

Job Insecurity and Financial Concern During the COVID-19 Pandemic Are Associated With Worse Mental Health

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Objective: To determine whether job insecurity due to COVID-19 and financial concern were associated with worse mental health during the COVID-19 pandemic. **Method:** Participants ($N=474$ employed U.S. individuals) completed an online survey from April 6 to 12, 2020. Linear regressions were used to examine factors associated with mental health. **Results:** After accounting for demographic characteristics, health status, other COVID-19 experiences, and anxiety symptoms, greater job insecurity due to COVID-19 was related to greater depressive symptoms. Conversely, after accounting for covariates and depressive symptoms, greater financial concern was related to greater anxiety symptoms. Further, greater job insecurity was indirectly related to greater anxiety symptoms due to greater financial concern. **Conclusions:** Findings suggest that employers should aim to reduce job insecurity and financial concern among employees during the COVID-19 pandemic to address the associated mental health consequences.

Keywords: anxiety, COVID-19, depression, financial concern, job insecurity

The novel coronavirus disease 2019 (COVID-19) pandemic has been marked by increased rates of anxiety and depression in the U.S.¹ This in part may be due to the impact the pandemic has had on the economy and workforce. Due to the ease of transmission of COVID-19, health organizations recommended social distancing guidelines to reduce and slow the spread of the virus, which led many U.S. states to close non-essential businesses and implement stay-at-home orders. These measures resulted in over 41 million American workers filing for unemployment between February and May of 2020² and Congress approving \$2.4 trillion in relief bills to combat the financial fallout due to COVID-19.³ Given the unprecedented negative consequences of the pandemic for the U.S. economy and unemployment, concerns about employment status and financial stability stemming from the COVID-19 pandemic may have uniquely contributed to the increased rates of anxiety and depression.

In the week that COVID-19 was declared a pandemic, U.S. unemployment increased by 1.4 million people² and 33% of Americans reported that due to COVID-19 they or someone in their household had lost a job, taken a pay cut, or both.⁴ By mid-April 2020, the national unemployment rate reached 14.7%, the highest it has been since the Great Depression.² Periods of widespread job insecurity (ie, permanent loss of a job or loss of features of a job), such as recessions, increase risk for worse mental health outcomes.^{4,5} For example, during the Great Recession, experiencing a job-related impact (eg, lost a job; took job below experience; took on additional job) was associated with greater anxiety and depressive symptoms three to four years after the recession ended.⁴ Similarly, another study showed that job insecurity following the Great Recession was associated with higher odds of experiencing depression and anxiety.⁶ These findings seem particularly relevant in the context of the COVID-19 pandemic, as many workers have experienced heightened job insecurity (eg, reduced work hours, pay cuts, and job loss) because of the pandemic.

Job insecurity is a stressful experience associated with distress and negative feelings.^{7,8} Little research has examined the possible psychological implications of job insecurity during pandemics, given the rarity of such events. However, some evidence has demonstrated marked increases in anxiety and depressive symptomatology related to experiencing job insecurity due to an epidemic. During the equine influenza (EI) outbreak, those whose principal source of income relied on horse-related industry (eg, those with financial dependence on an industry facing a crisis) were more than twice as likely to have high psychological distress than those whose income was not dependent on horse-related industry.⁹ During the severe acute respiratory syndrome (SARS) outbreak, depressive symptoms and emotional stress increased from pre- to post-SARS outbreak, and job loss predicted greater increases.¹⁰ Furthermore, income reduction during the recovery period of the SARS outbreak was the largest predictor of the development of a psychological disorder.¹¹ Due to unparalleled fluctuations in employment across the U.S. because of the COVID-19 pandemic, those employed may be experiencing greater job insecurity, which may be associated with worse mental health.

Similar to job insecurity, many people may also be experiencing greater financial concerns due to the COVID-19 pandemic. Pay cuts were a common response by employers during the COVID-19 pandemic, and 49% of Americans saw the pandemic as a major threat to personal finances.¹² Among Americans who reported that the pandemic is a major threat to their personal finances, 57% reported experiencing medium to high levels of psychological distress, including depression and anxiety.¹³ Prior research has shown that financial strain is associated with having an anxiety or depressive disorder, even after accounting for household income.¹⁴ Recently, scholars have argued that the relation between economic hardship (eg, making lifestyle adjustments due to financial need) and psychological well-being is explained by concern regarding one's financial situation.^{15,16} That is, greater experience of economic hardship is associated with increased concern for one's financial situation, which in turn is associated with higher levels of psychological distress.¹⁵ Like economic hardship, individuals experiencing job insecurity during the COVID-19 pandemic may

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Clinical Significance: The COVID-19 pandemic has resulted in unprecedented job loss, which has mental health implications. Job insecurity was uniquely associated with depressive symptoms. Financial concern was uniquely associated with anxiety symptoms. Employers could help by reducing uncertainty for their employees and offering options for maintaining some income (eg, part-time work).

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also report poorer mental health due to greater concern about personal finances. Given the high unemployment rates during the pandemic, concerns about losing one's job and difficulty attaining new employment may increase worry about financial stability, resulting in poorer mental health.

Prior work indicates that job insecurity and financial concerns are related to worse mental health, particularly during periods of national or global crisis, such as the COVID-19 pandemic. The present research examined the extent to which both job insecurity stemming from the COVID-19 pandemic and financial concern were related to mental health (anxiety and depressive symptoms) using a national U.S. sample. Further, we explored whether financial concern explained the association between job insecurity due to COVID-19 and mental health. As general issues and experiences related to COVID-19, as well as individual characteristics (eg, demographic characteristics, health), may also be associated with mental health, we controlled for several factors to isolate the potential links between job insecurity, financial concerns, and mental health.

METHOD

Participants and Procedure

Data were collected from 797 U.S. residents from April 6 to 12, 2020, a period when the U.S. unemployment rate reached the highest it has been since the Great Depression.² Participants were recruited through the panel provider Qualtrics for a larger longitudinal study about the effects of COVID-19. Six participants were excluded from analyses based on problematic response patterns (eg, nonsensical open-ended responses, straight line responses to close-ended measures). The sample was further reduced to include only individuals who reported some level of employment ($N=474$, 53.6% male, $Mdn_{age}=40$ years, range: 19 to 85 years; 78.3% White; $Mdn_{education}$ = College graduate; Mdn_{income} = \$80,000 to \$89,999; 75.1% full-time employed, 15.6% part-time employed, 9.3% self-employed).

Institutional ethics approval (No L20-0018) was obtained. Upon providing online consent, participants completed study measures and other questionnaires in a random order, except for perceived health, illness recency, and employment status items which appeared last. The online survey took approximately 31 minutes to complete, and participants were given monetary compensation in an amount established by the panel provider. Information regarding age, sex, race, relationship status, income, and education was collected from a previous wave.

Measures

Anxiety Symptoms

The 7-item General Anxiety Disorder-7 (GAD-7) assessed for symptoms of anxiety and has been shown to demonstrate excellent internal consistency ($\alpha=0.92$).¹⁷ Participants indicated the extent to which they have been bothered by anxious symptoms (eg, "feeling nervous, anxious, or on edge", "not being able to stop or control worrying") on a scale from 0 (*not at all*) to 3 (*nearly every day*) over the past week. A composite score was created by summing all items and higher scores indicated greater anxiety symptoms ($\alpha=0.95$). Scores ranging from 0 to 4 are considered to be in the "Minimal or none" symptom severity range; 5 to 9 are considered to be "Mild"; 10 to 14 considered to be "Moderate"; and 15 or greater considered to be in the "Severe" range.

Depressive Symptoms

An abbreviated 8-item version of the Patient Health Questionnaire-9 (PHQ-9) assessed for symptoms of depression and has been shown to demonstrate excellent internal consistency ($\alpha=0.86$ to 0.89).¹⁸ The original PHQ-9 includes a single item

asking about suicidal ideation, which was excluded for this study. Participants indicated the extent to which they have been bothered by depressive symptoms (eg, "little interest or pleasure in doing things", "feeling down, depressed, or hopeless") on a scale from 0 (*not at all*) to 3 (*nearly every day*) over the past week. A composite score was created by summing all items and higher scores indicated greater depressive symptoms. ($\alpha=0.94$). Scores ranging from 0 to 4 are considered to be in the "Minimal or none" symptoms severity range; 5 to 9 considered to be "Mild"; 10 to 14 considered to be "Moderate"; 15 to 19 considered to be "Moderately severe"; and 20 to 27 considered to be "Severe".

Job Insecurity

A single item assessed participants' job insecurity due to COVID-19. Participants were asked to answer the following item, "If employed, how worried are you about the effect of coronavirus, COVID-19, on your employment?", on a scale from 1 (*not at all*) to 5 (*very worried*) or 6 (*N/A—not employed*). Higher scores reflected greater job insecurity due to the effects of COVID-19.

Financial Concern

Four items assessed participants' financial concern. Participants were asked to indicate the extent to which they agreed or disagreed with each item (ie, "My or my family's financial situation will get much worse over the next 12 months", "I am worried about my or my family's financial situation over the next 12 months", "I am worried about providing for myself financially over the next 12 months", and "I have enough means to secure food and housing for myself or my family over the next 12 months") on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*). Appropriate items were reverse coded, and a mean composite score was computed, such that higher scores indicated more financial concern ($\alpha=0.80$).

COVID-19 Experiences

A series of questions assessed the effect of COVID-19 on participants' experiences. They were asked to indicate how concerned they were about COVID-19, perceived likelihood of contracting COVID-19, the extent to which COVID-19 is affecting their daily life, the extent to which they have been following news coverage of COVID-19, and their perceived extent to which they have engaged in social distancing (ie, reducing contact with others to avoid contracting COVID-19) over the past week using 5-point scales (eg, 1 [*not at all*] to 5 [*a great deal*]). Participants were also asked to indicate whether or not they self-quarantined (ie, stay at home to avoid contracting or spreading COVID-19) over the past week with the close-ended response options, "yes" or "no". Each individual item was included a covariate to isolate the unique effects of job insecurity due to COVID-19 and financial concern on mental health.

Perceived Health

Participants rated their general health on a scale from 1 (*poor*) to 5 (*excellent*).

Illness Recency

Four items assessed illness recency and have been shown to demonstrate good internal consistency ($\alpha=0.86$).¹⁹ Participants indicated their agreement to each item (eg, "Over the past couple days, I have not been feeling well") on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). A composite score was created by taking the average of the items, such that higher scores indicated more recent illness ($\alpha=0.94$).

COVID-19 Infection Status

Participants indicated whether they thought they have or had COVID-19 with the close-ended response options, "yes",

“maybe”, or “no”. For the present study, responses were dichotomized into 0 (no) or 1 (yes and maybe).

Demographics

Participants reported their age, race, sex, education level, relationship status, annual family income, whether or not they work in the healthcare field, whether or not they have children in the home, and employment status.

RESULTS

Descriptive Statistics

Means and standard deviations for the primary study variables are presented in Table 1. Based on composite scores for the General Anxiety Disorder-7 scale, 53.7% reported “minimal to none” anxiety symptoms, 21.4% reported “mild” anxiety symptoms, 16.4% reported “moderate” anxiety symptoms, and 8.5% reported “severe” anxiety symptoms. Based on composite scores for the Patient Health Questionnaire-9 scale, 55% reported “minimal to none” depressive symptoms, 18.8% reported “mild” depressive symptoms, 13.7% reported “moderate” depressive symptoms, 8.9% reported “moderately severe” depressive symptoms, and 3.6% reported “severe” depressive symptoms. Most participants reported some level of worry about the effects of COVID-19 on their employment, with 19.6% not at all worried, 18.8% slightly worried, 23.2% somewhat worried, 16.6% worried, and 21.9% very worried. Approximately 31.9% of the sample reported some degree of concern about finances over the next 12 months (ie, an average score of 4 or greater on a 1 to 6 scale).

Correlations

Bivariate correlations were estimated to assess associations among key study variables (see Table 1). Anxiety and depressive symptoms were positively correlated. Greater anxiety symptoms were correlated with greater job insecurity, financial concern, concern about COVID-19, daily life being affected by COVID-19, perceived likelihood of contracting COVID-19, following news coverage of COVID-19, and self-quarantining. Greater depressive symptoms were correlated with greater job insecurity, financial concern, concern about COVID-19, daily life being affected by COVID-19, perceived likelihood of contracting COVID-19,

following news coverage of COVID-19, and self-quarantining. Perceived social distancing was not significantly correlated with anxiety or depressive symptoms.

Regression Analyses

Two regression analyses were conducted to examine whether job insecurity due to COVID-19 and financial concern were uniquely associated with mental health, controlling for age, sex, race, relationship status, income, education, status as a healthcare worker, having children in the home, perceived health, illness recency, COVID-19 infection status, concern about COVID-19, daily life being affected by COVID-19, perceived likelihood of contracting COVID-19, following news coverage of COVID-19, self-quarantining, and perceived social distancing (see Table 2). As depression and anxiety are highly comorbid,²⁰ depression was also entered in the regression model predicting anxiety, and anxiety was entered in the regression model predicting depression. There were no issues of multicollinearity in either model (Tolerance > 0.44 and VIF < 2.3).

The model predicting anxiety symptoms was significant, $F(20, 382) = 59.01, P < 0.001, R^2 = 0.74$. After accounting for depressive symptoms, greater perceived likelihood of contracting COVID-19, greater following news coverage of COVID-19, and greater financial concern were associated with greater anxiety symptoms. The model predicting depressive symptoms was also significant, $F(20, 382) = 58.57, P < 0.001, R^2 = 0.75$. After accounting for anxiety symptoms, being a male, having an illness more recently, and following less news coverage about COVID-19 were associated with greater depressive symptoms. Additionally, greater job insecurity due to COVID-19 was significantly associated with greater depressive symptoms.

Mediation Analysis

A mediation model was estimated to test whether job insecurity due to COVID-19 was indirectly associated with anxiety symptoms through financial concern. Because financial concern was not significantly associated with depressive symptoms after accounting for all other variables, it was not explored as a mediator between job insecurity and depressive symptoms. The mediation model was tested using 5000 bootstrapped samples with the PROCESS macro.²¹ For the model, job insecurity due to COVID-19 was entered as the independent variables (*x* variable), financial concern

TABLE 1. Means, Standard Deviations, and Bivariate Correlations Among Key Study Variables

	1	2	3	4	5	6	7	8	9	10
1. Anxiety symptoms	–									
2. Depressive symptoms	0.82***	–								
3. Financial concern	0.43***	0.38***	–							
4. Job insecurity	0.38***	0.38***	0.53***	–						
5. Concern about COVID-19	0.19**	0.13**	0.24***	0.39***	–					
6. Daily life affected by COVID-19	0.29***	0.24***	0.24***	0.37***	0.55***	–				
7. Likelihood of contracting COVID-19	0.42***	0.37***	0.25***	0.31***	0.20***	0.29***	–			
8. Following news coverage of COVID-19	0.18***	0.09*	0.14**	0.23***	0.50***	0.39***	0.13**	–		
9. Self-quarantining	0.18***	0.17***	0.13***	0.20***	0.24***	0.25***	0.07	0.15**	–	
10. Perceived social distancing	0.04	–0.02	0.03	0.14**	0.44***	0.41***	0.11*	0.33***	0.34***	–
Mean	5.57	5.75	3.30	3.02	4.26	3.96	2.44	3.85	0.71	4.37
SD	5.74	6.08	1.18	1.42	0.93	1.04	1.02	1.12	0.45	0.90

Note. Self-quarantining (1 = yes, 0 = no).
SD, standard deviation.
* $P < 0.05$.
** $P < 0.01$.
*** $P < 0.001$.

TABLE 2. Regressions Predicting Mental Health

	Anxiety Symptoms			Depressive Symptoms		
	β	SE	95% CI	β	SE	95% CI
Age	-0.05	0.01	-0.05, 0.003	-0.01	0.01	-0.03, 0.02
Sex	-0.04	0.31	-1.04, 0.17	0.07*	0.33	0.14, 1.45
Race	0.01	0.38	0.60, 0.89	0.03	0.41	-0.35, 1.25
Relationship status	0.02	0.36	-0.50, 0.92	-0.06	0.39	-1.43, 0.09
Income	0.002	0.06	-0.11, 0.12	0.02	0.06	-0.07, 0.17
Education	-0.03	0.10	-0.30, 0.10	0.01	0.11	-0.17, 0.26
Healthcare worker	-0.05	0.47	-1.73, 0.10	0.01	0.50	-0.84, 1.13
Children in the home	-0.02	0.18	-0.49, 0.23	0.01	0.20	-0.31, 0.47
Perceived health	0.01	0.36	-0.57, 0.83	-0.01	0.38	-0.94, 0.57
Illness recency	0.06	0.13	-0.06, 0.43	0.23***	0.13	0.55, 1.06
COVID-19 infection status	0.01	0.50	-0.77, 1.19	-0.001	0.54	-1.11, 1.00
Depressive symptoms	0.69***	0.03	0.58, 0.72	-	-	-
Anxiety symptoms	-	-	-	0.70***	0.04	0.67, 0.82
Concern about COVID-19	-0.01	0.22	-0.49, 0.27	-0.03	0.23	-0.64, 0.29
Daily life affected by COVID-19	0.04	0.18	-0.15, 0.57	0.04	0.20	-0.15, 0.62
Likelihood of contracting COVID-19	0.12***	0.17	0.31, 0.97	-0.04	0.19	0.59, 0.14
Following news coverage of COVID-19	0.08**	0.16	0.11, 0.73	-0.07*	0.17	-0.69, -0.12
Self-quarantining	-0.01	0.35	-0.78, 0.60	0.03	0.38	-0.39, 1.08
Perceived social distancing	0.004	0.20	-0.38, 0.42	0.01	0.22	-0.36, 0.49
Job insecurity	-0.04	0.14	-0.41, 0.12	0.07*	0.14	0.01, 0.57
Financial concern	0.12***	0.15	0.29, 0.88	-0.01	0.17	-0.36, 0.29

Note. Sex (1 = male, 0 = female); race (1 = White, 0 = not-White), relationship status (1 = married, 0 = not), healthcare worker (1 = yes, 0 = no), children in the home (1 = yes, 0 = no), COVID-19 infection status (1 = yes/maybe, 0 = no). Self-quarantining (1 = yes, 0 = no). SE, standard error. * $P < 0.05$. ** $P < 0.01$. *** $P < 0.001$.

as the mediator variable (*m* variable), and anxiety symptoms was entered as the dependent variable (*y* variable) (see Fig. 1). Demographics, health, and COVID-19 experiences were entered as covariates.

The overall model explained 74.6% of the variance in anxiety symptoms, $F(19, 383) = 59.30, P < 0.001$. After accounting for covariates, greater job insecurity due to COVID-19 was associated with greater financial concern ($b = 0.33, 95\% \text{ CI } [0.25, 0.41]$). Additionally, greater financial concern was associated with greater anxiety symptoms ($b = 0.58, 95\% \text{ CI } [0.29, 0.88]$). There was a significant indirect effect of job insecurity due to COVID-19 on anxiety symptoms through financial concern ($b = 0.19, 95\% \text{ CI } [0.09, 0.33]$). Thus, higher levels of job insecurity due to COVID-19 were related to greater anxiety symptoms at least in part because higher job insecurity due to COVID-19 is associated with greater financial concern.

DISCUSSION

As the national unemployment rate recently reached the highest it has been since the Great Depression² and widespread job insecurity increases the risk for poor mental health, it is important to examine employee mental health during the COVID-19 pandemic. The present findings demonstrate that among those currently employed, job insecurity due to COVID-19 and financial concern are associated with greater depressive and anxiety symptoms. Further, findings suggest that greater job insecurity due to COVID-19 is related to greater anxiety symptoms partly because of greater financial concern. These findings held after accounting for demographic characteristics, health, and other COVID-19 experiences.

Overall, our sample exhibited relatively high levels of psychological distress with approximately 25% reporting moderate to

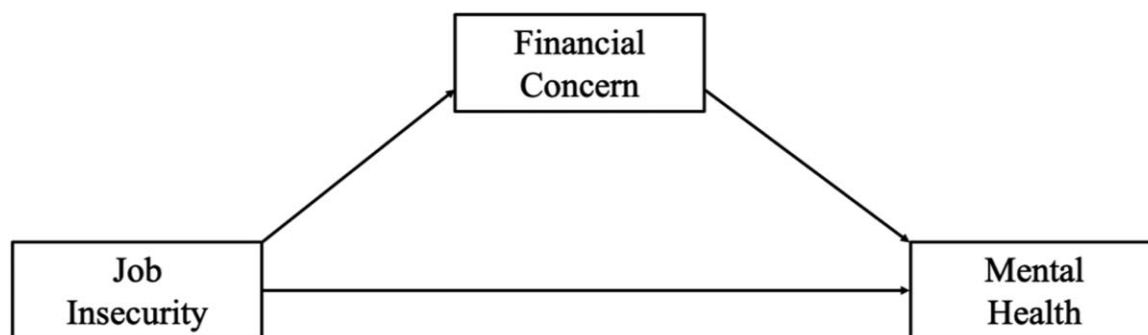


FIGURE 1. Conceptual model testing whether job insecurity due to COVID-19 was indirectly associated with mental health through financial concern.

severe anxiety and depressive symptoms. In comparison, a 2017 national U.S. survey found that about 2.7% adults showed symptoms of generalized anxiety disorder and 6.8% showed symptoms of major depressive disorder over 12 months.²² Our findings align with prior research demonstrating poor mental health during disease outbreaks,^{9,23} as well as high levels of psychological distress reported by other U.S. samples during the COVID-19 pandemic.¹³ The majority of the sample also reported at least some worry about the potential effect of COVID-19 on their employment. Moreover, over 30% of the sample reported being concerned about their financial situation over the next 12 months. These findings expand upon other research showing that Americans are concerned about the impact of the pandemic on their employment and finances,¹² highlighting the economic impact of the current pandemic particularly among those currently employed.

Greater job insecurity and financial concern were related to greater depressive and anxiety symptoms, which converges with prior work linking large-scale disruptions (eg, recessions, epidemics) with poor mental health.^{4,5,10} Importantly, our findings expand on these associations by demonstrating independent links between greater financial concern with greater anxiety symptoms, and greater job insecurity with greater depressive symptoms, after accounting for demographics, health, and other COVID-19 concerns and experiences. That job insecurity, but not financial concern, was associated with depressive symptoms may be due to a sense of hopelessness with the current state of the workforce due to the pandemic. Hopelessness represents a proximal risk factor of depression that consists of both negative expectations about a highly valued outcome and expectations of helplessness about changing the outcome.^{24,25} As such, it may be that for those experiencing greater job insecurity specifically due to COVID-19, both the expectation of unemployment coupled with helplessness in changing this outcome (ie, maintaining current employment or easily finding new employment) may be contributing to a sense of hopelessness that is more central to depression than general financial concern. Further, these findings expand upon prior work on mental health during epidemics because the present study accounted for the comorbidity of anxiety and depressive symptoms, thus teasing apart the unique contribution of job insecurity and financial concern.

Moreover, greater job insecurity due to COVID-19 was indirectly associated with greater anxiety symptoms through greater financial concern. This finding aligns with prior research that suggests that concern regarding one's financial situation accounts for the association between economic hardship and mental health.¹⁵ Thus, those currently employed during the pandemic and experiencing heightened concern about their employment status may be reporting higher levels of anxiety symptoms because of their intensified worry about their financial situation. It is important to note that concern for finances over the next 12 months involves 'worry' about future events, which is a key component of anxiety,²⁶ and therefore, it may be those who are prone to anxiety that express that anxiety through financial concern.

Our results demonstrate the potential adverse consequences that job insecurity and financial concern have on employee mental health. Based on these findings, for those experiencing depressive symptoms during the pandemic, it may be particularly important for employers to be mindful and try to minimize feelings of uncertainty for the employees, as well as instilling hope or agency in employees. For those experiencing anxiety symptoms, employers could attempt to reduce financial concerns by allowing employees to continue to work (eg, telework), even with reduced hours and income, to ensure that employees do not lose their entire income.

Strengths and Limitations

Findings should be interpreted in the context of certain limitations. First, while the overall study recruited a nationally

representative sample, the subgroup of those currently employed may not necessarily be representative of the population. Further, the present study is cross-sectional, and thus causal or temporal claims cannot be made. Future studies should examine the effects of job insecurity and financial concerns on mental health longitudinally and manipulate job insecurity experimentally. Moreover, although we inquired about whether individuals were employed, we did not ask them about the nature of their job. Future studies should examine potential effects of anxiety and depression depending upon the nature of the job (eg, essential workers, work-from-home in an arena where COVID-19 is seen as a momentary setback).

CONCLUSIONS

The COVID-19 pandemic has resulted in unprecedented economic ramifications and job loss. Due to the rapidly-changing nature of the pandemic, those currently employed may be experiencing heightened job insecurity and financial concern, consequentially impacting their mental health. The present finding show that greater job insecurity due to COVID-19 among those currently employed is related to greater depressive symptoms. Conversely, financial concern helps explain why those with greater job insecurity report higher levels of anxiety symptoms. Future research is needed to understand these mental health impacts longitudinally.

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