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ASSESSMENT AND DIAGNOSIS

Social connectedness, mindfulness, and coping as protective factors during the COVID-19 pandemic

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Abstract
The COVID-19 pandemic has had an unprecedented psychological impact, revealing immense emotional disturbances among the general population. This study examined the extent to which social connectedness, dispositional mindfulness, and coping moderate symptoms of anxiety and depression in 1242 adults under the same government-issued COVID-19 stay-at-home mandate. Participants completed measures of anxiety, depression, dispositional mindfulness, social connectedness, and coping, and regression analyses were used to examine associations and interaction effects. Results indicated that social connectedness and dispositional mindfulness were associated with reduced symptoms. For individuals living with a partner, decreased mindfulness and avoidant coping were associated with anxious symptoms. In households with children, overutilization of approach coping served to increase symptoms of depression. Results indicate the importance of considering social connectedness, mindfulness, and coping in counseling to enhance factors serving to protect clients during a public health crisis. Implications for professional counselors and areas of future research are discussed.

KEYWORDS
assessment, coping, COVID-19, dispositional mindfulness, protective factors, social connectedness

INTRODUCTION

The novel COVID-19 pandemic has resulted in a global mental health crisis. Preliminary investigations found direct associations between COVID-related stress and increased levels of depression, anxiety, feelings of loss and isolation, and economic uncertainty among the general population (Mukhtar, 2020; Sekhar Chatterjee et al., 2020). In the absence of pharmaceutical treatments, health authorities utilized social distancing protocols to slow infection rates and reduce fatalities. While necessary for reducing viral transmission, limiting social connection raised significant concerns among professional counselors about how social isolation can exacerbate psychological symptoms, particularly among high-risk populations (Litam & Hipólito-Delgado, 2021). Numerous studies cite social distancing and the related impact of government restrictions as the primary contributor to psychological distress during the COVID-19 pandemic (Galea et al., 2020; Pfefferbaum & North, 2020; Wang et al., 2020).

Physical distancing during a public health crisis is not a new phenomenon (see Huremović, 2019). Prior research during previous health crises yields considerable evidence that quarantine, confinement, and isolation have significant mental health consequences (Cava et al., 2005). Emotional health outcomes related to physical distancing included fear and anxiety (Cava et al., 2005), distress over employment and financial well-being (Mihashi et al., 2009), loss of daily structure, and reduced social and physical contact with individuals outside one's household (Braunack-Mayer et al., 2013).

HOUSEHOLD COMPOSITION

Given the nature of social distancing mandates, which require individuals to spend a considerable amount of time at home,

the lack of research on associations between household composition and psychological health during a social distancing mandate is surprising. While limited, some researchers have found associations between individuals who shelter alone or with children during COVID-19 with increased psychiatric symptoms (Fingerman et al., 2021; Smith et al., 2020). Stressors related to dependent care (e.g., homeschooling), economic hardship, and remote employment threaten the quality and stability of familial relationships (Jay et al., 2020; Litam & Lenz, 2021). Other investigations claim that the inability of household members to separate, whether from a partner, roommate, or child, is associated with decreased well-being (Ye et al., 2020). Conversely, Kowal et al. (2020) claim that one-person households experienced higher levels of stress than married persons during the initial phase of COVID-19 mandates. Essentially, further investigation is needed to determine whether household composition is associated with increased levels of distress.

PROTECTIVE FACTORS

Numerous factors, both protective and detrimental, influence an individuals' response to aversive life circumstances. While the current literature on COVID-19 and mental health focuses on adverse mental health outcomes and risk factors, factors that protect individuals against pandemic-related distress remain absent from the literature. Moreover, current investigations predominately use clinical or professional population samples (e.g., Wang et al., 2020). The lack of evidence on general mental health indicators serving to protect individuals during the COVID-19 pandemic infers assessment and treatment is limited to symptom identification and risk mitigation. Professional counselors, uniquely positioned to identify and enhance client protective factors, play a vital role in helping clients identify characteristics or circumstances to support mental health outcomes during or following adversity.

Individual protective factors can include positive self-concept, attachment style, coping, and the capacity to foster a positive outlook in the face of hardship (Fraley & Bonanno, 2004). Community-based protective factors may include community involvement, safe neighborhoods, and access to quality schools, child care, health care, and employment (Benzies & Mychasiuk, 2009). While individual protective factors vary, researchers have consistently identified strong positive associations between increased levels of resilience during a mental health crisis and social connectedness, adaptive coping, and mindfulness (Conversano et al., 2020; Li & Nishikawa, 2012; Magson et al., 2021). While these factors are not exclusive, their long history as evidence-based moderators for traumatic stress warrants an investigation of their efficacy in moderating adverse outcomes related to COVID-19.

Social connectedness

The inherent need for individuals to connect to broader social groups, experience meaningful contacts, and form significant interpersonal relationships is grounded in theory and empirically validated by research (Baumeister & Leary, 1995). Social connectedness, or the experience of belonging through close, intimate, supportive relationships (Lee & Robbins, 1995), is positively linked to greater psychological wellness and decreased levels of loneliness, anxiety, depression, and anger (Baumeister & Leary, 1995). As a protective factor, even perceived social connectedness can reduce distress and lower the risk of trauma-related disorders following an adverse event (Luszcynska et al., 2007).

Social connectedness, distinct from feelings of loneliness or having access to a social support network, has been found to buffer risk-taking behavior and moderate feelings of depression and suicidal ideation (Arango et al., 2016). As an intervention, social connectedness has been assessed to mitigate risk related to combat exposure and deployment reintegration for veterans (Kintzle et al., 2018), to address burnout among health care professionals (Ortega et al., 2019), and as a standardized treatment protocol for dementia (Haslam et al., 2014).

Mindfulness

Mindfulness includes an individual's ability to remain present and accept experiences and emotions (Baer et al., 2004). A central tenet of mindfulness is the belief that emotions and experiences pass, enabling individuals to experience events as they happen and accept these experiences without long-term psychological distress (Shapiro et al., 2006). While mindfulness highlights present moment awareness, dispositional (or trait) mindfulness incorporates the innate capacity of an individual to maintain awareness (Tomlinson et al., 2018). Higher levels of dispositional mindfulness are associated with increased psychological functioning and tolerance for negative emotions and experiences (Hofmann et al., 2010), primarily because individuals recognize that negative feelings are time-limited (Zhu et al., 2021).

Mindfulness-based mental health interventions have been associated with reduced symptoms of anxiety and depression (Hofmann et al., 2010) and increased coping (Stevenson et al., 2019). A meta-analysis of 39 efficacy studies of mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT), with a total of 1140 individuals, demonstrated large effect sizes for improvements in symptoms of anxiety ($g = 0.97$) and mood ($g = 0.95$; Hofmann et al., 2010). During stressful events, individuals with higher levels of dispositional mindfulness are less likely to use maladaptive coping strategies, such as procrastination or rumination (Sirois & Tosti, 2012; Stevenson et al.,

2019). In the first two months of COVID-19 government shutdowns, Conversano et al. (2020) surveyed 6412 Italian residents and found dispositional mindfulness moderated distress symptoms associated with COVID-19 social distancing mandates.

Coping

Coping includes varying behavioral and cognitive attempts to handle stressors that are beyond an individual's available resources (R. S. Lazarus & Folkman, 1984). J. R. Lazarus (1981) claimed that an individuals' way of coping with stressful life events has a more significant impact on mental health than the event itself. While numerous categorizations for coping exist, the most common distinction is the approach-orientated versus avoidance-oriented strategies (Meyer, 2001). Approach coping represents problem-based strategies such as instrumental action, using caution, and negotiations, or what Roth and Cohen (1986) describe as "turning toward" stressful situations (p. 813). Weinstein et al. (2009) describe approach-based coping as an individual's attempt to manage a stressful situation behaviorally (e.g., gathering additional information) or cognitively (e.g., trying to find an alternative to handle the situation). Avoidance coping occurs when individuals work to distract themselves from a stressful event and includes escapism, self-blame, and minimization (Jones & Ollendick, 2005). Traditionally, researchers identified approach-based coping as more adaptive at reducing stress (Li & Nishikawa, 2012). However, during a crisis event, both coping styles may be beneficial.

Jones and Ollendick (2005) found avoidance strategies supported higher levels of psychological adjustment among children and adolescents following a disaster event. Moore and Lucas (2021) identified positive coping (e.g., staying occupied, engaging in healthy behaviors) reduced levels of COVID-related distress during social isolation, and Ye et al. (2020) identified approach-based coping as a mediator between COVID-19-related stress and acute stress disorder. Given these discrepancies, a better understanding of variations related to coping during and after a public health crisis is needed.

RESILIENCE

When assessing protective factors, counselors must carefully consider ways in which individuals can access protective resources in the face of adversity. The resilience literature has demonstrated that individuals are remarkably resilient and that resilience is a dynamic, not static, phenomenon (Galatzer-Levy et al., 2018). Bonanno's (2005) resilience trajectory places resilience, not pathology, as is the most common outcome following a severe stressor and highlights that resilience is not limited to personal characteristics or individual traits. Resilience, as a phenomenon, is built (or reduced) based on access to personal, familial, social, and material resources (Hobfoll et al., 2015).

Hobfoll's (2002) conservation of resources (COR) theory explains that at the core of resilience is access to resources. Individuals innately strive to retain, protect, and generate new resources. When an individual or community faces a significant stressor, such as COVID-19, resilience can be maintained based upon the ability of the resources within the system to absorb the stressor (Hobfoll et al., 2015). This does not mean that resources are ''untouchable,'' but that resilience is dependent upon access to other resource systems to protect against further resource loss and to support resource regeneration. Developed to reflect how traumatic life events, like the COVID-19 pandemic, cause resource losses, COR theory explains the disproportionate nature of resource attainment and loss among historically marginalized groups (Hobfoll et al., 2015).

Systemic health and social inequities drastically compromise a communities' ability to acquire and sustain resources (Bui et al., 2021). Given that systems with ample resources can break down if overstrained (e.g., a family that survives a life-threatening battle with COVID-19 but later divorces due to financial stress), any investigation of protective factors during COVID-19 must consider the impact of systematic health disparities and pre-existing socioeconomic and health and mental health vulnerabilities (e.g., living in poverty, poor access to health care, limited resources for housing security, trauma) for historically vulnerable populations.

Guided by Hobfoll's (2002) COR theory regarding resource gain and loss and Bonanno's (2005) resilience trajectory, the current study focuses on protective factors, or personal resources, which serve to moderate the emotional impact of the COVID-19 pandemic. The COVID-19 pandemic, undoubtedly, resulted in a significant reduction of resources, with notable disparities across different racial and cultural groups (Jay et al., 2020). Given that professional counselors are uniquely oriented toward promoting optimal health and well-being, understanding ways to assess and bolster a client's protective resources through a culturally competent and socially just lens is an urgent matter.

PURPOSE

Given the lack of evidence on general mental health indicators serving to protect individuals during the COVID-19 pandemic, the purpose of the current study was to identify evidence-based factors which moderated symptoms of anxiety and depression in individuals under the same government-issued stay-at-home mandate. Our overarching goal was to facilitate counselor identification of protective factors, specifically social connectedness, dispositional mindfulness, and coping, in the context of the COVID-19 pandemic. Additionally, given the potential for response patterns to differ based on an individual's primary social distancing group, we also investigated the interactive effect of household composition on the protective factors.

Using a cross-sectional sample of individuals living under the same government-issued mandate, we sought to examine the following research questions: (a) Does social connectedness, dispositional mindfulness, and coping style moderate symptoms of anxiety and depression in individuals under the same state-issued COVID-19 Phase 1 stay-at-home order? and (b) To what extent does the sheltering group impact the effect of the protective factors on symptoms of anxiety and depression in the sample population?

METHOD

Participants

We collected data using an online survey administered through a Qualtrics research panel for 20 days in June 2020. Online samples, generally referred to as crowdsourcing, use online data collection services, such as Qualtrics or Amazon Mechanical Turk, to leverage the diversity and collective experience of online communities (Brabham, 2013; Mullen et al., 2021). A significant advantage of crowdsourcing is quota sampling, a nonprobability sampling method that ensures different strata (e.g., groups) within the sample population are proportional to the population being studied (Sharma, 2017). This sampling method also ensured the study sample was demographically similar to the 2010 United States census distributions for gender, age, race/ethnicity, and income (±10%), which addresses the gap in the current literature regarding protective factors for the general population. Census data from 2010 was used because state-level data from the 2000 census for gender, age, race/ethnicity, and income had not been released during data collection.

We identified one state for recruitment to minimize variance due to differentiated government mandates and focused on the first few months of the pandemic to examine mental health during the most restrictive government mandate. Inclusion criteria required participants to be over 18, English speaking, and currently under a state-issued Phase 1 stay-at-home order in the Commonwealth of Virginia. Census distributions for the selected state were only marginally different (0.04–7.7 percentage points for all factors) from the 2010 US census distributions, also falling within recommended ranges for normative comparisons to our measures of anxiety and depression (Rothrock et al., 2010). The margin for the 2020 general population census data and the selected state was narrower, ranging from 0.08 to 6.2 percentage points.

Qualtrics, found to be as reliable as traditional recruitment methods (Buhrmester et al., 2011), was selected because it is the most demographically representative crowdsourcing platform, reports high compensation rates, and allowed for rapid identification of individuals under the same state-issued mandate (Heen et al., 2014; Mullen et al., 2021). The final sample included 1242 participants, 633 (51%) women, with the majority of participants between the age of 35 and 44 (n = 281, 21.9%), and identifying as White/European American (n = 761, 61.3%). See Table 1 for sample demographics.

TABLE 1 Sample demographic information

Factor	*n*	Percentage
Race		
Asian/Asian-American	74	6.0
Black/African-American	230	18.5
Hispanic/Latino/a	124	10.0
White	761	61.3
Other	53	4.2
Gender		
Female	633	51.0
Male	604	48.6
Transgender	5	0.4
Age[a]		
18–24	219	17.6
25–34	161	13.0
35–44	272	21.9
45–54	153	12.3
55–64	218	17.6
65+	219	17.6
Sheltering group[b]		
Sheltered alone	210	16.9
Sheltered with partner only	277	22.2
Sheltered with kids under 18	342	27.4

[a]Age was collected with six categories.
[b]Sheltering group included other options not included in this analysis; therefore, percentages do not add up to 100%.

Procedure

Following Institutional Review Board approval and consent, participants accessed the survey using unique, anonymous weblinks. Event logs tracked completion and response rates, and a question regarding the participant's intent to provide accurate responses (i.e., "Do you commit to providing your thoughtful and honest answers to the questions in this survey?") was included. A total of 1884 completed surveys were collected, and survey completion time ranged from 9 to 172 min, with a median of 12.38 min. Responses indicating abnormal completion rates (n = 203), straight-lining (n = 148), and respondents under the age of 18 (n = 61) or who were not under a Phase 1 stay-at-home order (n = 73) were removed.

Instrumentation

A demographic questionnaire captured information regarding age, gender, racial identity, income, level of educational attainment, and sheltering group. Significant for this inquiry was the number of individuals in the household and whether these individuals were family, under the age of 18, or nonfamily (i.e., "Including yourself, how many people currently live in your household?" and "Which of the following best describes individuals currently living in your household?"). Response options for household included living alone ("Alone/Myself"), with a partner/spouse only ("Partner/Spouse"), with children under the age of 18 ("Children under 18"), with other family members ("*Other Family*"), and residing with multiple, unrelated individuals ("Living with Other Adults").

Psychological functioning

Psychological outcomes were measured using the Patient-Reported Outcomes Measurement Information System (PROMIS) anxiety v1.0 short form 8a (PROMIS-A) and the PROMIS depression v1.0 short form 8b (PROMIS-D; Cella et al., 2010). Created by the National Institute of Health and adapted from the World Health Organization's mental and social health frameworks, PROMIS scores are aligned with US general population marginal distributions of gender, age, race/ethnicity, education, and income (H. Liu et al., 2010). Linked to a range of established mental health assessments, the PROMIS-A and PROMIS-D are commonly used to assess symptoms of anxiety and depression in individuals experiencing a variety of health difficulties such as cancer (Victorson et al., 2019), spinal surgery (Haws et al., 2019), and psychological functioning during COVID-19 (Weerahandi et al., 2021).

The PROMIS-A assesses self-reported fear, anxious misery, and hyperarousal, and the PROMIS-D focuses on affective and cognitive manifestations of depression (Cella et al., 2010). Both instruments are eight-item, unidimensional scales which use a five-point rating scale that ranges from 1 ("Never") to 5 ("Always"). To allow for clinical interpretation of scores, both scales use a standardized scoring system, with a general population mean T-score of 50 and a standard deviation of 10. Higher scores indicate greater levels of severity (Rothrock et al., 2010). Both scales have demonstrated high internal consistency (Cronbach $\alpha = 0.96$; Cella et al., 2010). For the current sample, Cronbach's alpha for the PROMIS-A was 0.937 and 0.953 for the PROMIS-D.

Social connectedness

Social connectedness was measured using the Social Connectedness Scale-Revised (SCS-R), a 20-item, six-point Likert-type scale designed to measure positive and negative aspects of social connectedness (Lee & Robbins, 1995). With a possible range from 20 to 120, higher scores on the SCS-R reflect a stronger sense of social connectedness. Deemed an excellent measure of social inclusion, the SCS-R has been widely used to assess connectedness among clinical (Wilks et al., 2019) and general populations (Satici et al., 2016). The SCS-R has high levels of internal consistency ($\alpha = 0.92$) and strong content and structural validity (Cordier et al., 2017). Within the current study, the SCS-R continued to demonstrate strong internal consistency ($a = 0.912$).

Mindfulness

Dispositional levels of attention and awareness were measured using the Mindful Attention Awareness Scale (MAAS; K. W. Brown & Ryan, 2003). The MAAS is a 15-item, single factor instrument which utilizes a six-point Likert-type scale, rated from 1 ("Almost Always") to 6 ("Almost Never"). The MAAS has been widely used to measure associations between trait-based mindfulness among various clinical (Tomlinson et al., 2018) and general populations (Kong et al., 2014). With a range of 15–90, higher scores on the MAAS reflect a more substantial capacity for maintaining nonjudgmental attention to present-moment experiences. The MAAS has been found to have adequate internal consistency (Cronbach's alpha = 0.82; Baer et al., 2004). Research has supported high validity with related measures, including the Mindfulness/Mindlessness Scale (Black et al., 2012) and consistently high levels of internal consistency ($a = 0.90$), including within our study ($a = 0.938$).

Coping

The Brief Coping Orientation to Problems Experienced (Brief COPE) was used to assess positive and negative coping strategies (Carver et al., 1989). The most frequently used measure of coping (Garcia et al., 2018), the 28-item inventory, includes 14 conceptually different subscales derived from theoretical constructs of coping (Meyer, 2001). The Brief COPE utilizes a four-point response set indicating the degree to which a respondent engages in a coping response, ranging from 0 ("Usually I do not do this at all") to 3 ("Usually I do this a lot"). The Brief COPE has demonstrated clinically relevant outcomes across a wide variety of stressful situations and diverse populations (e.g., Peters et al., 2020; Solberg et al., 2021).

We used the two-category Brief COPE model with subscales of approach- and avoidance-based coping strategies (Meyer, 2001). In agreement with Miyazaki et al. (2008) and Su et al. (2015), we excluded the humor and religion subscales as neither consistently demonstrate inherently avoidance or approach mechanisms. A recent review of the factor structure of the Brief COPE by Solberg et al. (2021) validated using this two-structure model, noting high levels of internal consistency ($a = 0.96$). Approach coping includes active coping, emotional support, informal support, positive reframing, planning, and acceptance subscales. Avoidant includes self-distraction, denial, substance use, behavioral disengagement, venting, and self-blame subscales. Higher levels indicate more of

the associated domain. In the current study, each subscale demonstrated strong internal consistency (avoidant $a = 0.99$; approach $a = 0.89$).

Data analyses

We used IBM SPSS version 24 to clean the data and run the main effects and JAMOVI to run the interaction effects. To examine the first research question, we ran multiple linear regressions in separate models to determine if the protective factors served to predict symptoms of depression and anxiety in the sample population. We chose to run the protective factors separately to assess the unique impact of each factor, independent of one another, on overall levels of anxiety and depression. We used R^2 to calculate model main effect sizes and partial eta squared correlations ($\eta^2 p$) for effect sizes of interactions.

For the second research question, prior to running interaction analyses, we dummy coded three variables for sheltering context: sheltering alone, sheltering only with a partner, and sheltering with children under 18. Interaction variables were created by multiplying the sheltering variables with the predictor variables. For each, we included the predictor in the first level, the three dummy-coded sheltering variables to a second level, and the three interaction variables to a third level. Interaction variables were run as separate models on the two outcome variables, anxiety and depression. We eliminated other sheltering groups (i.e., "Living with Other Adults") which allowed for too much variance. We ran appropriate tests to assess multicollinearity, heteroskedasticity, and normality, and all assumptions were met. Likewise, we assessed correlations and determined no significant relationships in demographic variables; therefore, we did not include them in statistical analyses. We determined that we had appropriate power, with 0.958, given an expected small effect size of 0.14.

TABLE 2 Scale means and standard deviations

Scale	*M*	SD
Dispositional mindfulness	43.019	16.527
Social connectedness	79.481	17.021
Brief COPE		
Approach coping	29.233	6.996
Avoidant coping	22.936	7.156
PROMIS		
Anxiety[a]	58.068	9.635
Depression[b]	55.182	10.485

Note: For both PROMIS scales, a T-score less than or equal to 54.9 is within normative limits for the general population, 55–59.9 indicates mild symptoms, 60–69.9 indicates moderate symptoms, and 70–84.1 indicates severe symptomatology.
Abbreviations: Brief COPE, Brief Coping Orientation to Problems Experienced; PROMIS, Patient-Reported Outcomes Measurement Information System.
[a]Measured by the Patient-Reported Outcomes Measurement Information System v1.0 short form Anxiety 8a.
[b]Measured by the Patient-Reported Outcomes Measurement Information System v1.0 short form Depression 8b.

TABLE 3 Main effects of the protective factors on levels of anxiety and depression

Scale	*F*	*df*2	*p*	R^2
PROMIS-A				
Dispositional mindfulness	839.466	1239	<0.001*	0.404
Social connectedness	228.698	1240	<0.001*	0.156
Approach coping	126.851	1240	<0.001*	0.093
Avoidant coping	788.252	1240	<0.001*	0.389
PROMIS-D				
Dispositional mindfulness	871.703	1240	<0.001*	0.413
Social connectedness	453.712	1241	<0.001*	0.268
Approach coping	62.219	1240	<0.001*	0.048
Avoidant coping	1026.579	1240	<0.001*	0.453

Abbreviations: PROMIS-A, Patient-Reported Outcomes Measurement Information System Anxiety v1.0 short form 8a; PROMIS-D, Patient-Reported Outcomes Measurement Information System Depression v1.0 short form 8b.
*$p < 0.001$ (one-tailed).

RESULTS

Main effects

Impact of protective factors on anxiety and depression

Results indicated that all three protective factors, including both coping subscales, were predictive of anxious symptoms. Higher levels of social connectedness and higher levels of dispositional mindfulness predicted lower levels of anxiety, with $F(1, 1240) = 228.698$, $p < 0.001$, $R^2 = 0.156$, and $F(1, 1239) = 839.466$, $p < 0.001$, $R^2 = 0.404$, respectively. Interestingly, higher scores on both subscales of the Brief COPE were associated with higher levels of anxious symptoms, with approach coping, $F(1, 1240) = 126.851$, $p < 0.001$, $R^2 = 0.093$, and avoidant coping, $F(1, 1240) = 788.252$, $p < 0.001$, $R^2 = 0.389$.

As with anxious symptoms, higher levels of social connectedness and dispositional mindfulness were predictive of lower levels of depression, with $F(1, 1241) = 453.712$, $p < 0.001$, $R^2 = 0.268$ and $F(1, 1240) = 871.703$, $p < 0.001$, $R^2 = 0.413$. Higher scores on both subscales of the Brief COPE were associated with increased symptoms of depression, with approach coping, $F(1, 1240) = 62.219$, $p < 0.001$, $R^2 = 0.048$, and avoidant coping, $F(1, 1240) = 1026.579$, $p < 0.001$, $R^2 = 0.453$. Scale means and standard deviations are displayed in Table 2. Results from each regression are presented in Table 3.

TABLE 4 Summary of regression analysis for interaction effect of sheltering group with anxiety and depression

	PROMIS-A				PROMIS-D			
	t	*df*2	*P*	η^2p	*t*	*df*2	*p*	η^2p
Sheltering group								
Sheltering alone								
Dispositional mindfulness	−0.516	1233	0.606	<0.01	−0.040	1233	0.968	<0.01
Social connectedness	3.990	1234	<0.001*	0.02	4.198	1234	<0.001*	0.02
Approach coping	−0.830	1234	0.406	<0.01	−0.221	1234	0.826	<0.01
Avoidant coping	1.314	1234	0.189	<0.01	1.202	1234	0.230	<0.01
Sheltering with partner only								
Dispositional mindfulness	−2.490	1233	0.013*	0.01	1.582	1233	0.114	<0.01
Social connectedness	−0.148	1234	0.883	<0.01	0.495	1234	0.621	<0.01
Approach coping	0.467	1234	0.641	<0.01	1.703	1234	0.089	<0.01
Avoidant coping	4.834	1234	<0.001*	0.02	5.047	1234	<0.001*	0.02
Sheltering with children under 18								
Dispositional mindfulness	0.747	1233	0.455	<0.01	−0.078	1233	0.938	<0.01
Social connectedness	−1.028	1234	0.304	<0.01	−0.976	1234	0.329	<0.01
Approach coping	1.906	1234	0.057	<0.01	2.292	1234	0.022*	0.03
Avoidant coping	0.647	1234	0.517	<0.01	−0.359	1234	0.720	<0.01

Abbreviations: PROMIS-A, Patient-Reported Outcomes Measurement Information System Anxiety v1.0 short form 8a; PROMIS-D, Patient-Reported Outcomes Measurement Information System Depression v1.0 short form 8b.
*$p < 0.001$.

Interaction effects of sheltering group

A range of interaction effects between each protective factor and sheltering group were statistically significant, although effect sizes were relatively small. However, after considering all protective factors and the three different sheltering groups, we found unexpected results for anxiety and depression. A summary of the regression analyses can be found in Table 4.

For individuals living with a spouse or partner, lower levels of dispositional mindfulness were significantly associated with considerably higher levels of anxious symptoms, with $t(1233) = -2.490$, $p = 0.013$, $\eta^2p = 0.01$. The impact of social connectedness on levels of anxiety was also moderated by sheltering group, but sheltering alone impacted the relationship, with $t(1234) = 3.990$, $p < 0.01$, $\eta^2p = 0.02$. While individuals who sheltered alone reported a decrease in anxious symptoms, the decline was not as evident as sheltering with children or a partner. Finally, increased levels of avoidant coping led to substantially greater anxious symptoms for individuals who sheltered with only a partner, with $t(1234) = 4.834$, $p < 0.001$, $\eta^2p = 0.01$.

As with anxiety, the effect of social connectedness on depression was moderated by sheltering context, with sheltering alone impacting the relationship. Individuals who sheltered with children or a partner demonstrated substantial declines in depression as levels of social connectedness increased, but those who sheltered alone had comparably stable levels of depressive symptoms as social connectedness increased, with $t(1234) = 4.198$, $p < 0.001$, $\eta^2p = 0.02$. For individuals sheltered with only a spouse, increased use of avoidant coping led to substantially greater depressive symptoms, with $t(1234) = 5.047$, $p < 0.001$, $\eta^2p = 0.02$. Finally, living with children under 18 moderated approach coping. Within this group, individuals experienced considerable increases in depressive symptoms as they used more approach coping mechanisms, with $t(1234) = 2.292$, $p = 0.022$, $\eta^2p = 0.03$.

DISCUSSION

The purpose of this study was to examine whether social connectedness, mindfulness, and coping moderated symptoms of anxiety and depression in individuals under the same Phase 1 social distancing mandate. We also explored whether an individual's living arrangement, or sheltering group, moderated the impact of the protective factors on symptoms of anxiety and depression. Our aim was to facilitate counselor identification of protective factors that protect clients during a public health crisis and address a gap in the literature around household composition and COVID-19-related mental health concerns. As predicted, individuals with increased social connectedness and dispositional mindfulness demonstrated lower levels of anxiety and depression. The results for the sheltering group, however, were not as straightforward.

For individuals living with a spouse or partner only, higher levels of anxious symptoms were associated with lower levels of dispositional mindfulness. This same group experienced an increase in anxiety and depression when utilization of avoidant coping strategies was higher. For individuals sheltering alone, the impact of increased feelings of social connectedness was not as significant compared to individuals sheltering with a partner or children. Contrary to the majority of the literature on coping styles, the

use of approach coping strategies for individuals sheltering with children may increase, rather than decrease, depressive symptoms.

Protective factors

While the current study results highlight the vital role of social connectedness on mental health, the idea that social connectedness would have a continued impact during a Phase 1 stay-at-home order is interesting. Traditional forms of social interaction were limited in the early months of COVID-19, and feelings of isolation were at an all-time high (Moore & Lucas, 2021). Our findings suggest that social connectedness may buffer adverse symptoms, even when opportunities for social connection are limited. This aligns with Huang and Hsu (2022), who associated increased levels of well-being with perceived social connectedness among African American students who expressed feeling close to friends, family, and their cultural community, despite not being able to see them during COVID-19 lockdowns.

Social connectedness includes an overarching feeling of belonging which expands beyond active engagement in social relationships (Lee & Robbins, 1995). In the context of resource regeneration, social connectedness as a protective factor is especially relevant for individuals and communities disproportionately impacted by COVID-19. Adepoju et al. (2021) investigated health disparities for vulnerable communities following three disaster events (Hurricane Harvey, Winter Storm Uri, and COVID-19) and noted, "social connectedness was key to disaster resiliency" (p. 35).

Our results also support Conversano et al. (2020) and Ye et al. (2020), who found that higher levels of mindfulness predicted lower levels of COVID-19-related distress. Mindfulness practices, rooted in increased metacognitive awareness, allow individuals to separate from their current experiences (Shapiro et al., 2006). Higher levels of dispositional mindfulness do not shield an individual from experiencing distress. Rather, mindfulness facilitates nonjudgmental awareness, likely increasing acceptance of COVID-19-related stressors. In alignment with Zhu et al. (2021), participants within our sample may have recognized that the COVID-19 pandemic is time-limited, and learning to adapt to a new reality was required. This finding is particularly relevant as the evidence-base for cultural adaptations for mindfulness-based interventions expands (see Castellanos et al., 2020).

Surprisingly, neither avoidant nor approach coping effectively minimized levels of anxiety and depression in the sample population. Our results indicated that while participants' stress levels increased, so did their coping. One potential explanation is that social connectedness and mindfulness are personal characteristics that may predict how one responds. On the other hand, coping mechanisms are behaviors and may be an outcome of stress rather than a protective factor. As such, the more stressed one becomes, the more one must rely on coping mechanisms.

While the relationship between avoidant coping and higher levels of anxiety and depression symptoms is consistent with the literature (Weinstein et al., 2009), the association between approach-based coping and increased symptomatology was not expected. Prior studies have identified an inverse association between approach-based coping and stress (Li & Nishikawa, 2012), though some evidence suggests that short-term avoidance strategies may reduce acute stress (Jones & Ollendick, 2005). Within the context of the COVID-19 pandemic, utilization of avoidance coping does align with Umucu and Lee (2020) who identified short-term avoidance coping as associated with fewer symptoms of distress. Moore and Lucas (2021) and Ye et al. (2020) also found that strategies traditionally viewed as adaptive were insufficient for the unique stressors associated with COVID-19.

Sheltering group

While it is not surprising that mindfulness and social connectedness were inversely associated with symptoms of anxiety for all three sheltering groups, it was interesting that participants living with a spouse or partner reported considerably higher levels of anxiety when mindfulness decreased. Researchers have identified connections between mindfulness practices and higher quality intimate relationships (McGill & Adler-Baeder, 2020), and emerging evidence links poor relationship quality during COVID-19 with lower levels of mental health (Pieh et al., 2020). Thus, counselors must not assume that intimate relationships provide buffers of support for clients or that relationship status will enhance mental health outcomes. In alignment with Litam and Lenz (2021), our results suggest that counselors assessing dispositional mindfulness should also consider the context and quality of intimate relationships.

The association between higher levels of distress and increased use of avoidant coping for couples aligns with traditional investigations of coping (Weinstein et al., 2009). Intimate partnerships play an essential role in resource regeneration by helping one another cope with resource loss. Within the context of COR theory, a spouse or partner who utilizes avoidance-based coping may be experiencing distress (as evidenced by the utilization of coping) and, accordingly, unable to access additional resources which could prevent further resource loss (Hobfoll, 2002). Aron et al. (2004) state, "the evaluative and affective responses to another's acquisition and loss of resources … are to some extent the same as if the acquisition or loss was with regard to one's own resources" (p. 210). Essentially, individuals feel ''depleted'' and cannot access adaptive strategies, such as providing emotional support or positive reframing.

In parallel, overutilization of approach-based coping may have a deleterious impact on mental health. While the finding that avoidant coping is associated with decreased well-being for individuals living with children under 18 does run counter to traditional research on coping, Weaver and Swank (2021) noted the expanded roles and associated parenting challenges during COVID-19 social distancing mandates. We maintain that coping strategies operate on the basis of resources. Parents endorsing approach-based coping to manage COVID-

related fears and stresses may have been unable to access the appropriate resources, given the extent and duration of COVID-19, to adequately support others in their household. There have been limited attempts to integrate approach and avoidant based approaches (e.g., Moos & Holahan, 2003), but counselors working with parents or guardians may benefit from exploring an integrated coping approach that attends to both approach- and avoidance-based coping strategies.

Recommendations for counseling practice

COVID-19 severely disrupted social networks, a vital source of well-being for many individuals. We recommend that counselors monitor levels of perceived social connectedness and use targeted interventions to help clients connect or reconnect with others. When identifying strategies to increase levels of perceived social connectedness, counselors may want to consider both in-person and technology-assisted opportunities. Counselors seeking to use the SCS-R should note validation studies, endorsing use with individuals over the age of 15 and within an online and face-to-face context (Chaturvedi et al., 2015; Grieve et al., 2013).

Face-to-face interventions may include increased contact and group activities, engagement in purposeful activities with others, and maintaining contact with natural supports (O'Rourke et al., 2018). Leavell et al. (2019) recommend nature-based social ''prescriptions'' (e.g., walks in the park or community gardening) for clients in urban settings. For clients who feel their familial or social relationships are fragmented due to the amount of time they have been disconnected, counselors can work with these individuals or systems to develop strategies for re-establishing social relationships.

Clients who are homebound or unable to access in-person connections may want to consider technology-based communications (e.g., phone, texting, or virtual communications). Stuart et al. (2021) noted that the transition to online social interaction during COVID-19 moderated health anxiety. Nitschke et al. (2021) found that adults who used online communications during COVID-19 lockdown to engage with friends and family experienced higher levels of social connectedness and lower levels of stress and worry. While increased utilization of technology to bolster social connectedness for individuals in isolation is promising, strong associations between technology and social connectedness are limited (Shah et al., 2020). There is also a growing amount of research, particularly for adolescents and young adults, which point to increased use of social media as detrimental to physical and emotional health (Memon et al., 2018). However, in the absence of face-to-face connections, counselors working with older adults may want to consider whether virtual communication methods (different from social media platforms) between friends and family, particularly distant relatives (Neves et al., 2018), impact connectedness.

Clients seeking to increase levels of dispositional mindfulness may benefit from engaging in mindfulness training. State, or present moment, mindfulness is frequently addressed in individual or group work through MBSR (Kabat-Zinn, 2003), mindfulness-based cognitive therapy (Segal et al., 2002), and acceptance and commitment therapy (ACT; Hayes et al., 1999). Mindfulness-based interventions can be categorized as (1) mindfulness-integrated (e.g., mindfulness-integrated cognitive behavior therapy [Frances et al., 2020]), dialectical behavior therapy (Linehan, 1993), and ACT; (2) mindfulness-based (e.g., MBSR, MBCT); and (3) singular mindfulness meditation (see Lutz et al., 2008). We recommend counselors incorporating mindfulness-based techniques in practice reference Hanley et al. (2016), which outlines issues related to attrition, adverse impacts, and contraindicated populations. There are also several mindfulness-based interventions counselors can use in various practice settings (see A. P. Brown et al., 2013; Goodman & Calderon, 2012; Palacios & Lemberger-Truelove, 2019). Given current research on coping and COVID-19, counselors may want to consider combining coping behaviors with mindfulness training and enhanced social connectedness to more effectively mediate COVID-related stress.

We recommend that counselors pay special attention to a client's living arrangements during social distancing mandates. Counselors working with clients living with children under the age of 18 may want to assess for associations between approach-based coping behaviors and increased levels of anxious and depressive symptoms. An assessment of avoidance-based coping may be warranted for clients experiencing elevated levels of anxiety or depression and living only with a spouse or partner. These clients may benefit from interventions to support dispositional mindfulness and exploration of different coping techniques if avoidant coping is high. Counselors working with clients who live alone may consider strategies to help clients increase social connectedness. Following assessment, counselors can work with clients to develop individualized coping models which support positive adaptation and are dependent on the client's characteristics and situational demands.

Foster et al. (2017) noted that adolescents in low-income, high crime areas benefited from increased connectedness with parents and adults in their school. These findings are similar to other studies (e.g., Arango et al., 2016; Benzies & Mychasiuk, 2009) and demonstrate a need for clinicians to engage parents of adolescents in the therapeutic process. While parents are often involved in therapy for younger children with Child Parent Relationship Therapy (CPRT; Bratton & Landreth, 2019), or Theraplay (Booth & Jernberg, 2009), Ceballos et al. (2020) adapted the traditional CPRT model for work with preadolescents. This work could serve as a basis for clinicians to use with adolescents and families seeking to further social connection after COVID-19. For couples and families, Ecosystemic Structural Family Therapy (Daniels, 2022; Lindblad-Goldberg & Northey, 2013) highlights the resilience of the family or couple system, while intentionally focusing on the impact of trauma from a culturally aware, strength-based perspective.

Given the rapid increase in virtual counseling and teletherapy, continuing education providers and counselor education programs should increase training opportunities and expand counseling curricula to address knowledge deficiencies

around telehealth, including ethical and legal challenges. Continuing education for clinical supervisors should target increased competence in telesupervision and teletherapy, noting emergent literature around legal and ethical challenges and practice considerations (see Bender & Werries, 2021). Finally, counselors, clinical supervisors, and counselor educators must support counselor recognition of potential ethical and social justice implications of integrating concepts, such as social connectedness, into treatment without careful consideration of a client's historical and sociocultural context.

Limitations and future directions

This study has several limitations that should be considered when interpreting the results. Self-report measures can result in participant bias, symptom minimization, and misinterpretation. Additionally, A. Liu et al. (2021) found that racial minorities often under-reported and under-recognized distress symptoms, further impacting the results. Utilizing Qualtrics, while providing a representative and large sample, does not provide an accurate account of response rates. Our use of a cross-sectional design restricts our ability to infer causal relationships between COVID-19 social distancing measures and distress symptoms. Because the data were collected from a sample population under the same social distancing mandate and limited to one state, one must observe caution when generalizing to a broader population or states that fall outside the recommended range (±10%) for gender, age, race, and income.

Future research should examine the longer term implications of avoidant and acceptance coping and identify coping strategies counselors can use to support client recovery during and after the COVID-19 pandemic. We suggest identifying coping as an outcome variable instead of a predictor variable to better identify the role of coping in reducing anxiety and depression. Future research should also consider the long-term psychosocial impact of technology usage on social connectedness, leveraging current reports on mechanisms to address digital inequities across marginalized groups (Beaunoyer et al., 2020). We also recommend that researchers examine ways counselors can foster collaborations with public health professionals, employers, teachers, and other community stakeholders, to embed strategies for increasing mindfulness and social connectedness within their organizations. It is essential for health and mental health professionals, educators, and employers to work together to identify new, creative ways to support collective mental health needs within the community.

CONCLUSION

In addition to providing an evidence base for dispositional mindfulness and social connectedness as protective factors, our results demonstrate the utility of using practical, clinically relevant measures to address client concerns during a public health crisis. We emphasize that symptom screening should go beyond identifying risk and highlight the importance of protective factors, especially for historically marginalized populations, in moderating adverse outcomes.

While the initial lockdown period of COVID-19 has ended, the pandemic is not over. Counselors may see increased levels of well-being as vaccines become globally available and variants are less frequent (Varga et al., 2021). However, historical trends of past public health crises lead us to assume that client mental health will continue to be adversely impacted by the virus. Even without new variants or social restrictions, the ambiguity and uncertainty of what that future entails or the long-term impact of COVID-19 exposure will likely amplify the need for counselors to provide care for individuals impacted by COVID-19.

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CONFLICT OF INTEREST

The authors declare conflict of interest.

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