

MILITARY MEDICINE

VOLUME 173

MAY 2008

NUMBER 5

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114th AMSUS ANNUAL MEETING
9 November–14 November, 2008, San Antonio, Texas
Theme: "Building the Next Generation:
Collaborative Partnerships for the Future"

The Military Social Health Index: A Partial Multicultural Validation

Adrian D. Van Breda, PhD

ABSTRACT Routine military deployments place great stress on military families. Before South African soldiers can be deployed, they undergo a comprehensive health assessment, which includes a social work assessment. The assessment focuses on the resilience of the family system to estimate how well the family will cope when exposed to the stress of deployments. This article reports on the development and validation of a new measuring tool, the Military Social Health Index, or MSHI. The MSHI is made up of four scales, each comprising 14 items, viz social support, problem solving, stressor appraisal, and generalized resistance resources. An initial, large-scale, multicultural validation of the MSHI revealed strong levels of reliability (Cronbach α and standard error of measurement) and validity (factorial, construct, convergent, and discriminant).

INTRODUCTION

Since 2000, the South African Military Health Service has conducted routine annual comprehensive health screenings of all soldiers who are earmarked for international peacekeeping missions. These assessments, called Concurrent Health Assessments (CHA), target thousands of soldiers annually. The purpose of the CHA is to ensure the health of soldiers before their deployment, so as to reduce the operational threat of ill health.¹ "The CHA entails a comprehensive and holistic assessment of the health of soldiers, including physical/medical health, oral health, psychological health, social health, immunization and fitness."²

Extensive research, conducted in both South Africa^{3,4} and the United States,⁵⁻⁸ has demonstrated that the repeated separation of soldiers from their families and their deployment into hostile environments is highly stressful for families. Many families, particularly those that are already vulnerable, experience some form of breakdown during deployments. In these instances, soldiers often have to be returned home, which poses various financial, human, and operational risks to the deployment.

In the South African National Defence Force (SANDF), social health has been recognized as an important dimension of health, and the Directorate Social Work was thus tasked by the Surgeon General to participate in the annual CHA. This challenged the Directorate, as social work in South Africa does not have a history of mass screenings or the use of standardized measuring tools.² In South Africa, social workers are prohibited from using the psychometric tools that their American counterparts may use.

A mass screening process was subsequently developed² based on the family resilience theory of McCubbin et al.⁹ The CHA used a standardized social work instrument called the

Heimler Scale of Social Functioning (HSSF).¹⁰ The HSSF was one of only a few instruments available for use by South African social workers. The HSSF is brief and, it was thought, easy to complete.

Over the following years, however, various factors emerged that confirmed that the HSSF was not suitable for use in the CHA. First, the HSSF evidenced inadequate psychometric properties.^{11,12} Second, the poor fit between the theoretical framework of the HSSF and the resilience framework used by SANDF social workers created confusion. Third, the instrument was vulnerable to impression management (the tendency to make oneself look better than one actually is), frequently resulting in invalid assessments. Fourth, some of the language in the instrument was difficult for soldiers to understand, particularly given the diverse culture and language groups employed by the SANDF.

The SANDF, like the U.S. military, is culturally diverse. Race is a key component of cultural diversity here and refers to the Apartheid-era definitions of four population groups, viz White (Caucasian), African (Black), Asian (Indian or Asian), and Colored (people with mixed race parentage). In addition to race, cultural diversity incorporates language. South Africa has 11 official languages and many South Africans are only partially (if at all) conversant in English. Culture exists at the interface of race and language, and because of the separation of racial and language groups under Apartheid, South Africa is extremely diverse. Consequently, scales developed in this context must accommodate the diversity of culture, race, and language.

The Directorate Social Work thus determined that a new instrument needed to be developed.^{2,12} This instrument needed to be suitable for use within a culturally and linguistically diverse population. It also needed to be aligned with the resilience model used in the CHA. Although there are scales available that measure constructs similar to those identified for this new instrument, it was agreed that an indigenous instrument was needed; one that was sensitive to the unique culture of South Africa and that could be freely used within a resource-constrained setting. The new instrument was christened the Military Social Health Index or MSHI.

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This manuscript was received for review in July 2007. The revised manuscript was accepted for publication in February 2008.

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The purpose of this article is to introduce the MSHI. The theory, design, and field-testing phases are described in some detail. Thereafter, selected aspects of the validation are presented, which provide preliminary support for the measurement properties of the MSHI. The full English version of the MSHI is shown in the last table.

THE MSHI

The MSHI was conceptualized within a model of social functioning called the Resilience Model (Fig. 1), which was derived primarily from the work of McCubbin and McCubbin.¹³ The model addresses the concept of "social health," defined as "the relatively low vulnerability and high resilience of people that enables them to deal effectively with life stress, notably the stress of a military operation."¹⁴

Resilience theory is a multifaceted field that has been addressed by social workers, psychologists, sociologists, educators, and others over the past few decades.⁸ In short, resilience theory addresses the strengths that people and systems demonstrate that enable them to rise above or recover from adversity.

Resilience theory addresses two main classes of constructs, viz vulnerability and resilience. Vulnerability refers to "the interpersonal and organizational condition of the family system"¹³ and is determined by¹⁵:

- (1) The accumulation, or pileup, of demands on or within the family unit, such as financial debts, poor health status of relatives, and changes in a parent's work role or work environment, and (2) the normative trials and tribulations associated with the family's particular life-cycle stage with all of its demands and changes.

Family resilience, which is the main focus of the MSHI, refers to "key processes that enable families to cope more effectively and emerge hardier from crises or persistent stresses, whether from within or from outside the family."¹⁶ Other authors state:

Family resilience describes the path a family follows as it adapts and prospers in the face of stress, both in the

present and over time. Resilient families respond positively to these conditions in unique ways, depending on the context, developmental level, the interactive combination of risk and protective factors, and the family's shared outlook.¹⁷

Family resilience, as opposed to theories of individual resilience, was identified as most suitable for the SANDF for two main reasons. First, experience taught that the family is a key reason for the poor social health of soldiers, thus it was appropriate that the family should enjoy our attention. Second, although most soldiers are young adults who, in developmental terms, should be separating from their families and striving for independence, young South African adults maintain an ongoing engagement with and responsibility for their families throughout adulthood. It is thus virtually impossible to assess young South Africans without considering the family system.

The MSHI, then, comprises four components of family resilience, viz social support, problem solving, stressor appraisal, and generalized resistance resources. These four constructs were selected from among the many other possible resilience constructs because they were supported by the literature concerning deployment resilience⁸ and because they were borne out by the clinical and operational experience of military social workers. The constructs are formally defined and operationalized as follows¹⁸:

- Resilience is the presence of key processes and properties of family systems that enable them to cope more effectively with and emerge stronger from life stress, notably the stress of deployments.
- Social support is the ability of the family system to access quality and sufficient support systems in times of need, which contributes to increased resilience and social health.
- Problem solving is the ability of the family system to identify problems, generate alternatives, implement solutions, and evaluate solutions, which contributes to increased resilience and social health.

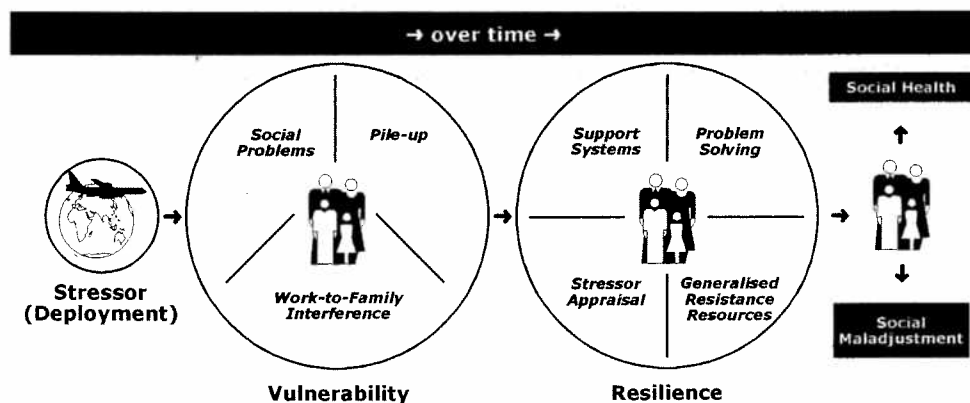


FIGURE 1. Resilience model.

- Stressor appraisal is the way in which the stress of deployments is perceived (seen), appraised (evaluated), and interpreted (given meaning) by family systems, which contributes to increased resilience and social health.
- Generalized resistance resources (GRRs) is the presence of a variety of creative and dynamic resources in family members and the family system, that enables families to resist life stress, which contributes to increased resilience and social health.

In addition, a family was defined as “the network of significant and meaningful relationships between a group of individuals who experience a sense of emotional affiliation and mutual obligation.”¹⁸

Scale Design

A detailed review on the various theories of resilience was conducted.⁸ The theories and research concerning each of the four constructs were content analyzed to extract key themes.¹⁸ These themes, in combination, provided a composite description of what it meant to have, for example, social support. These themes were decomposed to form “facet maps,” one for each construct. The facet maps, like a mind map, depicted the construct in the center of map (e.g., social support) and the various facets of what it means to have that construct radiating out from the center (e.g., feel important to others; regular contact with others; others will help in an emergency).

In the design phase, one item was generated for each facet: a method of item generation called the “list method.”¹⁹ For example, the facet “Feel important to others” resulted in the item “We know that our family is important to others.” This process facilitated adequate sampling of the construct domains, thereby ensuring content validity.

In light of the cultural diversity of the SANDF, items were formulated in four common languages: English, Afrikaans, isiZulu, and Setswana. The items were generated by a team of military social workers, all of whom were bilingual in English and one of the African languages. Items were designed using a variation of the dual-focus approach,²⁰ termed the multi-focus approach.¹⁸ In this approach, whenever an item was proposed in English, team members would immediately ask, “How would we say that in isiZulu?” or “How would we phrase that in Afrikaans?” Once an item had been formulated in all four languages, it was back-translated²¹ into English to determine translation equivalence. Only items that could be phrased equivalently in all four languages were retained. The process of designing the MSHI was thus a multicultural collaboration from beginning to end.²²⁻²⁴ Through this process, an initial pool of 99 items (in four languages) was generated for the four constructs.

The reading level of the English version of the items was evaluated using Fry's²⁵ readability graph. Using four 100-word segments of the instrument, a readability level of grade 7 was obtained, well within the reading ability of most soldiers.

Extensive field testing resulted in a number of adjustments to item phrasing. Small culturally homogenous focus groups of soldiers met with a field researcher. They were asked to report what they understood by each item in the instrument. Items that they misunderstood or did not understand were discussed and suggestions were obtained from the participants for rephrasing. Linguistic experts in the military's language bureau also reviewed the translations, and made a number of grammatical adjustments to the items. The instrument was also subjected to rigorous empirical assessment of its linguistic equivalence, the details of which are beyond the scope of this article. The evaluation showed that the various language versions of the MSHI performed equivalently in most respects.¹⁸

Scale Validation Methodology

This validation research is based on a national convenience sample of 2,000 active duty SANDF soldiers. The soldiers completed the MSHI validation package voluntarily and anonymously. Participants were drawn from four prevalent culture groups in the SANDF, viz White Afrikaans-speaking, Colored Afrikaans-speaking, African Setswana-speaking and African isiXhosa-speaking. Five hundred participants per culture group were sampled.

We initially intended to sample White and Asian English-speaking participants as well as African isiZulu-speaking participants. It was not possible, however, to collect sufficient numbers of participants from these cultures, and the decision was taken to drop them from the study.

Field workers, however, accidentally collected large numbers of isiXhosa-speaking participants, who were subsequently included in the study. Given the linguistic similarities between isiZulu and isiXhosa, we expected that these participants would use the English and/or isiZulu versions of the MSHI. As a result of completing the instrument in a second language, we anticipated that their validation results might be slightly weaker than those of the other three groups.

The sample comprised 1,464 men (73.3%) and 532 women (26.7%). Participants included 45 soldiers (2.3%) in their teens, 734 (36.9%) in their 20s, 937 (47.1%) in their 30s, 247 (12.4%) in their 40s, and 27 (1.4%) in their 50s. A total of 1,084 soldiers (54.2%) indicated that they were married, and a further 562 (28.3%) indicated that they were in a long-term relationship. About three-quarters of the soldiers (1,420 people, 71.2%) indicated that they had one or more children. About half the sample (1,077 people, 54.2%) had completed high school and a further fifth (379 people, 19.1%) had a tertiary education. Soldiers came from all rank groups, ranging from private to colonel.

The participants were administered a validation package comprising 175 items. This included the initial pool of 99 MSHI items, together with a set of 14 demographic variables and three other vulnerability-oriented scales I developed simultaneously. These vulnerability scales measured social problems (the degree to which a family is experiencing social

problems such as relationship difficulties, substance abuse, and financial problems); pileup (the degree to which a family has experienced acute life stressors over the previous 6 months); and work-to-family interference (the degree to which a family has experienced a negative spillover of work problems into the family nexus).

The validation package included all four languages in parallel columns. Participants could thus read any or all of the translations of every item and instruction. We subsequently established that while the majority of Afrikaans-speaking participants (77.3% of White and 57.8% of Colored participants) read primarily the Afrikaans version of the MSHI, most African participants (57.1% of Setswana speakers and 82.8% of isiXhosa speakers) read primarily the English version.

Through the validation process, 43 of the 99 items were discarded, reducing the MSHI to 56 items. In the results below, only the final validation results are presented. Complete details can be obtained in Van Breda.¹⁸

Validation Results

Reliability

Reliability refers to the degree to which an instrument produces similar results when administered on separate occasions.²⁶ Reliability, therefore, concerns the consistency of an instrument, both within itself (internal consistency) and over time (temporal stability).²⁷ Measurement error is the main reason for an instrument's inconsistency, thus reliability is also viewed as the amount of error present in an instrument.²⁸

Since the reliability coefficient sets the upper limit of the validity of a scale,^{29,30} scale validation typically starts with an assessment of reliability. Two forms of reliability were calculated, viz coefficient α and the standard error of measurement (SEM). α is a measure of the internal consistency of a scale,²⁷ that is the degree to which all the items in a scale hold together and therefore measure a construct consistently. Coefficient α should be above 0.90 in the case of narrow constructs,^{27,28,31} but above 0.80 in the case of broader constructs.³²

The SEM, unlike α , is not influenced by the degree of variance in the population or sample,³³ and thus serves as a more stable measure of reliability. The value of the SEM is dependent on the range of possible responses to a scale, thus the SEM is converted into a percentage.^{34,35} According to Hudson,²⁹ as cited in Faul,¹⁹ the SEM percentage should be ~5% or less. The reliability coefficients for the four MSHI scales across the four culture groups are presented in Table I.

It can be seen here that all α coefficients exceed the 0.90 standard, with a mean of 0.945. They range from a low of 0.917 (social support: African isiXhosa-speaking participants) to a high of 0.970 (problem solving: White Afrikaans-speaking participants).

Four of the 16 SEMs exceed the 5% standard. They range from a low of 3.26 (problem solving: Colored Afrikaans-speaking participants) to a high of 5.47 (stressor appraisal: African isiXhosa-speaking participants). The mean SEM for

TABLE I. Reliability Results

Scale	Culture	α	% SEM	Items	n
Social support	White Afrikaans	0.943	4.649	14	492
	Colored Afrikaans	0.942	4.397	14	478
	African Setswana	0.932	4.754	14	475
	African isiXhosa	0.917	5.086	14	461
Problem solving	White Afrikaans	0.970	3.269	14	487
	Colored Afrikaans	0.969	3.257	14	478
	African Setswana	0.960	3.935	14	481
	African isiXhosa	0.952	3.932	14	461
Stressor appraisal	White Afrikaans	0.932	5.228	14	483
	Colored Afrikaans	0.932	4.632	14	485
	African Setswana	0.925	5.250	14	476
	African isiXhosa	0.925	5.473	14	461
GRRs	White Afrikaans	0.953	3.510	14	488
	Colored Afrikaans	0.957	3.422	14	486
	African Setswana	0.962	3.683	14	484
	African isiXhosa	0.952	3.766	14	475

stressor appraisal is a little high (5.15), while the mean SEMs for the three other scales are all below 5.0. The mean SEMs for each culture are below 5—4.16 for White Afrikaans, 3.93 for Colored Afrikaans, 4.41 for African Setswana, and 4.56 for African isiXhosa. All SEMs remain reasonably low, and if rounded to the nearest whole number, will not exceed the standard of SEM ≤ 5 . In conclusion, the MSHI demonstrated acceptable levels of reliability and measurement error across all scales and across four South African culture groups.

Construct Validity at Item Level

Construct validity at item level refers to the degree to which each item in a scale measures the construct it is supposed to measure, and not some other construct. The Multiple Groups Confirmatory Factor Analysis^{28,29} was used to examine the MSHI's item-level construct validity. For each culture group separately, each item was correlated with its own corrected scale total and with the total scores for the three other scales.

Two criteria were used to determine whether an item evidenced construct validity.^{19,29} First (criterion 1), each item was required to correlate with its own corrected scale total more highly than with any of the other scales. This would indicate that the item was measuring the construct it was supposed to measure and not one of the other constructs. Second (criterion 2), each item was required to correlate with its own corrected scale total at 0.40 or higher. This would indicate that the item was measuring its own construct "strongly" or "well."

The analyses indicated that, with the exception of the African isiXhosa responses to one item in the social support scale, all other items in the MSHI met the first criterion, and that all items met the second criterion. The instrument thus demonstrates strong factorial validity within and across cultures.

The item-total correlations were then averaged for each of the scales for each culture group. It was expected that the

TABLE II. Item-Level Construct Validity Results^a

Scale	Culture	Social Supports	Problem Solving	Stressor Appraisal	GRRs
Social supports	White Afrikaans	0.715^b	0.406	0.250	0.367
	Colored Afrikaans	0.713	0.506	0.352	0.383
	African Setswana	0.679	0.534	0.409	0.449
	African isiXhosa	0.635	0.448	0.348	0.400
Problem solving	White Afrikaans	0.449	0.820	0.271	0.624
	Colored Afrikaans	0.551	0.818	0.424	0.560
	African Setswana	0.591	0.779	0.457	0.606
	African isiXhosa	0.493	0.748	0.422	0.553
Stressor appraisal	White Afrikaans	0.240	0.237	0.679	0.228
	Colored Afrikaans	0.338	0.375	0.681	0.427
	African Setswana	0.402	0.405	0.657	0.409
	African isiXhosa	0.358	0.393	0.658	0.385
GRRs	White Afrikaans	0.380	0.582	0.245	0.755
	Colored Afrikaans	0.403	0.543	0.465	0.770
	African Setswana	0.503	0.614	0.465	0.788
	African isiXhosa	0.451	0.563	0.419	0.749

^a All values indicate mean item-total correlations.

^b Bold italic values^a mean corrected item-total correlations with own scale.

average corrected item-total correlations for item-own-scale correlations should be markedly higher than the average item-total correlations for item-other-scale correlations. This would indicate that, on average, the items in a scale were measuring their own construct more strongly than other constructs. Table II presents the results of these analyses. Here it can be seen that the own item-total correlations are higher than the other item-total correlations in all cases. This confirms the factorial validity of the MSHI across culture groups.

The corrected item-total correlations (shown in bold italics) serve as coefficients of construct validity.¹⁹ The minimum standard for validity coefficients is set at 0.60.^{19,29,36} Table II indicates that all 16 validity coefficients exceed this standard; indeed, the mean construct validity coefficient is 0.73, well above the standard of 0.60. This provides evidence for strong construct validity of the MSHI at the item level for all culture groups.

Construct Validity at Scale Level

Construct validity at scale level refers to the degree to which the scales measure the constructs they are supposed to measure, and not some other construct. Hudson's²⁹ method of investigating construct validity at scale level was followed. Three hypotheses were made about what constructs the scales should or should not correlate with, based on theoretical predictions, which were then empirically tested. These three hypotheses were:

1. Class I predictors. The four MSHI scales should correlate weakly (below 0.10) with the following variables: gender, marital status, duration of relationship, educational qualification, number of times married, number of children, shoe size, net income, and having difficulties understanding the questionnaire. This would provide evidence of discriminant validity—this is evidence that the scales do not measure constructs they should not measure.

2. Class II predictors. The four MSHI scales should negatively correlate at a moderately low level (−0.10 to −0.30) with three other vulnerability-oriented scales I developed simultaneously, viz social problems, pileup, and work-to-family interference. Resilience, which the four MSHI scales measure, is largely separate from the occurrence of life stressors, yet resilience may moderate or reduce the negative influence of such events on the well-being of the family. Consequently, moderately low, negative correlations are hypothesized. This would provide beginning evidence of convergent validity—that is, initial evidence that the scales do measure what they should measure.
3. Class III predictors. The four MSHI scales should intercorrelate strongly and positively (0.40–0.70) with each other, since the four constructs are, in fact, different aspects or facets of a larger construct, viz resilience. This would provide evidence of convergent validity—that is, evidence that the scales do measure what they should measure.

A total of 232 correlations were calculated to test these three hypotheses, the results of which are summarized in Table III. In most instances, the three hypotheses were confirmed.

- With the exception of the Colored culture on stressor appraisal, the average class I correlations are all below 0.10. Overall, the mean class I correlation is 0.06.
- With the exception of the African isiXhosa culture (whose correlations all averaged below −0.10), the average class II correlations all lie between −0.10 and −0.30. Overall, the mean class II correlation is −0.16.
- With the exception of the White Afrikaans culture on stressor appraisal, the average class III correlations are all between 0.40 and 0.70. Overall, the mean class III correlation is 0.56.

TABLE III. Scale-Level Construct Validity Results

Scale	Culture	Class I	Class II	Class III
Social supports	White Afrikaans	0.041	-0.197	0.447
	Colored Afrikaans	0.040	-0.188	0.539
	African Setswana	0.052	-0.177	0.636
	African isiXhosa	0.045	-0.065	0.569
	Mean	0.045	-0.157	0.548
Problem solving	White Afrikaans	0.063	-0.225	0.529
	Colored Afrikaans	0.062	-0.209	0.614
	African Setswana	0.056	-0.155	0.683
	African isiXhosa	0.057	-0.072	0.632
	Mean	0.060	-0.165	0.615
Stressor appraisal	White Afrikaans	0.097	-0.184	0.319
	Colored Afrikaans	0.104	-0.143	0.515
	African Setswana	0.072	-0.132	0.565
	African isiXhosa	0.045	-0.059	0.525
	Mean	0.080	-0.130	0.481
GRRs	White Afrikaans	0.070	-0.223	0.509
	Colored Afrikaans	0.070	-0.202	0.583
	African Setswana	0.039	-0.162	0.645
	African isiXhosa	0.045	-0.080	0.605
	Mean	0.056	-0.167	0.586
Total mean		0.060	-0.155	0.557

Overall, therefore, the MSHI demonstrates good construct validity at scale level, with the hypotheses being mostly supported by evidence.

CONCLUSIONS

This article has introduced a new social work scale, the MSHI, which was designed to facilitate the assessment of the resilience of military families to the stress of deployments. This scale is intended for use in the annual assessment of thousands of soldier families in the SANDF (Table IV).

Four concurrent validations were conducted with four cultural groups, viz White Afrikaans-speaking, Colored Afrikaans-speaking, African Setswana-speaking, and African isiXhosa-speaking. Five hundred participants were sampled across the country for each culture group.

Results of the initial validation indicate that the MSHI demonstrates high levels of reliability (all above 0.90) and low levels of SEM (all below 5.5%). The scale also demonstrates strong factorial validity, based on multiple groups confirmatory factor analysis. The factor structure of the MSHI is consistent across the four cultures. Finally, the scale demonstrates good convergent and discriminant validity, with most theoretically predicted correlations demonstrated statistically.

Overall, therefore, the MSHI demonstrates potential as a measuring tool with excellent measurement properties. This is true even for isiXhosa-speaking participants who completed the instrument in a second language (isiZulu or English). All validation, however, must be ongoing and replicable. Three areas of further investigation are, therefore, planned.

First, the known groups' validity of the MSHI needs to be investigated. It is on the basis of these data that clinical

TABLE IV. MSHI (English Version)

MSHI	
Social support	Problem solving
In my family we know that other people love us.	We resolve most of the problems in our family.
My family is appreciated by others.	We talk about the problems in our family.
We know that our family is important to others.	We find solutions to our problems.
We know that our family is understood by others.	My family considers previous solutions as options.
Our family maintains regular contact with others.	We learn from our mistakes.
Assistance from others adds value to family life.	We look for solutions that everyone agrees on.
There are a variety of support systems available to my family.	Our family works together to solve problems.
My family is satisfied with their support systems.	We implement the solutions to our problems.
My family knows that others listen to them.	We are confident that we can solve our problems.
My family provides assistance to others.	We resolve our problems step-by-step.
My family often spends time with others.	Our family acts on our decisions.
My family believes that they are protected.	In our family we talk about whether solutions are working successfully.
Members of my community will help in an emergency.	When solutions do not work, our family looks for other solutions.
People help our family when we are in trouble.	When solutions do not work, we try harder to find solutions.
Stressor appraisal	GRRs
My family thinks that deployments create opportunities for me to grow/develop.	In our family we feel good about ourselves.
My family understands the purpose for deployments.	I am in control of my life.
My family sees the value of deployments.	My family stands together.
My family can handle the demands of deployments.	We have close family ties.
My family and I are committed to the military.	In our family we talk about experiences we have shared.
Deployments make life interesting.	We respect each other in our family.
My family understands that deployment is part of my job.	My family can adapt to change.
My family thinks deployments are important.	We talk openly with each other in our family.
My family is proud that I am a soldier.	My family has learned how to cope in difficult times.
I am proud to be a soldier.	In our family we agree on important things.
I like to deploy.	Our family likes spending time together.
I like to work for the military.	Our family likes doing things together.
I trust the people I deploy with.	We believe things in life will get better.
In my family we focus on the positive aspects of deployments.	We maintain a healthy lifestyle.

cutting scores for the instrument can be determined. This will increase the practical utility of the instrument.

Second, the performance of the MSHI in a high stakes context needs to be determined. The validation data were collected in a low stakes setting: participants completed the

validation instrument anonymously as part of a research project. In practice, the MSHI will be completed during a health assessment that will determine whether or not the soldier can deploy. Since deployments generate substantial additional income for soldiers, the tendency toward impression management cannot be ignored. Initial exploration into the effect of testing contexts on the scale performance confirms the influence of impression management on scale scores.

Third, the predictive validity of the MSHI needs to be assessed to determine to what extent it predicts family resilience and coping during actual deployments. It is hoped that the instrument will enable early identification of vulnerable families, thereby reducing the number of soldiers who return home prematurely.

The MSHI makes a number of significant contributions to military social work. First, it provides a measuring tool for military social workers that is based on a clinical assessment model, viz the Resilience Model. Second, it is one of relatively few social work instruments that is located within the resilience or strengths paradigm. Third, it offers an indirect measure of families—through the family member who is employed in the military. Finally, the instrument has been developed, from inception, to be used within a multicultural context. The procedures followed in the design and field-testing phases appear to have contributed to an instrument that has provisionally demonstrated cross-cultural equivalence.

ACKNOWLEDGMENTS

I acknowledge Dr. Wim Roestenberg, Senior Lecturer at the University of Johannesburg, who supervised the doctoral research upon which this article is partly based; and Mrs. Lynette Kleynhans, previously a Social Work Researcher with the SANDF, who administrated the data collection for this study and provided invaluable support throughout the research process.

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