

Military to Civilian Questionnaire: A Measure of Postdeployment Community Reintegration Difficulty Among Veterans Using Department of Veterans Affairs Medical Care

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The primary objective of this study was to describe the development, reliability, and construct validity of scores on the Military to Civilian Questionnaire (M2C-Q), a 16-item self-report measure of postdeployment community reintegration difficulty. We surveyed a national, stratified sample of 1,226 Iraq and Afghanistan veterans who used U.S. Department of Veterans Affairs (VA) medical care; 745 completed the M2C-Q and validated mental health screening measures. All analyses were based on weighted estimates. The internal consistency of the M2C-Q was .95 in this sample. Factor analyses indicated a single total score was the best-fitting model. Total scores were

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associated with measures theoretically related to reintegration difficulties including perception of overall difficulty readjusting back into civilian life ($R^2 = .49$), probable PTSD ($d = 1.07$), probable problem drug or alcohol use ($d = 0.34$), and overall mental health ($r = -.83$). Subgroup analyses revealed a similar pattern of findings in those who screened negative for PTSD. Nonwhite and unemployed veterans reported greater community reintegration difficulty ($d = 0.20$ and 0.45 , respectively). Findings offer preliminary support for the reliability and construct validity of M2C-Q scores.

More than 2.2 million U.S. service members have been deployed to Afghanistan or Iraq warzones as part of Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF), 57% of whom have since discharged from the military and assumed veteran status (U.S. Department of Veterans Affairs, 2011). These veterans face the interrelated challenges of processing their combat experiences and reentering community life. Although psychiatric disturbance in individuals formerly deployed to OEF/OIF has received considerable attention (Hoge et al., 2004; Milliken, Auchterlonie, & Hoge, 2007; Schell & Marshall, 2008; Seal et al., 2009), much less is known about their experiences and service needs as they attempt to reintegrate into their communities.

All military branches require their troops to complete reintegration programs before discharge. The U.S. Department of Defense (DoD) does not offer a uniform definition of reintegration, but these programs typically emphasize certain areas, including finding purpose in life; interpersonal relationships; employment or schooling; and access to benefits, housing, and health care (DoD, 2011; Uniformed Services University of the Health Sciences, 2004). This suggests that the military construes reintegration as encompassing many domains related to full participation in community life.

Consistent with the World Health Organization's International Classification of Functioning, Disability and Health (ICF; World Health Organization [WHO], 2001), physical medicine and rehabilitation researchers' definition of community integration includes being part of the mainstream of family and community life, fulfilling normal roles and responsibilities, and being an active and contributing member of one's social group and society as a whole (Dijkers, 1998). Commonly used measures of community integration include the Community Integration Questionnaire (Willer, Rosenthal, Kreutzer, Gordon, & Rempel, 1993), the Community Integration Measure (McCull, Davies, Carlson, Johnston, & Minnes, 2001), the Craig Handicap Assessment and Reporting Tool (Whiteneck, Carlifue, Gerhart, Overholser, & Richardson, 1992), and the Participation Objective, Participation Subjective (Brown et al., 2004). Recently, an interview measure to assess reintegration problems specific to injured veterans has appeared (Resnik, Plow, & Jette, 2009). Importantly, all these measures were developed for rehabilitation patients with neurological disorders, such as traumatic brain injury or spinal cord injury, and may not be relevant to persons without physical handicaps or specialized rehabilitation service needs.

Community reintegration among veterans who are not patients in rehabilitation settings has not been extensively studied. The

exception we found examined 15 female OIF veterans seeking mental health treatment and reported worse readjustment among the eight women with military sexual trauma histories compared to the seven women who did not have military sexual trauma histories (Katz, Bloor, Cojucar, & Draper, 2007). Researchers have examined constructs related to community reintegration (e.g., psychosocial or role functioning and quality of life), however, this was among veterans with psychiatric problems related to deployment. These studies suggest that deployment may be associated with interpersonal and employment problems and that these difficulties are particularly pronounced among veterans with posttraumatic stress disorder (PTSD) and other mental health concerns (Browne, Hull, Horn, Jones, & Murphy, 2007; Hoge, Terhakopian, Castro, Messer, & Engel, 2007; Riggs, Byrne, Weathers, & Litz, 1998; Schnurr, Lunney, Bovin, & Marx, 2009; Shea, Vujanovic, Mansfield, Sevin, & Liu, 2010; Zatzick et al., 1997). Measurement strategies in these studies have varied considerably. Some studies have used single items to assess marital or employment status (Browne et al., 2007; Hoge et al., 2007; Zatzick et al., 1997). Others, although using validated scales, assessed only a single aspect of functioning, such as social functioning or employment (Riggs et al., 1998). One recent study that examined a broader array of functional domains in OEF/OIF veterans using in-depth structured interviews found that PTSD was associated with poorer functioning and that numbing/avoidance symptoms were the strongest predictors of social functioning (Shea et al., 2010).

Although functioning in society figures importantly in post-deployment reintegration, existing measures of psychosocial functioning may not adequately assess postdeployment reintegration. This is because veterans may have unique difficulties resuming their social roles and participating in community life that are not assessed with these measures. For instance, some returning service members may find it easier to get along with military "buddies" than with family members who do not have combat experience (Laffaye, Cavella, Drescher, & Rosen, 2008), or they may find civilian life meaningless relative to combat missions (Bowling & Sherman, 2008). Furthermore, as noted by rehabilitation experts, community integration includes a sense of belonging or acceptance, connection to other people, and involvement in leisure and community activities (Brown et al., 2004; McCull et al., 1998; Whiteneck et al., 1992), but these constructs are not typically assessed using existing measures of functioning, including the highly reliable and valid Medical Outcomes Study 36-Item Short Form Health Survey (SF-36; Ware, Snow, Kosinski, &

Gandek, 1993) or its versions. Lack of a brief, psychometrically sound measure of postdeployment reintegration may contribute to the observed dearth of rigorous research on reintegration challenges among returning service members and their families (American Psychological Association Presidential Task Force on Military Deployment Services for Youth, Families and Service Members, 2007).

In addition to furthering research, a valid measure of reintegration could also enhance the evaluation of veterans in a range of health care settings, including primary care where most returning veterans seek care. For example, a validated measure of reintegration might facilitate assessment of life circumstances (e.g., relationship problems or economic concerns) that affect treatment preferences and adherence. Inattention to such issues may contribute to failures to individualize care properly (Weiner et al., 2010). To be of value to providers in busy health care settings, however, such a measure would need to be brief and easy to administer and score.

The primary objective of this study was to describe the psychometric properties of a new measure, the Military to Civilian Questionnaire (M2C-Q), that we used to assess specific community reintegration problems among OEF/OIF combat veterans in a prior study (Sayer et al., 2010). We defined postdeployment reintegration as the postdeployment achievement of satisfactory levels of functioning at home, at work, in relationships, and in the community. This definition does not require any assumption regarding the cause of postdeployment reintegration problems and does not preclude the possibility that these difficulties, though present after deployment, actually began before deployment. Here we describe the M2C-Q factor structure, item characteristics, reliability, and scoring. In addition, we evaluated construct validity by testing hypotheses that M2C-Q scores would be (a) positively associated with a separate indicator of overall difficulty readjusting back into community life, (b) negatively associated with overall mental health, and (c) higher among those who screened positive for PTSD and problem substance use.

We had two secondary objectives. The first was to examine differences in scale psychometric properties by PTSD screening results (no PTSD, probable PTSD). These analyses were conducted to obtain information about the usefulness of the M2C-Q in veterans without PTSD who may nevertheless have difficulties reintegrating into their home communities. The second was to describe demographic differences in M2C-Q scores to obtain preliminary information about sources of variation in reintegration for future investigation.

METHOD

This study involved secondary analysis of data collected for a survey of postdeployment reintegration problems and treatment interests among OEF/OIF veterans (Sayer et al., 2010). The Minneapolis

VA Medical Center Subcommittee on Human Studies reviewed and approved the study protocol.

Participants and Procedures

We recruited participants from a stratified random sample of 1,500 OEF/OIF combat veterans who used VA health care. Participants were identified through national VA administrative databases. To reduce sampling error variability, we stratified the population by region, and then within each region by gender and race. Specifically, we divided the United States into six regions (Northeast, Southeast, Upper Midwest, Southern Midwest, Northwest, and Pacific Coast) and then divided each stratum into four gender (male, female) by race (White, non-White) combinations. From each of the resulting 24 strata we randomly selected 55 OEF/OIF combat veterans for recruitment ($n = 1,320$). Because one fifth of OEF/OIF veterans had missing race data, we randomly selected an additional 15 men and 15 women with missing race information from each of the six regions ($n = 180$). Later, we used veterans' self-report to reclassify race/ethnicity and verify deployment. More details with regard to the sampling frame are provided in Sayer et al. (2010).

Between April and July 2008, we sent veterans selected for recruitment a prenotification letter describing the study, followed 2 weeks later by a cover letter, the study questionnaire, and \$5 incentive. The cover letter reiterated the study's goals and described the risks, benefits, and voluntary nature of participation and specified that return of the survey signified consent to participate in the study. Nonresponders received a reminder letter and two more mailings of the questionnaire. The protocol, which included a waiver of documentation of informed consent and authorization, was approved by the Minneapolis VA Health Care System Institutional Review Board.

Of the 1,500 veterans randomly identified for survey recruitment, 274 were excluded for the following reasons: deceased ($n = 8$), veteran of other war eras ($n = 89$), could not be located through U.S. Postal Service after three attempts ($n = 167$), or currently redeployed to Iraq or Afghanistan ($n = 10$). Of the 1,226 OEF/OIF combat veterans who remained eligible, 754 (62%) returned surveys by July 14, 2008. We removed the nine cases with missing values on all 16 M2C-Q items leaving us with a final sample of 745 OEF/OIF veterans. Demographic characteristics for the sample and the corresponding population estimates based on weighted data are displayed in Table 1.

Measures

We developed M2C-Q items based on review of the literature available at the time of study development on the following: (a) functioning problems among combat veterans (i.e., Browne et al., 2007; Hoge et al., 2007; Riggs et al., 1998; Zatzick et al., 1997), (b) measures of psychosocial functioning (Keller et al.,

Table 1. Participant Demographic Characteristics

Characteristic	Sample (<i>N</i> = 745)		Population estimates ^a	
	<i>n</i>	%	%	95% CI
Gender				
Female	404	54	13	–
Male	341	46	87	–
Race/ethnicity				
White, non-Hispanic	382	51	63	[60, 65]
African American or Black	181	24	18	[16, 20]
Hispanic or Latino	96	13	11	[9, 14]
Asian	22	3	3	[1, 4]
American Indian or Pacific Islander	25	3	2	[1, 3]
Multiracial	39	5	3	[2, 5]
Age (years)				
23–29	315	42	37	[32, 42]
30–39	222	30	29	[24, 34]
40–62	208	28	34	[29, 39]
Education				
Less than high school	3	<1	1	[0, 1]
High school only	129	17	22	[17, 26]
Some college or technical school	394	53	51	[45, 56]
College graduate	166	22	21	[17, 25]
Graduate school	50	7	6	[4, 9]
Marital status				
Single, never married	176	24	18	[15, 22]
Married or living with partner	450	61	71	[66, 75]
Separated or divorced	112	15	11	[8, 14]
Widowed	4	<1	0	[0, 1]
Employment				
Employed	541	73	78	[74, 82]
Homemaker	34	5	1	[0, 3]
Unemployed	88	12	10	[7, 13]
Retired	8	1	1	[1, 3]
Student status				
Student	237	32	25	[20, 29]
Not a student	508	68	75	[71, 80]
Military branch				
Army	554	75	76	[71, 80]
Navy	81	11	9	[6, 12]
Marine	53	7	8	[5, 11]
Air Force	50	7	6	[4, 9]
Military component				
Reserve/National Guard	393	53	58	[53, 63]
Active duty	352	47	42	[37, 47]

Note. *N* = 745. CI = Confidence interval. Some numbers do not add up to 745 due to missing values. Response categories for employment are nonexclusive.

^aPercent weighted to be representative of the population of Operation Enduring Freedom and Operation Iraqi Freedom combat veterans who used U.S. Department of Veterans Affairs medical care.

2007; Ware et al., 1993; Weisman, 2007; WHO, 2000), (c) measures of community integration used for patients with disabilities (Brown et al., 2004; McColl et al., 2001; Whiteneck et al., 1992; Willer et al., 1993), (d) descriptions of reintegration problems among combat veterans (Bowling & Sherman, 2008; Uniformed Services University of the Health Sciences, 2004); and (e) qualitative data from a study examining factors associated with PTSD treatment seeking among veterans (Sayer et al., 2009). The selected M2C-Q items assess difficulty in areas hypothesized as providing the basis for postdeployment community reintegration: (a) interpersonal relationships with family, friends, and peers; (b) productivity at work, in school, or at home, (c) community participation; (d) self-care; (e) leisure, and (f) perceived meaning in life. With the exception of perceived meaning in life, other multidimensional measures of functioning and community integration also assess these domains. We included perceived meaning in life because prior research on trauma survivors and DoD educational material suggest that it may be an important indicator of postcombat adjustment (Fontana & Rosenheck, 2005; Janoff-Bulman, 1992; Uniformed Services University of the Health Sciences, 2004). We did not include domains that might not be relevant to individuals without physical disabilities, including mobility, communication, or degree of functional independence.

A focus group consisting of four individuals who had been deployed to OEF/OIF reviewed a preliminary version of the M2C-Q for relevance to combat veterans and item readability. Subsequently, we piloted the M2C-Q and study procedures described above in a sample of 87 OEF/OIF veterans. Review of response patterns and written comments in the survey's comment section suggested that veterans did not have difficulty completing the M2C-Q and that the M2C-Q items were tapping domains of concern to OEF/OIF veterans.

The 16 M2C-Q items (Table 2) were rated on a 5-point Likert scale with these response options: 0 = *No difficulty*, 1 = *A little difficulty*, 2 = *Some difficulty*, 3 = *A lot of difficulty* and 4 = *Extreme difficulty*. Respondents can indicate "Does not apply" for the four items that assess relationship with spouse/partner, relationship with child/children, work, and school functioning. Items were worded to be credible and easily interpretable to veterans. Ease of administration and scoring were primary considerations in deciding response format. We estimate that the M2C-Q can be completed in 5 minutes, but did not formally assess administration time.

We used Mental Component Summary (MCS) scores of the SF-12v2 (Ware, Kosinski, Turner-Bowker, & Gandek, 2007) to assess overall mental health. As specified in the User's Manual (Ware et al., 2007), MCS scores were normalized so that they could be compared with normative values obtained in the U.S. population, which has a mean of 50 and a standard deviation of 10. Higher scores indicate better overall mental health.

To assess probable PTSD, we used the Primary Care PTSD Screen (Prins et al., 2004) employed by the VA and DoD. In a recent study of active duty soldiers who returned from combat in Iraq, a cutoff score of 3 yielded 0.76 sensitivity and 0.92 specificity for clinical PTSD (Bliese et al., 2008). The Cronbach's α for this 4-item screen was .85 in this sample.

We screened for alcohol and drug problems using the Two-Item Conjoint Screen (Brown, Leonard, Saunders, & Papasouliotis, 2001). This screen is also included in the DoD Postdeployment Health Re-Assessments (Milliken et al., 2007). A cutoff score of 1 had .80 sensitivity and specificity in primary care patients (Brown et al., 2001).

We used one item that we developed to assess veterans' perceived overall difficulty readjusting back into civilian life over the past 30 days on a 5-point scale ranging from 0 = *No difficulty* to 4 = *Extreme difficulty*.

Analysis

Because the data were collected from a stratified sample, we based all analyses on weighted estimates, adjusting for differential representation due to stratification. We used stratified estimates weighted by the inverse of sample inclusion probabilities to calculate the population parameter estimates and their standard errors (Cochran, 1977). To obtain stratified estimates we combined proportionally weighed values from each stratum. We performed factor analyses on the weighted correlation matrix. To determine stratified estimate of correlations, prior to combining and weighing, we subjected the estimates to Fisher's z transformation.

To determine whether the M2C-Q items could be combined to describe dimensions of community reintegration difficulty, we conducted common factor analysis, a form of exploratory factor analysis. We did not have predictions concerning the M2C-Q's factor structure. We used principal-axis factoring. Kaiser's measure of sampling adequacy was .93. We also conducted reliability analyses, including item-total correlations, interitem correlations, and Cronbach's α . To examine construct validity, we examined associations with the separate indicator of overall community readjustment difficulty and two mental health screening measures. To evaluate differences in scale psychometric properties by probable PTSD, we divided the sample into subgroups by PTSD screening results and replicated analyses described above in the no-PTSD and probable-PTSD subgroups. We used the Bartlett's likelihood ratio test to compare M2C-Q covariance matrices in the no-PTSD and probable-PTSD subgroups. Last, we examined differences in M2C-Q scores by demographic characteristics and used Cohen's d to describe the magnitude of identified mean differences. We used stratified regression analysis to construct F values for our inferences.

Table 2. Military to Civilian Questionnaire (M2C-Q) Psychometric Indices

Item	Sample		Population estimates ^a				
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	Loading	Item-total <i>r</i>	α if item deleted
Over the past 30 days, have you had difficulty with. . .							
1. Dealing with people you do not know well (such as acquaintances or strangers)?	1.32	.05	1.36	.07	.82	.78	.94
2. Making new friends?	1.42	.05	1.45	.07	.80	.76	.94
3. Keeping up friendships with people who have no military experience?	1.52	.05	1.48	.07	.76	.72	.94
4. Keeping up friendships with people who have military experiences (including friends who are active duty or veterans)?	.98	.04	.93	.06	.55	.53	.94
5. Getting along with relatives (such as siblings, parents, grandparents, in-laws and children not living at home)?	1.15	.05	1.11	.06	.78	.74	.94
6. Getting along with your spouse or partner (such as communicating, doing things together, enjoying his or her company)?	1.49	.06	1.39	.07	.75	.71	.94
7. Getting along with your child or children (such as communicating, doing things together, enjoying his or her company)?	.98	.05	1.03	.08	.72	.68	.94
8. Finding or keeping a job (paid or nonpaid or self-employment)?	.94	.06	.87	.08	.52	.48	.94
9. Doing what you need to do for work or school?	1.29	.05	1.19	.07	.70	.66	.94
10. Taking care of your chores at home (such as housework, yard work, cooking, cleaning, shopping, errands)?	1.41	.05	1.31	.07	.77	.74	.94
11. Taking care of your health (such as exercising, sleeping, bathing, eating well, taking medications as needed)?	1.48	.05	1.47	.07	.72	.69	.94
12. Enjoying or making good use of free time?	1.58	.05	1.51	.07	.83	.78	.94
13. Taking part in community events or celebrations (for example, festivals, PTA meetings, religious or other activities)?	1.62	.05	1.59	.07	.81	.77	.94
14. Feeling like you belong in "civilian" society?	1.58	.05	1.62	.07	.79	.77	.94
15. Confiding or sharing personal thoughts and feelings?	1.85	.05	1.90	.08	.80	.77	.94
16. Finding meaning or purpose in life?	1.38	.05	1.37	.07	.77	.75	.94

Note. Factor loadings based on common factor analysis, $N = 745$.

^aPopulation estimates are weighted to represent the population of Operation Enduring Freedom and Operation Iraqi Freedom combat veterans who used U.S. Department of Veterans Affairs medical care.

Across the 745 cases, only 19 of 11,920 M2C-Q values were missing. For factor analysis, we imputed missing M2C = Q values using logistic regression imputation methods for multiple imputations, assuming missing items depended only on observed covariates (Little, & Rubin, 2002). We did not use imputed values for covariates so as to not artificially increase the degrees of freedom.

RESULTS

M2C-Q Factor Structure and Internal Consistency

Only the first factor had an eigenvalue greater than 1.0 and the scree plot strongly suggested a 1-factor solution. The first factor accounted for 91% of the common variance whereas the second and third factors accounted for 6% and 4% of the common variance, respectively. As can be seen in Table 2, all items had moderate to strong loadings on the first factor (Tabachnick, & Fidell, 2001). These findings suggest that the pattern of correlations in the data was best described by a single factor.

The Cronbach's α was .95. As also shown in Table 2, item-total correlations were .48 or higher and the Cronbach's α did not change appreciably with the deletion of any item.

Because factor loadings were generally of the same magnitude and item-total correlations were generally high (Table 2), we concluded that items should be summed and equally weighted to yield a total score. Because four items can be endorsed as "Does not apply", however, we formed a summary score by dividing the sum of the scores by the number of items completed with responses other than "Does not apply." Using this method, M2C-Q scores range from 0 to 4, with higher scores indicating more reintegration difficulty. In this population, the estimated mean M2C-Q score was 1.36 ($SE = 0.05$), indicating *a little to some* reintegration difficulty on average.

Construct Validity

As expected, M2C-Q scores were associated with the separate single-item measure of overall difficulty readjusting back into civilian life, $F(4,731) = 171.98, p < .001, R^2 = .49$. Removing outliers ($n = 8$) resulted in a minimal change in the magnitude of this association, $F(4,723) = 132.42, p < .001, R^2 = .58$.

The correlation between M2C-Q and SFv2-12 MCS scores was $-.83, SE = 0.06, p < .001$, 95% confidence interval (CI) $[-.94, -.72]$, indicating that more community reintegration difficulty was associated with worse overall mental health. We used t tests to examine the differences between M2C-Q scores in those with and without probable PTSD and problem alcohol or drug use. As summarized in Table 3, M2C-Q scores were significantly higher for veterans who screened positive for either of these problems. The effect size was large for the PTSD screen and medium for the alcohol or drug misuse screen.

Psychometric Properties by PTSD Screening Results

The Cronbach's α was the same for those without PTSD and those with probable PTSD ($\alpha = .92$). In those without PTSD, only the first factor had an eigenvalue greater than 1 and the scree plot strongly suggested a single-factor solution. The first factor accounted for 84% of the common variance whereas the second and third factors accounted for 8% and 7% of the common variance, respectively. In the probable-PTSD subgroup, only the first factor had an eigenvalue greater than 1 but the eigenvalue for the second factor approached one (0.96). The scree plot strongly suggested a single-factor solution. The first factor accounted for 83% of the common variance whereas the second and third factors accounted for 11% and 7% of the common variance, respectively. The second factor included only two items with loadings greater than .32 and therefore was considered unstable (Costello & Osborne, 2005). The test of homogeneity of the covariance matrices indicated a

Table 3. Military to Civilian Questionnaire Scores (M2C-Q) by Posttraumatic Stress Disorder and Drug/Alcohol Problem Screening Results

Variable	Screen positive			Screen negative			Effect size	
	<i>n</i>	<i>M</i>	<i>SE</i>	<i>n</i>	<i>M</i>	<i>SE</i>	<i>d</i>	95% CI
PTSD ^a	289	2.12	0.07	456	0.83	0.05	1.07***	[0.91, 1.23]
Drug/alcohol Problem ^b	261	1.66	0.09	484	1.17	0.07	0.34***	[0.19, 0.49]

Note. PTSD = Posttraumatic stress disorder; CI = confidence interval. Values weighted to represent the population of Operation Enduring Freedom and Operation Iraqi Freedom combat veterans who used U.S. Department of Veterans Affairs medical care.

^aPositive PTSD screen defined as at least three positive responses to the Primary Care PTSD Screen (Prins et al., 2004).

^bPositive drug and alcohol problem defined as at least one positive response to the Two-Item Conjoint Screen (Brown et al., 2001).

*** $p < .001$.

Table 4. Military to Civilian Questionnaire (M2C-Q) Loadings on Assumed First Factor by Posttraumatic Stress Disorder Screening Results

Item	No PTSD (<i>n</i> = 452) Loading	Probable PTSD ^a (<i>n</i> = 285) Loading
<i>Over the past 30 days, have you had difficulty with. . .</i>		
1. Dealing with people you do not know well (such as acquaintances or strangers)?	.73	.79
2. Making new friends?	.71	.78
3. Keeping up friendships with people who have no military experience?	.64	.74
4. Keeping up friendships with people who have military experiences (including friends who are active duty or Veterans)?	.58	.45
5. Getting along with relatives (such as siblings, parents, grandparents, in-laws and children not living at home)?	.71	.67
6. Getting along with your spouse or partner (such as communicating, doing things together, enjoying his or her company)?	.68	.68
7. Getting along with your child or children (such as communicating, doing things together, enjoying his or her company)?	.61	.63
8. Finding or keeping a job (paid or nonpaid or self-employment)?	.44	.43
9. Doing what you need to do for work or school?	.55	.67
10. Taking care of your chores at home (such as housework, yard work, cooking, cleaning, shopping, errands)?	.70	.69
11. Taking care of your health (such as exercising, sleeping, bathing, eating well, taking medications as needed)?	.68	.54
12. Enjoying or making good use of free time?	.75	.75
13. Taking part in community events or celebrations (for example, festivals, PTA meetings, religious or other activities)?	.76	.69
14. Feeling like you belong in “civilian” society?	.68	.68
15. Confiding or sharing personal thoughts and feelings?	.75	.63
16. Finding meaning or purpose in life?	.69	.67

Note. PTSD = Posttraumatic stress disorder. Factor loadings based on common factor analysis. Values weighted to represent the population of Operation Enduring Freedom and Operation Iraqi Freedom combat veterans who used U.S. Department of Veterans Affairs medical care.

^aProbable PTSD defined as at least three positive responses to the Primary Care PTSD Screen (Prins et al., 2004).

between-group difference, $\chi^2(136) = 658.77$, $p < .001$. Table 4 presents factor loadings by PTSD screening results. As can be seen, although all items had adequate to strong loadings (.43 to .79) on the first factor in both subgroups, the pattern of item loadings was somewhat different by PTSD screening results. This suggests that items varied in their contribution to M2C-Q total scores in the two subgroups with, for example, difficulty doing what is needed for work or school (Item 9) contributing more to reintegration difficulty in the probable-PTSD than in the no-PTSD subgroup.

Next, we assessed construct validity by PTSD screening results. In the no-PTSD subgroup and probable-PTSD subgroups,

we found that M2C-Q scores were associated with our single-item measure of overall difficulty readjusting back into civilian life, $F(4, 442) = 31.82$, $p < .001$, $R^2 = .22$; and $F(4, 284) = 43.28$, $p < .001$, $R^2 = .38$, respectively. Removing outliers did not change appreciably the magnitude of these associations, $F(4, 439) = 54.89$, $p < .001$, $R^2 = .33$; and $F(4, 279) = 62.22$, $p < .001$, $R^2 = .47$ in the no-PTSD and probable-PTSD subgroups. In the no-PTSD subgroup, the correlation between M2C-Q scores and SF-12v2 MCS scores was $-.71$, $SE = 0.08$, $p < .001$, 95% CI $[-.78, -.63]$; in the probable-PTSD subgroup the correlation was $-.77$, $SE = 0.10$, $p < .001$, 95% CI $[-.84, -.69]$. In the

no-PTSD and probable-PTSD subgroups, M2C-Q scores were higher in those with probable problem alcohol or drug use compared to those without probable alcohol or drug use, $t(454) = 32.94$ and $t(287) = 5.06$, $p < .001$.

Demographic Differences

Higher levels of community reintegration difficulty were reported by non-White compared with White veterans, $t(721) = 2.71$, $p = .007$, $d = 0.20$, 95% CI [0.05, 0.34], and by unemployed compared with employed veterans, $t(647) = 4.63$, $p < .001$, $d = 0.45$, 95% CI [0.26, 0.65]. The effect size for employment was 0.38, 95% CI [0.19, 0.57], after removing the two M2C-Q items pertaining to employment (Items 8 and 9; see Table 2). There was no significant difference in difficulty with reintegration between those deployed to OEF/OIF from active duty compared to Reserve or National Guard components, $t(721) = 1.81$, $p = .07$, $d = 0.13$, 95% CI [-0.01, 0.28], or between veterans with a high school diploma or less education compared to those with more education, $t(718) = 1.62$, $p = .10$, $d = 0.16$, 95% CI [-0.03, 0.34], though the effect sizes were larger than for the other five demographic variables listed in Table 1.

DISCUSSION

The M2C-Q is a brief, self-report measure of postdeployment community reintegration difficulty among veterans. It demonstrated high internal consistency and exploratory factor analysis suggested that, although we selected M2C items to assess difficulty across a range of functional domains, they tap one underlying dimension. These findings support the use of a single total score that can be created easily in a few minutes. The fact that M2C-Q scores were associated with theoretically related constructs, including overall mental health, probable PTSD, and problem alcohol or drug use, and a separate rating of overall difficulty readjusting back into civilian life, provided initial support for the construct validity of M2C-Q scores.

The association between M2C-Q scores and probable PTSD was anticipated and raised a question about whether the M2C-Q could provide useful information about reintegration difficulties among combat veterans who do not have PTSD. We find it encouraging that the pattern of findings was similar in the subgroup that screened negative for PTSD. Specifically, in the no-PTSD subgroup, internal consistency remained strong, the factor structure was highly similar to the factor structure observed in the population of OEF/OIF combat veterans, the majority of whom do not have PTSD, and M2C-Q scores were associated with the separate indicator of overall difficulty readjusting back into civilian life, overall mental health, and probable problem alcohol or drug use.

Although State and Federal programs focus on postdeployment community reintegration of OEF/OIF combat veterans, this is the first inventory to measure postdeployment community reintegration

difficulty that has been tested in a relatively large and diverse random sample of veterans. Such a measure is needed to help researchers systematically describe reintegration problems among returning service members and to evaluate interventions to promote adaptation to civilian life following deployment. Although not the focus of this research, we also speculate that the M2C-Q may prove useful in clinical settings. For example, review of individual M2C-Q items as part of a clinical evaluation may facilitate communication about the challenges veterans face reintegrating into their home community, their treatment priorities, and the effect of reintegration difficulties on health and health behaviors. The potential value of the M2C-Q in clinical settings should be investigated in future studies.

M2C-Q scores did not differ by gender, age, marital status, student status, or military branch. There were differences by race and employment, however. The finding of differences by race is consistent with research examining community integration in individuals with physical handicaps (Sander et al., 2009). It is also not surprising that unemployed veterans reported more community reintegration difficulty. Employment is likely a high priority reintegration goal for OEF/OIF veterans given their age.

There are limitations to this research. First, the M2C-Q was developed in a sample of OEF/OIF veterans who used the VA for medical services. This represents about half of all OEF/OIF veterans (U.S. Department of Veterans Affairs, 2011). More research is needed to examine the psychometric properties of the M2C-Q in other samples, including veterans who do not use the VA and veterans of other military service eras. The M2C-Q may not fully assess reintegration issues of importance to other veteran groups. Additionally, we did not examine M2C-Q score stability over time or sensitivity to change. Such information is needed to evaluate the usefulness of the M2C-Q for outcomes research. It should also be noted that the M2C-Q focuses on subjective report of difficulty in key areas of postdeployment community participation. The finding of a substantial association between M2C-Q scores and employment status offers some indication that M2C-Q scores may be related to objective indicators of reintegration; however, this is an area warranting further exploration. Use of a single item to assess overall reintegration difficulty was relatively weak and more work is needed examining M2C-Q construct validity. Similarly, research is needed to confirm the unidimensional factor structure of the M2C-Q.

Nonetheless, the M2C-Q is a promising new measure that allows for characterization of veterans' perceived difficulties reintegrating back into community life following combat and for measurement of reintegration difficulties in relation to interventions, repeat deployment, other life events, or time. Brief and easy to administer and score, it could be integrated easily into research protocols. Further research, however, is needed to confirm and extend these findings to outcomes research and clinical settings. In particular, future psychometric studies should assess test-retest stability and meaningful change in M2C-Q scores. Health services

studies should determine whether the M2C-Q can help providers develop care plans that take into account veterans' reintegration difficulties.

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