Help-seeking intentions in the U.S. population during the COVID-19 pandemic: Examining the role of COVID-19 financial hardship, suicide risk, and stigma

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A B S T R A C T

The primary goal of this study was to increase understanding of help-seeking intentions in the U.S. population during the COVID-19 pandemic and to examine influencing factors such as COVID-19 financial hardship, suicide risk, and stigma in order to contribute to effective theory-based help-seeking and suicide prevention campaigns. In a representative sample of U.S. adults ($N = 5,010$), this research tested whether COVID-19 financial hardship was associated with higher levels of depression and suicidal ideation (supported), and whether the reasoned action framework could usefully predict help-seeking intentions in this context (supported). The reasoned action framework explained 36% of the variance in help-seeking intentions in the U.S. population and identified injunctive norm (social support) as primary determinant of intention. Neither suicidal ideation, COVID-19 financial hardship, or self-stigma of seeking help influenced determinants of help-seeking. Future research should test injunctive norm as causal predictor of help-seeking in the U.S. population to usefully inform effective help-seeking campaigns, particularly among those who have experienced COVID-19 financial hardship. Additionally, effective dissemination strategies for help-seeking campaigns should be tested and identified, such as broader targeted approaches as well as intentional mis-targeting techniques.

1. Introduction

The COVID-19 mortality rate is climbing rapidly in the United States, yet this statistic does not *yet* address COVID-19 related suicides. Prior to COVID-19, suicide was a leading cause of death in the U.S. with a reported 30% increase in suicide rates across most states in recent years (NIMH, 2019). Suicide has been conceptualized as a *preventable process*, rather than impulsive behavior (Smith et al., 2008; Wasserman and Sokolowski, 2016). An interplay of risk factors and protective factors influences this process, presenting opportunities for intervention. Such interventions include health campaigns directed at increasing intentions to seek professional help and thus decreasing suicide risk via video or print public service announcements disseminated through traditional (e. g., TV; radio; print newspaper) or emergent media (e.g., social media; mobile application). The use of health campaigns as a means of promoting professional help-seeking to prevent suicide has received attention from the scientific community and has usefully pointed out empirical indicators for effective campaigns (Lueck, 2018a; Lueck, 2018b Siegel et al., 2014). For example, Silk et al. (2017) found that health campaigns utilizing social-normative cues in the context of the

reasoned action framework can increase help-seeking intentions among college-aged youth.

Yet, health campaigns can fall short of their goals or even backfire if the unique at-risk groups and determinants for health behaviors in those groups (e.g., professional help-seeking) are poorly understood (Arendt and Scherr, 2017; Dutta-Bergman, 2005; Siegel et al., 2014). Even more, while most help-seeking and suicide prevention campaigns appear appropriate and practical at face value, they are often not based on theoretical frameworks aimed at understanding and predicting health behavior change (Ftanou et al., 2017). In the absence of knowledge about the unique target audience and theory-based predictors of health behavior change, there is no evidence-based framework upon which to base relevant, well-tailored, and effective help-seeking and suicide prevention campaigns. Thus, the primary goal of this study was to increase understanding of help-seeking intentions in the U.S. population during the COVID-19 pandemic and to examine influencing factors such as COVID-19 financial hardship, suicide risk, and stigma in order to contribute to effective theory-based help-seeking and suicide prevention campaigns during and after the COVID-19 pandemic.

1.1. COVID-19 Financial hardship and suicide risk

Previously, financial hardship has been identified as one of many risk factors in the development of depression and suicide risk over and above other factors, such as socio-economic status, occupation, education, and homeownership (Barnes et al., 2016; Butterworth et al., 2012; Lahelma et al., 2006). However, it remains unclear whether financial hardship is a direct causal factor of depression and suicide risk since not everyone who experiences financial hardship is affected (Frankham et al., 2020; Overholser et al., 2012; Richardson et al., 2013). Arguably, the effects of financial hardship on depression and suicide risk may be more pronounced if financial hardship becomes chronic and personal protective factors such as perceived control, self-esteem, and resilience are depleted (Frankham et al., 2020). The imbalance of such mechanisms may explain the increase in reported attempted and completed suicides during times of larger economic crises and accumulated financial strain, such as during the global economic crisis and recession in the year 2008 and beyond (Branas et al., 2015; Economou et al., 2013; Elbogen et al., 2020; Fountoulakis, 2020; Reeves et al., 2014).

Similarly, the COVID-19 pandemic along with its economic shutdowns in the year 2020 has induced a dire economic crisis with long-term consequences, particularly in the U.S. The unemployment rate was at 14.4% in April 2020 (Felsenthal, 2020; Kochhar, 2020). U.S. polls also showed that nearly nine in ten Americans indicated that COVID-19 is causing them significant financial stress and worry due to lost income or employment within their household (Nefe, 2020; U.S. Census Bureau, 2021). Subsequently, researchers have estimated that there could be an excess of almost ten thousand suicides as a result of COVID-19 in 2020–21, leading to an "unprecedented assault on mental health" (Bernstein, 2020; McIntyre and Lee, 2020). What is critically needed are effective and evidence-based help-seeking and suicide prevention campaigns specifically tailored to those who experience severe depression and increased suicide risk due to COVID-19 financial hardship.

H₁: Individuals who have either lost their job or seen a significant reduction in income due to COVID-19 experienced higher levels of depression and suicidal ideation.

1.2. Behavioral theory and help-seeking campaigns in the age of COVID-19

The health promotion literature has established that health campaigns can indirectly induce behavior change if they effectively influence an individual's beliefs *about* the behavior. Specifically, the reasoned action framework (Fishbein and Ajzen, 2010), also referred to as 'integrated model' (Yzer, 2013), suggests that individuals will form intentions to seek help, provided they have the skills to do so and no environmental factors interfere. Intentions, in turn, are a function of a small set of two-dimensional factors – attitudes about help-seeking, perceived norms about help-seeking, and perceived behavioral control about help-seeking. The reasoned action framework is important in guiding our understanding about help-seeking behaviors and can thus serve us empirical framework for effective help-seeking and suicide prevention campaigns.

H₂: Attitudes, perceived norms, and perceived behavioral control predict intentions to seek help.

Unfortunately, COVID-19 likely acts as significant environmental factor in this framework and may make severe depression and suicide risk more likely and help-seeking less likely. Similarly, negative mental health effects have been reported in the population during times of other epidemics, disasters, and traumatic effects (e.g., September 11, MERS, etc.). Individuals with a pre-existing mental health condition, those who are intrinsically vulnerable to severe depression, and those exposed to additional stressors (e.g., financial hardship) have been identified as particularly vulnerable (Esterwood and Saeed, 2020). Yet, there appears to be a discrepancy between an increase in need for mental health care and the effective delivery of such care.

H₃: The relationships between attitudes, perceived norms, and perceived behavioral control and intention to seek help depend on levels of suicidal ideation.

There are multiple implications of COVID-19 that may make help-seeking particularly unlikely within the U.S. population. For example, due to job loss or loss in income, COVID-19 financial hardship has caused as many as 12 Million U.S. adults to lose access to their employer-sponsored health insurance which has led to the inability to meet the financial burden of professional help-seeking (Bivens and Zipperer, 2020). The logistical implications of lockdowns and social distancing due to COVID-19 have also made it near impossible to initiate or even continue professional help-seeking for severe depression and suicide risk (Pfender, 2020).

Physicians have referred to this novel logistical and financial barrier to patient-physician contact as a "mass casualty incident" (Gold, 2020, p.1), with exponentially growing negative health consequences, potentially increasing feelings of helplessness and hopelessness among individuals who are at risk for suicide (Hagan et al., 2015; Turner, 2020; Wilson and Deane, 2010).

H₄: The relationships between attitudes, perceived norms, and perceived behavioral control and intention to seek help depend on whether or not individuals have either lost their job or seen a significant reduction in income due to COVID-19.

1.3. Self-stigma of seeking help

COVID-19 and its implications may amplify psychological barriers that can decrease an individuals' willingness and ability to *proactively* engage in professional help-seeking, such as debilitating feelings of stigma and shame (Reynders et al., 2014; Sherratt and MacLeod, 2013; Wilson and Deane, 2010). For example, an overwhelming body of research has pointed to stigma as primary barrier to timely help-seeking due to fears of judgment from others and health professional themselves (Barney et al., 2006; Corrigan et al., 2012; Lueck, 2018b). It remains unclear, however, whether such sentiments are exacerbated by the current COVID-19 pandemic or its implications (e.g., COVID-19 financial hardship) and whether this can influence current help-seeking intentions. This knowledge is crucial for the success of help-seeking and suicide prevention campaigns. If self-stigma is indeed the primary barrier over and above other help-seeking determinants, help-seeking and suicide prevention campaigns should primarily focus on decreasing stigma perceptions in at-risk populations to promote timely help-seeking (Jennings et al., 2015; Latalova et al., 2014).

H₅: The relationships between attitudes, perceived norms, and perceived behavioral control and intentions to seek help depend on levels of self-stigma of seeking help.

2. Methods

2.1. Study design

Following approval by the university's institutional review board, participants ($N = 5010$) were sampled from the Lucid marketplace survey platform. Lucid recruits participants through a double opt-in procedure for becoming a panel member and to participate in specific surveys. Lucid samples closely match population benchmarks that outperform convenience samples (Coppock and McClellan, 2019). Quota sampling for this particular study ensured that the sampling distributions of demographic characteristics matched predetermined 2019 USA Census data targets. Informed consent was obtained from all participants and privacy rights of each participant was observed. All participants were thoroughly debriefed and provided with resources for emotional coping and help-seeking during COVID-19.

2.2. Measures

None of the variables in the study had significant numbers of missing values (<5% total per variable). No meaningful patterns of missing data per participant was detected. Thus, the data set was not manipulated to systematically exclude missing data.

Job loss or reduction in income due to COVID-19. Job loss or reduction in income was assessed with one item, "Have you lost your job or seen a reduction in your income as a result of the coronavirus?" Yes/No.

Depression symptoms. Depression was measured using the validated nine-item PhQ9 (Kroenke et al., 2001). The questionnaire assessed depressive symptoms participants had experienced over the last two weeks. Questions included, "Over the past two weeks, how often have you been bothered by any of the following problems? Little interest or pleasure in doing things." Each item was coded from 0 to 3, with 0 being not at all, 1 being several days, 2 being more than half the days, and 3 being nearly every day. A summated score represented severity of depression, with higher scores indicating more severe depression, $\alpha = 0.92$.

Suicidal ideation. Suicidal ideation was assessed with the 25-item Adult Suicidal Ideation Questionnaire (ASIQ) (Reynolds, 1991). Designed to assess suicidal thoughts in both clinical and non-clinical (general adult) settings, the ASIQ lists suicidal thoughts and asks individuals to indicate how many times they have had this thought within the past month (e.g., "I thought it would be better if I was not alive"). Each item is ranked on a 7-point scale (from never had this thought (0) to almost every day (6)). A summated score represented the frequency of suicidal thoughts, with higher scores indicating higher frequency and thus higher suicide risk, $\alpha = 0.99$. A cut-off score of 30 has previously been set to indicate risk for suicidal behavior and need of further clinical evaluation (Liu, Jones, & Spirito, 2015).

Reasoned action items. Reasoned action items were created and applied to the context of help-seeking according to theory recommendations (Fishbein and Ajzen, 2010).

Intention was measured by asking participants, "How likely is it that you will contact a health-care professional to discuss your depression symptoms if you were to experience depression symptoms anytime in the next four weeks?" (1 = "very unlikely," 7 = "very likely") and by assessing the level of agreement to the statement, "I expect to contact a health-care professional to discuss my depression symptoms if I were to experience depression symptoms anytime in the next four weeks" (1 = "definitely do not expect to," 7 = "definitely expect to"). The two intention items correlated strongly, $r = 0.81, p < .01$, and were therefore averaged to create a behavioral intention scale.

Six 7-point semantic differential items measured instrumental and experiential *attitudes.* The stem, "My contacting a health-care professional to discuss my depression symptoms if I were to experience depression symptoms anytime in the next four weeks would be…" was followed by the items "harmful – beneficial," "foolish-wise," "bad – good" (for instrumental attitude), and "not enjoyable – enjoyable," "stressful – relaxing," and "something I dislike – something I like" (for experiential attitude).[1] Scores on the two sets were averaged to yield indicators of instrumental attitude, $\alpha = 0.86$, and experiential attitude, $\alpha = 0.83$.

Perceived norms were also assessed with 7-point Likert scales. One injunctive norm measure asked participants, "How do you think most people important to you would feel about you contacting a health-care professional to discuss your depression symptoms if you were to experience depression symptoms anytime in the next four weeks?" Scale anchors ranged from "strongly disapprove" to "strongly approve." To measure descriptive norms, participants were asked, "How many of the

people important to you do you think would contact a health-care professional themselves to discuss their depression symptoms if they were to experience depression symptoms anytime in the next four weeks?" Scale anchors ranged from "almost none" to "almost all."

The *perceived behavioral* control measure used a 7-point Likert scale and asked how confident participants are that they could contact a health-care professional despite various obstacles. Two semantic differential items were used for *perceived autonomy*. The stem, "My contacting a health-care professional to discuss my depression symptoms if I were to experience depression symptoms anytime in the next four weeks would be…" was followed by "not under my control – under my control" and "not up to me – up to me." The two items were averaged to form a perceived autonomy scale, $r = 0.23, p < .01$. To measure *perceived capacity*, participants were asked if they could contact a health-care professional to discuss depression symptoms if they were to experience depression symptoms anytime in the next four weeks despite a variety of obstacles (1 = completely sure I cannot, 7 = completely sure I can).

Self-Stigma of Seeking Help. The Self-Stigma of Seeking Help measure (SSOSH; Vogel et al., 2006) was used to test stigma perceptions. Ten 5-point Likert items (1 = strongly disagree; 5 = strongly agree) elicited responses to statements such as, "I would feel okay about myself if I made the choice to seek professional help (R)." The items were averaged so that higher scores on the scale represented higher stigma perceptions, $\alpha = 0.80$.

Current help-seeking. Current help-seeking was assessed with one item, "Are you currently receiving counseling or therapy from a health-care professional (e.g., psychologist, psychiatrist, social worker)? Yes/No.

3. Results

In this sample ($N = 5010$), the average participant was middle-aged ($M = 44.53$ years, $SD = 16.92$), and White (75.4%). Half of the participants were female (50.3%) and half were male (49.3%). Most participants had earned a Bachelor's or equivalent degree or higher (42%). Income was dispersed, but clustered around 50k-99,999k (28.5%). About 11.5% of participants indicated that they were currently unemployed (see Table 1). Over one third of participants (37.8%) had either lost their job or seen a significant reduction in income due to COVID-19. A majority of participants (77.4%) indicated that they were *not* currently receiving counseling or therapy from a health-care professional. Data collection was completed in June 2020. All statistical analyses were completed with SPSS 24.

3.1. Preliminary analyses

Mental health make-up of participants. In this sample, depression scores ranged from zero to 27 ($M = 7.76, SD = 7.07$). According to clinical interpretations, this suggests that on average, participants were experiencing mild depression symptoms at the time of the study. Whereas the summated suicidal ideation scores among 73.3% of participants fell below the cut-off point (<30), 26.7% of participants scored above the cut-off point (>30), indicating moderate to severe suicide risk in need of further clinical evaluation.

Key variables. In accordance with reasoned action theory, all reasoned action variables strongly and positively correlated with intention. Overall, participants indicated slightly more positive instrumental attitudes ($M = 5.02, SD = 1.62$; 7pt scale) than experiential attitudes ($M = 4.10, SD = 1.55$; 7pt scale), indicating that participants were more convinced of the positive outcomes of help-seeking and slightly less convinced that help-seeking would be a pleasant experience. Whereas participants indicated that most important others would approve of their help-seeking if they chose to do so ($M = 5.04, SD = 1.67$; 7pt scale), they were less certain that such important others would seek help themselves if they needed it ($M = 4.26, SD = 1.78$; 7pt scale). Participants felt slightly more capable ($M = 5.15, SD = 1.61$; 7pt scale)

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[1] A principal component analysis (varimax orthogonal rotation with Kaiser normalization; variance explained: 76%, KMO =.805; Bartlett's test, $p < .001$) suggested that all items loaded onto these two factors.

Table 1

Sociodemographic characteristics of participants compared to U.S. census.

Characteristics	Frequency		M		2019 U.S. Census Data
	n	%	M	SD	%
Sex					
Female	2520	**50.3**			**50.8**
Male	2470	49.3			49.2
Age			44.53	16.92	
Race/Ethnicity					
White	3776	**75.4**			**76.3**
Black/AA	683	**13.6**			**13.4**
American Indian/Alaska Native	68	**1.4**			**1.3**
Asian	260	**5.2**			**5.9**
Native Hawaiian/Pacific Islander	15	**.3**			**.2**
Hispanic/Latino[a]	1182	**23.6**			**18.5**
White/not Hispanic/Latino[a]	2965	**59.2**			**60.1**
Highest Education					
Less than HS	152	3			
HS or equiv.+[b]	4209	**84**			**87.7**
B.A. degree+[b]	2102	**42**			**31.5**
Employment					
Unemployed	578	11.5			
Student	232	4.6			
Employed	2664	**53.2**			**62.9**[c]
Perm. disabled	237	4.7			
Homemaker	329	6.6			
Retired	900	18			
Income					
<5k	318	6.3			
5–24,999	962	19.2			
25–49,999	1152	23			
50–99,999	1430	**28.5**			**60,293**[c,d]
100k+	1099	21.8			
Mental Health Status					
Currently rec.counseling	1057	21.1			**N/A**
Currently not rec. counseling	3879	77.4			

Note. N = 5010

[a] Reflects the number and percentage of participants answering "yes" to this question

[b] Reflects the number and percentage of participant who were also 25 years+.

[c] Reflects Census data likely influenced by the COVID-19 pandemic in 2020.

[d] Reflects median household income.

than autonomous ($M = 4.94$, $SD = 1.43$; 7pt scale) to seek help. Average intentions to seek help crossed the scale mid-point ($M = 3.97$, $SD = 2.02$; 7pt scale) (see Table 2). Correlation analyses revealed that current help-seeking ($r = 0.26$, $p < .01$) was positively correlated with intentions.

3.2. Main analyses

H_1: Individuals who have either lost their job or seen a significant reduction in income due to COVID-19 experienced higher levels of depression and suicidal ideation [supported]. A one-way ANCOVA was conducted that determined a statistically significant difference between those who have either lost their job or saw a significant reduction in income due to COVID-19 ($n = 1895$, 38.2% of the total sample) and those who have not ($n = 3063$, 61.8% of total sample) on levels of depression, controlling for sex, age, education, and income. There was a statistically significant effect of COVID-19 job loss or reduction in income on levels of depression symptoms after controlling for covariates, $F(1, 4754) = 187.37$, $p < .01$, $d = 0.25$ (indicating a small effect). Adjusted means indicate that levels of depression were higher among those who have either lost their job or saw a significant reduction in income due to COVID-19 ($M = 9.47$; $SD = 0.16$) than those who have not lost their job or seen a significant reduction in income due to COVID-19 ($M = 6.72$; $SD = 0.12$).

A second one-way ANCOVA was conducted to determine a statistically significant difference between those who have either lost their job or seen a significant reduction in income due to COVID-19 ($n = 1895$, 38.2% of the total sample) and those who have not ($n = 3063$, 61.8% of total sample) on suicidal ideation, controlling for sex, age, education, and income. There was a statistically significant effect of COVID-19 job loss or reduction in income on suicidal ideation after controlling for covariates, $F(1, 4848) = 150.59$, $p < .01$, $d = 0.27$ (indicating a small effect). Adjusted means indicate that suicidal ideation was higher among those who have either lost their job or saw a significant reduction in income due to COVID-19 ($M = 31.32$; $SD = 0.77$) than those who have not lost their job or seen a significant reduction in income due to COVID-19 ($M = 19.22$; $SD = 0.60$).

H_2: Attitudes, perceived norms, and perceived behavioral control predict intentions to seek help [supported]. The objective was to test the predictive power of reasoned action variables on intentions to seek help. To test this hypothesis, a hierarchical linear regression analyses was conducted with sex (female = 1, male = 0), age, education, income, and current help-seeking at step one and the reasoned action variables at step two. The reasoned action variables explained 36% of the variance in

Table 2

Descriptive statistics and correlations for COVID-19 financial hardship, depression, suicidal ideation, and RA variables.

Variable	N	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Job/in. loss	4958	0.38	0.49												
2. Depression	4898	7.76	7.07	.27**											
3. Ideation	4999	23.97	35.52	.26**	.60**										
4. Self-Stigma	4995	2.51	0.72	.12**	.32**	.35**									
5. Intention	4999	3.97	2.02	.11**	.14**	.16**	−0.21**								
6. Inst. Attitude	4901	5.02	1.62	−0.02	−0.08**	−0.06**	−0.37**	.40**							
7. Exp. Attitude	4897	4.10	1.55	.09**	.05**	.14**	−0.12**	.37**	.45**						
8. Inj. Norms	4986	5.04	1.67	−0.00	−0.02	−0.01	−0.38**	.42**	.47**	.18**					
9. Des. Norms	4943	4.26	1.78	.10**	.14**	.23**	−0.05**	.37**	.23**	.33**	.27**				
10. Autonomy	4880	4.94	1.43	−0.08**	−0.20**	−0.21**	−0.39**	.15**	.42**	.16**	.31**	.04**			
11. Capacity	4945	5.15	1.61	−0.02	−0.05**	.01	−0.37**	.30**	.41**	.22**	.42**	.32**	.32**		
12. Curr. H.S.	4936	0.21	0.41	.23**	.35**	.41**	.09**	.26**	.05**	.17**	.05**	.18**	−0.06**	.07**	

Note. 1. Job/income loss was dummy-coded (1= yes, 0=no), 1895 (37.8%) said 'yes' and 3063 (61.1%) said 'no' to 'have you lost your job or seen a reduction in your income as a result of the coronavirus?'; 2. depression (PHQ9) summated score (ranging from 0 to 27); 3. ideation = suicidal ideation (ASIQ) summated score (ranging from 0 to 150; cutoff score= 30; 4. self-stigma = self-stigma of seeking help (SSOSH) mean score (ranging from 1 to 5); 5. intention = intention to seek help mean score (ranging from 1 to 7); 6. inst attitude = instrumental attitude mean score (ranging from 1 to 7); 7. exp. attitude = experiential attitude mean score (ranging from 1 to 7); 8. inj. norms = injunctive norms mean score (ranging from 1 to 7); 9. des. norms = descriptive norms mean score (ranging from 1 to 7); 10. autonomy = perceived autonomy mean score (ranging from 1 to 7); 11. capacity = perceived capacity mean score (ranging from 1 to 7); 12. curr. h.s. = current help-seeking was dummy-coded (1= yes, 0=no), 1057 (21.1%) said 'yes' and 3879 (77.4%) said 'no' to 'are you currently receiving counseling or therapy from a mental health professional (e.g., psychologist, psychiatrist, social worker)?;*$p < .05$. **$p < .01$.

intentions to contact a health-care professional to discuss depression symptoms if participants were to experience depression symptoms anytime in the next four weeks, $F(6,4587) = 317.33$, $p < 01$, $R^2_{Adj} = 0.36$. Intentions were primarily a function of injunctive norm, $\beta = 0.26$, $p < .01$, the belief that important others approve of the participant's help-seeking if they chose to seek help (see Table 3).

H_3: The relationships between attitudes, perceived norms, and perceived behavioral control and intentions to seek help depend on levels of suicidal ideation [not supported]. The objective was to test whether levels of suicidal ideation would influence the strength of the relationships between reasoned action variables and intentions. Sex (female = 1, male = 0), age, education, income, and current help-seeking were entered into the regression model at step one, the centered suicidal ideation variable at step two, and the centered reasoned action variables at step three. The interaction terms of the centered suicidal ideation variable and centered reasoned action variables were entered at step four. The model was statistically significant at each step, but the interaction terms did not add variance to the model F (6, 4579) = 3.52, $p < 01$, $R^2_{Change} = 0.00$.

H_4: The relationships between attitudes, perceived norms, and perceived behavioral control and intentions to seek help depend on whether or not individuals have either lost their job or seen a significant reduction in income due to COVID-19 [not supported]. The objective was to test whether a job loss or reduction in income due to COVID-19 would influence the strength of the relationships between reasoned action variables and intentions. Sex (female = 1, male = 0), age, education, income, and current help-seeking were entered into the regression model at step one, the dummy-coded job loss or loss in income variable at step two, and the centered reasoned action variables at step three. The interaction terms of the dummy-coded job loss or loss in income variable and the reasoned action variables were entered at step four. The model was statistically significant at each step, but the interaction terms did not add variance to the model F(6, 4559) = 2.38, $p < 01$, $R^2_{Change} = 0.00$.

H_5: The relationships between attitudes, perceived norms, and perceived behavioral control and intentions to seek help depend on levels of self-stigma of seeking help [not supported]. The objective was to test how self-stigma of seeking help would influence the strength of relationships between reasoned action variables and intentions. Sex (female = 1, male = 0), age, education, income, and current help-seeking were entered into the regression model at step one, the centered self-stigma of seeking help variable at step two, and the centered reasoned action variables at step three. The interaction terms of the centered self-stigma of seeking help and reasoned action variables were entered at step four. The model was statistically significant at each step, but the interaction terms did not add meaningful variance to the model F(6, 4580) = 6.131, $p < 01$, $R^2_{Change} = 0.01$.

Table 3
Effects of attitude, norms, and perceived control on intentions to seek help.

Intention to seek help						
	Model 1			Model 2		
Variable	B	SE B	β	B	SE B	β
Sex (female)	0.12	0.06	.04**	0.08	0.05	0.02
Age	−0.01	0.00	−.06**	−0.01	0.00	−.09**
Education	0.13	0.02	.10**	0.04	0.02	.03*
Income	0.05	0.01	.07**	0.01	0.01	0.01
Curr. help-s. (yes)	1.17	0.07	.24**	0.78	0.06	.16**
Experiential attitude				0.20	0.02	.15**
Instrumental attitude				0.22	0.02	.17**
Injunctive norm				0.32	0.02	.26**
Descriptive norm				0.12	0.02	.12**
Perceived autonomy				−0.04	0.02	−.03*
Perceived capacity				0.06	0.02	.04**
R^2_{Adj}	0.09			0.36		
F for change in R^2	90.00**			317.33**		

Note.: * for $p < 0.05$, ** for $p < .01$,.

4. Discussion

4.1. Discussion

This research provides a first exploratory step to understanding help-seeking intentions in the U.S. population during the COVID-19 pandemic, as well as potential influencing factors such as COVID-19 financial hardship, suicide risk, and stigma, in order to contribute to effective theory-based help-seeking and suicide prevention campaigns during the COVID-19 pandemic. Supporting H_1, this research revealed an association between COVID-19 financial hardship (job loss or significant loss in income due to COVID-19) and depression severity, as well as COVID-19 financial hardship and suicide risk over and above sex, age, education, and income. In this sample, average suicidal ideation scores fell *above* the clinical cut-off point among those who experienced COVID-19 financial hardship and fell *below* the clinical cut-off point among those who did not experience COVID-19 financial hardship. These findings are in line with previous research (Barnes et al., 2016; Butterworth et al., 2012; Lahelma et al., 2006), but remain inconclusive due to the correlational nature of the data. Specifically, whereas COVID-19 financial hardship may prompt severe depression and suicide risk, severe depression and suicide could also prompt more negative perceptions of and reactions to COVID-19 financial hardship.

Given the ongoing nature of the COVID-19 pandemic and its chronic economic stressors in the U.S., these results are troublesome. Personal protective factors (e.g., resilience) may be close to depleted within the U.S. population (Frankham et al., 2020). Suicide risk may continue to climb due to the COVID-19 economic crisis and upcoming trends of economic recession (Branas et al., 2015; Economou et al., 2013; Elbogen et al., 2020; Fountoulakis, 2020; Reeves et al., 2014), signaling a critical need for effective and evidence-based help-seeking and suicide prevention campaigns specifically tailored to those who experience severe depression and increased suicide risk due to COVID-19 financial hardship.

Supporting H_2, this research also confirms the usefulness of the reasoned action framework as empirical framework for effective help-seeking and suicide prevention campaigns. The reasoned action framework explained 36% of the variance in help-seeking intentions within the U.S. population during the COVID-19 pandemic. It also revealed injunctive norm (the belief that important others would approve) as the strongest predictor of help-seeking intentions. Thus, the more participants believed that important others would approve of their help-seeking, the higher their intentions to seek help would be. This is important because the reasoned action framework suggests that key predictor variables should be targeted vis-à-vis health promotion campaigns to effectively promote help-seeking (Fishbein and Ajzen, 2010; Fishbein and Yzer, 2003).

While disasters such as the COVID-19 pandemic tend to increase suicidal ideation in the population as evidenced by the current and other research studies (Esterwood and Saeed, 2020), suicidal ideation (H_3) did not seem to influence the psychological determinants of help-seeking (attitudes, social norm, self-efficacy), suggesting that regardless of just *how* suicidal an individual is, injunctive norms may still predict intentions. The same was true for COVID-19 financial hardship (H_4) and self-stigma of seeking help (H_5). While suicidal ideation, COVID-19 financial hardship, and self-stigma of seeking help did not present significant barriers to help-seeking in the presence of social support in this specific sample of U.S. adults, alternative explanations are plausible and should be tested vis-à-vis research designs that allow for causal conclusions.

Clearly, health campaigns would benefit from clear definitions regarding what type of help-seeking should be promoted and at what time it should be promoted. Researchers have pointed to the usefulness of telehealth to meet the demand for mental health care when traditional resources are low or inaccessible (Esterwood and Saeed, 2020; Lueck and Poe, 2020; Pfender, 2020). Yet, the evolution and patterns of

severe depression and suicide risk within the U.S. population during the COVID-19 pandemic may be a particularly important factor in determining which health campaigns should be launched to whom and at what point in time. Determining 'readiness' for help-seeking, researchers have uncovered varying levels of help-seeking intentions not only along the depression severity continuum (Lueck, 2018a), but also throughout the course of natural disasters or other traumatic events.

Importantly, there appears to be a delay between reports of severe depression and reports of increased suicide risk, suicide attempts, and completed suicides in the population following natural disasters or other traumatic events. U.S. adults had begun reporting severe anxiety and depression as early as March 2020, yet reports of increased suicide risk, attempts, and completions are expected to occur at later stages during the COVID-19 pandemic once personal protective factors (e.g., resilience) are depleted (Gordon et al., 2011; Kolves et al., 2013; SAMSHA, 2015; Tanaka and Okamoto, 2021). According to the presented results, it appears as though personal protective factors have given way to increases in suicide risk within the population which may continue to increase. Therefore, there continues to be a critical need for effective health campaigns that can motivate at-risk individuals to seek help in order to prevent suicide. The current research presents a first step in identifying possible targets for effective help-seeking and suicide prevention campaigns during COVID-19. Future research should test whether individuals who experienced COVID-19 financial hardship are at risk for severe depression and suicide, and whether social normative cues could be a particularly effective target for help-seeking and suicide prevention campaigns.

4.1.1. Limitations

This report is based on cross-sectional data and thus cannot establish cause-and-effect relationships. Conclusions cannot account for possible changes in symptoms of mental illness or COVID-19 beliefs over time, as this research only examined these symptoms and beliefs at one specific point in time. Due to the complexity of mood disorders and predictors of suicide risk, results regarding the predictive power of economic hardship due to COVID-19 should be interpreted with caution until sufficient replication studies exist. Specifically, the modest to non-existing associations between depression and reasoned action variables deserve further attention and clarification in future research studies. Caution is also warranted when treating those who lost their job and those who saw a reduction in income as homogenous group in regard to access to healthcare benefits. A reduction in income may still imply that access to healthcare benefits remained intact, whereas a loss of employment likely led to a complete loss of benefits and, thus, an inability to seek mental health care. Researchers who seek to replicate or expand on this work are encouraged to include more nuanced questions about access to healthcare benefits following COVID-19 financial hardship in the survey instrument. Furthermore, this research suggests that help-seeking campaigns may benefit from reframing and 'mistargeting' campaigns in this context. Experimental research should test this proposition accordingly, as there are likely other influencing factors involved in the success of indirect intervention campaigns (Hill et al., 2020).

4.1.2. Future research

Researchers are encouraged to replicate the presented findings, particularly with experimental studies that can usefully test the causal effects of injunctive norm cues on help-seeking intentions. Furthermore, researchers should carefully examine and establish the predictive validity and reliability of measures related to COVID-19 financial hardship, suicide risk, and help-seeking intentions and determinants. Specifically, if replication studies produce similar findings, researchers are encouraged to examine the weak relationships between depression and reasoned action variables, and determine the cause for these weak relationships and implications for help-seeking campaigns. Researchers should also diversify the range of potential targets for help-seeking and suicide prevention campaigns. For example, such campaigns could

effectively target the social network (e.g., 'mistargeting technique') of those who show an increased risk for suicide due to COVID-19 financial hardship (Siegel et al., 2019; Siegel et al., 2014; Walster and Festinger, 1962).

4.2. Conclusions

Depression severity and suicide risk could increase in the U.S. population, in part due to COVID-19 financial hardship. The reasoned action framework presents a useful conceptual framework to inform effective help-seeking and suicide prevention campaigns. Social normative cues, and injunctive norm cues in particular (social support), could be effective targets for help-seeking and suicide prevention campaigns. Future research should test this possibility and identify effective dissemination strategies for help-seeking and suicide prevention campaigns.

CRediT authorship contribution statement

Jennifer A. Lueck: Conceptualization, Methodology, Investigation, Formal analysis, Writing – review & editing, Funding acquisition.

Declaration of Competing Interests

None.

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