Direct or household employment loss, since March 13, 2020	1.22 (1.12–1.32)	<.001	1.31 (1.18–1.44)	<.001	1.23 (1.12–1.36)	<.001	1.25 (1.13–1.37)	<.001
Expected direct or household employment loss, next 4 weeks <sup>b</sup>	1.56 (1.36–1.79)	<.001	1.50 (1.23–1.84)	<.001	1.34 (1.07–1.69)	.011	1.63 (1.38–1.93)	<.001

ARR = adjusted risk ratio.

<sup>a</sup> Each cell displays estimates from a single multivariable Poisson regression model with covariate adjustment for age, sex, race/ethnicity, education, and marital status.<sup>b</sup> These analyses were conducted among the subset of participants who had not experienced employment loss since March 13, 2020 (*n* = 1,867).

ranged from 1.74 to 1.99. Among those who had not experienced recent employment loss, expected employment loss was similarly associated with a higher risk of anxiety (ARR = 1.56; 95% CI, 1.36–1.79), worry (ARR = 1.50; 95% CI, 1.23–1.84), loss of interest (ARR = 1.34; 95% CI, 1.07–1.69), and depression (ARR = 1.63; 95% CI, 1.38–1.93). The *e*-values corresponding to these estimates ranged from 2.01 to 2.64. When these regression models were fitted to the entire sample, the estimated associations between expected employment loss and poor mental health were slightly attenuated in magnitude but remained statistically significant (Supplementary Table 2).

## Discussion

The results from this study show a significant mental health burden stemming from job insecurity among U.S. young adults amidst the COVID-19 pandemic. This aligns with prior research showing the adverse mental health impacts of job insecurity in non-COVID-19 times [14–17]. Overall, approximately half of young adults either have already experienced recent employment loss or expect employment loss in the near future, further highlighting the pervasiveness of unemployment among young people either directly [3] or among those in their household [18]. In addition, more than 65% of young adults experienced symptoms of poor mental health, consistent with prior research [4–6]. The results from multivariable analyses showed statistically significant associations between recent employment loss and expected employment loss (among participants who did not experience recent employment loss) and symptoms of poor mental health among young adults in the U.S.

Although the results of this study are important, there are several limitations to consider. First, the HPS only included a subset of adapted questions from the Generalized Anxiety Disorder 7-item and Patient Health Questionnaire-9, which limited our ability to effectively assess the range of anxiety and depression symptoms and diagnoses that are potentially related to job insecurity during the COVID-19 pandemic. Second, HPS did not ask participants about pre-existing mental health symptoms and diagnoses. Thus, we were unable to control for this potential confounder in our analyses. However, prior studies of job insecurity and current mental health status that have adjusted for prior mental health status or lifetime mental health diagnosis have generally found the estimated association between job insecurity and current mental health status to be robust to inclusion of such variables [19]. The *e*-values associated with our estimates ranged from 1.74 to 2.64, suggesting that an unobserved confounder (e.g., lifetime mental health diagnosis) would need to have an association with both job insecurity and current mental health status greater than 1.74–2.64 on the risk ratio

scale to completely explain away the observed estimates. Given the magnitude of previously published estimates, we believe this to be unlikely [20,21]. Finally, given the cross-sectional design of HPS, we cannot infer causality from the associations presented.

Despite these limitations, the results of this study are cause for concern and have important implications. Public health professionals should conduct surveillance of mental symptoms that occur amidst the pandemic to inform the implementation of public health or social policy efforts to improve population well-being. Clinicians should screen for job insecurity among young adults and provide appropriate referrals to resources that may provide additional support, such as unemployment benefits. Policymakers should consider the long-term “scarring” that may result from employment losses and symptoms of poor mental health experienced by young adults exposed to recessions early in their employment trajectories [22–25]. It is important to support young people through robust unemployment benefit programs, as well as developing policies that expand health insurance and mental health treatment access.

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Prior Presentations: The results from this study have not been presented previously.

## Supplementary Data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.jadohealth.2020.10.008>.

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