Resilience in the Face of the COVID-19 Pandemic: A National Study of US Military Veterans

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The coronavirus disease 2019 (COVID-19) pandemic has presented significant mental health challenges, particularly among vulnerable populations.[1] For example, in military veterans with preexisting psychiatric histories, COVID-related stressors have been linked to an exacerbation of major depressive disorder (MDD), generalized anxiety disorder (GAD), and posttraumatic stress symptoms (PTSS).[2]

To date, research on the psychological impact of the COVID-19 pandemic has largely focused on negative outcomes. This is surprising, however, given that *psychological resilience*—defined as minimal psychopathology in the face of high pandemic-related stressors—is the modal response to trauma.[3] Identification of factors associated with resilience to pandemic-related stressors is critical to informing therapeutic efforts to assist veterans and other vulnerable populations in coping more effectively with the pandemic. Thus, we sought to quantify resilience to pandemic-related distress and identify factors associated with greater resilience in a national cohort of US veterans.

Methods

We analyzed data from a nationally representative, prospective cohort of US veterans who participated in the 2019–2020 National Health and Resilience in Veterans Study. Of the participants, 4,069 completed a baseline assessment prior to the first documented COVID-19 case in the United States (median completion date: November 21, 2019), and 3,078 (75.6%) completed a 1-year follow-up during the fall/winter surge in the United States prior to vaccine availability for the general public (median completion date: November 14, 2020; see Supplementary Material).

A brief version of the PTSD Checklist for *DSM-5*[4] was administered to assess pandemic-related PTSS, and the Patient Health Questionnare-4[5] was used to assess MDD and GAD symptoms. A multiple regression analysis was conducted to regress a composite measure of these symptoms on several pandemic-related stressors (see Supplementary Material); residual scores were then computed and inverted so that higher scores reflected greater resilience to pandemic-related stressors. A second regression analysis was then conducted to identify factors associated with greater resilience.[6]

Results

A total of 614 veterans (22.9%) screened positive for COVID-19–related PTSS (n = 395, 12.8%), GAD (n = 241, 10.3%), and/or MDD (n = 225, 9.5%). Among veterans in the highest tertile of COVID-19–related stressors (n = 966), 627 (63.5%) did not screen positive for any of the 3 disorders assessed.

Table 1 shows sample characteristics and results of analyses of factors associated with resilience scores. Relative importance analyses showed that greater pre-pandemic loneliness and positive screens for MDD and/or PTSD were most strongly negatively associated with resilience scores, whereas pre-pandemic mindfulness and purpose in life were most strongly positively associated with this outcome.

Discussion

Approximately two-thirds of US veterans who reported high severity of pandemic-related stressors were psychologically resilient nearly 1 year into the pandemic. This finding extends prior work on the psychological impact of the pandemic[1,2] to suggest that the majority of US veterans highly exposed to pandemic-related stressors manifest resilience. One interpretation of this finding is that military training and acquisition of adaptive coping skills in managing prior stressors may help bolster resilience to pandemic-related stressors.

Pre-pandemic loneliness, MDD/PTSD, mindfulness, and purpose in life were most strongly associated with resilience, suggesting that preexisting vulnerability factors, as well as resilience-promoting factors, may help shape psychological adaptation to the pandemic. Pre-pandemic loneliness, which was deemed a "behavioral epidemic" even prior to the pandemic,[7] was the strongest predictor of resilience, thus underscoring the importance of targeting loneliness as part of prevention and treatment efforts. Further, purpose in life and mindfulness, which have been linked to improved regulation of the stress response[8] and are modifiable,[9] may

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Table 1. Sample Characteristics and Results of the Multivariable Regression Model Examining the Association Between Pre-Pandemic Risk Factors and Pandemic-Related Correlates of Psychological Resilience in US Military Veterans[a]

Variable	Sample	Bivariate Association With Psychological Resilience, *r*	Multivariable Model of Factors Associated With Psychological Resilience[b] ($R^2 = 0.29$), β
Background and pre-pandemic			
Age	63.3 (14.7)	0.18***	0.06**
Male sex	2,730 (91.6)	0.02	…
White, non-Hispanic race/ethnicity	2,541 (79.3)	0.00	…
College graduate or higher education	1,407 (34.2)	0.01	…
Married/partnered	2,220 (74.0)	0.04*	−0.06**
Retired	1,733 (46.8)	0.06***	−0.01
Household income > $60,000	1,851 (60.8)	0.07***	−0.01
Combat veteran	1,051 (35.4)	−0.08***	−0.04*
≥ 10 years in military	1,132 (36.5)	−0.06**	−0.05*
Positive effect of military on life	2.0 (1.4)	0.15***	0.01
Adverse childhood experiences	1.4 (1.9)	−0.18***	0.01
Some lifetime traumas	8.9 (8.3)	−0.06**	0.10***
Physical health difficulties	0 (1.0)	−0.24***	−0.07***
Physical exercise	34.2 (40.4)	−0.01	…
MDD and/or PTSD	591 (22.3)	−0.38***	−0.16***
Alcohol and/or drug use disorder	1,265 (42.5)	−0.16***	−0.03
Mental health treatment	908 (22.9)	−0.31***	−0.09***
Loneliness	4.6 (1.8)	−0.38***	−0.12***
Mindfulness	5.1 (1.1)	0.32***	0.09***
Protective psychosocial characteristics	0 (1.0)	0.41***	0.17***
Positive expectations regarding aging	7.3 (1.8)	0.20***	0.08***
Social connectedness	0 (1.0)	0.33***	0.02
Religiosity/spirituality	0 (1.0)	0.10***	−0.01
Altruism	0 (1.0)	0.20***	0.03
PTG: Appreciation of life	3.2 (2.9)	0.10***	0.05*
PTG: Relating to others	2.3 (2.7)	0.11***	0.01
PTG: Personal strength	3.5 (3.1)	0.01	…
PTG: Spiritual changes	2.5 (3.1)	0.02	…
PTG: New possibilities	2.4 (2.8)	0.01	…
Pre- to peri-pandemic changes			
Change in household income	0 (2.1)	−0.06**	−0.05**
Change in protective psychosocial characteristics	0 (0.7)	−0.01	…
Change in perceived social support	−0.3 (4.4)	−0.06**	0.05**
Change in loneliness	−0.1 (1.3)	−0.01	…

[a]Data are presented as weighted mean (SD) or n (weighted %).
[b]Planned post hoc analyses revealed that higher scores on pre-pandemic measures of activities of daily living/instrumental activities of daily living disability (β = 0.05, $P = .006$) from the physical health difficulties factor; community integration (β = 0.09, $P < .001$), dispositional gratitude (β = 0.08, $P < .001$), and purpose in life (β = 0.06, $P = .011$) from the protective psychosocial characteristic factors; and positive expectations regarding physical (β = 0.05, $P = .007$) and emotional (β = 0.05, $P = .008$) aging from the positive expectations regarding aging measure were independently associated with resilience scores.

Abbreviations: AUD = alcohol use disorder, DUD = drug use disorder, MDD = major depressive disorder, PTG = posttraumatic growth, PTSD = posttraumatic stress disorder.
*$P<.05$. **$P<.01$. ***$P<.001$.

help promote resilience to pandemic-related stressors.

Further research is needed to examine the prevalence and correlates of different aspects of resilience (eg, functional resilience), identify biopsychosocial mechanisms of resilience, and evaluate the efficacy of interventions that target both vulnerability and salutogenic factors in fostering resilience to pandemic-related stressors in veterans and the population at large.

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REFERENCES

1. Krishnamoorthy Y, Nagarajan R, Saya GK, et al. Prevalence of psychological morbidities among general population, healthcare workers and COVID-19 patients amidst the COVID-19 pandemic: a systematic review and meta-analysis. *Psychiatry Res*. 2020;293:113382–113382.
2. Murphy D, Williamson C, Baumann J, et al. Exploring the impact of COVID-19 and restrictions to daily living as a result of social distancing within veterans with pre-existing mental health difficulties. *BMJ Mil Health*. 2020;bmjmilitary-2020-001622.
3. Bonanno GA, Westphal M, Mancini AD. Resilience to loss and potential trauma. *Annu Rev Clin Psychol*. 2011;7(1):511–535.
4. Weathers FW, Litz BT, Keane TM, et al. The PTSD Checklist for *DSM-5* (PCL-5). 2013. National Center for PTSD. Accessed October 18, 2021. www.ptsd.va.gov
5. Kroenke K, Spitzer RL, Williams JBW, et al. An ultra-brief screening scale for anxiety and depression: the PHQ-4. *Psychosomatics*. 2009;50(6):613–621.
6. Overstreet C, DeViva JC, Amstadter A, et al. Resilience to traumatic stress in U.S. military veterans: application of a novel classification approach in a nationally representative sample. *J Psychiatr Res*. 2021;140:301–307.
7. Jeste DV, Lee EE, Cacioppo S. Battling the modern behavioral epidemic of loneliness: suggestions for research and interventions. *JAMA Psychiatry*. 2020;77(6):553–554.
8. Ishida R, Okada M. Effects of a firm purpose in life on anxiety and sympathetic nervous activity caused by emotional stress: assessment by psycho-physiological method. *Stress Health*. 2006;22(4):275–281.
9. Manco N, Hamby S. A meta-analytic review of interventions that promote meaning in life. *Am J Health Promot*. 2021;35(6):866–873.

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Supplementary Material

Article Title: Resilience in the Face of the COVID-19 Pandemic: National Study of US Military Veterans

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List of Supplementary Material for the article

1. Methods Supplement

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This Supplementary Material has been provided by the author(s) as an enhancement to the published article. It has been approved by peer review; however, it has undergone neither editing nor formatting by in-house editorial staff. The material is presented in the manner supplied by the author.

Methods Supplement

Sample

The National Health and Resilience in Veterans Study (NHRVS) is a nationally representative survey of U.S. veterans. A total of 4,069 veterans completed a Wave 1 pre-pandemic (median completion date: 11/21/2019) survey prior to the first documented COVID-19 case in the U.S. and 3,078 completed a Wave 2 peri-pandemic follow-up assessment one year later (median completion date: 11/14/2020) during the fall/winter pandemic surge and prior to the vaccine availability for the general public. A total of 7,860 veterans were invited to participate in the study and 4,069 completed Wave 1 (51.8% participation rate); of these 4,069 veterans, 3,929 (96.6%) remained in the survey panel when the Wave 2 follow-up survey was launched and 3,078 completed this follow-up survey (78.3% participation rate and 75.6% of the baseline cohort).

The NHRVS sample was drawn from KnowledgePanel, a research panel of more than 50,000 households that is maintained by Ipsos, a survey research firm. KnowledgePanel® is a probability-based, online non-volunteer access survey panel of a nationally representative sample of U.S. adults that covers approximately 98% of U.S. households. Panel members are recruited through national random samples, originally by telephone and now almost entirely by postal mail. Households are provided with access to the Internet and computer hardware if needed. KnowledgePanel® recruitment uses dual sampling frames that include both listed and unlisted telephone numbers, telephone and non-telephone households, and cell-phone-only households, as well as households with and without Internet access.

Demographic data of survey panel members are assessed regularly by Ipsos using the same set of questions used by the U.S. Census Bureau. Race/ethnicity was assessed via self-report using a standard set of questions used by the U.S. Census Bureau; this information was assessed in the current study to characterize the demographic composition of the sample and to adjust for any influence of race/ethnicity in a multivariable model examining the relation between pre- and peri-pandemic factors associated with resilience to COVID-19-related stressor.

To permit generalizability of study results to the entire population of U.S. veterans, the Ipsos statistical team computed post-stratification weights using the following benchmark distributions of U.S. military veterans from the most recent (August 2019) Current Veteran Population Supplemental Survey of the U.S. Census Bureau's American Community Survey: age, gender, race/ethnicity, Census Region, metropolitan status, education, household income, branch of service, and years in service. An iterative proportional fitting (raking) procedure was used to produce the final post-stratification weights.

All participants provided informed consent and the study was approved by the Human Subjects Committee of the VA Connecticut Healthcare System.

American Association for Public Opinion Research Survey Disclosure Checklist:

Survey sponsor	U.S. Department of Veterans Affairs National Center for Posttraumatic Stress Disorder
Survey/Data collection supplier	Ipsos, Inc.
Population represented	U.S. military veterans in the United States
Sample size	3,078
Mode of data collection	Web-based survey panel
Type of sample (probability/non-probability)	Probability
Start and end dates of data collection	November 9, 2020 to December 19, 2020
Margin of sampling error for total sample	±2.57 percentage points at the 95% confidence level
Are the data weighted?	Yes, using the following benchmark distributions of U.S. military veterans from the most recent (August 2019) Current Veteran Population Supplemental Survey of the U.S. Census Bureau's American Community Survey: gender, race/ethnicity, Census Region, metropolitan status, education, household income, branch of service, and years in service
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Survey content may be obtained by contacting Dr. Pietrzak: robert.pietrzak@yale.edu

Supplemental Table 1. Study measures

Psychopathology Measures	**Assessment Timepoint: Wave 2**
COVID-19-related posttraumatic stress symptoms (PTSS)	A brief, 4-item version of the PTSD Checklist for DSM-5[1,2] was used to assess COVID-19 pandemic-related PTSS symptoms (score range=0-16; α=0.76; sample item: "Thinking about the Coronavirus/COVID-19 pandemic, please indicate how much you have been bothered by repeated, disturbing, and unwanted memories of the COVID-19 pandemic")
Depressive and anxiety symptoms	The Patient Health Questionnaire-4 (PHQ-4[3]) was used to assess depressive and anxiety symptoms. Scores ≥ 3 on the depressive (α=0.84) and anxiety (α=0.86) items are indicative of positive screens for depression and anxiety.
COVID-19 stressors	**Assessment Timepoint: Wave 2**
COVID-19 infection status	COVID-19 infection status of veterans, household members, and non-household members were assessed using a questionnaire developed by the National Center for PTSD.[4] COVID-19 infection status was assessed using the question: "Have any of the following people ever had COVID-19? You; Someone who lives in your home; and Someone close to you who does not live in your home (for example, a friend, a family member who does not live with you, a co-worker, or child care provider." Response options were: Yes, tested positive for COVID-19 or COVID-19 antibodies; Probably, but never received a diagnosis; and No, have never had COVID-19 or a suspected case.
COVID-19-associated exposures and worries	Questions from the Coronavirus Health Impact Survey[5] were used to assess COVID-19-associated worries and concerns at Wave 2. Factor analysis revealed that these items loaded on five factors (eigenvalues=1.01-4.94): COVID-19-associated worries (e.g., "In the past month, how worried have you been about being infected with coronavirus?"); COVID-19 social restriction stress (e.g., "How stressful have these changes in social contacts been for you?"); COVID-19-associated financial hardship (e.g., "In the past month, to what degree have changes associated to the pandemic created financial problems for you or your family?"); and COVID-19-associated relationship difficulties (e.g., "Has the quality of the relationships between you and members of your family changed?").
Independent variables	**Assessment Timepoint: Wave 1**
Sociodemographic characteristics	A general sociodemographic questionnaire was used to assess age, gender, race/ethnicity, education, marital status, employment status, and annual household income
Military characteristics	

Combat veteran status	"Did you ever serve in a combat or war zone?"
Years in military	"How many years did you spend in the military?"
Positive effect of military on life	"How has being in the military affected your life?"; Score range: 1-7 (1=Strong negative effect; 7=Strong positive effect)
Trauma and Health characteristics	
Adverse childhood experiences	Score on Adverse Childhood Experiences Questionnaire.[6]
Cumulative trauma burden	Count of potentially traumatic events on the Life Events Checklist for DSM-5 (LEC-5).[7] The LEC-5 was administered at the pre-pandemic and peri-pandemic assessments, with the latter assessment asking respondents to endorse exposure to potentially traumatic events over the past year.
Physical health difficulties factor	
Number of medical conditions	Sum of number of medical conditions endorsed in response to question: "Has a doctor or healthcare professional ever told you that you have any of the following medical conditions?" (e.g., arthritis, cancer, diabetes, heart disease, asthma, kidney disease). Range: 0-24 conditions.
Somatic symptoms	Score on Somatization subscale of the Brief Symptom Inventory-18 (α=0.77).[8]
ADL disability	Any disability in activities of daily living. The following question was asked: "At the present time, do you need help from another person to do the following?" (e.g., bathe; walk around your home or apartment; get in and out of chair). Endorsement of any of these activities was indicative of having a disability with an activity of daily living.[9]
IADL disability	Any disability in instrumental activities of daily living. The following question was asked: "At the present time, do you need help from another person to do the following?" (e.g., pay bills or manage money; prepare bills; get dressed). Endorsement of any of these activities was indicative of having a disability with an instrumental activity of daily living.
Physical exercise	Score on Godin Leisure-Time Exercise Questionnaire.[10]
MDD and/or PTSD	At Wave 1, a positive screen for MDD was assessed using the MDD module of the Mini Neuropsychiatric Interview.[11] PTSD was assessed using the PTSD Checklist for DSM-5.
AUD and/or DUD	At Wave 1, a positive screen for AUD and/or DUD on the alcohol and drug use disorder modules of the Mini Neuropsychiatric Interview,[11] respectively.
Mental health treatment	Have you ever received mental health treatment (e.g., prescription medication or psychotherapy) for a psychiatric or emotional problem?

Loneliness	The Three-Item Loneliness Scale[12] was used to assess loneliness at the pre- (α=0.86) and peri- (α=0.87) pandemic assessments. Change in loneliness was computed by subtracting pre-pandemic scores from peri-pandemic scores.
Protective psychosocial characteristics	
Resilience	Score on Connor-Davidson Resilience Scale-10 (α=0.91).[13]
Purpose in life	Score on Purpose in Life Test-Short Form (α=0.89).[14]
Dispositional optimism	Score on single-item measure of optimism from Life Orientation Test-Revised[15]; "In uncertain times, I usually expect the best"); rating 1=strongly disagree to 7=strongly agree.
Dispositional gratitude	Score on single-item measure of gratitude from Gratitude Questionnaire[16]: "I have so much in life to be thankful for" (rating 1=strongly disagree to 7=strongly agree).
Curiosity/exploration	Score on single-item measure of curiosity/exploration from Curiosity and Exploration Inventory-II[17]; "I frequently find myself looking for new opportunities to grow as a person (e.g., information, people, resources") rating 1=strongly disagree to 7=strongly agree.
Grit	Score on Short Grit Scale.[18]
Community integration	Perceived level of community integration: "I feel well integrated in my community (e.g., regularly participate in community activities)" rating 1=strongly disagree to 7=strongly agree.
Mindfulness	Score on the following three items from the Mindful Attention Awareness Scale (α=0.90)[19]: "It seems I am 'running on automatic' without much awareness of what I am doing;" "I find myself doing things without paying attention;" and "I rush through activities without being really attentive to them." Items were scored so that higher scores indicate greater mindfulness.
Positive expectations regarding aging	
Expectations regarding physical aging	Score on expectations regarding physical aging item from the Expectations Regarding Aging scale[20]: "Every year that people age, their energy levels go down a little more."
Expectations regarding emotional aging	Score on expectations regarding emotional aging item from the Expectations Regarding Aging scale: "It is normal to be depressed when you are old."
Expectations regarding cognitive aging	Score on expectations regarding cognitive aging item from the Expectations Regarding Aging scale: "Forgetfulness is a natural occurrence just from growing old."
Social connectedness	
Structural social support	Response to question: "About how many close friends and relatives do you have (people you feel at ease with and can talk to about what is on your mind)?"
Perceived social support	Score on 5-item version of the Medical Outcomes Study Social Support Scale that was administered at Wave 1 pre-pandemic (α=0.89) and Wave 2 peri-pandemic (α=0.91)

	assessments.[21,22] Change in perceived social support was computed by subtracting pre-pandemic scores from peri-pandemic scores.
Attachment style	Endorsement of secure attachment (response a) to the following question: "Please select the statement below that best describes your feelings and attitudes in relationships[23]: (a) feeling that it is easy to get close to others and feeling comfortable with them (secure); (b) feeling uncomfortable being close to others (avoidant); or (c) feeling that others are reluctant to get close (anxious/ambivalent).
Religiosity/spirituality	
Religious service attendance	Frequency of attending religious services on Duke University Religion Index.[24]
Private spiritual activities	Frequency of private spiritual activities on Duke University Religion Index.
Intrinsic religiosity	Score on measure of intrinsic religiosity on Duke University Religion Index (α=0.91); sample item: "In my life, I experience the presence of the Divine (i.e., God)"
Altruism	
Altruistic behavior	Frequency of engagement in helping others with instrumental activities of daily living[25]: "How often have you helped a friend, neighbor, or relative other than your spouse or partner with errands, child care, housework, transportation, or other tasks in the past year?" (Response options: Never, 1 to 10 times, 11-50 times, 51-99 times, and 100 or more times).
Provision of social support	Score on modified 5-item version of the Medical Outcomes Study Social Support Scale (α=0.88)[21,22] that assesses the extent to which an individual provided support to others (e.g., "How often do you provide the following kinds of support to others who need it? – I am someone that helps others with daily chores if they were sick."
Posttraumatic Growth	The Posttraumatic Growth Inventory-Short Form[26] was used to assess posttraumatic growth in relation to veterans' 'worst' traumatic event endorsed on the LEC-5 at pre-pandemic assessment. Five subscale scores were generated: Appreciation of life (α=0.78); Relating to Others (α=0.77); Personal Strength (α=0.83); Spiritual Changes (α=0.88); and New Possibilities (α=0.74).
Abbreviations: ADL=activities of daily living, AUD=alcohol use disorder, DUD=drug use disorder, IADL=instrumental activities of daily living, MDD=major depressive disorder, PTSD=posttraumatic stress disorder	

Supplemental Table 2 shows results of a multiple regression analysis that was used to derive discrepancy-based psychological resilience (DBPR) scores. Having a household member infected with COVID-19; COVID-19-related concerns, social restriction stressors, worsening of relationships; and traumas since Wave 1 emerged as significant correlates of COVID-19 pandemic-related psychological distress. Residual scores from this analysis were saved and inverted to yield DBPR scores, with higher scores indicating greater resilience to COVID-related stressors.

Supplemental Table 2. Association of COVID-19-related stressors and composite measure of COVID-19 pandemic-related PTSS, MDD, and GAD symptoms (model R^2=0.30)

	N (weighted %) or weighted mean (SD)	β	p
Infected with COVID-19	233 (8.2%)	0.02	0.34
Household member infected with COVID-19	198 (7.5%)	0.05	0.047
Non-household member infected with COVID-19	1,285 (41.4%)	0.01	0.51
Know someone who died of COVID-19 complications	177 (5.5%)	-0.02	0.15
Hours consume COVID-related media per week	1.6 (2.1)	0.01	0.51
COVID-19-related worries and concerns	0 (1.0)	0.22	<0.001
COVID-19-related social restriction stress	0 (1.0)	0.32	<0.001
COVID-19-related financial stressors	0 (1.0)	0.31	<0.001
COVID-19-related worsening relationships	0 (1.0)	0.10	<0.001
Sum of traumas since Wave 1 assessment	1.0 (1.8)	0.12	<0.001

Note. COVID-19=coronavirus disease 2019. GAD=generalized anxiety disorder, MDD=major depressive disorder, PTSS=posttraumatic stress symptoms.

References:

1. Geier TJ, Hunt JC, Hanson JL, et al. Validation of abbreviated four- and eight-item versions of the PTSD Checklist for DSM-5 in a traumatically injured sample. *J Trauma Stress*. 2020;33(3):218-226.
2. Weathers FW, Litz BT, Keane TM, Palmieri PA, Marx BP, Schnurr PP. The PTSD Checklist *for DSM-5* (PCL-5). 2013. Scale available from the National Center for PTSD at www.ptsd.va.gov.
3. Kroenke K, Spitzer RL, Williams JB, et al: An ultra-brief screening scale for anxiety and depression: the PHQ-4. *Psychosomatics.* 2009;50:613-621.
4. National Center for PTSD. *Assessment of Exposure to COVID-19*. Unpublished scale, 2020. Instrument available from the National Center for PTSD at www.ptsd.va.gov.
5. National Institute of Mental Health Intramural Research Program Mood Spectrum Collaboration, Child Mind Institute of the NYS Nathan S. Kline Institute for Psychiatric Research. The CoRonavIruS Health Impact Survey (CRISIS). 2020; https://www.nlm.nih.gov/dr2/CRISIS_Adult_Self-Report_Baseline_Current_Form_V0.3.pdf.
6. Felitti VJ, Anda RF, Nordenberg D, et al: Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *Am J Prev Med.* 1998; 14:245-258
7. Weathers FW, Blake DD, Schnurr PP, et al.: The Life Events Checklist for DSM-5 (LEC-5). 2019. Instrument available from the National Center for PTSD at www.ptsd.va.gov.
8. Derogatis LR: Brief Symptom Inventory 18 (BSI-18). Administration, Scoring and Procedures Manual, Minneapolis, MN, NCS Pearson, Inc., 2001.
9. Hardy SE, Gill TM: Recovery from disability among community-dwelling older persons. *JAMA.* 2004;291:1596-1602.
10. Godin G: The Godin-Shephard leisure-time physical activity questionnaire. Health & Fitness Journal of Canada 2011; 4:18-22.
11. Sheehan DV: Mini International Neuropsychiatric Interview. English Version 7.0.2. For DSM-5. Copyright 1992-2016.
12. Hughes ME, Waite LJ, Hawkley LC, Cacioppo JT. A short Scale for measuring loneliness in large surveys: results from two population-based studies. *Res Aging.* 2004;26:655-72.
13. Campbell-Sills L, Stein MB: Psychometric analysis and refinement of the Connor-Davidson Resilience Scale (CD-RISC): validation of a 10-item measure of resilience. *J Trauma Stress*. 2007;20:1019-1028.
14. Schulenberg SE, Schnetzer LW, Buchanan EM: The Purpose in Life Test-Short Form: development and psychometric support. *J Happiness Stud,* 2010;20:1-16.
15. Scheier MF, Carver CS, Bridges MW: Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): a re-evaluation of the Life Orientation Test. *J Pers Soc Psychol. 1*994; 67:1063-1078.
16. McCullough ME, Emmons RA, Tsang J: The grateful disposition: a conceptual and empirical topography. J Pers Soc Psychol 2002; 82:112-127.
17. Kashdan TB, Gallagher MW, Silvia PJ, et al: The Curiosity and Exploration Inventory-II: development, factor structure, and initial psychometrics. J Res Pers 2009: 43:987-998.

18. Duckworth AL,Quinn PD: Development and validation of the short grit scale (grit-s). *J Pers Assess.* 2009;91:166-174
19. Brown KW, Ryan RM. The benefits of being present: mindfulness and its role in psychological well-being *J Pers Soc Psychol.* 2003;84:822-848.
20. Sarkisian CA, Steers WN, Hays RD, et al: Development of the 12-item Expectations Regarding Aging Survey. *Gerontologist.* 2005;45:240-248.
21. Sherbourne CD, Stewart, AL: The MOS social support survey. *Soc Sci Med.* 1991;32: 705-714.
22. Amstadter AB, Begle AM, Cisler JM, et al: Prevalence and correlates of poor self-rated health in the United States: the national elder mistreatment study. *Am J Geriatr Psychiatry.* 2010;18:615-623.
23. Hazan C, Shaver, PR: Love and work: An attachment-theoretical perspective. *J Pers Soc Psychol.* 1990;59:270-280.
24. Koenig HG, Büssing A: The Duke University Religion Index (DUREL): A five-item measure for use in epidemiological studies. *Religions.* 2010;1:78-85.
25. Brown SL, Nesse RM, Vinokur AD, et al: Providing social support may be more beneficial than receiving it: results from a prospective study of mortality. *Psychol Sci.* 2003;14:320-327.
26. Cann A, Calhoun LG, Tedeschi RG, et al. A short form of the Posttraumatic Growth Inventory. *Anxiety Stress Coping*. 2010;23(2):127-137.