



Association between Diagnosed Anxiety and Depression and Exposure to Life Stressors during the COVID-19 Pandemic

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Emily Hallgren PhD , *College of Medicine, University of Arkansas for Medical Sciences Northwest*,
Ehallgren@uams.edu

Don E. Willis PhD , *College of Medicine, University of Arkansas for Medical Sciences Northwest*,
DEWillis@uams.edu

Brett Rowland MA , *Office of Community Health and Research, University of Arkansas for Medical Sciences Northwest*,
mbrowland@uams.edu

See next page for additional authors

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Abstract

Research suggests that mental health disorders heighten the risk of exposure to life stressors. Drawing on a sample of 754 adults from a survey distributed at six primary care clinics, we examine whether adults who reported ever being diagnosed with depression or anxiety were more likely to experience an employment disruption, a housing disruption, and/or report more COVID-19-related stressors during the COVID-19 pandemic. Individuals who reported ever being diagnosed with depression reported a greater burden ($B=.75$) of COVID-19-related stressors. Those who reported ever being diagnosed with anxiety had higher odds of experiencing an employment disruption ($OR=1.90$) and a housing disruption ($OR=2.92$) and reported about one ($B=.97$) additional COVID-19-related stressor. Our results suggest that the COVID-19 pandemic may have deepened existing mental health disparities by exposing those with a depression or anxiety diagnosis to additional life stressors.

Keywords

mental health; stressors; anxiety; depression; COVID-19 pandemic

Cover Page Footnote

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Authors

Emily Hallgren PhD, Don E. Willis PhD, Brett Rowland MA, James P. Selig PhD, and Pearl A. McElfish PhD



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Emily Hallgren, University of Arkansas for Medical Sciences Northwest
Don E. Willis, University of Arkansas for Medical Sciences Northwest
Brett Rowland, University of Arkansas for Medical Sciences Northwest
James P. Selig, University of Arkansas for Medical Sciences
Pearl A. McElfish, University of Arkansas for Medical Sciences Northwest
Corresponding Author: Pearl A. McElfish, pamelfish@uams.edu

ABSTRACT

Research suggests that mental health disorders heighten the risk of exposure to life stressors. Drawing on a sample of 754 adults from a survey distributed at six primary care clinics, we examine whether adults who reported ever being diagnosed with depression or anxiety were more likely to experience an employment disruption, a housing disruption, and/or report more COVID-19-related stressors during the COVID-19 pandemic. Individuals who reported ever being diagnosed with depression reported a greater burden ($B=.75$) of COVID-19-related stressors. Those who reported ever being diagnosed with anxiety had higher odds of experiencing an employment disruption ($OR=1.90$) and a housing disruption ($OR=2.92$) and reported about one ($B=.97$) additional COVID-19-related stressor. Our results suggest that the COVID-19 pandemic may have deepened existing mental health disparities by exposing those with a depression or anxiety diagnosis to additional life stressors.

Keywords: mental health; stressors; anxiety; depression; COVID-19 pandemic

INTRODUCTION

The global COVID-19 pandemic caused disruption to individual lives and increased stress and mental distress among populations worldwide (Holman et al., 2020; Salari et al., 2020). However, not all people experienced the disruptive and stressful effects equally. Socially and medically vulnerable groups have disproportionately experienced negative effects from the pandemic (Centers for Disease Control and Prevention, 2020; Mein, 2020; Perry et al., 2021), deepening preexisting health disparities.

Mental health disorders and life stressors have a bidirectional association; each heightens the risk of exposure to the other (Holahan et al., 2005). While much literature has examined the

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effects of stressful life events on the development of depression and anxiety (Juruena et al., 2020; Mazure, 1998; Meyer & Paul, 2011), less work has explored how these mental health disorders may amplify individuals' risk of life stressors, potentially deepening mental health inequalities. Depressive disorders, in particular, have been shown to increase the likelihood of both adverse life events and chronic stressors (Daley et al., 1997; Holahan et al., 2005; Turner & Turner, 2005). Anxiety disorders are also likely to increase the risk of experiencing life stressors (Brenes, 2007).

During the COVID-19 pandemic, individuals with preexisting mental health disorder diagnoses experienced worse physical health outcomes (Di Gessa et al., 2021; Taquet et al., 2021; Toubasi et al., 2021; Wang et al., 2021). Patients with a previously diagnosed mental health disorder had increased risk of COVID-19 infection, hospitalization, and death compared to those without a preexisting diagnosis (Taquet et al., 2021; Toubasi et al., 2021; Wang et al., 2021). Adults diagnosed with psychological distress prior to the COVID-19 pandemic were more likely to experience health care disruption during the pandemic (Di Gessa et al., 2021).

While the relationship between mental health disorders and greater exposure to negative COVID-19 health outcomes is well-documented (Taquet et al., 2021; Toubasi et al., 2021; Wang et al., 2021), we know less about whether individuals with mental health disorders had greater exposure to social stressors related to the pandemic, such as employment disruption, housing disruption, and COVID-19-specific life stressors. One study from the United Kingdom (U.K.) (Di Gessa et al., 2021) found that pre-pandemic psychological distress was associated with higher odds of disruption to one's employment, income, and working hours during the pandemic. Research has found that COVID-19-related stressors, including job loss, were associated with an increase in depression symptoms and psychological distress among United States (U.S.) residents during the COVID-19 pandemic (Ettman et al., 2020; Robinson & Daly, 2021). Yet, less is known about whether a self-reported diagnosis of depression or anxiety was associated with greater exposure to employment disruption, housing disruption, or COVID-19-specific stressors during the pandemic.

Given past research showing that preexisting mental health disorders increase the risk of exposure to life stressors generally (Holahan et al., 2005; Turner & Turner, 2005) and during the COVID-19 pandemic (Di Gessa et al., 2021), we hypothesize that adults who report ever being diagnosed with depression or anxiety will be more likely to report an employment disruption and a housing disruption and will report more COVID-19-related stressors.

METHODS

Data

Data were collected through an online survey of adult respondents from October 30, 2020 to January 16, 2021. This study was approved by the Institutional Review Board at the University of Arkansas for Medical Sciences (IRB#261226).

Participants were recruited by email from six health clinics across the state of Arkansas, two located in rural counties and four in urban counties. Participants were eligible if they were 18 years of age or older, lived and/or worked in Arkansas, and had received health care at one or more of the six health clinics. Survey data were collected using Research Electronic Data Capture (REDCap). Emails were sent to individuals who received care at one or more of the six health clinics; the online survey received 876 responses. Of those, 809 were eligible participants based

on inclusion criteria. Of the 809 eligible participants, 21 provided no data beyond the eligibility screener, and 34 were duplicate responses. This yielded a total of 754 valid responses to the survey.

All survey participants reviewed study information and consent at the start of the online survey. REDCap captured consent before participants began the survey. Participants received a \$20 gift card as remuneration for their time and participation in the study. Identifying information was collected in REDCap for the purpose of distributing gift cards to participants. Study data were deidentified prior to analysis.

Measures

Covariates included demographic characteristics (age, gender, racial/ethnic group, annual income, education level, marital status) and pre-COVID-19 pandemic employment status. Demographic characteristics were measured with questions from the 2019 Behavioral Risk Factor Surveillance System (BRFSS) questionnaire (Centers for Disease Control and Prevention, 2019). *Pre-COVID-19 pandemic employment status* was assessed with the question: “Prior to the COVID-19 outbreak, how would you describe your employment status?” (PhenX Toolkit, 2021). Possible response categories included employed for wages 35+ hours per week, employed for wages part time, self-employed, out of work for 1 year or more, out of work for less than 1 year, taking care of your family and/or home and do not work for wages, non-working student, retired, and unable to work. Responses were dichotomized to *employed pre-COVID-19* (employed for wages 35+ hours per week, employed for wages part time, or self-employed) and *not employed pre-COVID-19* (out of work for 1 year or more, out of work for less than 1 year, taking care of your family and home and do not work for wages, non-working student, retired, or unable to work).

Self-reported diagnoses of depression and anxiety were each measured with the question: “To your knowledge, has a doctor or healthcare professional ever told you that you have any of the following health conditions?” (PhenX Toolkit, 2021). *Ever diagnosed with anxiety* was assessed with the response category “any anxiety disorder (e.g., panic disorder, generalized anxiety disorder, post-traumatic stress disorder)” with possible response categories yes or no. *Ever diagnosed with depression* was assessed with the response category “any depressive disorder (e.g., major depression)” with possible response categories yes or no.

Employment disruption was measured using a single-item question: “Has your employment status changed since the COVID-19 outbreak?”. Possible response categories were yes or no. Employment loss or change is a common item on stressful life event inventories (Turner et al., 1995).

Housing disruption was measured using a single-item question: “Is the number of people currently living in your home more, less, or about the same as the number of people regularly living in your home before the COVID-19 outbreak began?”. Possible response categories were more than before, less than before, or about the same as before. Response categories were dichotomized to *housing disruption* (more than before or less than before) and *no housing disruption* (about the same as before). Changes in the number of persons living in one’s home is a common item on stressful life event inventories (Turner et al., 1995).

COVID-19-related stressors was measured using a multiple-select question from the Environmental Influences on Child Health Outcomes COVID-19 Questionnaire that asked respondents, “What have been your greatest sources of stress from the COVID-19 outbreak?” (PhenX Toolkit, 2021). Respondents were asked to select all that applied of the following response

categories: health concerns, financial concerns, impact on work, impact on your child, impact on your community, impact on family members, access to food, access to baby supplies (e.g., formula, diapers, wipes), access to personal care products or household supplies, access to medical care including mental health care, access to medical supplies (e.g., prescriptions, testing supplies, etc.), and social distancing or being quarantined. The count of the number of stressors selected, range of 0-12, was used to represent COVID-19-related stressors.

Statistical Analysis

We conducted bivariate analyses using chi-square, Spearman's Rho, Kruskal Wallis, and *t*-tests. We ran chi-square tests for all bivariate relationships with the two binary outcomes (employment disruption and housing disruption), except when assessing their relationship with a continuous variable (i.e., age), in which case we used a *t*-test. For the continuous outcome (COVID-19-related stressors scale), we conducted Kruskal Wallis tests, except with age, in which case we used Spearman's Rho. We conducted logistic and linear regression analyses to examine multivariable relationships between covariates, diagnosed depression and anxiety, and the three outcome variables: employment disruption, housing disruption, and COVID-19-related stressors. Bivariate analyses were conducted using Stata/SE 15.1.

To minimize the limitations of missing data, we tested these associations using full information maximum likelihood (FIML) logistic and linear regression analyses in Mplus version 7.8. FIML logistic regression makes use of all non-missing values in estimating model parameters and yields results comparable to contemporary missing data methods such as multiple imputation (Enders, 2010).

We first provide descriptive statistics, including frequencies and percentages or means and standard deviations for categorical or continuous variables, respectively. Next, we present bivariate associations between sample characteristics and the three outcome variables: employment disruption, housing disruption, and COVID-19-related stressors. Then we present FIML logistic regression analyses for employment disruption and housing disruption. Finally, we present FIML linear regression results for sample characteristics and the COVID-19-related stressors scale.

RESULTS

Table 1 presents demographic, employment, mental health, and COVID-19-related life stressors information for the sample. The average age of participants was 47.39 years (± 16.32 ; range=18-90). The majority of the sample were women (70.6%). Most participants identified as non-Hispanic white (70.4%), about 17% identified as non-Hispanic Black, about 8% identified as non-Hispanic multiracial or other racial group, and about 4% identified as Hispanic/Latinx. Almost half (45.3%) had an annual income of less than \$25,000, 36.2% had a 4-year college degree, approximately half were not married (53.8%), and 59% were working before the COVID-19 pandemic. More than one-third (37.7%) reported they had ever been diagnosed with depression by a healthcare provider, and almost half (47.1%) reported they had ever been diagnosed with anxiety by a healthcare provider. Over a quarter (26.8%) of the sample experienced an employment disruption, and approximately 15% experienced a housing disruption during the COVID-19 pandemic. The mean number of COVID-19-related stressors reported among the sample was 4.22 (± 2.94 ; range=0-12).

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Table 1. Sample Characteristics

Participant Characteristics	n	% or M ± SD	Range
Age	754	47.39 ± 16.32	18-90
Gender	752		
Man	221	29.38	
Woman	531	70.61	
Racial/Ethnic Group	747		
NH Black	128	17.14	
NH White	526	70.41	
NH Other/Multiracial	61	8.17	
Hispanic/Latinx	32	4.28	
Annual Income	620		
<\$25K	281	45.32	
\$25K-<\$50K	133	21.45	
\$50K-<\$75K	72	11.61	
\$75K+	134	21.61	
Education Level	748		
HS or less	212	28.34	
Some college/Tech degree	265	35.43	
4-year degree	271	36.23	
Marital Status^a	747		
Married	345	46.18	
Not married	402	53.82	
Employed Pre-COVID-19	617		
Yes	365	59.16	
No	252	40.84	
Depression Diagnosis	586		
Yes	221	37.71	
No	365	62.29	
Anxiety Diagnosis	582		
Yes	274	47.08	
No	308	52.92	
COVID-19 Employment Disruption	612		
Yes	164	26.80	
No	448	73.20	
COVID-19 Housing Disruption	618		
Yes	90	14.56	
No	528	85.44	
COVID-19-related Stressors	754	4.22 ± 2.94	0-12

Notes: M=mean; SD=standard deviation; NH=Non-Hispanic; HS=high school.

Percentages may not total 100 due to rounding.

^aNot married includes response options: Single, Divorced/Separated, Widowed, and Member of an unmarried couple.

Table 2 presents bivariate associations between sample characteristics and the three outcome variables: employment disruption, housing disruption, and COVID-19-related stressors. In bivariate analyses, age ($p<.0001$), annual income ($p<.0001$), education level ($p=.004$), marital status ($p=.011$), pre-COVID-19 employment ($p<.0001$), depression diagnosis ($p=.002$), and anxiety diagnosis ($p<.0001$) were all significantly associated with employment disruption during

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the COVID-19 pandemic. Participants who were younger, had lower annual income, had some college or a technical degree, were not married, were employed pre-COVID-19, ever had a depression diagnosis, and ever had an anxiety diagnosis more often reported an employment disruption. Age ($p=.003$), racial or ethnic group ($p=.021$), annual income ($p=.004$), education level ($p=.02$), marital status ($p=.048$), ever had a depression diagnosis ($p=.007$), and ever had an anxiety diagnosis ($p<.0001$) were significantly associated with housing disruption during the COVID-19 pandemic. Participants who were younger, were non-Hispanic other or multiracial, had lower annual income, had some college or a technical degree, were married, ever had a depression diagnosis, and ever had an anxiety diagnosis more often reported a housing disruption. Age ($p=.006$), gender ($p=.036$), annual income ($p<.0001$), depression diagnosis ($p<.0001$), and anxiety diagnosis ($p<.0001$) were significantly associated with COVID-19-related stressors among the sample. Participants who were younger, were women, had lower annual income, ever had a depression diagnosis, and ever had an anxiety diagnosis on average reported more COVID-19-related stressors.

Table 2. Bivariate Associations between Sample Characteristics and Employment Disruption, Housing Disruption, and COVID-19-related Stressors

	Employment Disruption		Housing Disruption		COVID-19-related Stressors	
	Disrupted (n)(%) or M ± SD	t-test or χ^2	Disrupted (n)(%) or M ± SD	t-test or χ^2	M ± SD	Spearman's Rho's or <i>H</i>
Age	39.96 ± 14.01	7.25***	42.76 ± 14.41	3.05*	--	-.101**
Gender		1.72		0.34		4.33*
Man	40 (22.86)		23 (13.14)		3.88 ± 2.91	
Woman	122 (28.05)		66 (14.45)		4.36 ± 2.95	
Racial/Ethnic Group		3.30		9.76*		.23
NH Black	32 (32.65)		19 (19.19)		4.23 ± 3.13	
NH White	108 (24.66)		54 (12.16)		4.18 ± 2.87	
NH Other/ Multiracial	14 (31.82)		12 (27.27)		4.36 ± 3.02	
Hispanic/Latinx	7 (26.92)		3 (11.54)		4.34 ± 3.33	
Annual Income		29.32***		13.34**		25.03***
<\$25K	103 (36.92)		50 (18.38)		5.21 ± 2.79	
\$25K<\$50K	28 (21.21)		22 (16.54)		4.24 ± 2.46	
\$50K<\$75K	8 (11.11)		6 (8.45)		4.64 ± 2.71	
\$75K+	25 (19.38)		8 (6.15)		3.88 ± 2.58	
Education Level		10.95**		7.84*		3.93
HS or less	41 (26.28)		19 (12.34)		4.05 ± 3.26	
Some college/Tech degree	73 (33.64)		44 (19.64)		4.46 ± 2.98	
4-year degree	47 (19.92)		26 (10.92)		4.10 ± 2.57	
Marital Status^a		6.55*		3.91*		.40
Married	64 (21.92)		55 (17.19)		4.16 ± 2.88	
Not married	98 (31.11)		34 (11.56)		4.27 ± 2.98	
Employed Pre-COVID-19		30.21***		.03		.31
Yes	127 (34.99)		52 (14.40)		4.72 ± 2.74	
No	37 (14.92)		34 (13.93)		4.57 ± 2.67	
Depression Diagnosis		9.83**		7.34**		33.45***
Yes	73 (33.49)		42 (19.27)		5.48 ± 2.79	
No	78 (21.67)		40 (11.14)		4.14 ± 2.47	
Anxiety Diagnosis		19.74***		20.81***		36.83***
Yes	96 (35.29)		57 (21.27)		5.38 ± 2.81	
No	57 (18.87)		24 (7.92)		4.01 ± 2.36	

Notes: M=mean; SD=standard deviation; NH=Non-Hispanic; HS=high school. Percentages may not total 100 due to rounding.

^aNot married includes response options: Single, Divorced/Separated, Widowed, and Member of an unmarried couple.

*p<.05; **p<.01; ***p<.001

Table 3 presents results from FIML logistic regression analyses of sample characteristics and employment disruption during the COVID-19 pandemic. Odds of having an employment disruption decreased by about 3% for each additional year of age ($p < .0001$). Odds of having an employment disruption decreased about 63% for participants who had an annual income of \$50,000 to less than \$75,000 compared to participants who had an annual income of \$75,000 or above ($p = .029$). Participants who were employed before the COVID-19 pandemic were about 3.4 times more likely to have an employment disruption during the pandemic ($p < .0001$) compared to those who were not employed before the COVID-19 pandemic. Those who had ever been diagnosed with anxiety were almost two times ($OR = 1.90$) more likely to have an employment disruption during the pandemic ($p = .029$) compared to those who did not report ever being diagnosed with anxiety.

Table 3. FIML Logistic Regression of Sample Characteristics and COVID-19 Employment Disruption (n=754)

Participant Characteristics	B	S.E.	OR	p value
Age	-0.03	0.01	0.97	.000
Gender (ref: man)	-0.01	0.24	0.99	.974
Racial/Ethnic Group (ref: NH White)				
NH Black	0.00	0.28	1.00	.997
NH Other/Multiracial	-0.03	0.37	0.98	.946
Hispanic/Latinx	-0.44	0.50	0.65	.380
Annual Income (ref: \$75K+)				
<\$25K	0.58	0.32	1.78	0.066
\$25K<\$50K	-0.44	0.34	0.65	.195
\$50K<\$75K	-1.00	0.46	0.37	.029
Education Level (ref: 4-year degree)				
HS or less	-0.06	0.28	0.95	.843
Some college/Tech degree	0.28	0.25	1.32	.272
Marital Status (ref: not married) ^a	0.07	0.23	1.07	.767
Employed Pre-COVID-19 (ref: no)	1.23	0.24	3.40	.000
Depression Diagnosis (ref: no)	-0.08	0.30	0.93	.797
Anxiety Diagnosis (ref: no)	0.64	0.30	1.90	.029

Notes: Significant associations are marked in bold. NH=Non-Hispanic; HS=high school; ref=reference group.

^aNot married includes response options: Single, Divorced/Separated, Widowed, and Member of an unmarried couple.

Table 4 presents results from FIML logistic regression analyses of sample characteristics and housing disruption during the COVID-19 pandemic. Participants who identified as non-Hispanic other or multiracial were 2.37 times more likely to experience a housing disruption during the COVID-19 pandemic ($p = .018$) compared to non-Hispanic whites. Participants who reported an annual income of less than \$25,000 were 2.52 times more likely to report a housing disruption ($p = .040$), while those who reported an annual income of \$25,000 to less than \$50,000 were 2.67

times more likely to report a housing disruption ($p=.033$), compared to those who reported an annual income of \$75,000 or more. Participants who had ever been diagnosed with anxiety were 2.92 times more likely to report a housing disruption during the pandemic than those who did not report an anxiety diagnosis ($p=.002$).

Table 4. FIML Logistic Regression of Sample Characteristics and COVID-19 Housing Disruption (n=754)

Participant Characteristics	B	S.E.	OR	p value
Age	-0.01	0.01	0.99	.118
Gender (ref: man)	-0.11	0.28	0.90	.696
Racial/Ethnic Group (ref: NH white)				
NH Black	0.34	0.33	1.41	.296
NH Other/Multiracial	0.94	0.40	2.37	.018
Hispanic/Latinx	-0.36	0.66	0.70	.584
Annual Income (ref: \$75K+)				
< \$25K	0.93	0.45	2.52	.040
\$25K<\$50K	0.98	0.46	2.67	.033
\$50K<\$75K	0.33	0.58	1.40	.567
Education Level (ref: 4-year degree)				
HS or less	-0.30	0.35	0.74	.400
Some college/Tech degree	0.18	0.30	1.20	.537
Marital Status (ref: not married) ^a	-0.04	0.27	0.96	.893
Employed Pre-COVID-19 (ref: no)	-0.15	0.27	0.86	.591
Depression Diagnosis (ref: no)	-0.25	0.34	0.78	.468
Anxiety Diagnosis (ref: no)	1.07	0.35	2.92	.002

Notes: Significant associations are marked in bold. NH=Non-Hispanic; HS=high school; ref=reference group.

^aNot married includes response options: Single, Divorced/Separated, Widowed, and Member of an unmarried couple.

Table 5 presents results from FIML linear regression analyses of sample characteristics and COVID-19-related stressors. Reporting an annual income of less than \$25,000 was associated with an increase of .98 COVID-19-related stressors ($p=.007$) compared to those who reported incomes of \$75,000 or more. Being married was associated with an average .49 increase in COVID-19-related stressors ($p=.034$) compared to those who were not married. Having ever been diagnosed with depression was associated with an increase of .75 COVID-19-related stressors ($p=.040$), while having ever been diagnosed with anxiety was associated with an increase of .97 COVID-19-related stressors, or nearly one additional COVID-19-related stressor ($p=.006$).

Table 5. FIML Linear Regression of Sample Characteristics and COVID-19-related Stressors (n=754)

Participant Characteristics	B	S.E.	p value
Age	-0.01	0.01	.501
Gender (ref: man)	0.20	0.23	.390
Racial/Ethnic Group (ref: NH white)			
NH Black	0.07	0.30	.821
NH Other/Multiracial	0.24	0.39	.531
Hispanic/Latinx	0.16	0.53	.761
Annual Income (ref: \$75K+)			
<\$25K	0.98	0.37	.007
\$25K<\$50K	0.08	0.38	.845
\$50K<\$75K	0.74	0.44	.092
Education Level (ref: 4-year degree)			
HS or less	-0.52	0.28	.069
Some college/Tech degree	-0.19	0.27	.465
Marital Status (ref: not married)^a	0.49	0.23	.034
Employed Pre-COVID-19 (ref: no)	0.27	0.27	.320
Depression Diagnosis (ref: no)	0.75	0.37	.040
Anxiety Diagnosis (ref: no)	0.97	0.35	.006

Notes: Significant associations are marked in bold. NH=Non-Hispanic; HS=high school; ref=reference group.

^aNot married includes response options: Single, Divorced/Separated, Widowed, and Member of an unmarried couple.

DISCUSSION

Our hypothesis that a depression diagnosis would be significantly associated with greater exposure to life stressors during the COVID-19 pandemic was partially supported. Those who reported ever being diagnosed with depression did not have higher odds of reporting an employment disruption or housing disruption. However, this group experienced a greater burden of stressors (B=.75) on the COVID-19-related stressors scale. These findings suggest that individuals who report ever being diagnosed with depression may not be at greater risk for certain life disruptions during a pandemic, but they may be at risk of greater additional stress imposed by a pandemic. This is consistent with past research showing that depression was related to a greater burden of life stressors (Daley et al., 1997; Holahan et al., 2005) and recent work suggesting that COVID-19-related stressors were related to increased depressive symptoms (Ettman et al., 2020).

Our hypothesis that an anxiety diagnosis would be significantly associated with greater exposure to life stressors during the COVID-19 pandemic was supported. Individuals who had ever been diagnosed with anxiety had higher odds of experiencing an employment disruption (OR=1.90) and a housing disruption (OR=2.92) and reported more (B=.97) COVID-19-related stressors. These findings suggest that individuals who report ever being diagnosed with anxiety may be at higher risk of experiencing life disruptions that cause stress during a pandemic, as well as at risk of experiencing greater additional stress related to a pandemic. This finding extends

current literature, as little extant research has examined the association between anxiety and life stressors and disruptions. Given that stressful life events are a strong contributor to mental health distress (Meyer & Paul, 2011), individuals already suffering from anxiety may experience additional mental health challenges during a pandemic. This is likely to exacerbate existing mental health disparities in the population.

Our findings add to the literature demonstrating that depression is associated with increased exposure to stressors (Daley et al., 1997; Holahan et al., 2005; Turner & Turner, 2005). We expand this literature by demonstrating this relationship in the context of a pandemic. We also contribute to the literature by showing that an anxiety diagnosis was related to greater exposure to life stressors and pandemic-related stress during the COVID-19 pandemic. One potential explanation for these findings is that individuals who report being diagnosed with a mental health disorder have fewer personal coping resources and/or material resources and, therefore, were more vulnerable to life disruptions and stress exposure during the COVID-19 pandemic.

DiGessa's (2021) analyses of U.K. adults found that preexisting psychological distress was related to employment and income disruption, but not housing disruption, during the COVID-19 pandemic. Thus, it appears that those with a mental health disorder faced greater risk of employment disruption during the pandemic in both the U.S. and the U.K. Further research is needed to understand why mental health disorders are a risk factor for employment disruption during a pandemic across national contexts.

Limitations

This study was limited by its cross-sectional design, which did not allow for examination of causal relationships between diagnosed mental health issues and stressful life events. Self-reported diagnoses, dichotomized variables, single-item measures, and inability to measure psychometrics were also limitations. Due to practical constraints, the survey did not assess the severity or impact on functioning of self-reported depression or anxiety disorders, did not assess the severity or perceived negativity of a housing disruption, and did not ask about other mental health disorders besides depression and anxiety. The COVID-19-related stressors measure may not account for all relevant stressors for participants. Further, the sample was recruited from health clinics in Arkansas and may not be representative of the U.S. population. In addition, the findings in this study may have been affected by having a majority women sample. Both depression and anxiety diagnoses are more common among women than men (Albert, 2015; McLean et al., 2011; Remes et al., 2016). This may explain why the percentage of the sample reporting a depression diagnosis (37.7%) and an anxiety diagnosis (47.1%) was substantially higher than the estimated lifetime prevalence of major depression (7.1%) and anxiety disorders (31.1%) in the U.S. adult population (National Institute of Mental Health, 2017a, 2017b). This study may more closely reflect women's experiences related to depression, anxiety, and life stressors during the COVID-19 pandemic.

These findings could be missing part of the picture regarding the reciprocal relationship between diagnosed mental health disorders and stressful life events. Individuals who reported a lifetime anxiety or depression diagnosis may have experienced high levels of stressful life events in the past, which led to their anxiety and depression and also put them at risk of future life stressors. Past adversity is a strong predictor of stressful life events (Turner and Turner 2005). Other potential confounding factors that may affect these relationships include physical health,

comorbid mental health diagnoses, income, occupational field, and student status. Additional research is needed to investigate these possible explanations and confounding factors.

It is also possible that the relationship between diagnosed anxiety and employment disruption during the pandemic is explained by a third, antecedent factor: job precariousness. Precarious employment could simultaneously put individuals at risk for anxiety and depression as well as increased likelihood for employment disruption during a pandemic (Han & Hart, 2021; Lopez et al., 2021). Thus, it may be the case that anxiety does not contribute to higher odds of employment disruption, but rather that workers in precarious jobs, by nature of their work, are at higher risk of both anxiety and job disruption. Further research should examine the relationship between precarious employment, anxiety, and the risk of employment disruption during a societal crisis.

Implication for Practice

Our findings suggest that the COVID-19 pandemic may have deepened existing mental health disparities by exposing those with diagnosed depression and anxiety to additional life stressors, which may have exacerbated their existing mental health disorders. Interventions should be targeted to individuals with diagnosed depression and anxiety given that they were at greater risk of exposure to life stressors during the COVID-19 pandemic, likely exacerbating their mental health challenges. Mental health practitioners should target outreach to individuals with mental disorder diagnoses for assessment, care, and stress reduction interventions. Social service programs should recognize individuals with mental health disorders as a group who may be at heightened risk of employment disruption, housing disruption, and additional stress at all times, including in times of societal crisis.

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Conflict of Interest

The authors declare no conflicts of interest.

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Disclaimer

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Ethical Approval

All procedures performed in this study involving human participants were approved by the Institutional Review Board at the University of Arkansas for Medical Sciences (IRB#261226).

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