Self-care among military spouses and partners: Developing the Military and Veteran Spouse Self-Care Inventory (MVSSCI)

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ABSTRACT

Introduction: The need for a culturally appropriate, practical measure of self-care was identified during a peer support program evaluation conducted by the Institute of Military and Veteran Family Wellness at the University of Texas at Austin. The authors aimed to develop a concise version of the military-adapted 69-item self-care inventory (SCI) for use with military and Veteran spouses and partners. **Methods:** Military and Veteran spouses and partners completed the military-adapted SCI (N = 227). The data were then subjected to confirmatory factor analysis to reconfirm the Physical Self-Care, Psychological Self-Care, Emotional Self-Care, Spiritual Self-Care, and Professional Self-Care subscales. The resulting model was examined for criterion, discriminant, and convergent validity. Associations between the Military and Veteran Spouse Self-Care Inventory (MVSSCI) and generalized anxiety symptoms, depressive symptoms, perceived quality of life, and perceived social support were explored. **Results:** The 15-item MVSSCI had a median score of 43 and a range of 16-60. Cronbach's α was 0.91 (95% confidence interval, 0.89-0.92). Criterion validity with the military-adapted SCI was $r = 0.95$. Discriminant validity was demonstrated by relatively weak correlations with depression, anxiety, and social support constructs ($rs = -0.34$-0.33), and convergent validity was indicated by strong correlations with perceived quality of life ($r = 0.60$). **Discussion:** The MVSSCI should be considered a reliable and valid measure of self-care practices across several life domains among military and Veteran spouses and partners. Limitations include that only one gender participated in this pilot study, and respondent fatigue led to missing data.

Keywords: military spouse, self-care, self-care inventory, Veteran spouse, wellness

RÉSUMÉ

Introduction : Le besoin de disposer d'une mesure des soins autoadministrée pratique et adaptée à la culture est ressorti pendant l'évaluation d'un programme de soutien par les pairs réalisé par l'Institute of Military and Veteran Family Wellness (institut du mieux-être des familles de militaires et de vétéran[e]s) de l'Université du Texas à Austin. Les auteurs et autrices ont produit une version concise de l'inventaire de soins autoadministrés (SCI) en 69 questions, adaptée pour les militaires et l'ont utilisée auprès des conjoint(e)s et partenaires de militaires et de vétéran(e)s. **Méthodologie :** Les conjoint(e)s et partenaires de militaires et de vétéran(e)s ont rempli le SCI adapté au milieu militaire (n = 227). Les données ont été soumises à une analyse factorielle de confirmation pour reconfirmer les sous-échelles de soins autoadministrés physiques, psychologiques, émotionnels, spirituels et professionnels. Le modèle qui en a découlé a fait l'objet d'un examen des critères, de la validité discriminante et de la validité convergente. Les associations entre l'inventaire de soins autoadministrés des conjoint(e)s de militaires et de vétéran(e)s (ISACMV) et les symptômes d'anxiété généralisée, les symptômes de dépression, la perception de qualité de vie et la perception de soutien social ont été explorés. **Résultats :** L'ISACMV en 15 questions a donné un score médian de 43 et une plage de 16 à 60. Le coefficient alpha de Cronbach atteignait 0,91 (intervalle de confiance à 95 %, 0,89 à 0,92). La validité des critères selon le SCI adapté au milieu militaire correspondait à r = 0,95. La validité discriminante a été démontrée par les corrélations relativement faibles avec la dépression, l'anxiété et les construits de soutien social ($rs = -0,34$ à 0,33), et la validité convergente, par les solides corrélations avec la perception de la qualité de vie ($r = 0,60$). **Discussion :** L'ISACMV devrait être considéré comme une mesure fiable et valide des pratiques d'autoadministration des soins dans divers domaines de la vie des conjoint(e)s et des partenaires de militaires et de vétéran(e)s. Les limites incluaient qu'un seul genre a participé à cette étude pilote et qu'à cause de l'usure des répondant(e)s, il y a eu des données manquantes.

Mots-clés : conjoint(e)s de militaires, conjoint(e)s de vétéran(e)s, inventaire des soins autoadministrés, mieux-être, soins autoadministrés

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LAY SUMMARY

When people take care of themselves, it can improve their quality of life. This is especially important for U.S. military and Veteran spouses. The Veteran and military population experiences unique challenges in taking care of themselves while splitting their attention in order to support the military spouse. Although there are ways to measure how well individuals practice self-care, no measure has been created specifically for the military population. The current study created a shortened version of an established self-care inventory (the National Alliance on Mental Illness SCI) while evaluating the Veteran Spouse Resiliency Group (V-SRG), a peer-group-based support program. This group was specifically chosen because it offers evidence-based transition support and a safe space to improve self-care. There were 227 participants who participated in completing surveys and gave feedback on how to improve the military-adapted version of the SCI. Researchers then asked participants to take pre- and post-intervention surveys online and in person to cross-check whether the new military-specific tool was reliable. Researchers did multiple tests to make sure the new measure contained the same concepts as the previously established measure. Military and Veteran partners experience unique stressors, and learning more about their self-care might improve their overall wellness.

INTRODUCTION

Self-care

Self-care is increasingly recognized as an important component of long-term health and well-being.[1] It is important to note that self-care has come to be defined in a variety of ways.[2] In many areas of the medical literature, self-care is understood as patients' engagement in regular activities of daily living (ADLs), which may include bathing, eating, and dressing oneself. Although this definition has utility, the current study defines self-care more broadly as

> activities that individuals, families, and communities undertake with the intention of enhancing health, preventing disease, limiting illness, and restoring health. These activities are derived from knowledge and skills from the pool of both professional and lay experience. They are undertaken by laypeople on their own behalf, either separately or in participative collaboration with professionals.[3(p. 2)]

Through this lens, self-care extends beyond ADLs to encompass regular exercise, healthy eating, social connection, stress management, and mental health care.[4] The authors understand self-care to be related to overall quality of life, an essential focus in their work with U.S. military and Veteran spouses. This group faces unique challenges caring for others in their families, often without sufficient support to ensure their wellness.[5] There are challenges to applying self-care in the mission to support military spouses. In addition to the variety of definitions of self-care, questions also exist regarding the tools to measure self-care.

The current study presents a shortened version of the established self-care inventory (SCI) used in a group-based, peer-support program for U.S. military and Veteran spouses.[6] The inventory was used to evaluate the participants' engagement in self-care practices.

The resulting shortened SCI is a feasible, valid, and reliable tool to measure the extent of, and changes to, self-care practices over time.

Military and Veteran spouses and committed partners

Studies have described the impact of military life on spouses and families. This includes the impact of military deployment and reintegration on family members' mental health, the impact of parental posttraumatic stress on children, and the impact of military-trauma-related psychological problems on marriages.[7-14] Military and Veteran partners face enormous stressors while supporting and adapting to the ever-shifting careers of their service member. Beyond the overt threats to life and limb that service members face, other stressors mirror the work activities taken on by serving partners. These include a high level of uncertainty during deployments and training absences. The chronic volatility of military life regularly includes international relocation and uprooting military families' lives.[5,11]

Self-care is a promising focus to ensure wellness among military and Veteran partners. Military health care systems are overburdened, often leaving military partners to care for themselves.[15] Official military and medical interventions for partners are reportedly ineffective, unappealing, and underused when they are available.[4,15] Given these circumstances, self-care has been an essential part of interventions aimed at improving the lives of military partners.[16,17] Military partners benefit from developing connections with peers to adopt healthy coping skills.[17,18]

Despite the extensive documentation of the hardships faced by military spouses, little support or guidance is offered to them when they enter or join military life upon marriage or through a committed partnership. Prevention programs that address potential challenges

and ways to manage stressors may exist only for limited issues, such as dealing with a deployed partner.[17] Broader prevention programs to address the combined plethora of challenges in military life and how to develop resilience to overcome them scarcely exist. Support available on military installations is primarily offered either as social opportunities through units' family readiness groups (with high variability in quality and inclusiveness) or as military-sponsored crisis intervention programs after significant behavioural health or family functioning problems arise. Both types of support are useful for some, but they do not offer preventive, holistic, consistent support across locations and time that can help spouses reduce stress. Approaches are needed to address evolving challenges that come with each new assignment or duty station throughout military life.

Spouses are expected to adapt and support their service members through the challenges of military life. Some partners struggle with the effects of the demands on their marriages, their children, their careers, and their educational goals.[19] When service members develop psychological or other health conditions, spouses and family members are unavoidably affected by the symptoms, resulting in changes in their relationships. Prior research has documented these challenges. Associations identified using data from the Millennium Cohort Family Study showed that a lack of social support, caregiver burden, work-family conflict, and financial strain increase the likelihood of low marital quality among spouses of active duty service members.[20]

Veteran Spouse Resiliency Group

Military spouses are susceptible to serious social, occupational, psychological, and general health concerns. Systems of care to redress their needs are overburdened and, at times, ineffective.[15,18] Models of peer support have been promising interventions to improve health and functioning in similar populations.[21] The Veteran Spouse Resiliency Group (V-SRG) provides transitioning and Veteran spouses and partners with peer-led, curriculum-driven, evidence-based support groups in virtual and in-person formats. Groups provide spouses with a safe space to connect and share their stories, challenges, and successes and to bolster self-care, among other aims. Members also receive and provide support to peers, leading to an increase in quality of life, social support, and self-care practices and a decrease in mental health symptoms. The V-SRG is nested in broader support networks providing opportunities to engage

helpful resources and a community of support. Self-care was a vital focus of the group intervention curriculum, and measuring self-care was also critical. The need for a culturally appropriate, practical measure of self-care was identified in a program evaluation conducted by the Institute of Military and Veteran Family Wellness at the University of Texas at Austin.[16]

While implementing the pilot V-SRG, staff evaluated the feasibility of pre- and post-intervention measures for participants. Participant feedback indicated that the survey measurement of self-care was lengthy and arduous to complete.[16] The authors aimed to develop a concise version of the military-adapted 69-item SCI that is culturally focused on evaluating self-care with military and Veteran partners.

Measuring self-care

A meta-analysis of the literature revealed multiple tools to measure self-care.[2] These measures display varying degrees of validity and reliability, with none displaying strong measurement properties.[2] According to Matarese et al. (2017),[2] questions about cross-cultural and content validity still exist. Most self-care measures are lengthy, an issue that is known to affect the validity, quality, and reliability of responses in survey research.[22,23]

One measure of self-care practices is the SCI. Despite the absence of a published validation study, the SCI has been widely used and freely adapted.[6,24,25] The SCI originated with Saakvitne and Pearlman as an assessment tool to improve the emotional well-being of professionals exposed to secondary trauma.[24] It was distributed as a component of the Child Welfare Trauma Training Toolkit by the National Alliance on Mental Illness (NAMI) and the National Child Traumatic Stress Network.[6,25] The adapted SCI tool was the version endorsed by NAMI, an organization with well-established methodologies. It met the needs of the program regarding participant autonomy and holistic wellness on face validity alone.[6,26] The domains and items have remained mostly unchanged over time and across applications. Subsequent adaptations have been proposed to include additional domains, such as relationships and service to others.[27,28]

Study objectives

This study aimed to create a shorter form of the 69-item, multidimensional NAMI SCI measure of self-care practices, adapted for military and Veteran populations, while continuing to measure self-care across distinct domains.[6] The authors also aimed to explore the psychometric properties of the resulting Military and Veteran

Spouse Self-Care Inventory (MVSSCI). It was hypothesized that the measure would converge with measures of quality of life and diverge from measurements of mental health symptoms.[6]

METHODS

Participants

The sample included a combination of observations from online surveys and pre- and post-group surveys conducted at V-SRG sessions hosted in central Texas from June 2020 to December 2021 (N = 227). The confirmatory factor analysis (CFA) sample included a large proportion of online surveys (n = 169). The participants all identified being in a civil, religious, or committed union with a current or former military member.

Measures

NAMI 69-item Self-Care Inventory

The NAMI 69-item Self-Care Inventory (SCI) contains five sub-scales: Physical Self-Care, Psychological Self-Care, Emotional Self-Care, Spiritual Self-Care, and Professional Self-Care.[6] The appeal of the NAMI SCI is the comprehensive conceptualization of activities that individuals partake in to maximize their health, avoid disease, and cope with illness independent of medical care.[29] The measure is unique in that it considers self-care as a construct with multiple distinct domains. According to personnel at NAMI, an SCI measure validation study has been conducted but is not publicly available.[25] The measure has been endorsed by major health agencies because it boasts strong face validity (Table 1).

Adjustments to verbiage and item descriptions were made to the NAMI SCI before it was used in the V-SRG to make it more culturally suitable for the participants. The original item "be curious" was adapted to "try new things." "Take time off when sick" was adapted to "take time off when needed." Some items were created, such as "find things that make you laugh," "express your outrage in social action, letters, donations, marches, or protests," "develop other areas of professional interest," and "play with children." Select items were changed for specificity; for example, "take time to be sexual" was adapted to "take time to be sexual with yourself or your spouse." All changes were endorsed for face validity by academic experts in the field and respondents.

Depression symptoms

Depression symptom severity was measured with the nine-item Patient Health Questionnaire (PHQ-9).[30]

This measure is based on the *Diagnostic and Statistical Manual of Mental Disorders* (fourth edition, text revision; DSM-IV-TR) and remains popular in assessing diagnostic criteria for major depressive episodes.[31] Although the PHQ-9 is a 10-item scale, its first 9 items are commonly summed to a scale with values ranging from 0 to 3.[31] The scale was coded such that the higher the score, the greater the severity of depressive symptoms. Participants rate the frequency of distress because of depressive symptoms on a scale ranging from 0 (not at all) to 3 (nearly every day).

Anxiety symptoms

Anxiety symptom severity was measured with the seven-item Generalized Anxiety Disorder (GAD-7) screening tool.[32] This screening measure for anxiety disorders is based on DSM-IV-TR diagnostic criteria.[33] Participants rate the frequency of distress because of anxiety symptoms on a scale ranging from 0 (not at all) to 3 (nearly every day). A total scale score is calculated by summing responses to individual items, and higher scores indicate more frequently experiencing symptoms.

Quality of life

The Quality of Life, Enjoyment, and Satisfaction Questionnaire-Short Form (Q-LES-Q-SF) is a recovery-oriented, self-report measure of an individual's holistic view of their current life circumstances across physical, psychological, and social domains.[34] The Q-LES-Q-SF contains 16 items rated on a five-point Likert scale (1 = very poor, 2 = poor, 3 = fair, 4 = good, 5 = very good), with higher scores indicating better enjoyment and satisfaction in their life. The scoring of the Q-LES-Q-SF involves summing the first 14 items to yield a total score. The last two items about medication and overall contentment were added to the short form for clinical reasons and were scored separately.[34] Total scores ranged from 14 to 70 when summed.

Social support

The Social Support Survey Instrument (SSSI) is an 18-item measure assessing the degree to which the participant sees the community as a source of support.[35] The SSSI was developed to assess support-related resilience in military families. Participants rate their level of agreement with statements of individual social support. Items such as "you have someone you can count on to listen to you when you need to talk" are rated on a scale ranging from 1 (none of the time) to 4 (all of the time), with total social support scores ranging from 18 to 72.

Table 1. Domain and items of the Military-adapted 69-item Self-Care Inventory

Domain	Items
Physical	Eat regularly (e.g., breakfast, lunch, and dinner)
	Eat healthily
	Exercise
	Get regular medical care for prevention
	Get medical care when needed
	Take time off when needed
	Get massages
	Dance, swim, walk, run, play sports, sing …
	Take time to be sexual with yourself or your spouse
	Get enough sleep
	Wear clothes you like
	Take vacations
	Take day trips or mini-vacations
	Make time away from telephones
Psychological	Make time for self-reflection
	Have your own personal psychotherapy
	Write in a journal
	Read literature that is unrelated to work
	Do something at which you are not an expert …
	Decrease stress in your life
	Let others know different aspects of you
	Notice your inner experience — listen to your thoughts …
	Engage your intelligence in a new area
	Practice receiving from others
	Try new things
	Say no to extra responsibilities sometimes
Emotional	Spend time with others whose company you enjoy
	Stay in contact with important people in your life
	Give yourself affirmations, praise yourself
	Love yourself
	Re-read favourite books, re-view favourite movies
	Seek comforting activities, objects, people …
	Allow yourself to cry
	Find things that make you laugh
	Express your outrage in social action, letters, donations …
	Play with children
Spiritual	Make time for reflection
	Spend time with nature
	Find a spiritual connection or community
	Be open to inspiration
	Cherish your optimism and hope

Table 1. Continued

Domain	Items
Spiritual continued	Be aware of nonmaterial aspects of life
	Try at times not to be in charge or the expert
	Be open to not knowing
	Identify what is meaningful to you and notice its place …
	Meditate
	Pray
	Sing
	Spend time with children
	Have experiences of awe
	Contribute to causes in which you believe
	Read inspirational literature (talks, music, etc.)
Professional	Take a break during the workday (e.g., lunch)
	Take time to chat with co-workers
	Make quiet time to complete tasks
	Identify projects or tasks that are exciting and rewarding
	Arrange your workspace so it is comfortable …
	Balance your workload so that no one day is "too much"
	Negotiate for your needs (benefits, pay raise)
	Have a peer support group
	Develop other areas of professional interest
	Set limits with your clients and colleagues
	Get regular supervision or consultation

Note: Items were rated on how frequently participants engaged in them: 5 (frequently), 4 (occasionally), 3 (rarely), 2 (never), and 1 (it never occurred to me). The original measure included opportunities for free text in each domain excluded, and some items have been shortened for brevity.

Confirming the five self-care domains with the MVSSCI

Power analysis

Monte Carlo simulations consistent with the recommendations of Wolf et al. were conducted to conservatively estimate the minimum necessary sample size for the planned factor analyses,[36] using the lowest acceptable factor loading observed on each scale (0.40) and assuming low to moderate factor correlations (0.30). Monte Carlo simulations indicated a conservative, minimum necessary sample size of 230 with high power ($\geq$0.90) to reliably estimate the hypothesized model.

Missing data

Survey responses (n = 248) were collected. Cases that were mostly or completely missing (≥50%) for the self-care measure were excluded, leaving n = 227 for analysis because the power analysis was conservative. The sample still contained missing items ranging from 1% to 15%, and full information maximum likelihood (FIML) was used to address missing data.

Confirmatory factor analysis

CFA was conducted at the sub-scale level of the military-adapted 69-item SCI to identify the lowest-factor-loading items in the model (n = 227). The remaining items were specified into a first-order CFA model, including all five theoretically established sub-scales (Table 2). The lowest-loading items continued to be removed until a minimum of three indicators per factor remained to retain the factors theoretically derived in the military-adapted SCI.[28,37] Model fit was assessed at each change. Full FIML was used to estimate parameters and the fit for the CFA models with the following specifications: root mean square error of approximation (RMSEA) ≤ 0.06 (90% confidence level, ≤ 0.06), confirmatory factor index (CFI) ≥ 0.95, and Tucker-Lewis Index (TLI) ≥ 0.95.[38-40] The χ^2-to-degrees-of-freedom ratio ≤ 3 rule was also used.[41]

Construct validity

To validate that the MVSSCI measures a similar construct as the military-adapted SCI, the association between the total score on these two concurrent measures was examined using Pearson's correlation.

Discriminant and convergent validity

Associations between the MVSSCI total score and generalized anxiety symptoms (GAD-7), depressive symptoms (PHQ-9), perceived quality of life (Q-LES-Q-SF), and perceived social support (SSSI) were analyzed with Pearson's correlation.[29] It was anticipated that the relationship between perceived quality of life (Q-LES-Q-SF) and the SCI would be the strongest because they appear to measure related constructs.[28] An absence of strong relationships was anticipated with the measures of depression and anxiety symptoms.[29] Internal consistency of the MVSSCI was calculated with Cronbach's α to determine the relatedness of the included items.

Other analyses

Descriptive statistics were explored to describe average and median scores, standard deviations, and ranges on the MVSSCI and its individual items. IBM AMOS Graphics was used to conduct the CFA (version 25; https://www.ibm.com/products/structural-equation-modeling-sem). All other analyses were calculated with IBM SPSS Statistics, version 28 (https://www.ibm.com/products/spss-statistics).

Ethical considerations

All respondents consented to participate in the study before survey completion. This study was approved by the University of Texas Institutional Review Board (approval ID 00000687).

RESULTS

Characteristics of the sample

The V-SRG respondents who agreed to participate all identified as female. Of those who reported their race and ethnicity, 11.9% identified as Black, 23.8% as Hispanic, 4.7% as Asian or Pacific Islander, and 46.7% as Caucasian. Of the sample, 11.9% of participants identified as Veterans. The average participant age was 40 years (SD = 8.6), and 5.0% were in committed relationships rather than civil or legal unions with their partners. The data approximated a normal multivariate distribution (kurtosis = 271.75, critical ratio multivariate normality = 22.62). The result of the Kaiser-Meyer-Olkin Measure of Sampling adequacy was 0.892, indicating that the sample was adequate. Bartlett's Test of Sphericity returned a $p < .001$, which suggested that items were sufficiently related for factor analysis. Mahalanobis distance from the centroid did not suggest that any observations in the sample were outliers.

Confirmatory factor analysis

The CFA adequately supported the five-factor structure of the 15-item MVSSCI (Table 2). The military-adapted SCI model fit the data poorly, $\chi^2_{1881} = 4{,}658.63$, parsimonious minimum discrepancy function divided by degrees of freedom (CMIN/DF) = 2.5, $p < 0.05$. Other metrics of fit adjusted for sample size and model complexity were also poor (RMSEA = 0.081, CFI = 0.64, TLI = 0.63). A total of 54 items were removed for contributing minimally to the model with correlations below 0.45. When a minimum of three observed indicators remained for each unobserved theoretical self-care domain, the model revealed the best fit. Although the final model was significant, $\chi^2_{80} = 127.42$, CMIN/DF = 1.6, $p < 0.05$, other measures adjusted for sample size indicated adequate fit (RMSEA = 0.051, CFI = 0.97, TLI = 0.96). The resulting 15 items were subjected to further analyses to explore reliability and validity (Table 3).

Discriminant and convergent validity

In addition to the structural validity demonstrated by the CFA, construct validity was indicated by medium to high correlations between individual items and total MVSSCI score, with correlations ranging from 0.59 to 0.75 (Table 4). Construct validity was demonstrated by a strong correlation between the total MVSSCI and the military-adapted 69-item SCI ($r = 0.95$). Table 5 shows divergent validity indicated by low correlations between the MVSSCI and anxiety symptoms ($r = -0.33$), depressive symptoms ($r = -0.34$), and social support ($r = 0.33$).[42] The anticipated large effect size was revealed in the relationship between MVSSCI and concurrent perceptions of quality of life ($r = 0.60$; Table 5).

Table 2. Item regression weights for MVSSCI sub-scales

Item and factor	Maximum likelihood estimates					
	Physical	Psychological	Emotional	Spiritual	Professional	MSQ
Weights*						
PHY_8. … play sports, sing, or physical activity …	0.61/1.00					0.37
PHY_11. Wear clothes you like	0.68/0.96 (0.13)					0.47
PHY_12. Take vacations	0.56/0.87 (0.13)					0.32
PSY_6. Decrease stress in your life		0.64/1.00				0.41
PSY_9. Engage your intelligence in a new area …		0.71/1.25 (0.14)				0.51
PSY_10. Practice receiving from others		0.68/1.09 (0.12)				0.47
EMO_4. Love yourself			0.67/0.84 (0.10)			0.44
EMO_5. Re-read favorite books, re-view movies			0.67/1.00			0.45
EMO_6. Identify comforting activities …			0.82/1.08 (0.10)			0.67
SPI_1. Allow time for reflection				0.79/1.00		0.63
SPI_4. Open to inspiration				0.78/0.78 (0.07)		0.61
SPI_5. Cherish your own optimism and hope				0.70/0.82 (0.08)		0.49
PRO_3. Make quiet time to complete tasks					0.69/1.00	0.48
PRO_4. Identify projects or tasks that are exciting					0.77/1.09 (0.10)	0.59
PRO_11. Develop other areas of professional interest					0.78/1.33 (0.14)	0.61
Relationship among factors†						
1. Physical	**0.32**	0.25	0.31	0.28	0.31	
2. Psychological	0.91	**0.29**	0.30	0.27	0.25	
3. Emotional	0.87	0.87	**0.42**	0.36	0.29	
4. Spiritual	0.74	0.85	0.83	**0.45**	0.28	
5. Professional	0.72	0.88	0.76	0.71	**0.35**	

Note: N = 227.
* Values are standardized loadings/unstandardized loadings, with standard errors in parentheses. One item within each factor was fixed at 1.00 to establish the scale of the regression; therefore, there are no standard errors for those five items.
† Values in bold represent variance; the upper triangle contains covariances; the lower triangle contains correlations, all of which were significant at p < 0.001.
MVSSCI = 15-item Military and Veteran Spouse Self-Care Inventory; MSQ = multiple squared correlation; PHY = Physical Self-Care; PSY = Psychological Self-Care; EMO = Emotional Self-Care; SPI = Spiritual Self-Care; PRO = Professional Self-Care.

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Table 3. MVSSCI

Domain	Items
1. Physical Self-Care	Dance, swim, walk, run, play sports, sing, or do some other physical activity that is fun Wear clothes you like Take vacations
2. Psychological Self-Care	Decrease stress in your life Engage your intelligence in a new area, e.g., go to an art museum, history exhibit, sports event, auction, theater performance Practice receiving from others
3. Emotional Self-Care	Love yourself Re-read favourite books, re-view favourite movies Identify comforting activities, objects, people, relationships, and places and seek them out
4. Spiritual Self-Care	Make time for reflection Be open to inspiration Cherish your optimism and hope
5. Professional Self-Care	Make quiet time to complete tasks Identify projects or tasks that are exciting and rewarding Develop other areas of professional interest

Note: Items were rated on how frequently participants engaged in them: 5 (frequently), 4 (occasionally), 3 (rarely), 2 (never), 1 (it never occurred to me). The original measure included opportunities for free text in each domain, excluded from the final MVSSCI.
MVSSCI = Military and Veteran Spouse Self-Care Inventory

Table 4. Average MVSSCI total and individual item scores and item-total scale correlations

Item and factor	Mean (SD)	MVSSCI (Pearson's *r*)
MVSSCI total score	42.4 (8.5)	
Individual scale items		
PHY_8. … play sports, sing, or physical activity …	2.7 (0.9)	0.59
PHY_11. Wear clothes you like	3.2 (0.7)	0.65
PHY_12. Take vacations	2.3 (0.8)	0.56
PSY_6. Decrease stress in your life	2.5 (0.7)	0.66
PSY_9. Engage your intelligence in a new area …	2.5 (0.8)	0.72
PSY_10. Practice receiving from others	2.5 (0.7)	0.69
EMO_4. Love yourself	2.9 (0.8)	0.68
EMO_5. Re-read favorite books, re-view movies	2.7 (0.9)	0.65
EMO_6. Identify comforting activities …	2.9 (0.8)	0.77
SPI_1. Allow time for reflection	2.8 (0.8)	0.75
SPI_4. Open to inspiration	3.2 (0.6)	0.67
SPI_5. Cherish your own optimism and hope	3.0 (0.7)	0.62
PRO_3. Make quiet time to complete tasks	3.0 (0.8)	0.64
PRO_4. Identify projects or tasks that are exciting	2.8 (0.8)	0.68
PRO_11. Develop other areas of professional interest	2.7 (1.0)	0.72

Note: N = 227. Items were rated on how frequently participants engaged in them. Item range, 1-5 (5 = frequently, 4 = occasionally, 3 = rarely, 2 = never, 1 = it never occurred to me) possible scale range, 15-60.
MVSSCI = 15-item Military Spouse Self-Care Inventory; PHY = Physical Self-Care; PSY = Psychological Self-Care; EMO = Emotional Self-Care; SPI = Spiritual Self-Care; PRO = Professional Self-Care.

Table 5. MVSSCI correlations with measures of depression, anxiety, quality of life, and social support

	MVSSCI Pearson's *r* (95% CI)
Construct	
Depressive symptoms (PHQ-9)	−0.34 (−0.552 to −0.088)
Generalized anxiety symptoms (GAD-7)	−0.33 (−0.546 to −0.078)
Quality of life (Q-LES-Q-SF)	0.60 (0.748 to 0.41)
Social Support (SSSI)	0.33 (0.551 to 0.086)

Note: n = 57. All scales were coded so that larger numbers indicate more symptoms or more of the construct measured.
MVSSCI = 15-item Military and Veteran Spouse Self-Care Inventory; CI = confidence interval;
PHQ-9 = 9-item Patient Health Questionnaire; GAD-7 = 7-item Generalized Anxiety Disorder;
Q-LES-Q-SF = Quality of Life, Enjoyment, and Satisfaction Questionnaire-Short Form;
SSSI = Social Support Survey Instrument.

Other analyses

The internal consistency (Cronbach's α) of the 15-item MVSSCI (N = 227) was 0.91 (95% CI, 0.89-0.92) with the sum of the scale ranging from 15 to 60.

DISCUSSION

This preliminary study suggests that the brief 15-item MVSSCI could be considered a reliable and valid measure of self-care practices among military and Veteran spouses and partners. This measure offers a practical approach to determining the extent of self-care practices and may increase respondent completion of the measure because of the time required to complete it. Assessing self-care practices among military spouses is a critical aspect of delivering supportive programming that can help ease the stressors present in military and Veteran partners' lives.

The MVSSCI was developed to measure self-care practices among military and Veteran spouses receiving peer support, but it may be useful in assessing self-care in a broad range of practice areas. The SCI already exists as a measure of self-care for several groups, including students, providers, families at risk, and first responders.[6,24,25,27] Consideration should be given to including the additional relational domain in further evaluations of this tool because it would be relevant to the military and Veteran spouse population.[27]

Limitations

The CFA sample included a large proportion of online surveys (n = 169). In some cases, these online data included increasingly missing item responses across the survey, with more responses missing as the survey progressed. This may further underscore the need for a shorter measure to encourage completion. The Professional Self-Care domain had the lowest degree of completion. It is challenging to know whether this was a reflection of the length of the military-adapted SCI, a reflection of non-applicability to an unemployed participant, or both. Modifying verbiage and allowing respondents to skip sections that do not apply to them may redress this. Test-retest reliability could not be established because a retest was not administered. All participants in the study identified as female, leaving room for subsequent studies to focus on or include male military and Veteran partners. Future research opportunities include validation on a larger scale, with diverse groups of respondents, stability in test-retest administration, and comparison of the convergent and divergent validity analyses with the original scale.

Conclusion

Self-care practices are a promising component of wellness among military and Veteran spouses and partners. Military health care systems are overburdened, often leaving military spouses and partners to care for themselves. This heightens the relevance of talking about and measuring self-care practices. This led the authors to explore the legacy of measuring self-care, which yielded unforeseen benefits, such as correcting the misattribution of established self-care measures in the field. The authors discovered that existing measures were available but not tailored to this population. One of the most comprehensive and well-known measures was impractical in some practice settings. The MVSSCI provides composite scores for several domains of self-care. It is distinct from measures aimed at other constructs and could assist in identifying areas of personal self-care that could be improved or sustained. The tool may also suggest interventions that would be best suited to working with this population. The large relationship observed between the MVSSCI and the Q-LES-Q-SF reflects the holistic and comprehensive nature of both measures. This also suggests that the plausible relationship between perceived quality of life and self-care should be explored further.

AUTHOR INFORMATION

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ETHICS APPROVAL

This study was approved by the University of Texas at Austin Office of Research and Compliance (approval ID 00000687), Austin, Texas, United States, on Jan. 15, 2021.

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