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MORE Resiliency in the Rehabilitation of Active Duty Service Members

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| 14. ABSTRACT. The purpose of our study was to develop and test a resiliency instrument that is relevant to Service Members with lower-extremity injury. The proposed project leveraged the infrastructure of the Maximizing Outpatient Rehabilitation Effectiveness (MORE) study that was conducted at Brooke Army Medical Center. The first year of the project focused on creating a 44-item MORE resiliency instrument that was based on three well-established resiliency instruments that have been validated in civilian populations. Items were reviewed by military Service Members through semi-structured interviews (N=12) and focus groups (N=16). Qualitative analyses reduced the MORE resiliency instrument to 26-items, with minor changes made to the instructions as well as wording of six of the items. A pre-test of the 26-item MORE resiliency instrument was conducted in Service Members with lower-extremity injury (N=60) to refine and reduce the instrument. Six items with variance < 0.45 were removed and a prospective cohort study was then conducted to assess reliability and validity of the 20-item MORE resiliency instrument. Test-retest reliability and internal consistency, using intraclass correlation coefficients and Cronbach's alpha, were 0.89 (N=52) and 0.88 (N=160), respectively. Strong correlations were reported between the MORE instrument and other resiliency measures as well as self-efficacy ($r > 0.60$) and moderate correlations between measures of depression, anxiety, and PTSD ($r > 0.30$; N=160). The 20-item MORE resiliency instrument was found to be reliable and valid through cross-sectional testing in Service Members with lower-extremity injury. | | | | |
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1. INTRODUCTION:

The overall objective of this prospective study was to develop and validate a standardized measure to assess resiliency following lower-extremity injury. The measure was specifically tailored to the injured Service Member. Results from the proposed study provide an evidence-based resiliency instrument that can be integrated into rehabilitation care in the military setting with the end goal of improving rehabilitation outcomes.

This study had 4 specific aims: 1) To select items for a resiliency instrument that address multiple dimensions of resiliency for active duty military Service Members 2) To perform a pre-test of the resiliency instrument in active duty military Service Members with lower-extremity injury for item reduction 3) To determine the reliability and construct validity of a resiliency instrument in active duty military Service Members with lower-extremity injury 4) To determine the predictive validity of a resiliency instrument in active duty military Service Members with lower-extremity injury.

This project leveraged the infrastructure of the Maximizing Outpatient Rehabilitation Effectiveness (MORE) study that was funded by the Bridging Advanced Developments for Exceptional Rehabilitation Consortium (W81XWH-11-2-0222). This study had a three-phase design. In Phase 1, a 44-item MORE resiliency instrument was created from 3 well-established resiliency instruments for civilians (i.e., Connor-Davidson, Resilience Scale for Adults, and the 25-item Resilience Scale). This 44-item resiliency instrument was reviewed by Service Members with lower-extremity injury who were enrolled in the MORE study through interviews and focus groups (N=28). Qualitative analyses informed changes to the resiliency instrument which included changes to the instructions, removal of 18 of the items, and minor rewording of 6 of the items. In Phase 2, we conducted a pre-test of the 26-item MORE resiliency instrument to refine and reduce the instrument (N=60). Quantitative analyses informed the removal of 6 of the items, which resulted in a final 20-item MORE resiliency instrument. In Phase 3, we conducted a prospective study to perform reliability and validity testing of the 20-item MORE resiliency instrument in Service Members with lower-extremity injury.

2. KEYWORDS:

resiliency, instrument development, reliability, validity, lower-extremity trauma, rehabilitation outcomes

3. ACCOMPLISHMENTS:

What were the major goals of the project?

| | Timeline (Months) | % Complete |
|---|------------------------------|-------------------|
| Major Task 1: Regulatory Approval | | |
| Milestone(s) Achieved | | |
| Local IRB Approval | 12 | 100% |
| USAMRMC HRPO Approval | 14 | 100% |
| Personnel Hired | 12 | 100% |
| Major Task 2: Participant Interviews | | |
| Milestone(s) Achieved: | | |
| Interviews Completed: 12 | 19 | 100% |
| Qualitative Model and Narratives Completed | 20 | 100% |

| | | |
|---|----|------|
| Major Task 3: Participant Focus Groups | | |
| Milestone(s) Achieved: | | |
| Focus Groups Completed: 4 | 21 | 100% |
| Initial Resiliency Instrument Completed | 22 | 100% |
| Major Task 4: Pre-Test of Instrument | | |
| Milestone(s) Achieved: | | |
| Participants Complete the Pre-test: 60 | 28 | 100% |
| Resiliency Instrument Finalized | 29 | 100% |
| Major Task 5: Test-Retest Reliability | | |
| Milestone(s) Achieved: | | |
| Test-Retest Reliability Completed: 52 | 34 | 100% |
| Major Task 6: Construct Validity | | |
| Milestone(s) Achieved: | | |
| Construct Validity Completed: 160/200 | 58 | 80% |
| Major Task 7: Predictive Validity | | |
| Milestone(s) Achieved: | | |
| Predictive Validity Completed: 75/195 | 60 | 38% |
| Final Report Completed | 60 | 100% |

What was accomplished under these goals?

Accomplishments will be reported for the 3-phases of the study. The first phase addressed the specific aim of selecting items for a resiliency instrument for active duty military Service Members. The second phase addressed the specific aim of performing a pre-test of the resiliency instrument in active duty military Service Members with lower-extremity injury for item reduction. The third phase addressed the specific aims of determining the reliability and construct and predictive validity of a resiliency instrument in active duty military Service Members with lower-extremity injury.

Phase 1 (Major Task 2 and 3)

Major activities completed for this phase included the development of an interview and focus group script for participants (**Appendix A**). This script included the initial set of items for the MORE resiliency instrument. Items were chosen by the study team from 3 well-established resiliency instruments that were developed and validated in civilians (10 items from Connor-Davidson, 19 items from Resilience Scale for Adults, and 15 items from the 25-item Resilience Scale). These 44 items covered the following resiliency constructs: hardiness (10 items), personal competence/strength (20 items), acceptance of self/life (2 items), personal structure (2 items), social competence (2 items), and family cohesion/social support (8 items). Twelve interviews and 4 focus groups (N=28) were then conducted to review the 44-items. Of the 28 participants who completed a focus group or interview, 8 were female (29%) and 3 identified as Hispanic or Latino (11%). The race break down is as follows: 1 Asian, 7 Black or African American, 1 Native Hawaiian or Other Pacific Islander, 16 White, 1 more than one race, and 2 individuals of unknown race. More detailed information for these participants is provided in Tables 1 and 2. Transcripts were analysed and the qualitative analysis team (Dr. Schlundt and Ms. Bonnet) provided the PI (Dr. Archer) and all coinvestigators with a summary report (**Appendix B**). The investigative team reviewed the report and made a list of proposed changes based on participant feedback and expert advice from the qualitative team (**Appendix C**).

Overall, several changes were made to the initial 44-item MORE resiliency instrument, which included changes to the instructions, removal of 18 of the items, and minor rewording of 6 of the items. A 26-item MORE resiliency instrument was finalized for the pre-test phase (**Appendix D**).

Table 1. Demographic and Clinical Characteristics of Interview Subjects (N=12)

| Characteristic | N (%) |
|---|------------|
| Age, mean (SD) | 27.3 (2.3) |
| Female sex | 3 (25%) |
| Race | |
| White | 6 (50%) |
| Black or African American | 4 (33%) |
| Asian | 1 (8%) |
| Native Hawaiian or Other Pacific Islander | 0 (0%) |
| American Indian or Alaska Native | 0 (0%) |
| More than one race | 1 (8%) |
| Unknown or Not reported | 0 (0%) |
| Ethnicity | |
| Hispanic or Latino | 0 (0%) |
| Not Hispanic or Latino | 11 (92%) |
| Unknown or Not reported | 1 (8%) |
| Education level | |
| Less than high school | 1 (8%) |
| High school or GED | 7 (58%) |
| Trade/Vocational training | 2 (17%) |
| Associates degree | 1 (8%) |
| Bachelor's degree | 0 (0%) |
| Masters degree | 1 (8%) |
| Military branch | |
| Army | 11 (92%) |
| US Air Force | 1 (8%) |
| Rank | |
| O-5 | 1 (8%) |
| E-3 | 4 (33%) |
| E-4 | 5 (42%) |
| E-5 | 2 (17%) |
| Current smoker | 3 (25%) |
| Location of injury | |
| Thigh/Knee | 7 (58%) |
| Calf/Lower leg | 0 (0%) |
| Ankle/Foot | 5 (42%) |
| Deployment injury | 3 (25%) |
| Duty injury | 4 (33%) |
| Surgery involved | 6 (50%) |

Table 2. Demographic and Clinical Characteristics of Focus Group Subjects (N=16)

| Characteristic | N (%) |
|---|------------|
| Age, mean (SD) | 30.2 (5.7) |
| Female sex | 5 (31%) |
| Race | |
| White | 10 (63%) |
| Black or African American | 3 (19%) |
| Asian | 0 (0%) |
| Native Hawaiian or Other Pacific Islander | 1 (6%) |
| American Indian or Alaska Native | 0 (0%) |
| More than one race | 0 (0%) |
| Unknown or Not reported | 2 (12%) |
| Ethnicity | |
| Hispanic or Latino | 3 (19%) |
| Not Hispanic or Latino | 12 (75%) |
| Unknown or Not reported | 1 (6%) |
| Education level | |
| Less than high school | 0 (0%) |
| High school or GED | 10 (63%) |
| Trade/Vocational training | 0 (0%) |
| Associates degree | 4 (25%) |
| Bachelor's degree | 2 (12%) |
| Masters degree | 0 (0%) |
| Military branch | |
| Army | 15 (94%) |
| US Marine Corps | 1 (6%) |
| Rank | |
| 0-4 | 1 (6%) |
| E-2 | 1 (6%) |
| E-3 | 4 (25%) |
| E-4 | 5 (31%) |
| E-5 | 1 (6%) |
| E-6 | 3 (19%) |
| E-7 | 1 (6%) |
| Current smoker | 4 (25%) |
| Location of injury | |
| Thigh/Knee | 12 (75%) |
| Calf/Lower leg | 1 (6%) |
| Ankle/Foot | 3 (19%) |
| Deployment injury | 2 (12%) |
| Duty injury | 11 (69%) |
| Surgery involved | 9 (56%) |

Phase 2 (Major Task 4)

Major activities completed for this phase include the development of a cognitive interview script (**Appendix E**), enrolling 60 participants for the pre-test of the 26-item MORE resiliency instrument, and performing analysis to reduce the MORE resiliency instrument. Pre-test enrollment occurred at Carl R. Darnall Army Medical Center (CRDAMC) at Fort Hood. Patients were approached for enrollment in the physical therapy clinic. Fifty study participants completed the questionnaire in writing and ten of the participants completed a face-to-face cognitive interview with research personnel at CRDAMC. Demographics of the pre-test participants are described in detail in Table 3 and are as follows: 7 females (12%) and 53 males (88%); 1 American Indian or Alaskan Native, 1 Asian, 17 Black or African American, 30 White, 9 more than one race, and 2 unknown race; 17 individuals are Hispanic or Latino (28%).

Analysis of the pre-test data assessed item distribution/variance for item reduction. Each item included a 5-point Likert scale of 0 to 4, with 0 being “not true at all” and 4 being “true nearly all the time.” Six items had variance < 0.45. The recommendation from the qualitative analysis team and study’s statistician was to remove these items (Table 4). The PI and co-investigators reviewed the analysis and agreed to remove these items from the MORE resiliency scale. A final MORE resiliency instrument with 20-items was approved for reliability and validity testing (**Appendix F**). These 20 items cover the following resiliency constructs: hardiness, personal competence/strength, acceptance of self/life, personal structure, social competence, and family cohesion/social support.

Table 3. Demographic and Clinical Characteristics of Pre-Test Subjects (N=60)

| Characteristic | N (%) |
|---|------------|
| Age, mean (SD) | 29.5 (5.6) |
| Female sex | 7 (12%) |
| Race | |
| White | 30 (50%) |
| Black or African American | 17 (28%) |
| Asian | 1 (2%) |
| Native Hawaiian or Other Pacific Islander | 0 (0%) |
| American Indian or Alaska Native | 1 (2%) |
| More than one race | 9 (15%) |
| Unknown or Not reported | 2 (3%) |
| Ethnicity | |
| Hispanic or Latino | 17 (28%) |
| Not Hispanic or Latino | 40 (67%) |
| Unknown or Not reported | 3 (5%) |
| Education level | |
| Less than high school | 0 (0%) |
| High school or GED | 39 (65%) |
| Trade/Vocational training | 2 (3%) |
| Associates degree | 9 (15%) |
| Bachelor’s degree | 10 (17%) |
| Masters degree | 0 (0%) |
| Military branch | |

| | |
|--------------------|----------|
| Army | 53 (88%) |
| US Air Force | 1 (2%) |
| US Marine Corps | 1 (2%) |
| Army Reserve | 1 (2%) |
| National Guard | 4 (6%) |
| Rank | |
| 0-2 | 4 (6%) |
| 0-3 | 1 (2%) |
| 0-4 | 2 (3%) |
| E-1 | 1 (2%) |
| E-2 | 3 (5%) |
| E-3 | 10 (17%) |
| E-4 | 22 (37%) |
| E-5 | 9 (15%) |
| E-6 | 8 (13%) |
| Current smoker | 9 (15%) |
| Location of injury | |
| Thigh/Knee | 33 (55%) |
| Calf/Lower leg | 3 (5%) |
| Ankle/Foot | 24 (40%) |
| Deployment injury | 2 (3%) |
| Duty injury | 38 (63%) |
| Surgery involved | 11 (18%) |

Table 4. Items to be removed based on variance < 0.45 (N=60)

| Item | Variance | % choosing answer choice 3 or 4 | % choosing answer choice #2 | % choosing answer choice #1 |
|---|----------|---------------------------------|-----------------------------|-----------------------------|
| I believe I can achieve my goals, even if there are obstacles | 0.32 | 96.7% | 3.3% | |
| My life has meaning | 0.33 | 95% | 5% | |
| I think of myself as a strong person when dealing with life's challenges and difficulties | 0.36 | 93.3% | 6.7% | |
| I am able to adapt to changes in my life | 0.38 | 93.3% | 6.7% | |
| I trust my judgements and decisions | 0.42 | 88.3% | 11.7% | |
| I strongly believe in my ability to solve problems | 0.43 | 93.4% | 5% | 1.6% |

Phase 3 (Major Task 5-7)

Major activities completed for this phase include reliability and construct validity testing of the 20-item MORE resiliency instrument. The reliability and validity test enrollment occurred at CRDAMC at Fort Hood. Patients were approached for enrollment in the physical therapy clinic or through phone/email once COVID-19 started and physical therapy was delivered through telehealth services. Overall, 369 patients were screened, 201 patients were consented and enrolled, and 160 patients completed the baseline assessment (Table 5). Table 6 displays demographic and clinical characteristics for consented and enrolled patients with baseline data (N=160) and Table 7 displays select clinical characteristics of patients with and without baseline data out of the patients who were consented and enrolled (N=201). Of the 160 patients who completed the baseline survey, 52 completed the MORE resiliency instrument a second time within one month to establish test-retest reliability. Test-retest reliability for these 52 patients was assessed with intraclass correlation coefficients and found to be 0.89 (Major Task 5).

Table 5. Screening, Enrollment, and Data Collection for Phase 3 Testing

| | |
|-----------------------------------|-----------|
| Screened | 369 |
| Screen Failure | 166 (45%) |
| in field | 12 |
| not returning to PT | 44 |
| pregnant | 1 |
| cannot commit to time | 33 |
| having another surgery | 6 |
| not interested | 25 |
| Not a good candidate per PT | 6 |
| lack of severity of injury | 39 |
| Consented | 203 |
| Withdrawn not eligible | 2 |
| Consented and Enrolled | 201 |
| Baseline Data | 160 (80%) |
| Completed re-test | 52 |
| Disease progression | 2 (1%) |
| Lost to follow up | 48 (30%) |
| Withdrawn | 17 (11%) |
| Study ended before could complete | 18 (11%) |
| Completed Discharge | 75 (47%) |

Table 6. Demographic and Clinical Characteristics of Consented and Enrolled Patients with Baseline Data (N=160)

| Characteristic | N (%) |
|---|------------|
| Age in years, mean (SD) | 27.5 (6.1) |
| Female sex | 22 (14%) |
| Race | |
| White | 96 (60%) |
| Black or African American | 42 (26%) |
| Asian | 5 (3%) |
| Native Hawaiian or Other Pacific Islander | 4 (3%) |
| American Indian or Alaska Native | 5 (3%) |
| More than one race | 8 (5%) |
| Ethnicity | |
| Hispanic or Latino | 39 (24%) |
| Not Hispanic or Latino | 121 (76%) |
| Education level | |
| High school or GED | 92 (57%) |
| Trade/Vocational training | 14 (9%) |
| Associates degree | 29 (18%) |
| Bachelor's degree | 21 (13%) |
| Masters degree | 4 (3%) |
| Current Military branch | |
| Army | 154 (96%) |
| US Air Force | 0 (0%) |
| US Marine Corps | 0 (0%) |
| US Navy | 0 (0%) |
| Army Reserve | 4 (2%) |
| National Guard | 1 (1%) |
| Active Guard Reserve | 1 (1%) |
| Rank | |
| O-1 | 2 (1%) |
| O-2 | 5 (3%) |
| O-3 | 4 (2%) |
| O-4 | 2 (1%) |
| O-6 | 1 (1%) |
| E-1 | 1 (1%) |
| E-2 | 4 (2%) |
| E-3 | 21 (13%) |
| E-4 | 54 (34%) |
| E-5 | 33 (21%) |
| E-6 | 16 (10%) |
| E-7 | 11 (7%) |
| E-8 | 5 (3%) |
| W-3 | 1 (1%) |
| Current smoker | 38 (24%) |

Table 7. Clinical Characteristics of Consented and Enrolled Patients With and Without Baseline Data (N=201)

| | Consented and Enrolled (N=201) | With Baseline Data (N=160) | Without Baseline Data (N=41) |
|--------------------|--------------------------------|----------------------------|------------------------------|
| Location of injury | | | |
| Thigh/Knee | 80 (40%) | 65 (41%) | 15 (37%) |
| Calf/Lower leg | 5 (2%) | 4 (2%) | 1 (2%) |
| Ankle/Foot | 116 (58%) | 91 (57%) | 25 (61%) |
| Deployment injury | 14 (7%) | 13 (8%) | 1 (2%) |
| Duty injury | 141 (70%) | 108 (68%) | 33 (81%) |
| Surgery involved | 61 (30%) | 57 (36%) | 4 (10%) |

For Major Task 6, survey design researchers recommend having 5 to 10 respondents per item in order to conduct construct validity testing. Since our MORE resiliency instrument has 20 items, we needed between 100 and 200 patients to conduct spearman correlation coefficient testing. Our current sample size of 160 was sufficient to address Major Task 6. The internal consistency of the final 20-item scale was assessed with Cronbach’s alpha and found to be 0.88. Spearman correlation coefficients were used to assess cross-sectional associations between the MORE resiliency instrument and other resiliency instruments (i.e., 10-item Connor-Davidson, 25-item Resilience Scale, Resilience Scale for Adults) as well as measures of general self-efficacy (General Self-Efficacy Scale (GSES)), post-traumatic stress disorder (PTSD Checklist (PCL), depression (Patient-Reported Outcomes Measurement computer adaptive test (PROMIS CAT)), anxiety (PROMIS CAT), fear of movement (Tampa Scale of Kinesiophobia), ability to participate in social roles and activities (PROMIS CAT), and pain interference (PROMIS CAT) at baseline (i.e., the initial physical therapy visit). Strong correlations were found with the other resiliency measures ($r > 0.70$; Table 8). A strong correlation was found with the GSES score ($r = 0.64$) and moderate correlations were found with measures of PTSD, depression, and anxiety ($r > 0.30$) (Table 9). Small to moderate correlations were found with the TSK and PROMIS social roles and pain interference ($0.20 < r < 0.30$). No differences in MORE resiliency scores were found by sex, race, ethnicity, education, location of injury, or smoking status (Table 10).

Table 8. Correlation Data at Baseline for 20-Item MORE Resiliency Instrument and Other Resiliency Measures (N=160)

| | | MORE resiliency | CD | RS |
|-----|----------------|-----------------|--------|--------|
| CD | <i>r</i> | 0.828 | | |
| | <i>p-value</i> | <0.001 | | |
| RS | <i>r</i> | 0.740 | 0.758 | |
| | <i>p-value</i> | <0.001 | <0.001 | |
| RSA | <i>r</i> | 0.768 | 0.627 | 0.610 |
| | <i>p-value</i> | <0.001 | <0.001 | <0.001 |

Abbreviations: Maximizing Outpatient Rehabilitation Effectiveness (MORE); 10-item Connor-Davidson (CD); 25-item Resilience Scale (RS); Resilience Scale for Adults (RSA)

Table 9. Correlation Data at Baseline for MORE Resiliency Instrument and Measures of Self-Efficacy, PTSD, Depression, Anxiety, Fear of Movement, Social Roles, and Pain Interference

| | | MORE Resiliency | GSES | PCL | PROMIS Depression | PROMIS Anxiety | TSK | PROMIS Social Roles |
|---------------------------|----------------|--------------------|--------|--------|----------------------|-------------------|--------|---------------------------|
| GSES | <i>r</i> | 0.644 | | | | | | |
| | <i>p-value</i> | <0.001 | | | | | | |
| | N | 159 | | | | | | |
| PCL | <i>r</i> | -0.345 | -0.332 | | | | | |
| | <i>p-value</i> | <0.001 | <0.001 | | | | | |
| | N | 159 | 155 | | | | | |
| PROMIS Depression | <i>r</i> | -0.478 | -0.444 | 0.556 | | | | |
| | <i>p-value</i> | <0.001 | <0.001 | <0.001 | | | | |
| | N | 159 | 154 | 158 | | | | |
| PROMIS Anxiety | <i>r</i> | -0.444 | -0.458 | 0.598 | 0.828 | | | |
| | <i>p-value</i> | <0.001 | <0.001 | <0.001 | <0.001 | | | |
| | N | 159 | 154 | 158 | 159 | | | |
| TSK | <i>r</i> | -0.299 | -0.248 | 0.451 | 0.295 | 0.325 | | |
| | <i>p-value</i> | <0.001 | 0.002 | <0.001 | <0.001 | <0.001 | | |
| | N | 158 | 158 | 158 | 157 | 157 | | |
| PROMIS Social Roles | <i>r</i> | 0.261 | 0.298 | -0.369 | -0.502 | -0.456 | -0.347 | |
| | <i>p-value</i> | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | |
| | N | 159 | 158 | 158 | 159 | 159 | 157 | |
| PROMIS Pain Int. | <i>r</i> | -0.244 | -0.209 | 0.439 | 0.399 | 0.422 | 0.548 | -0.539 |
| | <i>p-value</i> | 0.002 | 0.008 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| | N | 158 | 158 | 158 | 158 | 158 | 157 | 158 |

Abbreviations: Maximizing Outpatient Rehabilitation Effectiveness (MORE); General Self-Efficacy Scale (GSES); PTSD Checklist (PCL); Patient-Reported Outcomes Measurement (PROMIS); Tampa Scale of Kinesiophobia (TSK); Interference (Int.)

Table 10. Differences in MORE Resiliency Score at Baseline by Demographic and Clinical Characteristics (N=160)

| Characteristic | N | Mean (SD) | P Value |
|---------------------------|-----|-------------|---------|
| Sex | | | 0.745 |
| Female | 22 | 61.5 (9.1) | |
| Male | 138 | 62.2 (9.4) | |
| Race | | | 0.103 |
| White | 96 | 62.7 (9.3) | |
| Black or African American | 42 | 60.8 (8.3) | |
| Other | 14 | 64.9 (10.5) | |
| More than one race | 39 | 62.8 (10.2) | |
| Ethnicity | | | 0.745 |
| Hispanic or Latino | 22 | 61.5 (9.1) | |
| Not Hispanic or Latino | 138 | 62.2 (9.4) | |
| Education level | | | 0.331 |
| Less than high school | 0 | - | |
| High school or GED | 92 | 61.7 (9.4) | |
| Trade/Vocational training | 14 | 65.1 (10.2) | |
| Associates degree | 29 | 61.1 (9.9) | |
| Bachelor's degree | 21 | 61.6 (7.2) | |
| Masters degree | 4 | 69.5 (6.4) | |
| Current smoker | | | 0.318 |
| Yes | 38 | 60.5 (9.6) | |
| No | 122 | 62.5 (9.2) | |
| Location of injury | | | 0.636 |
| Thigh/Knee | 65 | 62.9 (9.5) | |
| Calf/Lower leg | 4 | 62.3 (11.8) | |
| Ankle/Foot | 91 | 61.5 (9.1) | |

For Major Task 7, we planned to have 195 patients complete a physical therapy discharge assessment in order to conduct multivariable regression analyses to assess the relationship between the baseline MORE resiliency score and outcomes of interest, controlling for the baseline outcome score and relevant covariates. The primary outcomes at this assessment were range of motion (goniometry and Iowa ankle range of motion device), strength (stabilized hand held force gauge), and physical performance (Four Square Step, Timed Stair Ascent, Sit to Stand Five Times, 6-M Timed Hop, and 10-Meter Walk tests). Secondary outcomes were physical function (PROMIS CAT) and pain intensity (11-point Numeric Rating Scale (NRS)) collected through a web-based survey and from the physical therapy record, respectively. Only 75 patients completed the discharge assessment, with 28 completing range of motion, 28 completing strength testing, and 64 completing the performance tests. Seventy-five completed the survey. Tables 11 and 12 displays the scores for these tests and scales.

Table 11. ROM and Strength Scores from Physical Therapy Discharge Assessment

| Measure | N | Injured Leg Mean (SD) | Uninjured Leg Mean (SD) |
|---|----|--------------------------|----------------------------|
| Range of motion (degrees) | | | |
| Knee Flexion | 28 | 129.4 (15.3) | 134.6 (7.5) |
| Knee Extension | 28 | 1.9 (2.2) | 1.5 (1.4) |
| Ankle at 15 Nm | 25 | 23.3 (7.8) | 23.0 (8.3) |
| Ankle at 20 Nm | 25 | 27.7 (8.3) | 27.3 (8.6) |
| Ankle at 25 Nm | 25 | 31.2 (8.6) | 31.1 (8.9) |
| Strength | | | |
| Knee Force – Flexion (kg) | 27 | 19.2 (19.1) | 21.0 (8.4) |
| Knee Force – Extension (kg) | 27 | 24.1 (12.2) | 32.7 (19.0) |
| Knee Torque – Flexion (kg-meters) | 27 | 46.7 (41.5) | 51.9 (18.9) |
| Knee Torque – Extension (kg-meters) | 27 | 60.0 (29.5) | 80.4 (41.5) |
| Ankle Force – Dorsiflexion (kg) | 28 | 35.1 (15.5) | 38.6 (11.4) |
| Ankle Force – Plantarflexion (kg) | 28 | 68.8 (34.5) | 86.3 (29.3) |
| Ankle Torque – Dorsiflexion (kg-meters) | 28 | 105.4 (97.9) | 161.8 (114.6) |

Note. Missing due to COVID-19 safety guidelines (n=36); did not come back for in-person testing (n=11); Ankle range of motion: pain (n=3); Knee strength: not approved by PT (n=1). Abbreviations: kilograms (kg)

Table 12. Performance Test and Patient-Reported Outcome Scores from Physical Therapy Discharge Assessment

| Measure | N | Mean (SD) |
|----------------------------------|----|------------|
| Four Square Step, seconds | 64 | 7.8 (1.9) |
| Timed Stair Ascent, seconds | 58 | 3.9 (1.5) |
| Sit to Stand Five Times, seconds | 63 | 7.4 (2.2) |
| 6-M Timed Hop, seconds | | |
| Injured Leg | 34 | 4.0 (1.4) |
| Uninjured Leg | 34 | 3.6 (1.0) |
| 10-Meter Walk, meter/second | 63 | 4.5 (0.8) |
| PROMIS Physical Function | 75 | 49.0 (8.8) |
| NRS Pain Intensity | 71 | 1.6 (1.9) |

Note. Timed Stair Ascent: not approved by therapist (n=5), unable to complete due to pain (n=1); Sit to Stand Five Times: unable to complete due to pain (n=1); 6-M Timed Hop: not approved by therapist (n=22), unable to complete due to pain (n=7), inappropriate footwear (n=1); 10-Meter Walk: not approved by therapist (n=1); did not come back for in-person testing (N=11)

Enrollment was lower than expected due to several challenges. First, there was a change in site PI since Dr. Wilken left BAMC and started a position at the University of Iowa. Amy Bowles MD, Deputy Chief in Department of Rehabilitation Medicine at BAMC, became the designated site PI for this project. This led to a delay in the start of the project as well as a change in the planned recruitment sites. Carl R. Darnall Army Medical Center (CRDAMC) became the only recruitment site, with the Center for the Intrepid no longer able to participate. In addition, recruitment was paused from March to Septemeber of 2020 due to the COVID-19 pandemic and we were unable to collect the primary outcomes since they required in-person assessment. Even after recruitment resumed, study personnel were not able to collect in-person range of motion, strength, and physical performance tests due to COVID-19 safety protocols (i.e., social distancing) and patients not wanting to return to clinic. Study staff continued to contact already enrolled participants to complete the discharge survey assessment; however, retention was poor during the COVID-19 pandemic. Recruitment and data collection resumed at CRDAMC after September 2020. However, patient volume continued to be low and recruitment was slow due to ongoing concerns over COVID. All of these challenges resulted in our inability to meet major task 7, which was to assess predictive validity of the MORE resiliency instrument.

Data shown below in Table 13 are exploratory due to limited sample size. We conducted separate regression analyses to assess the association between the baseline MORE resiliency score and physical function and pain intensity scores at discharge, controlling for the outcome score at baseline.

Table 13. Regression Results for MORE Resiliency Score at Baseline and Patient-Reported Outcomes at Discharge

| Outcome Measure | Standardized beta | P value |
|---------------------------|-----------------------|---------|
| PROMIS PF (N=75) | 0.052 (-0.140, 0.245) | 0.589 |
| NRS Pain Intensity (N=70) | 0.016 (-0.033, 0.066) | 0.511 |

Note. Each analysis controlled for baseline outcome score of interest.

Abbreviations: Patient-Reported Outcomes Measurement (PROMIS); Numeric Rating Scale (NRS)

Exploratory factor analysis (EFA) with principal axis factoring was used to propose a reduced version of the 20-items MORE resiliency scale. To do this, the full 20 item version was entered into an EFA with the number of factors constrained to one. The factor loadings from the EFA are shown in Table 14. All items loaded above 0.32 and the cumulative variance explained was 28.1% with Cronbach’s alpha of 0.88. One by one, the item with the lowest factor loading was removed from the analysis and the variance explained, Cronbach’s alpha, and factor loadings of the remaining items were recorded. Items were removed until the percent of variance explained rose to approximately 40% while maintaining a Cronbach’s alpha of at least 0.85. This resulted in a 9-item factor solution with all factor loadings between 0.55 and 0.74 (Table 14). Further confirmatory and validation work is needed on this proposed shortened 9-item version with a separate sample; however, initial work suggests the 20-item version can successfully be shortened while maintaining good reliability.

Table 14. Factor Loadings, Percent Variance Explained, and Cronbach's Alpha from Exploratory Factor Analysis of MORE Resiliency Score

| Survey Item | Factor Loadings | |
|---|-----------------|---------|
| | 20-Items | 9-Items |
| 5. When something unforeseen happens I find a solution | 0.71 | 0.74 |
| 2. I tend to bounce back after illness or injury | 0.65 | 0.68 |
| 11. I am determined | 0.65 | 0.68 |
| 13. I can usually look at a situation in a number of ways | 0.63 | 0.65 |
| 6. In difficult periods, I have a tendency to find something that helps me thrive | 0.63 | 0.62 |
| 10. I feel that I can handle many things at a time | 0.59 | 0.61 |
| 8. I feel that my future looks very promising | 0.58 | 0.56 |
| 4. I am able to handle unpleasant or painful feelings | 0.57 | 0.56 |
| 1. Having to cope with stressful situations can make me stronger | 0.49 | 0.55 |
| 16. I am at my best when I have a clear goal to strive for | 0.55 | |
| 19. I get support from friends/family members | 0.51 | |
| 12. I have self discipline | 0.49 | |
| 15. I can usually find something to laugh about | 0.48 | |
| 3. I am not easily discouraged by failure | 0.47 | |
| 17. I enjoy being together with other people | 0.44 | |
| 18. I discuss personal issues with friends/family members | 0.43 | |
| 7. I manage to come to terms with events in my life that I cannot influence | 0.43 | |
| 20. When needed, I have someone who can help me | 0.42 | |
| 9. I am able to depend on myself more than anyone else | 0.34 | |
| 14. Sometimes I make myself do things whether I want to or not | 0.33 | |
| Percent Variance Explained | 28.1% | 39.9% |
| Cronbach's alpha | 0.88 | 0.85 |

What opportunities for training and professional development has the project provided?

Nothing to Report

How were the results disseminated to communities of interest?

Nothing to Report

What do you plan to do during the next reporting period to accomplish the goals?

Nothing to Report

4. IMPACT:

What was the impact on the development of the principal discipline(s) of the project?

The final product from this study is a 20-item resiliency instrument that can be used in a military population. Findings are likely to make an impact on the rehabilitation field by providing a brief tool to clinicians that is reliable and valid and relevant and meaningful to active duty Service Members.

What was the impact on other disciplines?

The 20-item resiliency instrument has the potential to be useful for health care professionals interested in assessing resiliency in active duty Service Members. Thus, there may be potential benefit to disciplines outside the field of rehabilitation.

What was the impact on technology transfer?

Nothing to Report

What was the impact on society beyond science and technology?

Nothing to Report

5. CHANGES/PROBLEMS:

Changes in approach and reasons for change

There were no major changes in approach during the reporting period.

Actual or anticipated problems or delays and actions or plans to resolve them

During the reporting period, recruitment continued to be slow due to the effects of the COVID pandemic. Even though CRDAMC reopened for in-person physical therapy care during the reporting period, patient volume continued to be low and recruitment was slow due to ongoing concerns over COVID. These challenges resulted in an inability to meet major task 7, which was to assess predictive validity of the MORE resiliency instrument.

Changes that had a significant impact on expenditures

Funds from previous years were used for the no cost extension (NCE) during the reporting period.

Significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents

Nothing to Report

Significant changes in use or care of human subjects

Nothing to Report

Significant changes in use or care of vertebrate animals.

Not Applicable

Significant changes in use of biohazards and/or select agents

Not Applicable

6. PRODUCTS:

• **Publications, conference papers, and presentations**

Nothing to Report

Journal publications. Nothing to Report

Books or other non-periodical, one-time publications. Nothing to Report

Other publications, conference papers, and presentations. Nothing to Report

• **Website(s) or other Internet site(s)**

- Nothing to report
- **Technologies or techniques**
Nothing to report
- **Inventions, patent applications, and/or licenses**
Nothing to report
- **Other Products**
A 20-item MORE resiliency instrument was developed under this project. A reduced version of this instrument was also developed that has similar reliability and validity as the full 20-item version.

7. PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

What individuals have worked on the project?

Name: Kristin Archer

Project Role: PI

Nearest person month worked: 1

Contribution to project: Developed protocol and all IRB documents, HRPO submission, oversee pre-test analysis and finalizing of instrument, completed quarterly reports and annual report

Name: Amy Bowles

Project Role: Site PI BAMC

Nearest person month worked: 1

Contribution to project: Oversight of BAMC IRB submission and recruitment

Name: Jason Wilken

Project Role: Co-investigator

Nearest person month worked: 0

Contribution to project: Provided expert advice on enrollment and amendments, participated in weekly team conference calls

Name: Stephen Wegener

Project Role: Co-investigator

Nearest person month worked: 0

Contribution to project: Provided expert advice on resiliency and helped interpret analysis to finalize instrument

Name: David Schlundt

Project Role: Co-investigator

Nearest person month worked: 0

Contribution to project: Conducted qualitative analysis, trained study personnel in cognitive interviewing

Name: Shannon Block

Project Role: Project Director

Nearest person month worked: 1

Contribution to project: Assisted with preparing amendments and IRB submission for Aims 3 and 4, participated in weekly team conference calls, auditing data for completeness, training of personnel on recruitment and data collection

Name: Molly Pacha

Project Role: Collaborator

Nearest person month worked: 1

Contribution to project: Helped prepare documents for IRB and HRPO amendment submissions and scheduled weekly conference calls for the team

Name: Kemberlee Bonnet

Project Role: Collaborator

Nearest person month worked: 0

Contribution to project: Assisted with qualitative analysis

Name: Whitney Kiyua

Project Role: Research Physical Therapy Technician

Nearest person month worked: 10

Contribution to project: Enrolled participants for the pre-test and pilot test and helped reschedule appointments when needed

Name: Andrew Valentine

Project Role: Research Physical Therapy Technician

Nearest person month worked: 0

Contribution to project: Enrolled participants for the pre-test and pilot test and helped reschedule appointments when needed

Name: Christine Snyder

Project Role: Co-investigator

Nearest person month worked: 0

Contribution to project: Provided expert advice on resiliency instrument

Name: Benjamin Keizer

Project Role: Co-investigator

Nearest person month worked: 0

Contribution to project: Provided expert advice on resiliency instrument

Name: Mathew Frazier

Project Role: Site PI CRDAMC, Ft. Hood

Nearest person month worked: 1

Contribution to project: Oversight of enrollment into pre-test and pilot test

Name: Pamela Jahelka

Project Role: Research Assistant

Nearest person month worked: 0

Contribution to project: Assistance with data collection, recruitment, consent, staff training, local IRB and protocol coordination

Name: Jacquelyn Pennings

Project Role: Co-investigator, Statistician

Nearest person month worked: 1

Contribution to project: Oversee and perform data analysis, final report

Has there been a change in the active other support of the PD/PI(s) or senior/key personnel since the last reporting period?

Nothing to report

What other organizations were involved as partners?

Organization Name: University of Iowa

Location of Organization: Iowa City, IA

Partner's contribution to the project:

Collaboration on protocol and IRB documents as well as development of resiliency instrument

Organization Name: Johns Hopkins Medicine

Location of Organization: Baltimore, MD

Partner's contribution to the project:

Collaboration on protocol and IRB documents as well as development of resiliency instrument

Organization Name: Carl R. Darnall Army Medical Center

Location of Organization: Fort Hood, TX

Partner's contribution to the project:

Collaboration on protocol and IRB documents, development and testing of resiliency instrument, enrollment and data collection

Organization Name: Center for the Intrepid

Location of Organization: SAMMC, JBSA Fort Sam Houston, TX

Partner's contribution to the project:

Collaboration on protocol and IRB documents, development of resiliency instrument

8. SPECIAL REPORTING REQUIREMENTS

COLLABORATIVE AWARDS: N/A

QUAD CHARTS: Submitted

Appendix A: Interview and Focus Group Script

Introduction

Good Morning/Afternoon/Evening. My name is _____ and I'll be your interviewer/Focus Group Moderator today. We would like your opinions on a questionnaire that we are developing for service men and women. We are going to walk through the questionnaire together from beginning to end. I would like for you to read each item out loud and then think out loud about how you would answer the item. I may ask you some additional questions about each item.

Before we begin I would like to go over some basic information about our discussion.

- This session is being audio recorded. This allows me, as the interviewer/moderator, to focus on you, instead of trying to jot down specific details about the discussion. Please speak in a voice as loud as mine, so the microphone can pick it up.
- My team will write a report using the recordings. Our report will not mention your name. By assuring your privacy, I hope that you will speak openly and honestly about the survey.
- Our purpose is to evaluate the questionnaire. There aren't any right or wrong answers, so please provide us with both positive and negative viewpoints. Whatever you tell us will be very helpful.

Note to interviewer/moderator: Be sure the participant has a clean copy of the questionnaire in hand. Be sure the recorder is turned on now.

Instructions Section

I want to start with the questionnaire instructions. Please read the instructions out loud.

For each item, please mark an "x" in the box below that best indicates how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt.

After they read the instructions out loud, ask the participant:

"Is there anything about these instructions that you did not understand or that you find confusing?"

Note: If they say "no", go on and start the questions. If they say "yes" ask: "Specifically, what about the instructions is confusing or hard to understand?" If they give you an answer, follow up with the question, "What could be changed to make the instructions easier to understand?"

Item Section

You will proceed through the questionnaire one item at a time. Have the participant state the question number and read the item out loud. Begin by asking these questions each time. After a few questions, most participants catch on and will just start talking. Only use the questions below if they are leaving something out.

1. How would you answer this question? (Pause for an answer)

Use the next few questions as prompts to elicit more discussion.

2. What were you thinking about as you answered this question?
3. What kind of situation does this question make you think about?
4. What would make this a better question?
5. If they are having a hard time deciding on an answer, ask, “What makes it hard to choose a single answer?”
6. If the participant asks you what a word/concept means, ask them, “Please tell me how you interpret that. One thing I am trying to understand is how people interpret the words.”

| | | Not true at all (0) | Rarely true (1) | Sometimes true (2) | Often true (3) | True nearly all the time (4) |
|----|--|--------------------------|--------------------------|--------------------------|--------------------------|------------------------------|
| 1. | I am able to adapt to changes that occur. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | I can deal with whatever comes my way. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | I try to see the humorous side of things when I am faced with problems. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | Having to cope with stress can make me stronger. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | I tend to bounce back after illness, injury, or other hardships. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | I believe I can achieve my goals, even if there are obstacles. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | Under pressure, I stay focused and think clearly. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | I am not easily discouraged by failure. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. | I think of myself as a strong person when dealing with life’s challenges and difficulties. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | | | | | | |
|-----|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 10. | I am able to handle unpleasant or painful feelings like sadness, fear, and anger. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. | When something unforeseen happens I always find a solution | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. | I know how to solve my personal problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. | I strongly believe in my abilities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. | I trust completely my judgements and decisions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | In difficult periods I have a tendency to find something good that helps me thrive | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. | I manage to come to terms with events in my life that I cannot influence | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. | I know how to accomplish my future goals | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18 | I feel that my future looks very promising | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. | When I make plans, I follow through with them. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. | I usually manage one way or another. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. | I am able to depend on myself more than anyone else. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. | I feel that I can handle many things at a time. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. | I am determined. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. | I have self-discipline. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. | In an emergency, I'm someone people generally can rely on. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. | I can usually look at a situation in a number of ways. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. | Sometimes I make myself do things whether I want to or not. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. | When I'm in a difficult situation, I can usually find my way out of it. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. | I have enough energy to do what I have to do. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. | I can usually find something to laugh about. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 31. | My life has meaning. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | | | | | | |
|-----|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 32. | I am at my best when I have a clear goal to strive for | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 33. | I am good at organizing my time | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 34. | I enjoy being together with other people | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 35. | For me, thinking of good topics for conversation is difficult | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 36. | My family's understanding of what is important in life is very similar to mine | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 37. | I feel very happy with my family | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 38. | My family is characterized by disconnection | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 39. | In difficult periods my family keeps a positive outlook on the future | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 40. | In my family we like to do things together | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 41. | I can discuss personal issues with friends/family members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 42. | The bonds among my friends are strong | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 43. | I get support from friends/family members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 44. | When needed, I have someone who can help me | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix B: Qualitative Analysis Report

INDIVIDUAL COGNITIVE INTERVIEWS

Twelve individual cognitive interviews were conducted with active military personnel who also had traumatic lower-extremity injuries. Participants were recruited by base personnel involved in DOD sponsored research. Base personnel obtained informed consent and scheduled the interview using a secure online scheduling tool. A Qualitative Research Core (QRC) staff member conducted the interviews over the phone or by the internet collaboration tool (AnyMeeting.com) and were audio recorded. To protect anonymity, each participant was assigned an ID number in replacement of their name. The QRC interviewer, an experienced interviewer with a Master's Degree in Psychology, used a semi-structured interview guide. Participants first read out loud the survey instructions and were asked to comment on their understanding of these instructions. "For each item, please mark an 'x' in the box below that best indicates how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt." Participants then provided feedback about the survey instructions.

Participants read each survey question out loud. The interviewer used the following probes to facilitate discussion of each item:

1. Could you tell me in your own words what this question is asking?
2. What were you thinking about as you answered this question?
3. Was there anything about this question that was confusing to you?
4. What would make this a better question?
5. Was it easy or difficult to choose which answer to pick? Why?

If participants expressed that a question was redundant, they were asked to describe the questions that are perceived as redundant, and what made these items feel repetitive. Because of the larger number of questions, it was not possible to get feedback from every participant on every item in one session. In general, we alternated interviews between even and odd numbered item. Participants were also asked to give feedback on the answer response options.

1. FOCUS GROUPS

Four focus groups were conducted with active military personnel who also had traumatic lower-extremity injuries. Participants were recruited by base personnel involved in DOD sponsored research. A PhD level psychologist from the QRC facilitated three of the focus groups and the Master's level psychologist facilitated one focus group. Facilitators used a semi-structured focus group guide. The guide included questions about instructions, items, and response options like the one-on-one interviews. To protect anonymity, each participant's name was assigned a color (e.g., red, blue), and they were referred to as that color throughout the focus group. The focus group moderator read each question out loud and facilitated discussion of the item. Similar to the one-on-one interviews, it was not possible to discuss every item in each focus group. All items were discussed across the four focus groups.

2. ANALYSIS

Qualitative data coding and analysis was managed by the Vanderbilt University Qualitative Research Core, led by a PhD-level psychologist. Interviews and focus groups were audio recorded and transcribed by an IRB approved professional transcription service (rev.com). A hierarchical coding system was developed and refined using the focus group/interview guide and a preliminary review of four transcripts. Major categories included 1) information processing; 2) item clarity; 3) item sensitivity; 4) response categories; 5) suggestions; and 6) survey instructions. Major categories were further divided from one to ten subcategories, with each subcategory having additional levels of hierarchical divisions. Definitions and rules were written for the use of each category:

<https://healthbehavior.psy.vanderbilt.edu/Swygert/SwygertCodingSystem.pdf>

Experienced qualitative coders first established reliability in using the coding system, then independently coded four transcripts. Coding of each transcript was compared, and any discrepancies resolved to create a single coded transcript. The remaining 12 transcripts were each coded by a single coder. Each statement made by a participant was treated as a “quote”. Each quote was assigned an item code to indicate which specific item was being discussed. The quotes were then coded using the coding system. Each quote could be assigned up to five different codes. Transcripts were combined and sorted by item and by code. This allowed us to view the amount and type of feedback given by participants for each of the survey items.

3. RESULTS

Participants drew upon military experience, injury, rehabilitation experiences, personal lives, personality traits, and hypotheticals in processing and answering each item. Participants expressed the difficulty in staying in the timeframe of the past thirty days when answering the items. It could be helpful to reiterate this for each question. We have used a similar format in other studies and those participants were not bothered by the constant reminder. Participants were satisfied with the response categories and expressed that the survey instructions were straightforward.

The sections below provide a succinct summary of the feedback, along with suggestions and recommendations for each of the survey items. A detailed report follows, in which the direct quotations and their coding categories are listed for each item. Not every quote appears in this report. We selected the quotes that we thought were most revealing and useful. The entire set of sorted coded quotes is available at this link:

<https://healthbehavior.psy.vanderbilt.edu/Swygert/AllCodesSorted.xlsx>

3.1. I am able to adapt to changes that occur.

Summary of feedback

During discussion of military, participants expressed that it is imperative to be prepared to adapt to changes quickly, as they could be deployed at any time. They also referenced the adaptation process to the changes that they have incurred due to injury, such as using crutches and lifestyle change. Participants expressed that it was difficult for themselves to keep their examples to pertain to the past month. Also, the response for some participants was contingent on the *type* of change the question is referring to, e.g., work or injury.

Suggestions and recommendations

Type of change needs to be clarified or an example provided.

3.2. I can deal with whatever comes my way.

Summary of feedback

This item was interpreted as the extreme or all-or-nothing thinking, abrupt onset situation, obstacles, adaptation and acceptance. The most common examples in the answer process were hypothetical in nature. Redundancy was reported with question 1 (I am able to adapt to changes that occur).

Suggestions and recommendations

We need to provide an example because answers depended on *type* of situation that came to mind.

3.3 I try to see the humorous side of things when I am faced with problems.

Summary of feedback

Some participants expressed that if they can't control a situation, they laugh about it- especially when referring to the military. For others, humor was seen as an obstacle to successfully completing a task.

Suggestions and recommendations

They need an example "problem" in order to answer, including context, such as work or home life. The word "humor" was off-putting to some- consider replacing with "positive".

3.4 Having to cope with stress can make me stronger.

Summary of feedback

The primary examples provided by participants were hypothetical in nature. Discussion centered on individual differences in the ability to cope with stress. Cognitive processing for answering the question occurred in terms of coping and being of service to others. "Stress" was interpreted as unexpected occurrences or emotional stressors. There was an expression of low stress management ability being connected to failure.

Suggestions and recommendations

This question was received as too general and participants needed an example of what is meant by stress. The lack of an example made it difficult for some people to answer.

3.5. I tend to bounce back after illness, injury, or other hardships.

Summary of feedback

The primary discussion was centered on their injuries, including post-injury goal setting. They talked about how age impacts ability to bounce back- referring to injury. There were "absolutes"- with some participants stating that they are "always positive" and "nothing has stopped me yet." People interpreted the word "hardships" as personal, financial, and emotional.

Suggestions and recommendations

There were differences in *type* of hardship bounce back- personal hardship could be easier to bounce back than injury or illness, so perhaps give examples or break it into two questions.

3.6. I believe I can achieve my goals, even if there are obstacles.

Summary of feedback

Participants stated that their answers depend on *type* of goal, in that some goals are more important than others. Discussion centered primarily on military in that obstacles are what the military is about- one must figure out how to deal with obstacles. Also interpreted kind of like eye on the prize. Reliance on social support was emphasized in reference to obstacles. In addition, following their injuries, it was expressed that goals shift and one creates new goals and/or re-strategize current goals.

Suggestions and recommendations

Participants' responses are contingent on *type* of goal- personal, career, etc. We may need to provide an example.

3.7. Under pressure, I stay focused and think clearly.

Summary of feedback

Primary discussion centered on military experience in high-stakes situations and time-sensitive tasks. This question also elicited emotional responses that pressure creates or exacerbates anxiety, resulting in poor performance. Participants wanted to know the type of "pressure" we were asking about.

Suggestions and recommendations

The word "pressure" was criticized in that it was too general. We may need to provide examples.

3.8. I am not easily discouraged by failure.

Summary of feedback

The word "not" made the question difficult to easily answer. Participants discussed the level of importance of the task or goal in which one failed. Some interpreted failure as a necessary means to success, and others discussed negative emotional impacts of failure.

Suggestions and recommendations

This question might need to be specific as to area in life that one has a failure- personal, career, etc.

3.9. I think of myself as a strong person when dealing with life's challenges and difficulties.

Summary of feedback

This question elicited catastrophic thoughts, trauma or "really awful" things that could occur. Some referenced difficulty in childhood. Others were not as affected by this item and saw challenges as something one just has to work around. The importance of reaching out to mentors and having family support was also mentioned. They also discussed the need to always be prepared daily for any challenges and difficulties that may occur, and discussed the ability to be adaptable as part of being a strong person. This item brought up negative emotions such as sadness and depression, but not anger. One participant stated that this question seems repetitive to, "having to cope with stress makes me stronger" and also similar to "I can deal with whatever comes my way".

Suggestions and recommendations

This is a good resiliency question- participants talked about mentors, social support, adaptability, and endurance. We may want to incorporate "adaptable" into this question.

3.10. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.

Summary of feedback

Participants thought these emotions should not be in the same item, as they saw them as exclusive, and said their answers would be different if presented this way. Others did not see relevance of this item, as they were thinking of their injury specifically for the survey.

Suggestions and recommendations

Maybe separate this into three items. Consider removing the word “pain”. We might need a word different than “handle”. We were asked to clarify if “handle” meant cope positively/“healthy” or respond negatively.

3.11. When something unforeseen happens I always find a solution.

Summary of feedback

Participants discussed this item in terms of the need to plan ahead and to draw upon past experiences to formulate the solution. Adaptability was also directly mentioned. Participants did not like the word “always” and said that this word made it difficult to answer the question. They were also thinking in terms of timeliness in which the solution would be found- it seems their answers to the question would depend on that piece of information.

Suggestions and recommendations

The question was difficult to interpret, but can be tailored to be a good resilience item, because it relates to adaptability. Remove the word, “always”. Consider modifying the question with, “I quickly find a solution”. In addition, add “positive” solution because a participant asked a clarifying question, “healthy solution?”.

3.12. I know how to solve my personal problems.

Summary of feedback

Participants discussed the need for social support to help them solve personal problems. They immediately thought about problems they have *not* solved personally. There was mixed interpretation about “problems”- some interpreted personal problems as being related to work problems, and others were able to separate the two. There is confusion as to why this question was included in the survey because some participants were thinking in terms of physical injury.

Suggestions and recommendations

Maybe provide “personal” problem examples that are different than work problems.

3.13. I strongly believe in my abilities.

Summary of feedback

This item was interpreted as resourcefulness, and discussion centered on individual confidence level. One participant stated that this item is a summary of items 1-10. This item was also seen as “vague”.

Suggestions and recommendations

We should gear this item toward resourcefulness because that was the primary interpretation of this item.

3.14. I trust completely my judgements and decisions.

Summary of feedback

Participants thought about high-stakes situations, such as combat, when interpreting this item. Some expressed that this item is unrealistic because of the word “completely”, which makes this item difficult to answer. Most participants were referring to decision making, not judgments.

Suggestions and recommendations

Remove the word “completely”. Consider separating this item into two questions because one can have good judgment but make poor decisions.

3.15. In difficult periods, I have a tendency to find something good that helps me thrive.

Summary of feedback

This item was seen in terms of the “light at the end of the tunnel”- the difficult period will be over soon. The difficult period was also seen as a growth opportunity. This question was seen as similar to “I think of myself as a strong person when dealing with life's challenges and difficulties.”

Suggestions and recommendations

We need to provide an example of what “good” is or rephrase the question to reflect what good is- this was asked as a clarifying question by a participant.

3.16. I manage to come to terms with events in my life that I cannot influence.

Summary of feedback

Participants thought this was a great injury/physical therapy specific question.

Suggestions and recommendations

This is a good question. We could modify it slightly because it was difficult for some to initially interpret.

3.17. I know how to accomplish my future goals.

Summary of feedback

Participants needed clarity as to if the item pertained to personal goals or military goals. They processed this question in terms of strategies used to accomplish goals. Another issue with this item- one can *know* how to accomplish the goal, but not be willing to accomplish the goal.

Suggestions and recommendations

Define type of goal. Maybe modify the question to “I find a way to accomplish my future goals.”

3.18. I feel that my future looks very promising.

Summary of feedback

Participants said that this is a good item. This item was discussed primarily in terms of injury. Participants discussed uncertainty and shifts in attitudes about their futures. Clarity was requested for this item: is the item pertaining to the future in what regard- job, financial, or health?

Suggestions and recommendations

We need to define which aspect of the future we are referring to in the item

3.19. When I make plans I follow through with them.

Summary of Feedback

Feedback on this item illustrated that people interpret the question as a personality measure. Most referenced characteristics common to them across all settings; however, some did speak to the absence of self- made plans in the military.

Suggestions and Recommendations

Several responses voiced a desire to answer across two categories depending on whether they thought of personal or work plans. This item might be better if it were clarified what type of plans.

3.20. I can usually manage one way or another.

Summary of Feedback

While some referenced their injury, the feedback on this item demonstrated that people processed the question in a general sense. Several commented on the item's applicability to mental health status, but at the same time, a few responses suggested that the question was irrelevant, stating that if they are still alive then they have managed one way or another.

Suggestions and recommendations

This item could be clarified by reconsidering the word "manage." Overall the question is useful, but it could convey "making it through difficult times" to solve some responder confusion.

3.21. I am able to depend on myself more than anyone else.

Summary of Feedback

Responses to this item fell into three categories including: those who aligned with the military team mentality, those who felt that it depends on the situation, and those who believed that, especially in the military, if you want something done well then you have to do it yourself. As far as rehabilitation, the feedback suggests frustration from the increased need to rely on others.

Suggestions and recommendations

This item provoked recommendations of adding a sixth category of "all the time." This item is a good candidate for the questionnaire.

3.22. I feel that I can handle many things at a time.

Summary of Feedback

Discussion of this item centered around the required ability to handle many things at a time in the military. This seems especially true while also in physical therapy. However, several responses broadened the scope to include personal responsibilities such as family and school.

Suggestions and recommendations

This may be a good candidate item for the questionnaire and can be used as worded.

3.23. I am determined.

Summary of feedback

The feedback on this item showed that people had to think about a specific goal or specific situation in their lives in order to answer the question. Some referred to their military experience, some to their injury experience, and others thought about life more generally. After thinking about a specific goal or life domain, the participants were able to answer this question.

Suggestions and recommendations

We may want to consider specifying what area or domain of life to think about in answering this question.

3.24. I have self-discipline.

Summary of feedback

Feedback stressed the importance of this item, particularly throughout the physical therapy process as motivation can decline. Most acknowledged that military employment requires some degree of self-discipline.

Suggestions and recommendations

This item is a good candidate for inclusion and can be used as worded.

3.25. In an emergency, I'm someone people can generally rely on.

Summary of feedback

Responses to this item reflected different interpretations of the word “emergency”. Also, several voiced that they only wanted to help after identifying the situation as a true crisis.

Suggestions and recommendations

This item was straightforward although operationalization of the word “emergency” varied. We may want to consider a different word than “emergency”.

3.26. I can usually look at a situation in a number of ways.

Summary of feedback

The feedback highlighted both the items’ useful departure from the traditional, rigid military mindset and its irrelevance to the regimented schedule of physical therapy. Participants imagined a wide range of situations from military tasks to everyday life to interpersonal relationships.

Suggestions and recommendations

This item evoked some confusion and difficulty in operationalizing the question. The term “situation” is very general and open to a wide range of interpretations.

3.27. Sometimes I make myself do things whether I want to or not.

Summary of feedback

Feedback suggested that people processed the question both personally and militarily. A few thought of steps to achieve a goal while others thought of tasks required due to their employment. It did evoke some frustration but most acknowledged that they often make themselves do things.

Suggestions and recommendations

This item is a good candidate for the final questionnaire and can be used as worded. In the military context the answer to this question will be “always true” or “almost always true”. In personal life, people have more choice about doing things they dislike.

3.28. When I'm in a difficult situation, I can usually find my way out of it.

Summary of feedback

This item seemed to be processed depending on what the individual finds most “difficult” in their life whether that is their life in general, the military, or their rehabilitation. Similarly, people frequently discussed their individual operationalization of the question.

Suggestions and recommendations

The term “difficult situation” is subject to a very wide range of interpretations. We may want to consider different wording.

3.29. I have enough energy to do what I have to do.

Summary of feedback

While a few were torn between physical and mental energy in reference to this item, people referred to the type most relevant to their situation. For example, those with debilitating injuries focused on their possession or lack of physical energy. Participants discussed that their answer depends on the exact temporal reference of the item.

Suggestions and recommendations

This item has two elements that are interpreted in different ways: energy and “what I have to do”. We may want to be more specific.

3.30. I can usually find something to laugh about.

Summary of feedback

The feedback to this item suggests that most used general processing and hypotheticals to answer. Several identified laughing as a way to cope with military, personal, and rehabilitation difficulty. Rarely, people provided negative feedback including the inappropriateness of the word “laugh”.

Suggestions and recommendations

This item could be worded along the lines of “finding the humor in things” to avoid the word “laugh” and retain the original intent. The item is situationally dependent, so we may want to specify what domain of life the item pertains to.

3.31. My life has meaning.

Summary of feedback

Generally, the responders interpreted the item as having a life purpose. The majority referenced loved ones outside of the military as the primary source of their meaning. The item successfully identified those with a negative outlook.

Suggestions and recommendations

Although a few described the item as vague and difficult to answer, the question is relevant and may be a good candidate for inclusion in the final questionnaire.

3.32. I am at my best when I have a clear goal to strive for.

Summary of feedback

The feedback for this item suggested that people frequently thought of their physical therapy, particularly the need to have goals throughout the process. Also common was a general self-reflective analysis concerning their perceived usefulness of setting goals.

Suggestions and recommendations

This item is difficult for people to answer without some sense of the type of goal or the life domain in which the goal is being set.

3.33. I am good at organizing my time.

Summary of feedback

Feedback for this item illustrated that most thought of how they organize their free time since their military schedule is regimented. Use of hypotheticals and verbal processing of the answer were frequent and people generally referenced their stable ability or inability to manage time.

Suggestions and recommendations

This item may be better if it refers to free time outside of the military.

3.34. I enjoy being together with other people.

Summary of feedback

Responders often voiced a desire to spend time alone due to the constant social atmosphere of the military; however military aside, most processed the item along the stable introvert-extrovert spectrum. Frequently, answers fell into the “sometimes true” category as people recognized their response depends on both the people and the situation.

Suggestions and recommendations

This item might be better if it was clear if being with other people involved socializing outside of the military/work context.

3.35. For me, thinking of good topics for conversation is difficult.

Summary of feedback

The feedback for this item demonstrated that most processed their answer by explaining their normal conversation brainstorming strategy. People often referenced the military as a common setting for conversation difficulty. A few mentioned their personal lives.

Suggestions and recommendations

This item may not be a clear reflection of resilience and is probably a better item to measure social skill or extraversion.

3.36. My family's understanding of what is important in life is very similar to mine.

Summary of feedback

The feedback suggested that almost all processing was personally based, but several presented issues with the item. Comments included: the generalization about family's as a whole, the inapplicability to those in non-traditional family settings, and the contingency concerning what level of importance should be addressed.

Suggestions and recommendations

This item was difficult for people to answer because family can be thought of as a smaller or larger network of people. People recommended replacing the word "very" with "similar" and clarifying the definition of family.

3.37. I feel very happy with my family.

Summary of feedback

Several people operationalized the item before providing an answer, asking themselves the question "How do I feel about my immediate family?" Also, feedback suggested that the item was both difficult to answer honestly and an unrealistic portrayal of families. Responders' feedback included some bitterness, but appreciation and content were also present.

Suggestions and recommendations

One responder suggested adding the clause "for the most part" to the end of the item to allow a more realistic, honest answering process. This item did present some controversy; however, it did identify those with a negative family life experience. This may not be a good item, as people's feelings about family vary from time to time and situation to situation.

3.38. My family is characterized by disconnection.

Summary of feedback

Commonly, people operationalized the word "disconnection" as emotional or physical before answering the item. A few responded with clarifying questions, dislike of the item and its negative tone, and suggestions to replace the word "disconnection."

Suggestions and recommendations

Recommendations focused on clarifying the form of "disconnection" or eliminating the item entirely. A few suggested creating a more vivid image of "disconnection" to avoid confusion.

3.39. In difficult periods my family keeps a positive outlook on the future.

Summary of feedback

This item's feedback suggested that people thought of a concrete difficult period from their personal lives. A source of confusion was the person having the most difficult time. Some thought of their own difficult times such as deployment, while others thought of a more family-

wide difficulty. Also, those who responded affirmatively often described the positive outlook as a family duty.

Suggestions and recommendations

This item did result in feedback that the answer choices were not comprehensive enough. Several wanted to respond “not applicable” due to the absence of family or difficult times. The specific recipient(s) of the difficult time could be clarified to avoid confusion. Here the term “family” is interpreted in many different ways by different participants. For some participants the answer would depend on who they thought about when thinking about family.

3.40. In my family we like to do things together.

Summary of feedback

Feedback illustrated that people thought of either day to day activities or holiday occasions. Most operationalized “things” in the general sense of spending time together and recognized that enjoying all of their time with family would be too much. A few provided feedback that the question was only applicable if family existed and resided near their military station.

Suggestions and recommendations

Similar to question 39, people recommended the inclusion of a “not applicable” response option. Generally, this item was less controversial than other personal questions in this section. In the context of being in the military, how people think about family can be very different depending on such things as age, rank, and marital status.

3.41. I can discuss personal issues with friends/ family members.

Summary of feedback

Responses to this item varied between those who thought of discussion as a logical and essential part of close relationships and those who believed family and friends are for connection, without attention to issues. Frequently, people suggested splitting the item into two separate questions, one for family and one for friends. Feedback also spoke to the strong contingency of the specific situation required to answer.

Suggestions and recommendations

This item is difficult and could be split into two questions because friends and family provoke different responses.

3.42. The bonds among my friends are strong.

Summary of feedback

Feedback on this item suggested that people have different definitions of the word “friends.” Most clarified between their acquaintances and their close friends from home or the army, with whom they have strong bonds. Few spoke to their lack of friends and therefore lack of bonds.

Suggestions and recommendations

The responses to this item are difficult to interpret because of the vagueness of the term “my friends”.

3.43. I get support from friends/family members.

Summary of feedback

Similar to item 39, this item’s feedback discussed the strong contingency of the referential situation and the specific support person. Situations included getting out of the army and making

other personal life decisions. A few responders voiced difficulty staying within the questionnaire's time period and the decline of the initial support they received after their injury.

Suggestions and recommendations

This is a difficult question for people to answer without making reference to some kind of specific issue that requires support.

3.44. When needed, I have someone who can help me.

Summary of feedback

The responses demonstrated that people thought of a range of helpers including: mentors, significant others, and friends from home or the military. Several admitted reluctance to ask for help but acknowledged its necessity, especially in the military.

Suggestions and recommendations

Feedback referenced the previous question, "I get support from friends/family members," stating that the two are very similar with 44 being slightly simpler.

3.45. Directions

"Instructions: For each item, please mark an "x" in the box below that best indicates how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt."

Summary of feedback

As a whole, people found the directions straightforward and clear; however, the main issue was staying within the specified time period. Most processed the more general items with a lifelong perspective. A few mentioned that the questionnaire could be more effective if used earlier in the rehabilitation process, and some were confused by the wording of the last phrase.

Suggestions and recommendations

Responders recommended adjusting the time period to either within the last few months or over the past year and adjusting the concluding words to include "hypothetical." Also, a few suggested making the items more scenario based, getting rid of the time specification entirely.

3.46. Rating Scale

Summary of feedback

Feedback mostly suggested that the scale was straightforward and typical of this type of questionnaire, but some found the five categories limiting. Among those who voiced a desire for more categories, people discussed middle ground between each point on the scale. Few found the scale inappropriate for the items.

Suggestions and recommendations

Participants recommended a number scale to provide easier interpretation and more categories.

Appendix C: Proposed Changes to MORE Resiliency Instrument

Instructions: For each item, please mark an “x” in the box below that best indicates how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently answer according to how you would have felt.

Participants expressed the difficulty in staying in the timeframe of the past thirty days when answering the items. Discuss removing time frame.

Participants drew upon military experience, injury, and personal lives in processing and answering each item. Some would answer differently depending on whether military vs. personal. Discuss revising instructions to clarify situational context or specific items to include “in the military” or “in my personal life”

Note. 1-10 are from Connor-Davidson¹ (CD), 11-18 and 32-44 from Resilience Scale for Adults² (RSA), 19-31 from 25-item Resilience Scale³ (RS)

Recommendation is to keep 20 items out of original 44 (6 from CD, 9 from RSA, and 5 from RS). Items reflect personal competence, acceptance of self, personal structure, social competence and social support.

Legend. 1 = Keep item as is, 2 = Edit item, 3 = Remove item

| Item number | Scale | Rating (1-3) | Suggested change(s) |
|---|-----------------|--------------|--|
| 1. I am able to adapt to changes in my life | Connor-Davidson | 2 | Specify type of change (personal, injury, military) |
| 2. I can deal with whatever comes my way | Connor-Davidson | 3 | Redundancy reported with question 1. Answer depends on situation |
| 3. I try to see the humorous side of things when I am faced with problems | Connor-Davidson | 3 | Word “humor” off-putting. Humor was an obstacle |
| 4. Having to cope with stressful situations can make me stronger | Connor-Davidson | 2 | The lack of an example made it difficult for some people to answer. Define stress (general, personal, military). |
| 5. I tend to bounce back after illness or injury | Connor-Davidson | 2 | Remove “other hardships” Reword: “I tend to bounce |

| | | | |
|--|-----------------------------|---|---|
| | | | back after illness or injury” |
| 6. I believe I can achieve my goals, even if there are obstacles | Connor-Davidson | 2 | Specify type of goal (personal, injury, military) |
| 7. Under pressure, I stay focused and think clearly | Connor-Davidson | 3 | The word “pressure” was criticized in that it was too general. If keep, we may need to provide examples |
| 8. I am NOT easily discouraged by failure | Connor-Davidson | 1 | Specify type of failure may be needed (personal vs. military) |
| 9. I think of myself as a strong person when dealing with life’s challenges and difficulties | Connor-Davidson | 1 | |
| 10. I am able to handle unpleasant or painful feelings | Connor-Davidson | 2 | Drop like sadness, fear and anger should be asked in separate items. Others did not see relevance in this item |
| 11. When something unforeseen happens I find a solution | Resilience Scale for Adults | 2 | Participants did not like “always”. Need to clarify solution Reword to: “ When something unforeseen happens I find a solution” |
| 12. I know how to solve my personal problems. | Resilience Scale for Adults | 3 | Participants didn’t see how this fit into physical injury. Didn’t like word “personal” |
| 13. I strongly believe in my ability to solve problems | Resilience Scale for Adults | 2 | Too vague. Primary interpretation was on “resourcefulness” Reword: “I strongly believe I am resourceful” or “I strongly believe in my resourcefulness” |

| | | | |
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| 14. I trust my judgements and decisions | Resilience Scale for Adults | 2 | Remove “completely.” Judgements and decisions 2 different things. Rework: “I trust my decision making” |
| 15. In difficult periods, I have a tendency to find something that helps me thrive | Resilience Scale for Adults | 2 | Some overlap with 9. Keep for now. Consider replacing “good” which is vague. Rework: “In difficult times, I have a tendency to find something positive that helps me thrive |
| 16. I manage to come to terms with events in my life that I cannot influence | Resilience Scale for Adults | 1 | We could modify it slightly because it was difficult for some to initially interpret |
| 17. I know how to accomplish my future goals | Resilience Scale for Adults | 3 | |
| 18. I feel that my future looks very promising | Resilience Scale for Adults | 1 | |
| 19. When I make plans I follow through with them | 25-item Resilience Scale | 3 | Plans was too vague and answer different if military or personal |
| 20. I can usually manage one way or another | 25-item Resilience Scale | 3 | Manage too vague. Some thought not a relevant item |
| 21. I am able to depend on myself more than anyone else | 25-item Resilience Scale | 1 | |
| 22. I feel that I can handle many things at a time | 25-item Resilience Scale | 1 | |
| 23. I am determined | 25-item Resilience Scale | 1 | Too vague – didn’t know if should think about injury, personal, or military |
| 24. I have self-discipline | 25-item Resilience Scale | 1 | |

| | | | |
|---|-----------------------------|---|---|
| 25. In an emergency, I'm someone people can generally rely on | 25-item Resilience Scale | 3 | Interpretation of "emergency" was difficult – is this a true crisis |
| 26. I can usually look at a situation in a number of ways | 25-item Resilience Scale | 1 | Some confusion and difficulty in operationalizing the question |
| 27. Sometimes I make myself do things whether I want to or not | 25-item Resilience Scale | 1 | In the military context the answer to this question will be "always true" or "almost always true". In personal life, people have more choice about doing things they dislike. |
| 28. When I am in a difficult situation, I can usually find my way out of it | 25-item Resilience Scale | 3 | The term "difficult situation" is subject to a very wide range of interpretations |
| 29. I have enough energy to do what I have to do | 25-item Resilience Scale | 3 | This item has two elements that are interpreted in different ways: energy and "what I have to do" |
| 30. I can usually find something to laugh about | 25-item Resilience Scale | 1 | The item is situationally dependent. Similar to #3 |
| 31. My life has meaning | 25-item Resilience Scale | 1 | |
| 32. I am at my best when I have a clear goal to strive for | Resilience Scale for Adults | 2 | Specify type of goal (personal, injury, military). Similar to #6 |
| 33. I am good at organizing my time | Resilience Scale for Adults | 3 | military schedule is regimented |
| 34. I enjoy being together with other people | Resilience Scale for Adults | 3 | This item might be better if it was clear involved socializing outside of the military/work context. Reword: "I enjoy being together" |

| | | | |
|--|-----------------------------|---|---|
| | | | with other people outside of work/military” |
| 35. For me, thinking of good topics for conversation is difficult | Resilience Scale for Adults | 3 | |
| 36. My family’s understanding of what is important in life is very similar to mine | Resilience Scale for Adults | 3 | |
| 37. I feel very happy with my family | Resilience Scale for Adults | 3 | |
| 38. My family is characterized by disconnection | Resilience Scale for Adults | 3 | |
| 39. In difficult periods my family keeps a positive outlook on the future | Resilience Scale for Adults | 3 | |
| 40. In my family we like to do things together | Resilience Scale for Adults | 3 | |
| 41. I discuss personal issues with friends/family members | Resilience Scale for Adults | 1 | Delete can |
| 42. The bonds among my friends are strong | Resilience Scale for Adults | 3 | |
| 43. I get support from friends/family members | Resilience Scale for Adults | 1 | |
| 44. When needed, I have someone who can help me | Resilience Scale for Adults | 1 | Reluctance to ask for help |

Appendix D: 26-Item MORE Resiliency Instrument

Instructions: For each item, please mark an “x” in the box below that best indicates how much you agree with the following statements as they apply to you in your military or personal life. If a particular situation has not occurred recently, answer according to how you think you would have felt.

| | | Not true at all (0) | Rarely true (1) | Sometimes true (2) | Often true (3) | True nearly all the time (4) |
|-----|---|---------------------------|--------------------------|--------------------------|--------------------------|------------------------------------|
| 1. | I am able to adapt to changes in my life | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | Having to cope with stressful situations can make me stronger | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | I tend to bounce back after illness or injury | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | I believe I can achieve my goals, even if there are obstacles | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | I am not easily discouraged by failure | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | I think of myself as a strong person when dealing with life’s challenges and difficulties | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | I am able to handle unpleasant or painful feelings | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | When something unforeseen happens I find a solution | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. | I strongly believe in my ability to solve problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. | I trust my judgements and decisions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. | In difficult periods, I have a tendency to find something that helps me thrive | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. | I manage to come to terms with events in my life that I cannot influence | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. | I feel that my future looks very promising | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. | I am able to depend on myself more than anyone else | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. | I feel that I can handle many things at a time | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. | I am determined | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. | I have self discipline | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | | | | | | |
|-----|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 18. | I can usually look at a situation in a number of ways | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. | Sometimes I make myself do things whether I want to or not | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. | I can usually find something to laugh about | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. | My life has meaning | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. | I am at my best when I have a clear goal to strive for | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. | I enjoy being together with other people | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. | I discuss personal issues with friends/family members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. | I get support from friends/family members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. | When needed, I have someone who can help me | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix E: Cognitive Interview Script for Pre-Test

Good Morning/Afternoon/Evening. My name is _____ and I'll be your interviewer today. We would like your opinions on a questionnaire that we are developing for service men and women. We are going to walk through the questionnaire together from beginning to end. I would like for you to read each item out loud and then think out loud about how you would answer the item. I may ask you some additional questions about each item

Before we begin I would like to go over some basic information about our discussion.

- This session is being audio recorded. This allows me, as the interviewer, to focus on you, instead of trying to jot down specific details about the discussion. Please speak in a voice as loud as mine, so the microphone can pick it up.
- My team will write a report using the recordings. Our report will not mention your name. By assuring your privacy, I hope that you will speak openly and honestly about the survey.
- Our purpose is to evaluate the questionnaire. There aren't any right or wrong answers, so please provide us with both positive and negative viewpoints. Whatever you tell us will be very helpful.

Note to interviewer: Be sure the participant has a clean copy of the questionnaire in hand. Be sure the recorder is turned on now.

Instructions Section

I want to start with the questionnaire instructions. Please read the instructions out loud.

For each item, please mark an "x" in the box below that best indicates how much you agree with the following statements as they apply to you in your military or personal life. If a particular situation has not occurred recently, answer according to how you think you would have felt.

After they read the instructions out loud, ask the participant:

"Is there anything about these instructions that you did not understand or that you find confusing?"

Note: If they say "no", go on and start the questions. If they say "yes" ask: "Specifically, what about the instructions is confusing or hard to understand?" If they give you an answer, follow up with the question, "What could be changed to make the instructions easier to understand?"

Item Section

You will proceed through the questionnaire one item at a time. Have the participant state the question number and read the item out loud. Begin by asking these questions each time. After a few questions, most participants catch on and will just start talking. Only use the questions below if they are leaving something out.

1. How would you answer this question? (Pause for an answer)

Use the next few questions as prompts to elicit more discussion.

2. What were you thinking about as you answered this question?
3. What kind of situation does this question make you think about?
4. What would make this a better question?
5. If they are having a hard time deciding on an answer, ask, “What makes it hard to choose a single answer?”
6. If the participant asks you what a word/concept means, ask them, “Please tell me how you interpret that. One thing I am trying to understand is how people interpret the words.”

| | | Not true at all (0) | Rarely true (1) | Sometimes true (2) | Often true (3) | True nearly all the time (4) |
|-----|---|---------------------------|--------------------------|--------------------------|--------------------------|------------------------------------|
| 1. | I am able to adapt to changes in my life | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | Having to cope with stressful situations can make me stronger | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | I tend to bounce back after illness or injury | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | I believe I can achieve my goals, even if there are obstacles | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | I am not easily discouraged by failure | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | I think of myself as a strong person when dealing with life's challenges and difficulties | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | I am able to handle unpleasant or painful feelings | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | When something unforeseen happens I find a solution | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. | I strongly believe in my ability to solve problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. | I trust my judgements and decisions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. | In difficult periods, I have a tendency to find something that helps me thrive | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. | I manage to come to terms with events in my life that I cannot influence | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. | I feel that my future looks very promising | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. | I am able to depend on myself more than anyone else | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. | I feel that I can handle many things at a time | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. | I am determined | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. | I have self discipline | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. | I can usually look at a situation in a number of ways | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. | Sometimes I make myself do things whether I want to or not | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. | I can usually find something to laugh about | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. | My life has meaning | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | | | | | | |
|-----|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 22. | I am at my best when I have a clear goal to strive for | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. | I enjoy being together with other people | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. | I discuss personal issues with friends/family members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. | I get support from friends/family members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. | When needed, I have someone who can help me | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

In closing, ask the participant, “Is there anything else you can tell me that might make this survey better?”

Thank the participant for helping.

Appendix F: 20-Item MORE Resiliency Instrument

Instructions: For each item, please mark an “x” in the box below that best indicates how much you agree with the following statements as they apply to you in your military or personal life. If a particular situation has not occurred recently, answer according to how you think you would have felt.

| | | Not true at all (0) | Rarely true (1) | Sometimes true (2) | Often true (3) | True nearly all the time (4) |
|-----|--|---------------------------|--------------------------|--------------------------|--------------------------|------------------------------------|
| 1. | Having to cope with stressful situations can make me stronger | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | I tend to bounce back after illness or injury | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | I am not easily discouraged by failure | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | I am able to handle unpleasant or painful feelings | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | When something unforeseen happens I find a solution | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | In difficult periods, I have a tendency to find something that helps me thrive | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | I manage to come to terms with events in my life that I cannot influence | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | I feel that my future looks very promising | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. | I am able to depend on myself more than anyone else | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. | I feel that I can handle many things at a time | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. | I am determined | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. | I have self discipline | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. | I can usually look at a situation in a number of ways | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. | Sometimes I make myself do things whether I want to or not | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. | I can usually find something to laugh about | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. | I am at my best when I have a clear goal to strive for | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. | I enjoy being together with other people | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. | I discuss personal issues with friends/family members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. | I get support from friends/family members | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. | When needed, I have someone who can help me | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |