# The Impact of COVID-19 on Veterans' Resilience, Attachment, and Negative Affect

**JEREMY B. MALLORY**

**WARREN N. PONDER** iD

**TEMPA SHERRILL**

**JOSE CARBAJAL**

**DONNA L. SCHUMAN** iD

**KATELYN K. JETELINA** iD

**JUSTIN STAFFORD**

*Author affiliations can be found in the back matter of this article

## ABSTRACT

On March 13, 2020, the US issued an emergency declaration in response to the COVID-19 pandemic, necessitating increased domestic engagement of the military to mount the national public health response. The US military's increased domestic health response to the COVID-19 pandemic, combined with the effects of its involvement in a 20-year war exacerbated by recent tensions around America's exit from Afghanistan, has led to increased stress on our already overburdened forces. This study compares baseline data from a treatment-seeking veteran sample before the onset of COVID-19 (n = 119) to veterans who sought counseling services during the pandemic (n = 100). We used six standardized mental health measures that assess attachment avoidance, attachment anxiety, resilience, depression, generalized anxiety, posttraumatic stress disorder (PTSD), and suicidality. Independent samples t-tests revealed that depression, generalized anxiety, and PTSD significantly decreased from before the pandemic to after its onset. However, the strength of the correlations between all six measures increased. We interpret the findings through an attachment and resiliency framework. We also explore the role of negative affect that might underlie depression, generalized anxiety, and PTSD. Lastly, we review and discuss a transdiagnostic approach to the therapeutic process, accounting for the COVID-19 pandemic.

**CORRESPONDING AUTHOR:**

**Warren N. Ponder**

Director of Outcomes and Evaluation, One Tribe Foundation, Fort Worth, Texas, US

warren@1tribefoundation.org

The Global War on Terrorism (GWOT) has ended after two decades of war. The GWOT has negatively affected veterans' mental health (Hoge et al., 2004), which the COVID-19 pandemic has compounded (Na et al., 2021a). This study will survey the scholarship of the pandemic through advanced statistical analyses focusing on network analysis (Ebrahimi et al., 2021; Lass et al., 2020; Martín-Brufau et al., 2020; Skjerdingstad et al., 2021; Vos et al., 2021; Wang et al., 2020; Williamson et al., 2021; Yu & Mahendran, 2021). Next, we will review the literature of different approaches from emotional (negative affect), attachment, and resilience theoretical frameworks, as a growing body of literature is burgeoning (Carbajal et al., 2021; Byllesby et al., 2016; Greene et al., 2020; Mikulincer & Shaver, 2016; Moccia et al., 2020; Ponder et al., 2023; Price & van Stolk-Cooke, 2015; Seligowski et al., 2016). We will then further explore the impact, if any, the pandemic has had on frontline workers and veteran communities, exposing a gap in the literature.

In a study of US Army and Marines involved in combat in Iraq and Afghanistan at the beginning of the GWOT, 15.6% to 17.1% of respondents who deployed to Operation Iraqi Freedom (OIF) and 11.2% who deployed to Operation Enduring Freedom (OEF) screened positive for major depression, generalized anxiety, and posttraumatic stress disorder (PTSD) (Hoge et al., 2004). More recently, in a treatment-seeking sample of US veterans diagnosed with PTSD, 43% had comorbid depression, and 12.5% were diagnosed with a generalized anxiety disorder (GAD) (Knowles et al., 2019). Attachment, resilience, and negative affect are three theoretical frameworks that can help conceptualize and possibly treat the co-occurrence of depression, generalized anxiety, and PTSD (Byllesby et al., 2016; Carbajal et al., 2021; Greene et al., 2020; Mikulincer & Shaver, 2016; Moccia et al., 2020; Ponder et al., 2022; Price & van Stolk-Cooke, 2015; Seligowski et al., 2016).

## RESILIENCE

A growing body of literature has suggested that resilience can be conceptualized as an outcome variable (Bonanno, 2004; Chen & Bonanno, 2020; Kalisch et al., 2017; PeConga et al., 2020; Shahan et al., 2022). Bonanno (2004) put forth a theoretical flow chart of the temporal elements of predictors for resilient outcomes that was later adapted to include the pandemic (Chen & Bonanno, 2020). In the adapted temporal schematic, pandemic exposure severity is later impacted by individual differences, which in turn are influenced by familial variables and community characteristics that are all predictors of a resilient outcome. Disruption in functioning includes pre-pandemic

adjustment, which later includes aversive circumstances experienced acutely or chronically. Theoretically, if the disruption in functioning is mild, then one might experience acute aversive circumstances, whereas if there is a severe disruption in functioning, there might be chronic symptoms.

Bonanno et al. (2008) found that after the severe acute respiratory syndrome (SARs) outbreak, four longitudinal trajectories were established for those that lived through it: resilience, recovered, delayed, and chronic. In the adapted model, the resilience trajectory was in line with mild disruptions and was lowest on the longitudinal time points. The delayed trajectory started with mild to moderate disruption and increased to moderate to severe, whereas the recovery trajectory experienced moderate to severe disruption and ended with mild disruption. Lastly, the chronicity trajectory started and ended with severe disruption of functioning (Chen & Bonanno, 2020). Resilience, mindfulness, and optimism significantly moderated the relationship between fear of the coronavirus on stress, anxiety, and depression (Vos et al., 2021).

Zhang et al. (2021) examined the impact COVID-19 has had on nurses in China at the height of the pandemic. The aggregated prevalence of burnout in the sample was almost 52%, and among those, 15% endorsed severe burnout. Being single while experiencing indefinite employment, increased length of working hours, and an increase in patient-to-nurse ratio were significantly related to higher burnout (Zhang et al., 2021). Resilience was inversely correlated with emotional exhaustion, depersonalization, reduced personal accomplishment, and negative affect, whereas resilience was significantly positively correlated with positive affect. Zhang and colleagues (2021) also conducted Structural Equation Modeling (SEM) with resilience as the independent variable. At the same time, positive and negative affect were the mediators in four models with burnout, emotional exhaustion, reduced personal accomplishment, and depersonalization as the dependent variables. In all four SEMs, positive and negative affect fully mediated the effects of resilience on the dependent variables (Zhang et al., 2021). Unfortunately, they did not conceptualize resilience as an outcome variable.

## ATTACHMENT

Mikulincer and Shaver (2016) presented a theoretical conception of the attachment behavioral system and its components. They asserted that the attachment system gets activated in the presence of a subjective threat appraisal (Mikulincer & Shaver, 2016; Steele, 2020). From there an individual attempts proximity seeking to an

attachment figure, and if that individual is unresponsive or unavailable, secondary strategies become employed. Attachment avoidance (deactivation) and attachment anxiety (hyperactivation) are both maladaptive but have different symptom presentation. Attachment avoidance would mimic someone becoming isolative, whereas attachment anxiety would externalize to attain the safety of an attachment figure who is otherwise unresponsive (Mikulincer & Shaver, 2016).

Applying attachment theory to the pandemic, Steele (2020) contributed to the literature by explaining the role that fear plays in the attachment system. Specifically, it is suggested that fear surrounding the loss of a loved one or the loss of love is the etiology of anxiety and fear. Informed from prior scholarship (Fonagy et al., 1991) through an attachment framework, an adaptive way to process anxiety is by reflective functioning (Steele, 2020), and employing mentalizing to address fear (Steele & Steele, 2008). It is recommended that with the onset of the pandemic, fear, isolation, and death have been omnipresent and require swift and unanticipated reactions that secure attachment can assist with (Carbajal et al., 2021; Steele, 2020).

Worry and fear have also been associated with substance use during COVID-19 (Rogers et al., 2020), and researchers have suggested that the pandemic might interfere with treatment (Dubey et al., 2020). In a pre-pandemic non-treatment seeking sample, 43.1% used alcohol, 21.0% cigarettes, 12.5% cannabis, 8.8% e-cigarettes, 5.0% stimulants, and 3.1% used opioids. After the onset of the pandemic, those percentages increased by 8.8% who used alcohol, 6.9% cigarettes, 5.0% cannabis, 4.4% e-cigarettes, 5.6% stimulants, and 5.6% opioids (Rogers et al., 2020). Substance use coping motives were related to worrying about COVID-19. Also, pre-pandemic substance users and those who started using after the onset of the pandemic had higher levels of fear and worry compared to abstainers (Rogers et al., 2020). Vos et al. (2021) found that fear of the coronavirus predicted higher anxiety, stress, and depression symptoms.

## NETWORK ANALYSIS

In an extremely large sample, Williamson et al. (2021) used network analysis of non-pandemic potentially traumatic events (PTEs) compared with PTEs related to COVID-19. The sample was drawn from 86 countries; the COVID-19 PTE sample was 1,838 participants and the second PTE sample was 5,196. The non-pandemic PTE sample had events such as earthquakes or floods, physical or sexual assaults or abuse, and serious accidents or fires. Using community detection across both networks, the PTE revealed an

affective and arousal/anxiety grouping, whereas the pandemic network was hypervigilance, avoidance, and nightmares that were significantly related to insomnia and anxiety, which formed their separate community. Also, depersonalizing and derealization formed their own communities in both networks. In the COVID-19 network, depression, worrying, and worthlessness had the highest strength, whereas anger, insomnia, and substance use were the weakest. In the non-pandemic PTE network, depression, worrying, and anxiety had the highest strength, whereas anger, insomnia, and substance had the lowest strength. Concludingly, on the basis of argument, "the current study is the first to assess the network of transdiagnostic stress symptoms in response to COVID-19 and to provide a direct comparison with other PTEs in a global sample" (Williamson et al., 2021, p. 6).

The pandemic has also impacted the family system, and in a network analysis study of depression and parental stress, worthlessness was the most influential node in the network, as evidenced by the centrality indices of expected influence and bridge expected influence (Skjerdingstad et al., 2021). In a separate study using longitudinal network analysis, comparing pre-COVID to the later "lockdown" in the summer of 2020 among older individuals, it was found that social isolation significantly impacted affective symptoms and greater susceptibility to affective disorders (Yu & Mahendran, 2021).

Wang et al. (2020) examined the changes in network centrality between the initial pandemic outbreak and after its peak in a sample of 5,083 Chinese participants. The first sample (*n* = 2,540) was collected over 10 days in February 2020 and the second (*n* = 2,543) in late April and early May of 2020 using a validated measure of depression and generalized anxiety. Strength, betweenness, and bridge centrality showed that impaired motor skills, inability to relax, and restlessness were highest at the outbreak of the pandemic but significantly decreased during and after the peak time period. After the peak of COVID-19, loss of energy and irritability were central to the network. The authors asserted that motor-related symptoms were strong bridge symptoms that might possibly influence depression and generalized anxiety (Wang et al., 2020).

Martín-Brufau et al. (2020) used a sample of 187 Spanish civilians to examine the emotional network structure of 30 mood states over the span of two weeks. They found that anxiety, exhaustion, and unhappiness were strongest, which suggested a deliberate attempt to react to the isolation that COVID-19 imposed. Consequently, the researchers split the sample into adaptive and maladaptive subgroup reactions and analyzed the first couple of days against the last three days. Those who experienced negative moods (loneliness and unhappiness) early in lockdown were

able to adaptively navigate, whereas the individuals who exhibited a positive mood state (interpersonal feelings and pro-social attitudes) worsened as the lockdown progressed (Martín-Brufau et al., 2020).

## IMPACT OF COVID-19 ON FRONTLINE WORKERS

A study early in the pandemic (May–July 2020) in the United Kingdom, Greene et al. (2021) used a large sample (*N* = 1,194) to investigate predictors of PTSD, depression, and generalized anxiety in frontline healthcare and social care workers. In their sample, 22% had PTSD, 46% depression, and 47% generalized anxiety. Almost 58% of their sample had clinically significant PTSD, depression, and/or generalized anxiety (Greene et al., 2021). Among demographic variables, annual income over $60,000 reduced the odds of experiencing depression by 34%, generalized anxiety 47%, and any disorder 40%. Regarding work-related stress, if the employee was unable to tell their supervisor that they were not coping well, it increased the odds of any disorder by 89%, PTSD 104%, depression 78%, and generalized anxiety 51%. Furthermore, having no access to Personal Protective Equipment (PPE) increased the odds of any disorder by 54%, depression 71%, and generalized anxiety 51%. Moreover, having confirmed and suspected COVID-19 increased the odds of any mental health disorder by 51%, "worried about infecting others" 59%, and increased stigma 25% (Greene et al., 2021).

## COVID-19 IMPACT ON VETERANS

Levine and Sher (2021) investigated the prevention of suicide among veterans as related to COVID-19. Given that the pandemic created more isolation, financial difficulties, and unpredictability of duration or intensity of the lockdowns, which are frequently referenced in the veteran literature, we should be mindful and attentive to the suicide rate. The researchers recommended that veterans should remain in treatment and in contact with mental health professionals. They also recommended that veterans remained connected with people they served with through social media, texting, or phone calls. In regard to the prevention of suicide, they recommended reducing access to weapons and the increasing use of gun locks or storing ammunition at a different location (Levine & Sher, 2021).

Na et al. (2021b) examined post traumatic growth (PTG) in response to the pandemic. They were able to show that greater worries about the pandemic, physical health, mental health, new possibilities, and improved relationships were associated with PTG. Those variables, along with avoidance, stress of shift in family dynamics, and social contact accounted for over 80% of the PTG during the pandemic (Na et al., 2021b). They also found that an "inverted U-shaped association was found to best characterize the association between pandemic-related PTSD symptoms and probability of endorsing PTG" (Na et al., 2021b, p. 6).

In a treatment-seeking sample (*N* = 176) of Homeland war veterans from Croatia, Letica-Crepulja et al. (2021) measured self-reported PTSD, trauma exposure, and a coping assessment at two-time points between November 2018–February 2019 to April–May 2020, in which the last data point was during the COVID-19 pandemic. They found that aggregated PTSD scores statistically significantly decreased along with each symptom cluster. Additionally, those in inpatient treatment (*n* = 16), outpatient treatment in a day hospital (*n* = 12), and those receiving outpatient treatment as usual (*n* = 148) showed decreased PTSD scores. However, only inpatient treatment and outpatient treatment, as usual (outpatient attending schedule appointments and medication management), were statistically significantly decreased. Veterans who identified "self-blame" and "substance use" had the lowest coping scores, whereas "self-distraction" and "acceptance" had the highest coping scores which are adaptive (Letica-Crepulja et al., 2021).

Moccia et al. (2020) used the Attachment Style Questionnaire (ASQ) in an Italian sample to study the impact of the pandemic; however, they did not use the attachment secondary strategies (attachment avoidance and attachment anxiety), which can help clinicians conceptualize and possibly anticipate a client's emotional dysregulation (Mikulincer & Shaver, 2016). Additionally, Carbajal et al. (2021), in a study of treatment-seeking first responders, found no statistically significant pre-COVID and during COVID-19 differences on attachment, resilience, depression, generalized anxiety, suicidality, or PTSD. However, the strength of the correlations increased.

Their pre-COVID sample of first responders reported that 15.9% had prior military service whereas in the COVID sample 20.1% endorsed prior service (Carbajal et al., 2021). To the best of our knowledge, there has not been a published study evaluating the impact of the pandemic on a treatment-seeking sample of US veterans before and after the onset of the pandemic at the same civilian outpatient clinic (non-US Department of Defense or US Department of Veteran Affairs clinic). To address this gap in the literature, the research question was: How does COVID-19 influence veterans' attachment avoidance,

attachment anxiety, resilience, depression, generalized anxiety, PTSD, and suicide?

## METHODS

### DATA SOURCE
The data was obtained from a nonprofit mental health agency that provides clinical services for veterans, first responders, frontline healthcare workers, and their families. The data for this study were collected between 2019 and 2021. The data was collected from veteran intake appointments, at which time they completed the standard battery of assessments from the nonprofit organization. For inclusion in this study, participants had to be a veteran, have no missing values in any standardized assessment instruments, and be over the age of 18. This sample was drawn from the same organization that published a study on the impact of COVID-19 on first responders' resilience and attachment (Carbajal et al., 2021). The second author of this manuscript ensured there were no duplicate cases in this study.

### PARTICIPANTS
Participants in the pre-COVID group were veterans ($n = 119$) receiving clinical services at the nonprofit agency prior to March 13, 2020. Males made up the majority of the sample (73.1%), and the mean age was 38.61 years ($SD = 10.34$). The majority self-identified as White 68.9%. Veterans self-reported branch of military service as Coast Guard (0.8%) Army (47.1%), Marine Corps (23.5%), Navy (16.0%), Air Force (11.8%), and multiple branches (0.8%).

Participants in the COVID cohort were veterans ($n = 100$) whose intake appointment at the same health non-profit organization after March 13, 2020. The sample was mostly male (75.0%), predominantly White (66.0%), and the mean age 39.63 years ($SD = 10.55$). Veterans self-reported branch of military service as Army (51.0%), Marine Corps (18.0%), Air Force (18.0%), and the Navy (13.0%). See Table 1.

### PROCEDURE
The sample was divided into two separate categories, pre-COVID and during COVID. For category assignment the cutoff date was chosen to be March 13, 2020, because it was when the US president issued the Proclamation on Declaring a National Emergency Concerning the Novel Coronavirus Disease-19. Veterans who completed an intake appointment between the summer of 2019 to that cutoff date were categorized as pre-COVID, whereas veterans whose appointments were after that date through the

summer of 2021 comprised the during COVID sample. This study was approved by the University of Texas Health Science Center Institutional Review Board (HSC-SPH-20-1264).

### MEASURES
#### Experiences in Close Relationships (ECR)
The Experiences in Close Relationships (ECR) scale was developed by Brennan and colleagues (1998) to assess adult attachment. The ECR is comprised of 36-questions on a Likert scale with responses ranging from 1 (*disagree strongly*) to 7 (*agree strongly*) on two factors, attachment avoidance and attachment anxiety, with mean scores ranging from 1 to 7 and higher scores indicating a greater presence of each construct. The ECR also places respondents into one of four nominal categories: secure, dismissive, preoccupied, and fearful. In the current study, the pre-COVID Cronbach's alpha of the ECR was $\alpha = .92$, and the COVID sample Cronbach's alpha of the ECR was $\alpha = .93$.

#### Response to Stressful Experiences Scale-22 (RSES-22)
Johnson and colleagues (2011) developed the Response to Stressful Experiences Scale (RSES-22), which is a 22-item measure that assesses resilience on a Likert scale with ranges from 0 (*not at all like me*) to 4 (*exactly like me*). It has also been validated on a treatment seeking veteran sample (Prosek et al., 2022). Summed scores range from 0 to 88, with higher scores indicating greater resilience. In the current study, the pre-COVID Cronbach's alpha of the RSES-22 was $\alpha = .93$, and the COVID sample Cronbach's alpha of the RSES-22 was $\alpha = .93$.

#### Patient Health Questionnaire-9 (PHQ-9)
The Patient Health Questionnaire-9 (PHQ-9) was developed by Kroenke and colleagues (2001) to assess depression. The PHQ-9 item level responses range from 0 (*not at all*) to 3 (*nearly every day*), and scores are summed, producing a range between 0 to 27. The higher the score, the greater severity of depression. In the current study, the pre-COVID Cronbach's alpha of the PHQ-9 was $\alpha = .88$, and the COVID sample Cronbach's alpha of the PHQ-9 was $\alpha = .92$.

#### Generalized Anxiety Disorder 7-item (GAD-7)
The Generalized Anxiety Disorder-7 (GAD-7) was developed to screen for Generalized Anxiety Disorder (GAD) (Spitzer et al., 2006). The GAD-7 item-level responses range from 0 (*not at all*) to 3 (*nearly every day*), and aggregated scores range between 0 to 21, in which higher scores indicate greater generalized anxiety. In the current study, the pre-COVID Cronbach's alpha of the GAD-7 was $\alpha = .90$, and the COVID sample Cronbach's alpha of the GAD-7 was $\alpha = .93$.

| CHARACTERISTIC | PRE-COVID (*N* = 119) | DURING COVID (*N* = 100) |
|---|---|---|
| Age (Years) | | |
| Mean | 38.61 | 39.63 |
| Median | 37.00 | 37.00 |
| SD | 10.34 | 10.55 |
| Range | 51 | 54 |
| Time in service (Years) | | |
| Mean | 7.71 | 7.76 |
| Median | 6.00 | 6.00 |
| SD | 6.25 | 5.42 |
| Range | 36.42 | 29.83 |
| Branch of Service *n* (%) | | |
| Air Force | 14(11.8%) | 18(18.0%) |
| Army | 56(47.1%) | 51(51.0%) |
| Coast Guard | 1(0.8%) | -- |
| Marines | 28(23.5%) | 18(18.0%) |
| Navy | 19(16.0%) | 13(13.0%) |
| Multiple branches | 1(0.8%) | -- |
| Gender *n* (%) | | |
| Women | 32(26.9%) | 25(25.0%) |
| Men | 87(73.1%) | 75(75.0%) |
| Ethnicity *n* (%) | | |
| African American/Black | 16(13.4%) | 13(13.0%) |
| Asian American | 1 (0.8%) | 3(3.0%) |
| Hawaiian/Pacific Islander | 1 (0.8%) | -- |
| Latino(a)/Hispanic | 13(10.9%) | 14(14.0%) |
| Multiple Ethnicities | 5(4.4%) | 3(3.0%) |
| Native American | 1(0.8%) | -- |
| Other | -- | 1(1.0%) |
| White | 82(68.9%) | 66(66.0%) |

**Table 1** Demographics of Sample.

### PTSD Checklist-5 (PCL-5)

Blevins and colleagues (2015) developed the PTSD Checklist-5 (PCL-5), which is comprised of 20-questions that are on a Likert scale from 0 (*not at all*) to 4 (*extremely*). Summed scores range from 0 to 80, in which higher scores indicate more severe PTSD symptoms. In the current study, the pre-COVID Cronbach's alpha of the PCL-5 was α = .93, and the COVID sample Cronbach's alpha of the PCL-5 was α = .96.

### Suicidal Behaviors Questionnaire-Revised (SBQ-R)

The Suicidal Behaviors Questionnaire-Revised (SBQ-R) was developed by Osman and colleagues (2001) to screen for suicidality. The four questions are summed with responses ranging from 3 to 18. Higher scores indicate a greater risk of suicide. In the current study, the pre-COVID Cronbach's alpha of the SBQ-R was α = .83, and the COVID sample Cronbach's alpha of the SBQ-R was α = .84.

## DATA ANALYTIC PLAN

Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 27.0. There were no missing values in the pre-COVID or during COVID samples, and all standardized mental health measures met the assumptions of normality (Hair et al., 2010). For the pre-COVID and during COVID samples, we report demographic data, descriptive statistics, ECR nominal attachment categories (secure, dismissive, preoccupied, and fearful), and correlation matrices. Independent samples *t*-tests revealed no statistically significant differences between groups on attachment avoidance (ECR-AVOID), attachment anxiety (ECR-ANX), resilience (RSES-22), and suicidality (SBQ-R). However, the independent sample *t*-tests revealed statistically significant differences between both cohorts on depression (PHQ-9), generalized anxiety (GAD-7), and PTSD (PCL-5). From the independent samples t-tests, we calculated the effect size, as recommended, small (*d* = 0.2), medium (*d* = 0.5), and large (*d* = 0.8) (Cohen, 1988). Lastly, we report the bivariate relationship between the mental health measures for the pre-COVID and COVID groups through correlational analyses.

## RESULTS

### DESCRIPTIVE STATISTICS

The ECR attachment avoidance score for the pre-COVID group (*M* = 3.61) (*SD* = 1.24) and the during COVID group (*M*=3.59) (*SD* = 1.34); there was no statistically significant differences between groups *t*(217) = 0.10, *p* = .92. The ECR attachment anxiety score for the pre-COVID group was (*M* = 3.92) (*SD* = 1.33) and the during COVID group mean was (*M* = 3.90) (*SD* = 1.34); there was no statistically significant differences between groups *t*(217) = 0.13, *p* = .90. The RSES-22 score for the pre-COVID group (*M* = 57.07) (*SD* = 14.62) and the during COVID group (*M* = 58.90) (*SD* = 13.99); there was no statistically significant differences between groups *t*(217) = −0.94, *p* = .35. The SBQ-R score for the pre-COVID group (*M* = 6.76) (*SD* = 4.08) and the during COVID group (*M* = 6.16) (*SD* = 3.51); there were no statistically significant differences between groups *t*(217) = 1.16, *p* = .25. The effect sizes were not significant for ECR-AVOID (*d* = .01, 95% CI [−.25, .28]), ECR-ANX (*d* = .02, 95% CI [−.25, .28]), RSES-22 (*d* = −.13, 95% CI [−.39, .14]), and SBQ-R (*d* = .16, 95% CI [−.11, .42]).

The PHQ-9 score for the pre-COVID group (*M* = 14.93) (*SD* = 6.71) and the during COVID group (*M* = 12.73) (*SD* = 7.65); the differences were statistically significant *t*(217) = 2.27, *p* = .02. The GAD-7 score for the pre-COVID group (*M* = 13.68) (*SD* = 5.63) and the during COVID group (*M* = 11.85) (*SD* = 6.37); the differences were statistically significant *t*(217) = 2.26, *p* = .03. The PCL-5 score for the pre-COVID group (*M* =

45.29) (*SD* = 19.78) and the during COVID group (*M* = 37.99) (*SD* = 21.36); the differences were statistically significant *t*(217) = 2.62, *p* < .01. There were small effect sizes for the PHQ-9 (*d* = .31, 95% CI [.04, .58]), GAD-7 (*d* = .31, 95% CI [.04, .57]), and the PCL-5 (*d* = .36, 95% CI [.09, .62]).

In the pre-COVID group, most participants reported fearful attachment (42.0%; *n* = 50), followed by secure (22.7%; *n* = 27), dismissive (17.6%; *n* = 21), and preoccupied (17.6%; *n* = 21) attachment styles. In the during COVID group, most participants were classified as fearfully attached (43.0%; *n* = 43), followed by secure (22.0%; *n* = 22), preoccupied (21.0%; *n* = 21), and dismissive (14.0%; *n* = 14).

## CORRELATIONAL ANALYSES

Correlational analyses were conducted to examine relationships between demographic variables and attachment, resilience, generalized anxiety, depression, PTSD, and suicidality (See Table 2). In the pre-COVID sample, it was found that there were significant positive correlations between resilience and age (*p* < .05) along with resilience and length of military service (*p* < .01), indicating that as age, years of military service increased, so did resilience. Additionally, it was found that there was significant positive correlation between gender and attachment avoidance (*p* < .05) as well as gender and depression (*p* < .01). This finding indicates that gender was associated with higher attachment avoidance and depression. It was also found that there were significant negative correlations between length of military service and PTSD (*p* < .05). Also indicating a relationship between greater years of service and lower levels of PTSD.

Additionally, in the pre-COVID group attachment avoidance was significantly positively correlated with attachment anxiety (*p* < .05) and PTSD (*p* < .05), indicating that higher levels of attachment avoidance were associated with greater attachment anxiety and PTSD. See Table 2 for pre-COVID mental health correlations. Also, in the pre-COVID group, attachment anxiety was significantly negatively correlated with resilience (*p* < .05). As attachment anxiety increased, resilience decreased. Attachment anxiety was positively correlated with depression (*p* < .01), generalized anxiety (*p* < .05), and PTSD (*p* < .01). Findings indicated that as attachment anxiety increased, so did symptom levels. Furthermore, resilience was significantly negatively correlated with, depression (*p* < .001), generalized anxiety (*p* < .001), PTSD (*p* < .05), and suicidality (*p* < .01). Findings indicated that as resilience increased, these mental health symptoms decreased.

In the during COVID sample there were significant negative correlations between age and attachment anxiety (*p* < .05), whereas it was a positive correlation between military rank and resilience (*p* < .05). Findings indicated that higher age was associated with lower attachment anxiety,

| PRE-COVID (*n* = 119) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **RANK** | **AGE** | **LENGTH** | **GENDER** | **ECR-AVOID** | **ECR-ANX** | **RSES-22** | **PHQ-9** | **GAD-7** | **PCL-5** | **SBQ-R** |
| Rank | 1 | .39*** | .47*** | –.07 | –.09 | –.12 | .18 | –.12 | –.13 | –.14 | –.11 |
| Age | | 1 | .36*** | .02 | .04 | .08 | .20* | –.03 | –.07 | .04 | –.05 |
| Length | | | 1 | –.11 | –.17 | –.16 | .27** | –.16 | –.05 | –.23* | –.10 |
| Gender | | | | 1 | .22* | .10 | –.02 | .24** | .16 | .13 | .05 |
| ECR-AVOID | | | | | 1 | .21* | –.11 | .16 | .12 | .22* | .11 |
| ECR-ANX | | | | | | 1 | –.21* | .26** | .19* | .27** | .16 |
| RSES-22 | | | | | | | 1 | –.30*** | –.32*** | –.23* | –.24** |
| PHQ-9 | | | | | | | | 1 | .83*** | .75*** | .34*** |
| GAD-7 | | | | | | | | | 1 | .68*** | .29** |
| PCL-5 | | | | | | | | | | 1 | .28** |
| SBQ-R | | | | | | | | | | | 1 |
| COVID (*n* = 100) | | | | | | | | | | | |
| Rank | 1 | .33** | .77*** | –.19 | –.21 | –.15 | .22* | –.30** | –.19 | –.27** | –.22* |
| Age | | 1 | .35*** | –.11 | –.02 | –.22* | .20 | –.12 | –.16 | –.14 | –.11 |
| Length | | | 1 | –.22* | –.19 | –.12 | .13 | –.35*** | –.21* | –.25* | –.15 |
| Gender | | | | 1 | .09 | .09 | –.07 | .03 | .05 | .14 | .07 |
| ECR-AVOID | | | | | 1 | .31** | –.32*** | .45*** | .35*** | .40*** | .25* |
| ECR-ANX | | | | | | 1 | –.38*** | .30** | .38*** | .36*** | .26** |
| RSES-22 | | | | | | | 1 | –.44*** | –.41*** | –.40*** | –.38*** |
| PHQ-9 | | | | | | | | 1 | .83*** | .80*** | .47*** |
| GAD-7 | | | | | | | | | 1 | .81*** | .41*** |
| PCL-5 | | | | | | | | | | 1 | .47*** |
| SBQ-R | | | | | | | | | | | 1 |

**Table 2** Pre-COVID-19 and During COVID-19 Mental Health Assessment Correlations.

*Note*: Length = Length of military service, Gender (male = 0, female = 1); ECR-AVOID = Experiences in Close Relationships avoidant secondary strategy; ECR-ANX = Experiences in Close Relationships anxiety secondary strategy; RSES-22 = Response to Stressful Experiences Scale; PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder-7; PCL-5 = PTSD Checklist-5; SBQ-R = Suicide Behaviors Questionnaire-Revised. * <.05, ** <.01, *** <.001.

whereas higher rank was associated with increased resilience. In addition, we uncovered significant negative correlations between relationship length with their significant other and attachment anxiety $r(100) = –.33$, $p < .01$. As the length of the relationship increased attachment anxiety decreased. There were negative correlations found between length of military service and depression ($p < .001$), generalized anxiety ($p < .05$), and PTSD ($p < .05$), such that as years of military service increased, depression, generalized anxiety, and PTSD decreased.

Furthermore, in the during COVID cohort attachment avoidance was significantly positively correlated with attachment anxiety ($p < .01$), depression ($p < .001$), generalized anxiety ($p < .001$), PTSD ($p < .001$), and suicidality ($p < .05$) (See Table 2). Findings indicated that as attachment avoidance increased during COVID, so did attachment anxiety. Also, as attachment avoidance increased, it was related to greater symptoms of depression, generalized anxiety, PTSD, and sucidality. Additionally, in the during COVID cohort, attachment anxiety was significantly positively correlated with depression ($p < .01$), generalized anxiety ($p < .001$), PTSD ($p < .001$), and suicidality ($p < .01$). However, there was an inverse relationship between attachment anxiety and resilience ($p < .001$). Lastly, in the during COVID cohort, resilience was significantly negatively correlated with depression ($p < .001$), generalized anxiety

($p$ < .001), PTSD ($p$ < .001), attachment anxiety ($p$ < .001), and suicidality ($p$ < .001). Similar to the pre-COVID group, as resilience increased, these mental health symptoms decreased.

## DISCUSSION

The guiding research question for this study was: How does COVID-19 influence veterans' attachment avoidance, attachment anxiety, resilience, depression, generalized anxiety, PTSD, and suicide? Unexpectedly, depression, generalized anxiety, and PTSD self-reported symptom levels significantly decreased from pre-COVID to after the start of the pandemic. There were no statistically significant differences on attachment avoidance, attachment anxiety, resilience, or suicide scores. To the best of our knowledge, this is the first study to examine assessments collected at baseline before and after the onset of COVID-19 using a US veteran treatment-seeking sample at a civilian outpatient clinic. In this section, we will interpret the findings through the theoretical frameworks of negative affect, attachment, and resilience. We will also explore evidence-informed clinical recommendations for a transdiagnostic approach to therapy while in the COVID-19 pandemic.

### NEGATIVE AFFECT (GAD-7, PHQ-9, PCL-5)
Since the publication of the *Diagnostic and Statistical Manual of Mental Disorders-5* (DSM-5), there has been debate regarding the common underpinnings of GAD, Major Depressive Disorder (MDD), and PTSD (Byllesby et al., 2016; Price & van Stolk-Cooke, 2015; Seligowski et al., 2016). These results might help propel that conception further. All three significantly decreased from pre-COVID-19 to the onset of it. However, the magnitude of the association (correlation) increased and had small effect sizes. Level of distress seems to have been equally spread across these constructs. This finding might suggest that there is a common latent construct driving the changes among these variables. Some scholars assert that negative affect undergirds a 7-factor model when examining the interrelatedness of the PCL-5, GAD-7, and PHQ-9 (Byllesby et al., 2016; Price & van Stolk-Cooke, 2015). In a recent dynamic network analysis, researchers found that negative emotions such as fear and sadness had the highest bridge-out strength (Greene et al., 2020).

### ATTACHMENT (ECR)
The findings of attachment in this veteran sample are consistent with Carbajal et al. (2021) in that there were no statistically significant differences in first responder attachment avoidance and attachment anxiety before or after the onset of COVID-19. A divergent finding is that

attachment avoidance and attachment anxiety were closely correlated with the same variables except for depression and PTSD. However, the relationship between attachment avoidance and depression is well documented, and researchers purport that a hallmark of being securely attached might be conceptually consistent with being resilient (Mikulincer & Shaver, 2016; Rasmussen et al., 2019). In a sample of Italian civilians, Moccia et al. (2020), found that 38% of their sample experienced psychological distress, but, "the majority of subjects in our sample displayed no relevant distress" (p. 77). Our results seem corroborative to their findings.

### RESILIENCE (RSES-22)
Our study uncovered interesting findings on how the construct of resilience interacted with the other assessments. The impact of resilience was remarkably close on the three scales measuring depression, generalized anxiety, and PTSD. In a recent network analysis of first responders, resilience was upstream from suicide in the directed acyclic graph (DAG; Ponder et al., 2023). In light of their preliminary findings and in conjunction with the present study, this might suggest we need to alter our construction of resilience. In a theoretical article early in the pandemic, PeConga and colleagues (2020) suggested that resilience might be best conceptualized as an outcome of a traumatic experience such as COVID-19. Furthermore, Ponder et al. (2023) asserted that *applied* or *activated* resilience buffers adverse events. In keeping with the conceptualization of resilience as a trauma outcome, we observed a common undercurrent, negative affect (See Table 2), with a minimal difference in correlation strength between PTSD, generalized anxiety, and depression. Therefore, we also concluded that resilience emerges in situations of adversity.

### CLINICAL IMPLICATIONS
Boden et al. (2021) recommended that a systematic approach be used to thwart, identify, and effectively intervene with groups susceptible to developing PTSD. Similarly, Sekowski et al. (2021) recommended that clinicians be cognizant of the potential development of PTSD, screen those diagnosed with COVID-19 up to six months out, be aware and able to practice evidenced-based modalities, and that PTSD symptoms can affect their family system. Using network analysis, Vos et al. (2021) found that "depressive symptoms play a central role in the association of fear of COVID-19, emotional distress, and positive personality traits" (p. 7). Another cross-sectional network analysis indicated that "one's perceived ability to tolerate distress, use of unhelpful coping behaviors, and depressive symptoms are highly connected, and likely relate to each other in an interactive way" (Lass et al., 2020, p. 1086).

Godara et al. (2021) published a guide that future scholars can use to understand the differing effects of socio-emotional and mindfulness-based interventions delivered in an online format that was an extension of the ReSource project (Singer et al., 2016). Specifically, the intervention would be a total of nine months consisting of three intervention groups: socio-emotional training, mindfulness-based training, and a retest control group. The chosen participants received the intervention for 10 weeks and were administered the initial post-test data point. The socio-emotional intervention includes the affect dyad, which is a dyadic exercise conducted daily for 10 minutes. The mindfulness-based online group's core feature included breathing meditation lasting for 12 minutes per day. Godara and colleagues (2021) expected both intervention groups to significantly improve psychological resilience. Following, the participants are measured immediately after the intervention and at two post-test data points. They used self-report assessments, behavioral analyses, ecological momentary assessment (EMA), along with biomarkers such as hormonal and epigenetic markers via the participants' saliva (Godara et al., 2021).

O'Donnell et al. (2021) recently published a randomized controlled trial of the Unified Protocol (UP). The protocol focuses on the interrelatedness of PTSD, generalized anxiety, and depression through 16 weekly sessions over the course of eight modules (Barlow et al., 2017). The outcomes were evidenced by significant reductions in PTSD (Hedges' $g$ = 1.27), depression (Hedges' $g$ = 1.40), and generalized anxiety (Hedges' $g$ = 1.20) as compared to treatment as usual. At the 6-month follow-up data point, there was a statistically significant loss of agoraphobia, major depressive episode, and PTSD diagnoses for those who completed the UP, whereas the treatment as a usual group did not (O'Donnell, et al., 2021).

It should be noted that the impact of the pandemic has altered the way therapeutic services are offered, as mental health professionals can also experience burnout which affects the quality of service delivered (Cassiello-Robbins et al., 2021). Informed by Gros et al. (2013), telehealth recommendations that should be taken into consideration are treatment site, communication style adjustments, and treatment protocol adjustments. There are recommendations for each specific module that should be taken into consideration: (a) motivational enhancement, (b) psychoeducation, (c) mindful emotion awareness, (d) cognitive flexibility, (e) countering emotional behaviors, (f) awareness and tolerance of physical sensations, (g) emotion exposure, and (h) relapse prevention (Cassiello-Robbins et al., 2021). They also provided examples of emotional behaviors (overt avoidance, subtle behavioral avoidance, cognitive avoidance, safety signals, and emotion-driven behavior) with an accompanying description, a pandemic example, and an alternative action (Cassiello-Robbins et al., 2021).

## LIMITATIONS AND FUTURE RESEARCH

Strengths of this study include an ethnically diverse sample, with each branch of the military being proportionately represented, and the use of six mental health measures. An important study limitation is that due to the cross-sectional nature of the design, the authors could only detect associations rather than predictions or direction of effects. It is unknown if these baseline scores impacted treatment trajectories, such as at session six, twelve, or endpoint assessments. For example, low resilience could be postulated as a risk factor for the development of PTSD. Also, the authors were unable to determine if members in this sample have forwardly deployed in support of the GWOT. Future researchers should replicate this design and methodology in a non-treatment-seeking sample. Also, we recommend future researchers include a measure assessing affect in conjunction with the GAD-7, PHQ-9, and PCL-5. The Positive and Negative Affect Schedule (PANAS), is a brief, reliable, and valid assessment recently used in dynamic network analysis (Greene et al., 2020), that would be useful in this regard.

## CONCLUSION

This study adds to the growing body of literature that suggests negative affect might be propelling PTSD, depression, and generalized anxiety together. In this study, we found that even though all three constructs decreased from pre-COVID-19 to after its onset, seems to be further evidence of negative affect. Furthermore, the only significant effect sizes were on PTSD, depression, and generalized anxiety, as they all had similar small effect sizes. There was approximately the same percentage of veterans who were classified as secure and fearful attachment styles. However, there was a decrease from pre-COVID-19 to after its onset for dismissive attachment, whereas there was an increase in veterans with preoccupied attachment styles. Lastly, given the findings between pre-COVID-19 and after the onset of the pandemic, this study adds to the growing body of literature of how resilience can be *applied* or *activated* in periods of emotional distress.

## ETHICS AND CONSENT

The data set is not available because these clients are currently in treatment. Though they signed an informed consent for both clinical and research, it might be harmful to the therapeutic alliance and trust they have in our organization.

## COMPETING INTERESTS

The authors have no competing interests to declare.

## AUTHOR AFFILIATIONS

**Jeremy B. Mallory**
Texas Tech University, US

**Warren N. Ponder** orcid.org/0000-0002-9316-8974
Director of Outcomes and Evaluation, One Tribe Foundation,
Fort Worth, Texas, US

**Tempa Sherrill**
Meadows Mental Health Policy Institute, US

**Jose Carbajal**
Stephen F. Austin State University, US

**Donna L. Schuman** orcid.org/0000-0001-9340-3121
University of Texas at Arlington, US

**Katelyn K. Jetelina** orcid.org/0000-0002-3317-3296
University of Texas Health Science Center at Houston (UT Health), US

**Justin Stafford**
Texas Tech University, US

## REFERENCES

Barlow, D. H., Farchione, T. J., Sauer-Zavala, S., Latin, H. M., Ellard, K. K., Bullis, J. R., Bentley, K. H., Boettcher, H. T., & Cassiello-Robbins, C. (2017). *Unified protocol for transdiagnostic treatment of emotional disorders: Therapist guide* (2nd ed.). Oxford University Press. DOI: https://doi.org/10.1093/med-psych/9780190685973.001.0001

Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The Posttraumatic Stress Disorder Checklist for *DSM-5* (PCL-5): Development and initial psychometric evaluation. *Journal of Traumatic Stress, 28*(6), 489–498. DOI: https://doi.org/10.1002/jts.22059

Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*, 20–28. DOI: https://doi.org/10.1037/0003-066X.59.1.20

Bonanno, G. A., Ho, S. M. Y., Chan, J. C. K., Kwong, R. S. Y., Cheung, C. K. Y., Wong, C. P. Y., & Wong, V. C. W. (2008). Psychological resilience and dysfunction among hospitalized survivors of the SARS epidemic in Hong Kong: A latent class approach. *Heath Psychology, 27*, 659–667. DOI: https://doi.org/10.1037/0278-6133.27.5.659

Boden, M., Zimmerman, L., Azevedo, K. J., Ruzek, J. I., Gala, S., Magid, H. S., Cohen, N., Walser, R., Mahtani, N., Hoggatt, K. J., & McLean, C. P. (2021). Addressing the mental health impact of COVID-19 through population health. *Clinical Psychology Review, 85*, 102006. DOI: https://doi.org/10.1016/j.cpr.2021.102006

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson, & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). The Guilford Press.

Byllesby, B. M., Charak, R., Durham, T. A., Wang, X., & Elhai, J. D. (2016). The underlying role of negative affect in the association between PTSD, major depressive disorder, and generalized anxiety disorder. *Journal of Psychopathology and Behavioral Assessment, 38*(4), 655–665. DOI: https://doi.org/10.1007/s10862-016-9555-9

Carbajal, J., Ponder, W. N., Whitworth, J., Schuman, D. L., & Galusha, J. M. (2021). The impact of COVID-19 on first responders' resilience and attachment. *Journal of Human Behavior in the Social Environment,* 1–17. DOI: https://doi.org/10.1080/10911359.2021.1962777

Cassiello-Robbins, C., Rosenthal, M. Z., & Ammirati, R. J. (2021). Delivering transdiagnostic treatment over telehealth during the COVID-19 pandemic: Application of the Unified Protocol. *Cognitive and Behavioral Practice, 28*, 555–572. DOI: https://doi.org/10.1016/j.cbpra.2021.04.007

Chen, S., & Bonanno, G. A. (2020). Psychological adjustment during the global outbreak of COVID-19: A resilience perspective. *Psychological Trauma: Theory, Research, Practice, and Policy, 12*(S1), S51–S55. Advance online publication. DOI: https://doi.org/10.1037/tra0000685

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Routledge Academic.

Dubey, M.J., Ghosh, R., Chatterjee, S., Biswas, P., Chatterjee, S., & Dubey, S. (2020). COVID-19 and addiction. *Diabetology & Metabolic Syndrome, 14*, 817–823. DOI: https://doi.org/10.1016/j.dsx.2020.06.008

Ebrahimi, O. V., Burger, J., Hoffart, A., & Johnson, S. U. (2021). Within- and across-day patters of interplay between depressive symptoms and related psychopathological processes: a dynamic network approach during the COVID-19 pandemic. *BMC Medicine, 19,* 317. DOI: https://doi.org/10.1186/s12916-021-02179-y

Fonagy, P., Steele, M., Steele, H., Moran, G., & Higgitt, A. (1991) The capacity for understanding mental states: The reflective self in parent and child and its significance for security of attachment. *Infant Mental Health Journal, 12,* 201–218. DOI: https://doi.org/10.1002/1097-0355(199123)12:3<201::AID-IMHJ2280120307>3.0.CO;2-7

Godara, M., Silveira, S., Matthaus, H., Heim, C., Voelkle, M., Hecht, M., Binder, E. B., & Singer, T. (2021). Investigating differential effects of socio-emotional and mindfulness-based online interventions on mental health, resilience and social capacities during the COVID-19 pandemic: The study protocol. *PLoS ONE 16*(11), 256–323. DOI: https://doi.org/10.1371/journal.pone.0256323

Greene, T., Gelkopf, M., Fried, E. I., Robinaugh, D. J., & Pickman, L. L. (2020) Dynamic network analysis of negative emotions

and DSM-5 Posttraumatic Stress Disorder symptom clusters during conflict. *Journal of Traumatic Stress, 33*, 72–83. DOI: https://doi.org/10.1002/jts.22433

**Greene, T., Harju-Seppanen, J., Adeniji, M., Steel, C., Grey, N., Brewin, C. R., Bloomfield, M. A.,** & **Billings, J.** (2021). Predictors and rates of PTSD, depression and anxiety in UK frontline health and social care workers during COVID-19. *European Journal of Psychotraumatology, 12*, 1882781. DOI: https://doi.org/10.1080/20008198.2021.1882781

**Gros, D. F., Morland, L. A., Greene, C. J., Acierno, R., Strachan, M., Egede, L. E., Tuerk, P. W., Myrick, H.,** & **Frueh, B. C.** (2013). Delivery of evidence-based psychotherapy via video telehealth. *Journal of Psychopathology and Behavioral Assessment, 35*(4), 506–521. DOI: https://doi.org/10.1007/s10862-013-9363-4

**Hair, J., Black, W. C., Babin, B. J.,** & **Anderson, R. E.** (2010). *Multivariate data analysis* (7th ed.). Pearson Education International.

**Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I.,** & **Koffman, R. L.** (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine, 351*, 13–22. DOI: https://doi.org/10.1056/NEJMoa040603

**Johnson, D. C., Polusny, M. A., Erbes, C. R., King, D., King, L., Litz, B. T., Schnurr, P. P., Friedman, M., Pietrzak, R. H.,** & **Southwick, S. M.** (2011). Development and initial validation of the Response to Stressful Experiences Scale. *Military Medicine, 176*(2), 161–169. DOI: https://doi.org/10.7205/MILMED-D-10-00258

**Kalisch, R., Baker, D. G., Basten, U., Boks, M. P., Bonanno, G. A., Brummelman, E., Chmitorz, A., Fernàndez, G., Fiebach, C. J., Galatzer-Levy, I., Geuze, E., Groppa, S., Helmreich, I., Hendler, T., Hermans, E. J., Jovanovic, T., Kubiak, T., Lieb, K., Lutz, B.,** & **Kleim, B.** (2017). The resilience framework as a strategy to combat stress-related disorders. *Nature Human Behaviour, 1*(11), 784–790. DOI: https://doi.org/10.1038/s41562-017-0200-8

**Knowles, K. A., Sripada, R. K., Defever, M.,** & **Rauch, S. A. M.** (2019) Comorbid mood and anxiety disorders and severity of posttraumatic stress disorder symptoms in treatment-seeking veterans. *Psychological Trauma: Theory, Research, Practice, and Policy, 11*(4), 451–458. DOI: https://doi.org/10.1037/tra0000383

**Kroenke, K., Spitzer, R. L.,** & **Williams, J. B. M.** (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*, 606–613. DOI: https://doi.org/10.1046/j.1525-1497.2001.016009606.x

**Lass, A. N., Winder, E. S., Collins, A. C.,** & **Rokke, P. D.** (2020). The associations among distress tolerance, unhelpful coping behaviors, and symptoms of depression: A network analysis. *Cognitive Therapy and Research, 44*, 1077–1090. DOI: https://doi.org/10.1007/s10608-020-10131-2

**Letica-Crepulja, M., Stevanović, A., Grković, J., Rončević-Gržeta, I., Jovanović, N.,** & **Frančišković, T.** (2021). Posttraumatic stress disorder symptoms and coping with the lockdown among help-seeking veterans before and during the COVID-19 pandemic. *Croatian Medical Journal, 62*, 241–249. DOI: https://doi.org/10.3325/cmj.2021.62.241

**Levine, J.,** & **Sher, L.** (2021) The prevention of suicide among military veterans during the COVID-19 pandemic. *European Archives of Psychiatry and Clinical Neuroscience, 271*, 405–406. DOI: https://doi.org/10.1007/s00406-020-01217-9

**Martín-Brufau, R., Suso-Ribera, C.,** & **Corbalán, J.** (2020). Emotion network analysis during COVID-19 Quarantine—A longitudinal study. *Frontiers in Psychology, 11*, 559–572. DOI: https://doi.org/10.3389/fpsyg.2020.559572

**Mikulincer, M.,** & **Shaver, P. R.** (2016). *Attachment in adulthood: Structure, dynamics, and change* (2nd Ed.). The Guilford Press.

**Moccia, L., Janiri, D., Pepe, M., Dattoli, L., Molinaro, M., De Martin, V., Chieffo, D., Janiri, L., Fiorillo, A., Sani, G.,** & **Di Nicola, M.** (2020). Affective temperament, attachment style, and the psychological impact of the COVID-19 outbreak: An early report on the Italian general population. *Brain, Behavior, and Immunity, 87*, 75–79. DOI: https://doi.org/10.1016/j.bbi.2020.04.048

**Na, P. J, Tsai, J., Hill, M. L., Nichter, B., Norman, S. B., Southwick, S. M.,** & **Pietrzak, R. H.** (2021a). Prevalence, risk and protective factors associated with suicidal ideation during the COVID-19 pandemic in US military veterans with pre-existing psychiatric conditions. *Journal of Psychiatric Research, 137*, 351–359. DOI: https://doi.org/10.1016/j.jpsychires.2021.03.021

**Na, P. J, Tsai, J., Southwick, S. M.,** & **Pietrzak, R. H.** (2021b). Factors associated with post-traumatic growth in response to the COVID-19 pandemic: Results from a national sample US military veterans. *Social Science & Medicine, 289*, 114409. DOI: https://doi.org/10.1016/j.socscimed.2021.114409

**O'Donnell, M. L., Lau, W., Chisholm, K., Agathos, J., Little, J., Terhaag, S., Brand, R., Putica, A., Holmes, A. C. N., Katona, L., Felmingham, K. L., Murray, K., Hosseiny, F.,** & **Gallagher, M. W.** (2021). A pilot study of the efficacy of the unified protocol for transdiagnostic treatment of emotional disorders in treating posttraumatic psychopathology: A randomized controlled trial. *Journal of Traumatic Stress, 34*(3), 563–574. DOI: https://doi.org/10.1002/jts.22650

**Osman, A., Bagge, C. L., Gutierrez, P. M., Konick, L. C., Kopper, B. A.,** & **Barrios, F. X.** (2001). The Suicidal Behaviors Questionnaire–Revised (SBQ-R): Validation with clinical and nonclinical samples. *Assessment, 8*, 443–454. DOI: https://doi.org/10.1177/107319110100800409

**PeConga, E. K., Gauthier, G. M., Holloway, A., Walker, R. S. W., Rosencrans, P. L., Zoellner, L. A.,** & **Bedard-Gilligan, M.** (2020). Resilience is spreading: Mental health within the COVID-19 pandemic. *Psychological Trauma: Theory, Research,*

*Practice, and Policy, 12*(S1), S47–S48. DOI: https://doi.org/10.1037/tra0000874

**Ponder, W. N., Walters, K., Simons, J., Simons, R., Jetelina, K. K.,** & **Carbajal, J.** (2023). Network analysis of distress, suicidality, and resilience in a treatment seeking sample of first responders. *Journal of Affective Disorders*, *320*, 742–750. https://doi.org/10.1016/j.jad.2022.09.097

**Price, M.,** & **van Stolk-Cooke, K.** (2015). Examination of the interrelations between the factors of PTSD, major depression, and generalized anxiety disorder in a heterogeneous trauma-exposed sample using DSM 5 criteria. *Journal of Affective Disorders, 186*, 149–155. DOI: https://doi.org/10.1016/j.jad.2015.06.012

**Prosek, E. A., Ponder, W. N.,** & **Ahmadi, A.** (2022). Validation of the adapted to response to stressful experiences scale, *Military Psychology*, 1–6. DOI: https://doi.org/10.1080/08995605.2022.2030641

**Rasmussen, P. D., Storebø, O. J., Løkkeholt, R., Voss, L G., Shmueli-Goetz, Y., Bojeson, A. B., Simonsen, E.,** & **Bilenberg, N.** (2019). Attachment as a core feature of resilience: A systematic review and meta-analysis. *Psychological Reports, 122*(4), 1259–1296. DOI: https://doi.org/10.1177/0033294118785577

**Rogers, A. H., Shepherd, J. M., Garey, L.,** & **Zvolensky, M. J.** (2020). Psychological factors associated with substance use initiation during the COVID-19 pandemic. *Psychiatric Research, 293*, 113407. DOI: https://doi.org/10.1016/j.psychres.2020.113407

**Sekowski, M., Gambin, M., Hansen, K., Holas, P., Hyniewska, S., Wyszomirska, J., Pluta, A., Sobanska, M.,** & **Łojek, E.** (2021). Risk of developing post-traumatic stress disorder in severe COVID-19 survivors, their families and frontline healthcare workers: What should mental health specialists prepare for? *Frontiers in Psychiatry 12*, 562899. DOI: https://doi.org/10.3389/fpsyt.2021.562899

**Seligowski, A. V., Rogers, A. P.,** & **Orcutt, H. K.** (2016). Relations among emotion regulation and DSM-5 symptom clusters of PTSD. *Personality and Individual Differences, 92*(1), 104–108. DOI: https://doi.org/10.1016/j.paid.2015.12.032

**Shahan, K., Ponder, W. N., Malthaner, L. A., Jetelina, K. K., Schuman, D. L.,** & **Carbajal, J.** (2022). Resilience measured as an outcome variable in a sample of emergency medical service (EMS) professionals. *Abuse: An International Impact Journal, 3*(1), 12–21. DOI: https://doi.org/10.37576/abuse.2022.028

**Singer, T., Kok, B. E., Bornemann, B., Zuborg, S., Bolz, M.,** & **Bochow, C. A.** (2016). *The ReSource project: Background,*

*design, samples, and measurements* (2nd ed.). Max Planck Institute for Human Cognitive and Brain Sciences.

**Skjerdingstad, N., Johnson, M. S., Johnson, S. U., Hoffart, A.,** & **Ebrahimi, O. V.** (2021). Feelings of worthlessness links depressive symptoms and parental stress: A network analysis during the COVID-19 pandemic. *European Psychiatry, 64*(1), e50, 1–10. DOI: https://doi.org/10.1192/j.eurpsy.2021.2223

**Spitzer, R., L., Kroenke, K., Williams, J. B.,** & **Loew, B.** (2006) A brief measure for assessing generalized anxiety disorder (The GAD-7). *Archives of Internal Medicine, 166*(10), 1092–1097. DOI: https://doi.org/10.1001/archinte.166.10.1092

**Steele, H.** (2020). COVID-19, Fear and the future: An attachment perspective. *Clinical Neuropsychiatry, 17*(2), 97–99. https://doi.org/10.36131/CN20200213

**Steele, H.,** & **Steele, M.** (2008). On the origins of reflective functioning. In F. Busch (Ed). *Mentalization: Theoretical considerations, research findings, and clinical implications* (Psychoanalytic Inquiry Book Series, 29, pp 133–158). Analytic Books.

**Vos, L. W. M., Habibovic, M., Nyklícek, I., Smeets, T.,** & **Mertens, G.** (2021). Optimism, mindfulness, and resilience as potential protective factors for the mental health consequences of fear of the coronavirus. *Psychiatry Research, 300*, 113927. DOI: https://doi.org/10.1016/j.psychres.2021.113927

**Wang, Y., Hu, Z., Feng, Y., Wilson, A.,** & **Chen, R.** (2020). Changes in network centrality of psychopathology symptoms between the COVID-19 outbreak and after peak. *Molecular Psychiatry, 25*, 3140–3149. DOI: https://doi.org/10.1038/s41380-020-00881-6

**Williamson, E. R., Hoeboer, C. M., Primasari, I., Qing, Y., Coimbra, B. M., Hovnanyan, A., Grace, E.,** & **Olff, M.** (2021). Symptom networks of COVID-19-related versus other potentially traumatic events in a global sample. *Journal of Anxiety Disorders, 84*, 102476. DOI: https://doi.org/10.1016/j.janxdis.2021.102476

**Yu, J.,** & **Mahendran, R.** (2021). COVID-19 lockdown has altered the dynamics between affective symptoms and social isolation among older adults: Results from a longitudinal network analysis. *Scientific Reports, 11*, 14739. DOI: https://doi.org/10.1038/s41598-021-94301-6

**Zhang, X., Jiang, X., Ni, P., Li, H., Li, C., Zhou, Q., Ou, Z., Guo, Y.,** & **Cao, J.** (2021). Association between resilience and burnout of front-line nurses at the peak of the COVID-19 pandemic: Positive and negative affect as mediators in Wuhan. *International Journal of Mental Health Nursing, 30*, 939–954. DOI: https://doi.org/10.1111/inm.12847

*Journal of Veterans Studies* is a peer-reviewed open access journal published by VT Publishing.

VIRGINIA TECH.
PUBLISHING