Development and Validation of a Tool to Assess Military Veterans' Status, Functioning, and Satisfaction with Key Aspects of their Lives

Dawne Vogt* and Yael I. Nillni

National Center for PTSD, VA Boston Healthcare System, USA
Boston University School of Medicine, USA

Emily C. Taverna and Fanita A. Tyrell

National Center for PTSD, VA Boston Healthcare System, USA

Bradford Booth

Westat, USA

Daniel F. Perkins

Pennsylvania State University, USA

Laurel A. Copeland

VA Central Western Massachusetts Healthcare System, USA
UT Health San Antonio, USA

Erin P. Finley

UT Health San Antonio, USA
South Texas Veterans Health Care System, USA

Cynthia L. Gilman

The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF), USA

---

* Address for correspondence: Dawne Vogt, Women's Health Sciences Division (116B-3), National Center for PTSD, VA Boston Healthcare System, 150 S. Huntington Ave, Boston, MA 02130, USA. Email: Dawne.Vogt@va.gov
Additional information, along with a manual that includes scoring syntax for the WBI, can be obtained from Dr Dawne Vogt.

Background: We developed and validated the Well-Being Inventory (WBI) to address the need for a tool that can provide a comprehensive assessment of key aspects of military veterans' lives. This multidimensional instrument assesses status, functioning, and satisfaction with regard to vocation, finances, health, and social relationships. **Methods:** Two large multi-phase studies (Study 1 Ns = 301, 286; Study 2 Ns = 9,566, 7,342) were conducted to develop and validate this tool among military veterans. **Results:** Confirmatory factor analyses supported the proposed factor structure, with separate factors observed for all scales except the health functioning scale, which was best represented as three factors rather than a single factor. Cronbach's alphas were satisfactory, with an average alpha of 0.86. Most WBI measures discriminated among individuals with and without mental health conditions and demonstrated expected declines among those with a new mental health condition. **Conclusions:** This study provides initial evidence for the reliability, validity, and sensitivity to change of the WBI. This tool can be used to provide insight into areas in which military veterans would benefit from additional support and inform efforts to promote the well-being of this population. Given its broad focus, it may also prove useful with other civilian populations.

Keywords: instrument development, military veterans, psychometric evaluation, well-being

INTRODUCTION

Recently, our research team sought to identify a measure that could provide a comprehensive assessment of military veterans' well-being with regard to important aspects of their lives. Because we were not able to identify a measure that could meet this aim, we developed a new tool to fulfill this need and serve as a resource for others interested in assessing key life circumstances among military veterans and potentially other civilian populations as well. In this article, we describe the considerations that led us to develop a new measurement tool and present evidence for the psychometric quality of this set of measures, hereafter referred to collectively as the Well-Being Inventory (WBI).

Conceptualisation of Well-Being

The question of how those who serve in the military fare after they leave service has been a topic of long-standing interest within the United States and around the world (Pinder et al., 2012; Thompson et al., 2013; Vogt et al., 2018). Within the United States, there are over 19 million military veterans (US Department of Veterans Affairs, National Center for Veterans Analysis and Statistics, 2016) and more than 40,000 organisations devoted to promoting their health, vocational, financial, and social well-being (Berglass & Harrell, 2012; Pedersen et al., 2015). Yet, our knowledge of the extent to which these organisations meet veterans' most pressing needs remains limited, as comprehensive assessments of

veterans' well-being are not the norm (Institute of Medicine, 2013; Vogt et al., 2018). To address this knowledge gap, we sought to assess the well-being of US military veterans.

The theoretical framework that informed our conceptualisation of well-being for this project draws from Jayawickreme, Forgeard, and Seligman's (2012) concept of inputs and processes of well-being by focusing on life circumstances that are hypothesised to set the stage for achieved well-being. As presented in Supplemental Table 1, this framework reflects the application of three dimensions of well-being proposed by Gladis, Gosch, Dishuk, and Crits-Christoph (1999) to four life domains that have been the focus of prior work with both veteran and civilian populations (Berglass & Harrell, 2012; Bishop, Miller, & Chapin, 2008; Cummins, 1997). Together, this framework addresses 12 primary domains reflecting veterans' status, functioning, and satisfaction with respect to their vocation, finances, health, and social relationships. Subdomains within the vocational domain include employment and education; subdomains within the social domain include intimate relationships, parenting, and relationships within the broader community.

Consistent with the writing of Gladis et al. (1999), as well as Schnurr, Lunney, Bovin, and Marx (2009) and other scholars (e.g. Katschnig, 2006a; Mogotsi, Kaminer & Stein, 2000), each component is considered a separate input of well-being that may or may not co-occur with other components. This assertion builds on the assumption that one can function well within a particular life domain but not be satisfied with it, as might be the case for the vocational well-being of an individual who is underemployed. Likewise, individuals may be satisfied with a given life domain but not function well within it, as might be the case for a young adult who engages in risky health behaviors but has not yet experienced the longer-term consequences of these behaviors for their health status.

The focus on status in this framework draws from need-based theories of well-being, as exemplified in government tracking of factors such as employment and marital status (United States Department of Health, Education and Welfare, 1969). The focus on functioning builds on the work of Sen (1993) and others (Cooke, Melchert, & Connor, 2016; Holowka & Marx, 2012; Katschnig, 2006b), who have highlighted the importance of optimal functioning in promoting well-being. The focus on life satisfaction draws from the recognition that subjective perceptions of life circumstances play a key role in how individuals experience their lives, as addressed in the work of Diener and Suh (1997) and others (Campbell, 1976; Forgeard, Jayawickreme, Kern, & Seligman, 2011). As applied to the key life domains of vocation, finances, health, and social relationships, these factors provide a broad assessment of life circumstances that can set the stage for well-being.

Review of Relevant Measures

After clearly defining our conceptualisation of well-being, we reviewed existing measures to evaluate whether any of them could be used to address components within this framework. Because military veterans effectively become civilians when they leave military service and must contend with all the same life concerns as other civilians (e.g. finding a job, managing their money, maintaining positive relationships), we reviewed measures within both the military veteran and civilian literature. Given our interest in assessing factors that set the stage for well-being rather than what has been referred to as "achieved well-being" or "well-being outcomes" (Jayawickreme et al., 2012), we omitted measures of the latter category from consideration, including measures of constructs such as positive emotions and broader purpose in life (Ryff & Keyes, 1995; Seligman, 2012).

Although we identified several multidimensional measures that could be considered inputs and processes of well-being, none of them provided separate assessments of the three dimensions of well-being we were interested in (i.e. status, functioning, and satisfaction) and we were not able to identify any measures that addressed veterans' objective life circumstances across multiple life domains. Moreover, many focused on health-related quality of life, and either gave less attention to well-being in other domains or limited their assessment to how other domains are impacted by health status. In addition, most measures of specific components in the proposed framework (e.g. satisfaction with work) provided more granular assessments than were practical for a broad assessment of multiple contributors to well-being. Because we were not able to identify a measure that could fully meet our needs, we developed a new measurement tool to use in our own research and serve as a resource for others interested in studying inputs of well-being. The remainder of this article describes the process that was undertaken to develop and validate this instrument.

Development and Validation of the Well-Being Inventory

The development and validation of the WBI relied on a rational approach to test construction and classical test theory analyses (Aiken, 1994; Anastasi, 1982; Clark & Watson, 1995; Nunnally & Bernstein, 1994). Two multi-part studies were conducted, with informed consent obtained for both. In the first study, we developed and tested draft items among military veterans who completed initial and revised item sets. In the second study, we examined the psychometric characteristics of refined measures in a larger sample of military veterans who completed the measures on two occasions. A visual depiction of steps involved in developing and validating the WBI is provided in Supplemental Figure 1.

STUDY 1: ITEM DEVELOPMENT AND REFINEMENT

Purpose

The purpose of Study 1 was to flesh out our initial conceptualisation of well-being, draft items to assess key components of this conceptualisation, and examine initial and revised item and scale characteristics among military veterans. Associations between draft item sets and other widely used measures of well-being were also examined to evaluate their unique contribution to the literature.

Participants and Procedure

The sample for this two-part survey was identified from a nationally representative panel of US adults maintained by Growth from Knowledge. At the first timepoint, 5,062 individuals were invited to complete the screening questionnaire. Of those screened (4,307), 308 (7%) met eligibility criteria, defined as: (1) having served as full-time military personnel (Active Duty) or having activated for a deployment from the National Guard/Reserves; and (2) having separated from activated military service after 2002 (i.e. post 9/11 service). Of these 308 eligible veterans, 301 (98%) elected to complete the web-based survey and were provided with an incentive valued at $25. At the second timepoint, which took place approximately 3 months following the first survey, military veterans who completed the original survey and 1,052 new panel members were invited to complete the screener. Among those who completed the screener ($N = 923$), 286 (31%) met study criteria and all of them completed the survey (100% completion rate). Among those who completed the first survey, 221 (73%) completed the second survey. At the first timepoint, the sample was 74 per cent male and 68 per cent White, with a mean age of 44.66 ($SD = 13.28$). In addition, participants were generally well-educated (21% bachelor's degree; 24% graduate or professional degree) and only 14 per cent reported a household income less than $25,000. Demographics at the second timepoint were similar and are available upon request.

Analyses

We began our development of the WBI by fleshing out our initial conceptualisation of well-being and drafting items to address each component in the conceptual framework. This effort drew from a review of relevant literature on well-being, wellness, and quality of life. Although we consulted measures of related constructs to inform the development of items, most of the measures we identified provided a more in-depth assessment of focal concepts than desired for this measurement tool, and none included items that entirely met our needs. Initial

definitions of well-being components and draft items were then reviewed by military veterans, measurement experts, and researchers who specialise in veteran research, and revised in response to this feedback. Consistent with recommended procedures for enhancing the quality of items (Vogt et al., 2013), items were also refined based on an evaluation of the extent to which they met the following six criteria: readability (i.e. items are easy to understand), item-to-response format match (i.e. response format is appropriate for the items), face validity (i.e. items appear to assess relevant content), neutrality (i.e. items were not leading), "double barreledness" (i.e. items do not assess multiple domains), and response variance (i.e. items maximise dispersion of responses).

Using data from the first survey, we computed frequency distributions for all items with Likert-type response formats and probabilities of endorsement for categorical items, as well as Cronbach's alphas for proposed functioning and satisfaction scales (Aiken, 1994; Anastasi, 1982; Nunnally & Bernstein, 1994). Highly skewed items and those that contributed to reduced internal consistency reliability were revised or eliminated, as appropriate. We also made revisions to items based on veterans' responses to an open-ended question that asked them to evaluate whether all relevant aspects of well-being were addressed in the item sets.

Data from the second survey were used to examine the internal consistency reliability of revised item sets, as well as their relationship with one another. In addition, we examined their associations with the widely used and well-regarded World Health Organization Quality of Life Assessment (WHOQOL-BREF; WHOQOL Group, 1998) and the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). For the WHOQOL-BREF we used physical health, mental health, and social scores, as well as the two-item overall well-being score.

Results

We made several revisions to items to enhance their clarity and expand their content coverage based on feedback from reviewers, as well as descriptive results from the first survey. For example, we expanded the assessment of health-promoting behaviors and revised items in the social functioning scale to provide a more comprehensive assessment of functioning within different social relationships. In addition, we revised work, educational, and parental functioning measures in an effort to increase their dispersion.

An examination of Cronbach's alphas for the revised functioning and satisfaction scales at both timepoints (Supplemental Table 2) revealed that their internal consistency reliability was maintained or improved from the first to the second timepoint, with Cronbach's alphas that ranged from 0.80 to 0.93 for all scales except the Financial Functioning item set ($\alpha = 0.70$). In addition, none of the correlations among the item sets exceeded values that would suggest conceptual

overlap (i.e. $r > 0.80$; Kline, 2005), and functioning and satisfaction item sets demonstrated higher correlations within focal content areas (average $r = 0.64$) than across focal content areas (average $r = 0.41$) at the second timepoint, as expected (Supplemental Table 3). To enhance the conceptual distinction between the intimate relationship functioning and satisfaction item sets, which demonstrated an $r = 0.74$, we subsequently revised instructions for the satisfaction scale to focus on satisfaction with one's intimate partner's contribution to the relationship rather than satisfaction with the relationship as a whole.

As indicated in Supplemental Table 4, associations between functioning/satisfaction item sets and the WHOQOL-BREF and SWLS at the second timepoint were highest for the health satisfaction item set, suggesting that this component of the WBI framework most closely aligns with what is assessed in those measures. A supplemental examination of the association between this item set and WHOQOL physical and mental health measures provided further support for this interpretation, with relatively strong associations also observed for these measures ($r = 0.71$ and $r = 0.78$, respectively). An examination of associations with other WHOQOL domain scores also revealed a relatively strong association between the intimate relationship satisfaction items and the WHOQOL social well-being measure ($r = 0.79$), suggesting some convergence in the focus of those measures. However, other correlations were moderate in nature and none of them exceeded levels suggesting conceptual overlap. In addition, associations with status measures were generally modest, providing support for the unique contribution of this set of measures.

STUDY 2: PSYCHOMETRIC EVALUATION OF REFINED WBI MEASURES

Purpose

A second study was conducted to examine the psychometric characteristics of refined WBI measures within a large sample of military veterans who completed the measures on two occasions. During this study, we examined: (a) the factor structure underlying the full set of functioning and satisfaction scales; (b) scale characteristics of refined measures, including their internal consistency reliability; (c) evidence for the convergent and discriminant validity of refined measures vis-à-vis their associations with one another; (d) evidence for the discriminative validity of refined measures, as reflected in their ability to discriminate between those with versus without mental health conditions; and (e) evidence for the sensitivity to change of refined measures, as demonstrated by the ability to capture expected declines in well-being for individuals with a new mental health condition.

Participants and Procedure

A new sample of veterans completed the WBI twice, approximately 6 months apart. Potential participants were identified from a nationally representative cohort of 48,965 military veterans who served on Active Duty status at least 180 days, were within 90 days of separation, and had a mailing address within the continental US. Veterans were mailed a letter inviting them to complete the first web-based survey. Of those believed to have been successfully reached, the completion rate was 22 per cent ($N = 9,566$). Most participants were male (82%) and White (76%), and the average age was 34.47 ($SD = 9.55$). Thirty-nine per cent had a bachelor's or graduate degree; 20 per cent reported a household income of $25,000 or less. A total of 79 per cent of this sample ($N = 7,342$) completed the survey again 6 months later. No meaningful differences were observed between the demographics of those who completed both timepoints and those who completed only the first survey (Vogt et al., 2018).

Analyses

Confirmatory factor analyses were conducted to examine the proposed factor structure underlying WBI functioning and satisfaction scales at the first timepoint and then replicated at the second timepoint. Full information maximum likelihood with robust standard errors was used and analyses were conducted in Mplus 7.11 (Muthén & Muthén, 1998–2013). Consistent with the multidimensional nature of the theoretical framework that guided its development (see Supplemental Table 1), we theorised a 14-factor structure that treated each of the functioning and satisfaction scales as distinct factors and compared this model with two plausible alternative models: (1) a seven-factor model that combined functioning and satisfaction scales for each domain addressed in the WBI; and (2) a single-factor model that subsumed all functioning and satisfaction scales on one factor. Models were evaluated based on widely accepted guidelines, with lower AIC and BIC values, CFI and TLI values greater than 0.90, and RMSEA and SRMR values below 0.08 preferred (Akaike, 1987; Hu & Bentler, 1999; Tucker & Lewis, 1973; Schwarz, 1978), as well as models with lower chi-square values (Satorra, 2000).

We also computed descriptives and Cronbach's alphas for all WBI scales, and examined associations among WBI scales at both timepoints to evaluate their convergent and discriminant validity. To evaluate whether WBI measures are able to distinguish among groups expected to differ on well-being, WBI measures from the second timepoint were compared for those with and without probable diagnoses of PTSD, anxiety, and/or depression based on the Primary Care PTSD screen for DSM-5 (Prins et al., 2016; $\alpha = 0.76$) and the PHQ-4 (Kroenke, Spitzer, Williams, & Lowe, 2009; anxiety $\alpha = 0.89$; depression $\alpha = 0.87$). We also examined the ability of WBI scales to detect clinically important change

between the first and second timepoint following guidelines provided by Terwee et al. (2007). We first evaluated whether individuals who met criteria for a new probable mental health condition at the second timepoint demonstrated a greater decline on WBI functioning and satisfaction scales from the first timepoint, as compared to those who did not. To evaluate whether observed changes were reliable, we then examined whether the mean change scores for those who developed a new mental health condition exceeded smallest detectable change (SDC_{group}) and minimal important change (MIC) scores.

Results

Factor Structure. As indicated in Table 1, an examination of the proposed factor structure suggested that it fit the data reasonably well and better than the alternative factor structures at the first timepoint. This provided support for the WBI's multidimensional approach to conceptualising the building blocks of well-being. However, an examination of modification indices, coupled with an exploratory factor analysis, suggested that the health functioning scale might be better represented with three separate factors. Thus, we next examined a modified 16-factor solution that separated this measure into physical health promotion, risk avoidance, and self-care factors. While the fit of this model was generally strong and significantly better than the hypothesised model, several of the practical fit indices (i.e. CFI, TFI) were still below recommended values, which appeared to be due to similar item wording and dependency among some items in the financial and social functioning scales (see Supplemental Table 5 for a list of these items). To confirm that these item dependencies were generalisable across samples, we specified a modified 16-factor model that included them within our replication dataset. This modification resulted in improved CFIs/TFIs and produced a model that demonstrated satisfactory fit to the data and that was significantly better than the two alternative models. Based on these results, we expanded scoring of the WBI health functioning scale to include three separate subscales.

Scale Characteristics. An examination of descriptives at the first timepoint revealed higher than desired skewness for the work and educational functioning scales. Therefore, a new item was added to each of these scales to increase dispersion. Cronbach's alphas remained relatively consistent for functioning and satisfaction scales between the first timepoint (Supplemental Table 2) and the second timepoint (Table 2). At the second timepoint, values ranged from 0.74 to 0.90, with an average alpha of 0.86. Alphas were slightly lower for the financial functioning scale, suggesting that individuals who engage in one type of financial behavior do not consistently engage in other financial behaviors. Alphas were also lower for the health functioning scale, as well as two of the three health functioning subscales, indicating that these measures capture a variety of

TABLE 1
Fit Indices and Chi-Square Values for the Nested Models of Functioning and Satisfaction in Study 2

Model	AIC	BIC	χ^2	df	RMSEA	CFI	TLI	SRMR	χ^2_{diff}	df_{diff}	p
First Timepoint											
Hypothesised 14-factor model	1448491.96	1450756.41	67341.98	2609	051 [0.051,0.051]	0.819	0.807	0.052	–	–	–
Revision #1 – 16-factor model	1433322.00	1435794.26	52114.02	2580	0.045 [0.044,0.045]	0.861	0.851	0.050	15227.96	29	.00
Alternative #1 – Seven-factor model	1479579.37	1481342.20	98569.38	2679	0.061 [0.061,0.061]	0.732	0.722	0.069	31227.40	70	.00
Alternative #2 – One-factor model	1576731.08	1578343.42	195763.10	2700	0.086 [0.086,0.087]	0.460	0.445	0.091	128421.12	91	.00
Second Timepoint											
16-factor model	1087269.30	1089684.82	41552.38	2729	044 [0.044,0.045]	0.866	0.856	0.050	–	–	–
Revision #1 – 16-factor corrected model	1075906.68	1078384.15	30171.77	2720	0.037 [0.037,0.038]	0.905	0.898	0.047	11380.61	8	.00
Alternative #1 – Seven-factor model	1123340.76	1125074.98	77821.84	2828	061 [0.061,0.061]	0.741	0.732	0.065	36269.46	99	.00
Alternative #2 – One-factor model	1195560.34	1197150.04	150083.42	2849	0.085 [0.084,0.085]	0.491	0.477	0.086	108531.04	120	.00

TABLE 2
Correlations among and between WBI Functioning and Satisfaction Scales from the Second Timepoint of Study 2

Measure	1	2	3	4	4a	4b	4c	5	6	7	8	9	10	11	12	13	14
Cronbach's alphas	0.85	0.84	0.74	0.76	0.82	0.44	0.69	0.89	0.89	0.90	0.90	0.88	0.88	0.82	0.89	0.85	0.87
Correlations between all Functioning Scales														*Correlations between Functioning/Satisfaction*			
1. Work Functioning	1																
2. Educational Functioning	0.47	1															
3. Financial Functioning	0.28	0.32	1														
4. Health Functioning	0.39	0.38	0.51	1													
4a. HF – health promotion	0.28	0.25	0.37	0.78	1												
4b. HF – risk avoidance	0.11	0.16	0.25	0.47	0.11	1											
4c. HF – self-care	0.39	0.37	0.45	0.86	0.49	0.19	1										
5. Int. Relationship Functioning	0.39	0.34	0.40	0.57	0.39	0.16	0.59	1									
6. Parental Functioning	0.35	0.31	0.31	0.41	0.29	0.14	0.41	0.49	1								
7. Broader Social Functioning	0.40	0.36	0.38	0.53	0.36	0.13	0.56	0.61	0.49	1							
8. Paid Work Satisfaction	0.41	0.25	0.33	0.42	0.24	0.14	0.45	0.35	0.28	0.37	1						
9. Educational Satisfaction	0.35	0.51	0.23	0.35	0.20	0.14	0.37	0.27	0.23	0.33	0.41	1					
10. Financial Satisfaction	0.23	0.27	0.68	0.46	0.32	0.19	0.46	0.37	0.28	0.36	0.41	0.29	1				
11. Health Satisfaction	0.35	0.30	0.44	0.68	0.50	0.20	0.67	0.54	0.38	0.50	0.48	0.36	0.48	1			
12. Int. Relationship Satisfaction	0.32	0.28	0.36	0.50	0.32	0.15	0.52	0.75	0.40	0.50	0.34	0.26	0.37	0.52	1		
13. Parental Satisfaction	0.27	0.16	0.24	0.33	0.22	0.12	0.34	0.40	0.67	0.39	0.25	0.18	0.24	0.34	0.38	1	
14. Broader Social Satisfaction	0.36	0.29	0.39	0.52	0.32	0.16	0.57	0.54	0.45	0.69	0.45	0.40	0.44	0.58	0.54	0.43	1

Correlations between all Satisfaction Scales (rows 8–14, columns 8–14)

TABLE 3
Differences in Well-Being Based on Mental Health (MH) Condition at the Second
Timepoint of Study 2

		No MH Conditions n(%)/ M(SD)	1 + MH Conditions n(%)/ M(SD)
Workforce participation [n(%)]	χ^2 = 29.56	4382 (86.26)	1749 (81.24)
Employed among those in workforce [n(%)]	χ^2 = 157.93	3696 (84.35)	1228 (70.21)
Employed full-time those in workforce [n(%)]	χ^2 = 3.80	3273 (88.56)	1061 (86.47)
Vocation Status [n(%)]	χ^2 = 106.98		
No vocation		320 (6.30)	294 (13.66)
Part-time vocation		301 (5.92)	134 (6.22)
Full-time vocation		4459 (87.78)	1725 (80.12)
Work Functioning [M(SD)]	t = 15.40*	4.59 (0.53)	4.26 (0.80)
Paid Work Satisfaction [M(SD)]	t = 20.55*	4.13 (0.79)	3.50 (0.98)
Educational Involvement [n(%)]	χ^2 = 18.61		
No educational involvement		3632 (71.50)	1430 (66.42)
Part-time educational involvement		276 (5.43)	135 (6.27)
Full-time educational involvement		1172 (23.07)	588 (27.31)
Educational Functioning [M(SD)]	t = 9.18*	4.48 (0.66)	4.16 (0.82)
Educational Satisfaction [M(SD)]	t = 9.19*	4.36 (0.74)	4.01 (0.88)
Financial Status [n(%)]	χ^2 = 473.59*		
Problematic		526 (10.39)	586 (27.32)
At risk		1856 (36.66)	923 (43.03)
Secure		2681 (52.95)	636 (29.65)
Financial Functioning [M(SD)]	t = 25.55*	4.00 (0.70)	3.50 (0.78)
Financial Satisfaction [M(SD)]	t = 26.76*	3.74 (1.08)	2.95 (1.18)
Health Functioning [M(SD)]	t = 40.83*	4.15 (0.49)	3.62 (0.51)
HF – health promotion [M(SD)]	t = 22.03*	3.59 (0.99)	3.02 (1.02)
HF – risk avoidance [M(SD)]	t = 13.37	4.74 (0.46)	4.54 (0.60)
HF – self-care [M(SD)]	t = 44.11*	4.01 (0.66)	3.25 (0.69)
Health Satisfaction [M(SD)]	t = 55.83*	3.96 (0.84)	2.70 (0.89)
In Intimate Relationship [n(%)]	χ^2 =14.03	4321 (85.16)	1756 (81.64)
Intimate Relationship Functioning [M(SD)]	t = 31.14*	4.16 (0.72)	3.44 (0.85)
Intimate Relationship Satisfaction [M(SD)]	t = 28.78*	4.27 (0.82)	3.43 (1.10)
In Parenting Role [n(%)]	χ^2 = 0.64	3080 (60.73)	1326 (61.73)
Parental Functioning (under 18) [M(SD)]	t = 14.99*	4.70 (0.47)	4.36 (0.72)
Parental Satisfaction (under 18) [M(SD)]	t = 13.68*	4.66 (0.58)	4.28 (0.88)
Broader Social Involvement [n(%)]	χ^2 = 370.58*		

Table 3 *(Continued)*

		No MH Conditions *n(%)/ M(SD)*	1 + MH Conditions *n(%)/ M(SD)*
No Regular Social Involvement		238 (4.70)	324 (15.08)
Community or Friend/Family Involvement		1315 (25.96)	784 (36.48)
Community and Friend/Family Involvement		3513 (69.34)	1041 (48.44)
Broader Social Functioning [*M(SD)*]	*t* = 28.26*	4.10 (0.70)	3.52 (0.84)
Broader Social Satisfaction [*M(SD)*]	*t* = 36.02*	4.15 (0.77)	3.31 (0.95)

Note: * meets or exceeds r = 0.20; health status outcome omitted due to conceptual overlap.

health behaviors that do not consistently co-occur (e.g. eating a healthy diet, getting quality sleep) and that are likely best considered formative measures, for which high internal consistency would not be expected (Bollen & Bauldry, 2011).

Convergent and Discriminant Validity.   At both the first timepoint (Supplemental Table 6) and the second timepoint (Table 2), functioning and satisfaction scales demonstrated higher correlations within focal content areas (with average rs = 0.61 and 0.63, respectively) than across focal content areas (with average rs = 0.34 and 0.37, respectively), and scales were not associated at a level that would suggest a concerning level of conceptual overlap. Although a relatively high correlation was observed between the intimate relationship functioning and satisfaction scales, these measures shared only about half of their variance, suggesting that they were sufficiently distinct to provide unique information.

Discriminative Validity.   As indicated in Table 3, individuals with one or more probable mental health conditions (n = 2,153) reported significantly worse functioning and satisfaction in all domains at the second timepoint, as compared to those with no condition (n = 5,080). In addition, those with one or more probable mental health conditions were more likely to have no regular social involvement and poorer financial status, providing support for the discriminative validity of these measures.

Sensitivity to Change.   As indicated in Supplemental Table 7, individuals who reported a new mental health condition at the second timepoint experienced a greater decline on most well-being measures from the first timepoint, and many of these differences exceeded our criterion for potential clinical significance ($r \geq 0.2$; Ferguson, 2009). In addition, all measures except two (parental functioning and satisfaction) exceeded SDC_{group} scores and all measures except four

TABLE 4
Construct Definitions, Sample Items, and Scoring for WBI Measures

Construct and Definition	Sample Items	Scoring
Vocation		
Status (four categorical items): Labor force participation, paid employment, full vs. part-time employment, and full-time involvement in unpaid vocations, including schooling/training, volunteer work, caregiving and homemaking	What is your current employment status?	Workforce Participation: If working for pay or looking for paid work = 1; if not = 0 Paid Employment Status: If in paid workforce and working for pay = 1; if in the workforce and not working for pay = 0 Full-time Employment: If employed and working ≥ 30 hrs per week = 1; if employed and working < 30 hrs per week = 0 Educational Involvement: If FT school/training = 2; if PT school/training = 1; if no school/training = 0 Full-time Volunteer Work: If volunteer work ≥ 30 hrs per week = 1; if volunteer work < 30 hrs per week = 0 Full-time Homemaker or Caregiver: If FT homemaker or caregiver = 1; if not FT homemaker or caregiver = 0 Vocation Status: If ≥ 30 hrs worked per week vocation = 2; if < 30 hrs worked per week = 1; if no work = 0
Work Functioning (four Likert-type items): Reliability and quality of work, as well as effective management of interpersonal relationships in work setting	Over the last 3 months, please indicate how often: the quality of your work was excellent? [Work Functioning]	Work Functioning: Average item score with higher scores indicating better functioning
Educational Functioning (four Likert-type items): Reliability and quality of school work, as well as effective management of interpersonal relationships in educational or training setting		Educational Functioning: Average item score with higher scores indicating better functioning
Paid and Unpaid Work Satisfaction* (six and four Likert-type items, respectively): Satisfaction with nature of work, recognition of work contributions, ability to apply skills and knowledge and advance vocational goals. For those with paid employment, also satisfaction with pay/benefits, and work environment.	Over the last 3 months, how satisfied have you been with: the extent to which your education or training is advancing your career goals? [Educational Satisfaction]	Paid and Unpaid Work Satisfaction*: Average item score with higher scores indicating greater satisfaction Educational Satisfaction: Average item score with higher scores indicating greater satisfaction
Educational Satisfaction (three items): Satisfaction with educational experience, advancement of career goals, learning environment		
Finances		
Status (six categorical items): Current financial stability (stable housing, debt management, can afford expenses) and financial preparedness (has emergency savings, retirement savings, insurance coverage)	Does your household have at least 3 months of your typical income set aside in case of an unexpected financial event?	If current financial needs met and prepared for financial future (secure) = 2; if current needs met but not fully prepared for future (at-risk) = 1; if needs not met and not prepared for future (problematic) = 0

Table 4 *(Continued)*

Construct and Definition	Sample Items	Scoring
Functioning (nine Likert-type items): Financial behavior with respect to cash management (e.g. following a budget), debt management (e.g. paying bills on time), and savings (e.g. contributing to savings account)	Over the last 3 months, how often have you: compared prices when buying a product or service?	Average item score with higher scores indicating better functioning
Satisfaction (four Likert-type items): Satisfaction with ability to afford essential and non-essential expenses, and accumulation of savings and debt	Over the last 3 months, how satisfied have you been with: your ability to pay for necessities?	Average item score with higher scores indicating greater satisfaction
Health		
Status (two categorical items): Presence of chronic physical or mental health condition, illness, or disability	Do you have an ongoing physical health condition, illness, or disability?	If no health conditions = 2; if chronic physical or mental health condition = 1; if both physical and mental health condition, health status = 0
Functioning (12 Likert-type items): Engagement in health-promoting behaviors, risk behaviors, and self-care	Over the last 3 months how often have you: eaten a generally healthy diet?	Average item score for the full measure as well as health promotion, health risk, and health care subscales with higher scores indicating better functioning
Satisfaction (three Likert-type items): Satisfaction with physical health, mental health, and health care	Over the last 3 months, how satisfied have you been with: your health care?	Average item score with higher scores indicating greater satisfaction
Social Relationships		
Status (10 categorical items): Involvement in intimate relationship, parenting, and the broader community	Over the last 3 months, have you regularly: participated in a religious or spiritual community?	*Intimate Relationship Status*: If yes = 1; if not = 0 *Parental Status*: If yes = 1; if not = 0 *Broader Social Involvement*: If at least one type of regular community involvement and regular contact with friends /extended family community involvement = 2; if at least one type of community involvement or friend/extended family contact = 1; if neither = 0

Table 4 *(Continued)*

Construct and Definition	Sample Items	Scoring
Intimate Relationship Functioning (six Likert-type items): Demonstrates supportive and collaborative behaviors (e.g. provides emotional and practical support, willing to engage in sexual activity/physical closeness) *Parental Functioning* (five Likert-type items): Demonstrates supportive and effective parenting strategies (e.g. meets children's basic needs, demonstrates interest and involvement in children's activities) *Broader Social Functioning* (nine Likert-type items): Engages in behaviors that support positive relationships with friends, extended family, and the broader community (e.g. getting along with community members, available to provide support or help extended family members or friends)	Over the last 3 months, how often have you: provided your significant other with the emotional support they sought? [*Intimate Relationship Functioning*]	For each measure, average item score with higher scores indicating better functioning
Intimate Relationship Satisfaction (six Likert-type items): Satisfaction with partner's contributions to relationship in terms of both support and collaboration (e.g. provision of emotional and practical support, sexual and physical intimacy) *Parental Satisfaction* (three Likert-type items): Satisfaction with relationship with children, parenting experience, and children's well-being *Broader Social Satisfaction* (four Likert-type items): Satisfaction and sense of belonging in relationships with friends, and broader community	Over the last three months, how satisfied have you been with: your sense of belonging in your community? [*Broader Social Satisfaction*]	For each measure, average item score with higher scores indicating greater satisfaction

Note: *Results for unpaid work satisfaction were not included in this study due to small sample size.

(those listed above and financial functioning and satisfaction) exceeded MIC scores among individuals with a new mental health condition, suggesting that most of these changes were reliable.

DISCUSSION

The Well-Being Inventory (WBI) provides a single source for complementary measures that efficiently but comprehensively assess military veterans' status, functioning, and satisfaction with respect to key aspects of their lives. Unlike other measures that co-mingle different aspects of well-being, the WBI takes a multidimensional scoring approach that produces 30 separate measures that can be used in concert or individually. Because the WBI addresses many different building blocks of well-being, it provides a practical tool that can be used to inform the efforts of the wide variety of organisations that focus on promoting veterans' post-military well-being. Definitions, sample items, and scoring for finalised WBI measures are provided in Table 4; the full set of WBI items is included in an online appendix.

A key feature of the WBI is its inclusion of indicators of objective life circumstances in addition to more subjective aspects of well-being that are often the focus of measures of what is termed "quality of life". This aspect of the WBI draws attention to the importance of considering participation in key life roles as a key outcome in and of itself. Moreover, in contrast with measures that focus on how health status impacts functioning (commonly referred to as "health-related quality of life"; Ware & Sherbourne, 1992), the WBI provides an assessment of functioning that is independent of its perceived relationships with health status. It also provides a separate assessment of functioning and satisfaction, consistent with evidence that these are distinct aspects of well-being.

According to the Consensus-based Standards for the Selection of Health Status Measurement Instruments, the methodological requirements for a useful measure are that it is reliable, valid, and responsive to change (Mokkink et al., 2010). The current study presents initial evidence for each of these characteristics in two studies of US military veterans. If all measures are used, the WBI takes approximately 15–20 minutes to complete; individual scales take just a few minutes. In addition, unlike some measures of well-being, the WBI is in the public domain and there is no charge for using it. Moreover, the WBI is appropriate for individuals with a reading level of grade 6 or higher, suggesting that the instrument is widely applicable (Flesch, 1949). This instrument can be used, along with the manual that accompanies it, to address a variety of research questions regarding veterans' well-being and to provide a more comprehensive evaluation of the impact of behavioral health interventions than can be achieved with health symptom measures alone.

Despite its potential utility, the WBI has several limitations. Most importantly, this instrument provides a broad assessment of many different aspects of veterans' life circumstances rather than an in-depth assessment of any one aspect of their well-being. Individuals interested in the latter are encouraged to use other measures. In addition, the WBI is a self-report tool that focuses on military veterans' life circumstances from their own perspective, and thus, is vulnerable to biases related to the ability and willingness of respondents to provide accurate information. Likewise, although global satisfaction scales are more likely to be affected by mood than domain-specific judgments of satisfaction like that used in the WBI (Schwarz, Strack, Kommer, & Wagner, 1987), satisfaction measures are known to be vulnerable to mood effects.

There are also several important directions for further psychometric work with the WBI. While most psychometricians agree that classical test theory is an important framework for test construction and often produces findings that are similar to item response theory (IRT; DeVellis, 2016; Wu, Tam, & Jen, 2016), IRT analyses should be applied to evaluate whether there are differences in item functioning for different subgroups (e.g. women and men, racial/ethnic minorities). Future research is also needed to confirm the factor structure of WBI functioning and satisfaction scales in other samples and to replicate the multidimensional factor structure observed for the health functioning scale. Likewise, the finding that the fit of confirmatory factor analyses was improved by correlating residuals among items within several scales may suggest the value of collapsing these items in future revisions of the WBI. Additional research is also needed to evaluate why some financial and parenting measures did not demonstrate reliable change in response to the development of a new mental health condition. While this finding may suggest the need for future modification of these scales, it is also possible that these aspects of well-being are less influenced by change in mental health status or take more time to change than allowed within the 6-month assessment period used in this study. Future research should examine the sensitivity to change of WBI measures over a longer time period and evaluate whether they change in response to other important life experiences, such as completing mental health treatment.

Given that neither the language nor the content of WBI items are veteran-specific, future research would also benefit from examining how this set of measures performs in other civilian populations. Doing so could also provide insight into how the life experiences of military veterans and other civilian populations differ, a topic that warrants additional attention. It will also be important to examine associations between WBI measures and measures of achieved well-being, as addressed in the work of Seligman, Ryff, and others (Ryff & Keyes, 1995; Seligman, 2012). One might hypothesise, for example, that individuals who report enjoying their work would be more likely to endorse greater purpose and meaning in their lives. The relationship among other factors may

be more complex. For example, being a parent may predict greater sense of purpose but not necessarily more positive emotions. The WBI will allow for the investigation of these research questions, as well as many other important topics.

DISCLOSURES

REFERENCES

Aiken, L.R. (1994). *Psychological testing and assessment* (8th edn.). Boston, MA: Allyn & Bacon.

Akaike, H. (1987). Factor analysis and AIC. *Psychometrika*, *52*(3), 317–332. https://doi.org/10.1007/978-1-4612-1694-0_29.

Anastasi, A. (1982). *Psychological testing* (5th edn.). New York: Macmillan.

Berglass, N., & Harrell, M.C. (2012). *Well after service: Veteran reintegration and American communities*. Washington, DC: Military, Veterans and Society Program, Center for a New American Security.

Bishop, M., Miller, S., & Chapin, M.H. (2008). Quality of life assessment in the measurement of rehabilitation outcome. *Journal of Rehabilitation*, *74*(2), 45–54.

Bollen, K.A., & Bauldry, S. (2011). Three Cs in measurement models: Causal indicators, composite indicators, and covariates. *Psychological Methods*, *16*(3), 265–284. https://doi.org/10.1037/a0024448.

Campbell, A. (1976). Subjective measures of well-being. *American Psychologist*, *31*(2), 117–124. https://doi.org/10.1037/0003-066x.31.2.117.

Clark, L.A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, *7*(3), 309–319. https://doi.org/10.1037/1040-3590.7.3.309.

Cooke, P.J., Melchert, T.P., & Connor, K. (2016). Measuring well-being: A review of instruments. *Counseling Psychologist*, *44*(5), 730–757. https://doi.org/10.1177/0011000016633507.

Cummins, R.A. (1997). Assessing quality of life. In R.I. Brown (Ed.), *Quality of life for people with disabilities: Models, research and practice* (2nd edn., pp. 116–150). London: Stanley Thornes.

Diener, E., & Suh, E. (1997). Measuring quality of life: Economic, social, and subjective indicators. *Social Indicators Research*, *40*(1–2), 189–216.

DeVellis, R.F. (2016). *Scale development: Theory and applications* (4th edn.). Thousand Oaks, CA: Sage Publications.

Diener, E.D., Emmons, R.A., Larsen, R.J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13.

Ferguson, C.J. (2009). An effect size primer: A guide for clinicians and researchers. *Professional Psychology: Research and Practice*, *40*(5), 532–538. https://doi.org/10.1037/a0015808.

Flesch, R. (1949). *The art of readable reading*. New York: Harper & Row.

Forgeard, M.J.C., Jayawickreme, E., Kern, M.L., & Seligman, M. (2011). Doing the right thing: Measuring wellbeing for public policy. *International Journal of Wellbeing*, *1*(1), 79–106. https://doi.org/10.5502/ijw.v1i1.15.

Gladis, M.M., Gosch, E.A., Dishuk, N.M., & Crits-Christoph, P. (1999). Quality of life: Expanding the scope of clinical significance. *Journal of Consulting and Clinical Psychology*, *67*(3), 320–331. https://doi.org/10.1037/0022-006x.67.3.320.

Holowka, D., & Marx, B.P. (2012). Assessing PTSD-related functional impairment and quality of life. In J.G. Beck & D.M. Sloan (Eds.), *The Oxford handbook of traumatic stress disorders* (pp. 315–330). New York: Oxford University Press.

Hu, L.T., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118.

Institute of Medicine (2013). *Returning home from Iraq and Afghanistan: Assessment of readjustment needs of veterans, service members, and their families*. Washington, DC: National Academies Press.

Jayawickreme, E., Forgeard, M.J.C., & Seligman, M.E.P. (2012). The engine of wellbeing. *Review of General Psychology*, *16*(4), 327–342. https://doi.org/10.1037/a0027990.

Katschnig, H. (2006a). How useful is the concept of quality of life in psychiatry? In H. Katschnig, H. Freedman, & N. Sartorius (Eds.), *Quality of life in mental disorders* (pp. 3–17). Chichester: John Wiley & Sons.

Katschnig, H. (2006b). Quality of life in mental disorders: Challenges for research and clinical practice. *World Psychiatry*, *5*(3), 139–145. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1636133/

Kline, R. (2005). *Principles and practice of structural equation modeling* (2nd edn.). New York: The Guilford Press.

Kroenke, K., Spitzer, R.L., Williams, J.B.W., & Lowe, B. (2009). An ultra-brief screening scale for anxiety and depression: The PHQ-4. *Psychosomatics*, *50*(6), 613–621. https://doi.org/10.1016/s0033-3182(09)70864-3.

Mogotsi, M., Kaminer, D., & Stein, D.J. (2000). Quality of life in the anxiety disorders. *Harvard Review of Psychiatry*, *8*, 273–282. https://doi.org/10.1080/hrp.8.6.273.

Mokkink, L.B., Terwee, C.B., Patrick, D.L., Alonso, J., Stratford, P.W., Knol, D.L., . . . de Vet, H.C. (2010). The COSMIN checklist for assessing the methodological quality of studies on measurement properties of health status measurement instruments: An

international Delphi study. *Quality of Life Research*, *19*(4), 539–549. https://doi.org/10.1007/s11136-010-9606-8.

Muthén, L.K., & Muthén, B.O. (1998–2013). Mplus (Version 7.11) [Computer software]. Los Angeles, CA: Muthén & Muthén.

Nunnally, J.C., & Bernstein, I.H. (1994). *Psychometric theory*. New York: McGraw-Hill.

Pedersen, E.R., Nicole, E.K., Williams, K.M., Tanielian, T., Batka, C., & Scharf, D.M. (2015). Public-private partnerships for providing behavioral health care to veterans and their families: What do we know, what do we need to learn, and what do we need to do? [PDF file]. Retrieved from: RAND Corp website. www.rand.org/pubs/research_reports/RR994.html

Pinder, R.J., Greenberg, N., Boyko, E.J., Gacksetter, G.D., Hooper, T.I., Murphy, D., . . . Wesse-ley, S. (2012). Profile of two cohorts: UK and US prospective studies of military health. *International Journal of Epidemiology*, *41*(5), 1272–1282. https://doi.org/10.1093/ije/dyr096.

Prins, A., Bovin, M.J., Smolenski, D.J., Mark, B.P., Kimerling, R., Jenkins-Guarnieri, M.A., . . . Tiet, Q.Q. (2016). The primary care PTSD screen for DSM-5 (PC-PTSD-5): Development and evaluation within a veteran primary care sample. *Journal of General Internal Medicine*, *31*(10), 1206–1211. https://doi.org/10.1007/s11606-016-3703-5.

Ryff, C.D., & Keyes, C.L.M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*(4), 719–727. https://doi.org/10.1037/0022-3514.69.4.719.

Satorra, A. (2000). Scaled and adjusted restricted tests in multi-sample analysis of moment structures. In R.D.H. Heijmans, D.S.G. Pollock, & A. Satorra (Eds.), *Innovations in multivariate statistical analysis* (pp. 233–247). Boston, MA: Springer.

Schnurr, P.P., Lunney, C.A., Bovin, M.J., & Marx, B.P. (2009). Posttraumatic stress disorder and quality of life: Extension of findings to veterans of the wars in Iraq and Afghanistan. *Clinical Psychology Review*, *29*(8), 727–735. https://doi.org/10.1016/j.cpr.2009.08.006.

Schwarz, G. (1978). Estimating the dimension of a model. *Annals of Statistics*, *6*(2), 461–464. https://doi.org/10.1214/aos/1176344136.

Schwarz, N., Strack, F., Kommer, D., & Wagner, D. (1987). Soccer, rooms, and the quality of your life: Mood effects on judgments of satisfaction with life in general and with specific domains. *European Journal of Social Psychology*, *17*(1), 69–79. https://doi.org/10.1002/ejsp.2420170107.

Seligman, M.E.P. (2012). *Flourish: A new understanding of happiness and well-being—and how to achieve them*. London: Nicholas Brealey Publishing.

Sen, A. (1993). Capability and well-being. In M. Nussbaum & A. Sen (Eds.), *The quality of life* (pp. 30–66). Oxford: Clarendon Press.

Terwee, C.B., Bot, S.D., de Boer, M.R., van der Windt, D.A., Knol, D.L., Dekker, J., . . . de Vet, H.C. (2007). Quality criteria were proposed for measurement properties of health status questionnaires. *Journal of Clinical Epidemiology*, *60*(1), 34–42. https://doi.org/10.1016/j.jclinepi.2006.03.012.

Thompson, J., Hopman, W., Sweet, J., VanTil, L., MacLean, M.B., VanDenKerkhof, E., . . . Pedlar, D. (2013). Health-related quality of life of Canadian Forces veterans after transition to civilian life. *Canadian Journal of Public Health*, *104*(5), 15–21. Retrieved from: https://www.jstor.org/stable/canajpublheal.104.1.0e15

Tucker, L.R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, *38*(1), 1–10. https://doi.org/10.1007/bf02291170.

United States Department of Health, Education, and Welfare (1969). *Toward a social report*. Washington, DC: Government Printing Office.

United States Department of Veterans Affairs, National Center for Veterans Analysis and Statistics (2016). Veteran population projections 2017–2037. [PDF file]. Retrieved from: https://www.va.gov/vetdata/docs/Demographics/New_Vetpop_Model/Vetpop_Infographic_Final31.pdf

Vogt, D., Perkins, D.F., Copeland, L.A., Finley, E.P., Jamieson, C.S., Lederer, S., & Gilman, C.L. (2018). Cohort profile: The Veterans Metrics Initiative Study of US veterans' experiences during their transition from military service. *British Medical Journal Open*, 8(6), e020734. https://doi.org/10.1136/bmjopen-2017-020734

Vogt, D., Smith, B.N., King, D.W., King, L.A., Knight, J., & Vasterling, J.J. (2013). Deployment Risk and Resilience Inventory-2: An updated tool for assessing psychosocial risk and resilience factors among service members and veterans. *Journal of Traumatic Stress*, 26(6), 710–717. https://doi.org/10.1002/jts.21868.

Ware, J., & Sherbourne, C.D. (1992). The MOS 36-Item Short-Form Health Survey (SF-36): I. Conceptual framework and item selection. *Medical Care*, 30(6), 473–483. Retrieved from: http://www.jstor.org/stable/3765916

WHOQOL Group (1998). Development of the World Health Organization WHOQOL-BREF Quality of Life assessment. *Psychological Medicine*, 28(3), 551–558.

Wu, M., Tam, H.P., & Jen, T.H. (2016). Classical test theory. In M. Wu, H.P. Tam, & T.H. Jen, *Educational measurement for applied researchers* (pp. 73–90). Singapore: Springer.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Supplemental Table 1. Measures in the Well-Being Inventory
Supplemental Table 2. Cronbach's Alphas for Draft WBI Item Sets in Study 1 and the First Timepoint of Study 2
Supplemental Table 3. Correlations among and between Draft WBI Functioning and Satisfaction Scales from the Second Timepoint of Study 1
Supplemental Table 4. Correlations between Draft WBI Item Sets and Related Measures from the Second Timepoint of Study 1
Supplemental Table 5. Correlated Residuals Identified in Factor Analyses from the 1st Timepoint of Study 2
Supplemental Table 6. Correlations among and between WBI Functioning and Satisfaction Scales from the first Timepoint of Study 2
Supplemental Table 7. Sensitivity to Change Results
Supplemental Figure 1. Well-Being Inventory (WBI) Development and Validation Procedure
Appendix A. Well-Being Inventory (WBI) Items