The Role of Resilience and Social Support in Predicting Postdeployment Adjustment in Otherwise Healthy Navy Personnel

CDR Craig A. Cunningham, NC USN; Bryan A. Weber, PhD†; Beverly L. Roberts, PhD†; Tracy S. Hejmanowski, PhD‡; Wayne D. Griffin, PhD§; Barbara J. Lutz, PhD†*

ABSTRACT The purpose of this study was to determine if resilience, social support, and exposure to combat, stressful deployment environments, and additional stressful life events predicted short-term (12 months or less) postdeployment adjustment in a relatively healthy subset of Navy service members. One hundred and thirty-two service members between 3 and 6 months postdeployment completed anonymous surveys at a deployment health center. Service members with probable post-traumatic stress disorder and those who were at risk for harm to self or others were excluded. There was relatively low variance in exposure to combat, stressful deployment environments, and additional stressful life events for this convenience sample. Although the sample was a relatively healthy subset of service members and conclusions may not be generalizable to larger populations, 56% endorsed considerable adjustment difficulties. Results of logistic regression indicated that greater resilience, greater postdeployment social support, and less stressful deployment environments predicted greater postdeployment adjustment. Resilience and postdeployment social support remained significant predictors of postdeployment adjustment when controlling for covariates. Results also suggest that individual augmentee experience may be a protective factor against postdeployment adjustment difficulties—at least in otherwise healthy service members.

INTRODUCTION

Postdeployment adjustment involves successful adaptation and positive functioning in meeting challenges and responding to changes in a social environment.[1–3] Most current knowledge on the topic of the adjustment process comes from studies conducted on postdeployed military samples 2 or more years after redeployment and, thus, describe adjustment in the long term.[4–7] Service members with long-term adjustment difficulties tend to be low in resilience, have had high exposure to combat, stressful deployment living conditions and/or additional stressful life events, and have inadequate social supports.[5–9] The role of resilience and social support in how a person adjusts in the short term has garnered much less attention and, therefore, little is known about the effect of resilience and social support as it relates to short-term adjustment among recently redeployed service members.[1,2,10,11] Short-term postdeployment adjustment is important because those who have redeployed represent more than 64% of Navy personnel and 40% of the redeployed are currently on their second or greater deployment.[12,13] Thus, the prospect of future and multiple deployments is highly making rapid adjustment crucial.[14] Identifying protective factors against short-term adjustment difficulties is central to operational readiness.

The main purpose of this study was to determine if resilience, social support, combat exposure, stressful deployment environment exposure, and additional stressful life events predicted short-term (12 months or less) adjustment among Navy service members after deployment. It was hypothesized that service members with high resilience, high social support, and low exposure to combat, stressful deployment environments, and additional stressful life events would have greater postdeployment adjustment.

The secondary purpose of this study was to examine whether resilience, social support, combat exposure, stressful deployment environments, and additional stressful life events predicted short-term adjustment among Navy service members after deployment when controlling for individual augmentee (IA) experience (service members who deployed with units other than their own), military occupational specialty (MOS), gender, marital status, number of land-based deployments, and perceived threat while deployed. It was hypothesized that service members with high resilience, high social support, and low exposure to combat, stressful deployment environments, and additional stressful life events would have greater postdeployment adjustment after controlling for these covariates.

*Nursing Research Department, Naval Medical Center Portsmouth, DPE Code 14G300, Building 3, 620 John Paul Jones Circle, Portsmouth, VA 23708.

†College of Nursing, University of Florida, P.O. Box 100187, Gainesville, FL 32610.

‡Branch Health Clinic, Deployment Health Center, Naval Hospital Jacksonville, Jacksonville, FL 32214.

§Counseling and Wellness Center, University of Florida, Gainesville, FL 32610.

Research data derived from an approved University of Florida and Naval Medical Center, Portsmouth, VA IRB protocol.

doi: 10.7205/MILMED-D-13-00568

METHODS

Participant Recruitment

The participants in this study represented a convenience, nonprobability sample. Active duty Navy service members were invited to participate in an anonymous paper/pencil survey at the completion of their 90- to 180-day Postdeployment Health Reassessment. Service members who screened positive for probable post-traumatic stress disorder (PTSD)—a total PTSD-Military Version score > 50 or at least 1 reexperiencing symptom, 3 avoidant/numbing symptoms, and 2 hyperarousal symptoms at the moderate level or above[15,16]—and those who were identified as posing a current risk of harm to self or others were excluded. Conservatively using a medium effect size,[6] $\alpha = 0.05$, and $\beta = 0.20$, a sample of 123 participants was needed for adequate statistical power.[17]

Screening for inclusion in the study and recruitment took place at the conclusion of the Navy mandated physical and psychological screening interview. The physician assistant who performed the Navy mandated screening interview also functioned as the recruitment coordinator for this study. The physician assistant used a screening flow sheet to guide decisions on which service members met study inclusion/exclusion criteria. All service members who met inclusion criteria were provided with a participant information sheet that contained a written description of the study including the study purpose, procedures, duration, risks, benefits, and the right to withdraw at any time without penalty. They were also provided a list of deployment-related resources and a study packet that contained the study questionnaires. Once all questions and concerns were addressed, the recruitment coordinator escorted participants to a room that afforded privacy and showed them where to place the study packet. Participants could then decide to complete the study packet or not complete the study packet and placed either the completed or the noncompleted forms in the locked file cabinet. Completing and returning the study questionnaires served as documentation of implied informed consent.

Measurement

Demographic Variables

A 13-item investigator-developed questionnaire was used to assess demographic data including age, gender, rank, education, ethnicity, military occupation, marital status, number of land-based deployments, and the presence of an IA experience.

Postdeployment Adjustment

The Postdeployment Readjustment Inventory (PDRI)[2] is a 36-item self-report measure on which respondents rated their agreement with how true were the items in 6 domains of functioning since returning from deployment (career, health, intimate relationships, social readjustment, concerns about deployment, and stress symptoms). Items were rated on a 5-point Likert scale from 1= not at all to 5 = extremely. Respondents were asked to "Please rate how true each of the following is since your return from deployment by writing the number that corresponds to the scale above." All items were reverse scored and summed for a total score that could range from 36 to 180 with higher scores indicating greater postdeployment adjustment. One item on the PDRI was modified from "Having difficulty finding a job" to "Having difficulty managing my job" in order to be relevant to the sample population of active duty military personnel. In this sample, the Cronbach's α on the PDRI items was 0.961 and the *M* (SD) was 158 (24.75).

Resilience

The Connor–Davidson Resilience Scale (CD-RISC 25)[18] was used to measure resilience. The CD-RISC 25 is a 25-item inventory of resiliency characteristics or qualities across 17 domains of functioning (e.g., commitment, recognition of limits of control, viewing stress/change as a challenge/opportunity, tolerance of negative affect, etc.). Items were scored on a 5-point Likert scale from 0 = not true at all to 4 = true nearly all the time and were based on how resilient respondents felt over the past month. Respondents were asked to "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." Item scores were summed to yield a total score that could range from 0 to 100 with higher scores indicating greater resilience. In this sample, Cronbach's α on the CD-RISC 25 items was 0.931 and the *M* (SD) was 79.57 (13.13).

Postdeployment Social Support

The Postdeployment Social Support Scale[5,7,19] is a 15-item self-report measure that assesses postdeployment emotional support and instrumental assistance provided by family, friends, coworkers, employers, and community. Respondents indicated how much they agreed or disagreed with a set of statements related to social support after deployment. Items were rated on a 5-point Likert scale with responses that ranged from 1 = strongly disagree to 5 = strongly agree. Respondents were asked to "Please decide how much you agree or disagree with each statement and circle the number that best fits your choice." One item was modified from "The people I work with respect the fact that I am a veteran" to "People in my community respect the fact that I am a service member" in order to be relevant to an active duty population. Item scores were summed (reverse scoring items 6 and 8) and could range from 15 to 75 with higher scores indicating greater social support on return from deployment. In this sample, Cronbach's α on the Postdeployment Social Support Scale items was 0.891 and the *M* (SD) was 60.16 (9.99).

Deployment Environment

The Deployment Environment Scale[5] is a 20-item self-report measure that assesses exposure circumstances representing repeated or day-to-day irritations and pressures related to life

in the war zone (e.g., lack of desirable food, lack of privacy, poor living arrangements, uncomfortable climate, cultural difficulties, boredom, inadequate equipment, and long workdays). Respondents indicated their extent of exposure on a 5-point Likert scale that ranged from 1 = almost none of the time to 5 = almost all of the time. Respondents were asked to "Please read each statement and decide what amount of time you were exposed to each condition over the course of the entire time you were deployed. Circle the number below the appropriate response." Item scores were summed (reverse scoring items 3, 4, 7, 8, 10, 12, 13, 17, and 19) for a total score that could range from 20 to 100 with higher scores indicating greater exposure to difficult living and working environments. In this sample, Cronbach's α on the Deployment Environment items was 0.872 and the *M* (SD) was 46.17 (12.97).

Combat Exposure

The Combat Experiences Scale-Modified[5,19] is a 15-item self-report measure that assesses exposure to combat (e.g., firing a weapon and witnessing injury and death) and was used to measure another characteristic of the deployment environment. Respondents indicated what amount of time they were exposed to combat conditions on a 5-point Likert scale that ranged from 1 = never to 5 = daily or almost daily. Respondents were asked to "Please read each statement and decide what amount of time you were exposed to each condition during your deployment. Circle the number below the appropriate response." Item scores were summed for a total score that could range from 15 to 75 with higher scores indicating greater frequency of combat exposure. In this sample, Cronbach's α on the Combat Experiences Scale-Modified items was 0.903 and the *M* (SD) was 17.83 (6.03).

Life Events

The Social Readjustment Rating Scale-Schedule of Recent Experiences[20–22] is a 43-item self-report measure that assesses exposure to life events that are commonly reported as stressful and that also require personal adjustment. Respondents were presented with a list of life events and were asked to indicate (by circling) which events occurred in the last 12 months. Each item had a weighted score that represents the relative level or degree of change required. Weighted scores from all circled items were summed for a total score that could range from 0 to 1,466 with higher scores indicating greater exposure to stressful life events that require personal change. In this sample, the *M* (SD) was 183.11 (113.73).

Covariates

The covariates that were measured were selected because they represent factors that from a military standpoint were likely to be an added source of stress[5,10,23–30] and included IA experience, MOS, gender, marital status, number of land-based deployments, and perceived threat while deployed.

IA experience and gender were recorded as dichotomous variables. Marital status was recorded as a discrete numerical value that represented how participants classified themselves at the time of data collection (Table I). MOS was recorded as a discrete numerical value that corresponded to the Navy classification of military occupational specialties. The number of land-based deployments was recorded as continuous data and perceived threat while deployed was measured using a single modified item extracted from the Deployment Risk and Resiliency Inventory[5] that asked participants to indicate

TABLE I. Demographic Characteristics

Characteristic	*n*	%
Gender		
Male	106	82.2
Female	22	17.1
Marital Status		
Single, Never Married	28	21.7
Married	72	55.8
Living With Partner	5	3.9
Divorced	19	14.7
Separated	4	3.1
Widowed/Widower	0	0.0
Race/Ethnicity		
Asian	5	3.9
Black	32	24.8
Hispanic	15	11.6
Native American	2	1.6
White	67	51.9
Other	5	3.9
Military Rank		
Enlisted	100	78.0
Officer	28	22.0
Deployment Location		
Middle East	72	55.8
Cuba	21	16.3
Central/South America	18	14.0
Africa	7	5.4
Other	8	6.2
IA		
Yes	69	53.5
No	59	45.7
Level of Education		
High School Graduate	25	19.4
Technical School	1	0.8
Some College (No Degree)	41	31.8
Associate's Degree	22	17.1
Bachelor's Degree	20	15.5
Graduate Degree	19	14.7
Years of Education		
12 Years	34	26.4
13–15 Years	52	40.4
16 or More Years	37	28.8
Deployment Length		
6 Months or Less	46	35.8
Greater Than 6 Months	81	63.0
Military Occupation		
Health Care	38	29.5
Tactical and Operations	19	14.7
Equipment/Maintenance	52	40.3
Personnel Support	17	13.2

on a 5-point Likert scale from 1 = strongly disagree to 5 =strongly agree the amount of agreement with the statement "There were moments during deployment when I thought/felt I was in great danger of being wounded or killed."

RESULTS

One hundred and forty-nine service members meeting inclusion criteria presented to the deployment health center to complete the Navy mandated 3- to 6-month postdeployment screening between August 12, 2011 and December 23, 2011 and were invited to participate. One hundred and thirty-two service members (88.5%) completed the survey.

Demographic Characteristics

Similar to the Navy force structure, the characteristics of the sample in this study were mainly white, married males (Table I). The sample was highly educated, consisted mainly of enlisted personnel, and most had deployed for greater than 6 months to the Middle East. Just over one-half of the service members in the sample deployed as IAs. The ages of the sample ranged from 20 to 50 with a mean age of 32.56 (SD = 7.03) years and the number of deployments ranged from 1 to 9 with a mean of 2.3 (SD = 1.86) land-based deployments (Table II).

Preliminary Analysis

There was relatively low variance in exposure to combat, stressful deployment environments, and additional stressful life events for this sample, which may limit the study's ability to examine how these factors influence postdeployment adjustment (Table II). However, 35% of the sample endorsed extreme adjustment difficulties, 56% endorsed considerable or extreme adjustment difficulties, and 75% endorsed some, considerable, or extreme adjustment difficulties in at least one domain of functioning. The large percentage of service members who endorsed adjustment difficulties suggests that the postdeployment adjustment/reintegration transition is stressful and may be relatively independent of the degree of stress experienced as result of exposure to combat, stressful deployment environments, and additional stressful life events.

Assessment of the distributional status of postdeployment adjustment revealed that it was not normally distributed, even after progressively removing 6 outliers and performing a series of data transformations. Thus, logistic regression was used to analyze the data. According to MacCallum et al,[31] a highly skewed dependent count variable represents a setting in which dichotomization is justified.

First, postdeployment adjustment was dichotomized into low postdeployment adjustment and high postdeployment adjustment at the point in the middle of the S-curve where the observed value dipped below the expected normal value line on the Normal Q-Q Plot. Examination of the residuals revealed 7 cases that the model fit poorly and 6 of these cases were influential. Removal of these cases resulted in little improvement in adequacy of fit of the model. Therefore, a median split technique was used to dichotomize postdeployment adjustment into low postdeployment adjustment (scores ranging from 36 to 168) (n = 64, 49.2%) and high postdeployment adjustment (scores ranging from 169 to 180) (n = 66, 50.8%). Examination of the residuals revealed only 3 cases that the model fit poorly and none of these cases were influential. Therefore, the median split was used in the logistic regression—which according to Altman et al[32] is preferable to performing several analyses and choosing that which gives the most convincing result. Marital status was dichotomized into married or living with partner versus never married, divorced, or separated. Three dummy variables were created for military occupation and represented MOS groupings based on similarity of supportive function.

χ^2 tests and point-biserial correlations were performed between postdeployment adjustment and the covariates to determine if there was a relationship. Two of the covariates had significant relationships with postdeployment adjustment (IA status, $\chi^2 = 4.82$, $p < 0.05$, and perceived threat while deployed, point-biserial correlation = –0.287, $p < 0.01$) and were entered as covariates in the logistic regression model.

Main Analysis

Three logistic regression models were tested. First, the 5 main predictor variables (resilience, combat exposure, stressful deployment environment, stressful life events, and postdeployment social support) were logistically regressed on postdeployment adjustment. This model was a statistically significant improvement over the constant-only model, (χ^2 [5, N = 130] = 48.506, $p < 0.001$) and resilience and social support were significant predictors of postdeployment adjustment. Second, IA status and perceived threat while deployed

TABLE II. Descriptives of Continuous Variables

Variable	*M*	SD	Median	Mode	Minimum	Maximum
Postdeployment Adjustment	158.00	24.75	168.50	180.00	72.00	180.00
Resilience	79.57	13.13	81.00	100.00	43.00	100.00
Combat Exposure	17.83	6.03	15.00	15.00	15.00	52.00
Postdeployment Social Support	60.16	9.99	60.50	67.00	36.00	75.00
Stressful Life Events	183.11	113.73	157.00	84.00	12.00	635.00
Stressful Deployment Environment	46.17	12.97	46.00	44.00	20.00	79.00
Number of Deployments	2.30	1.86	2.00	1.00	1.00	9.00
Perceived Threat While Deployed	2.22	1.45	1.00	1.00	1.00	5.00

TABLE III. Logistic Regression 5 Predictor Stepwise Model of Postdeployment Adjustment ($N = 130$)[a]

Variable	β	Standard Error	Wald	p	OR	95% CI for OR	
						Lower	Upper
Resilience	0.053	0.023	5.608	0.018	1.055	1.009	1.103
Postdeployment Social Support	0.065	0.029	5.049	0.025	1.067	1.008	1.130
Stressful Deployment Environment	–0.040	0.019	4.224	0.040	0.961	0.925	0.998
Stressful Life Events	–0.004	0.002	2.826	0.093	0.996	0.992	1.001
IA Status	0.852	0.452	3.556	0.059	2.345	0.967	5.689

[a]Model summary: $\chi^2 = 51.732$, $p < 0.001$, –2loglikelihood = 128.456, Cox and Snell $R^2 = 0.328$, Nagelkerke $R^2 = 0.438$.

were added to the model—to determine if resilience and postdeployment social support predict adjustment in postdeployed Navy personnel when controlling for significant covariates. This model was a statistically significant improvement over the constant-only model, (χ^2 [7, $N = 130$] = 53.151, $p < 0.001$) and resilience and social support remained significant predictors of postdeployment adjustment. Finally, a stepwise backward logistic regression was used to describe this relatively healthy subset of service members (Table III). The final model included resilience, postdeployment social support, stressful deployment environments, additional stressful life events, and IA experience. The final model remained a statistically significant improvement over the constant-only model, (χ^2 [5, $N = 130$] = 51.732, $p < 0.001$]. In the final model, resilience, postdeployment social support, and stressful deployment environment were statistically significant predictors of postdeployment adjustment. In addition, IA status approached significance ($p = 0.059$) and may have reached significance in a larger sample.

Resilience and postdeployment social support were statistically significant predictors of postdeployment adjustment with odds ratios (OR) of 1.05 to 1.07, respectively. As resilience scores increased, the odds of postdeployment adjustment occurring increased with odds of 1.05 for an increase of 1 unit to 13.76 for a 57 unit increase in resilience. Therefore, service members with 57 units greater resilience scores (which represents the range of scores in this sample) were13.76 times more likely to experience better postdeployment adjustment. Service members with 30 units greater resilience scores were 3.97 times more likely to experience better postdeployment adjustment. As postdeployment social support scores increased, the odds of postdeployment adjustment occurring increased with odds of 1.07 for an increase of 1 unit to 13.64 for a 39 unit increase in postdeployment social support. Therefore, service members with 39 units greater postdeployment social support scores (which represent the range of scores in this sample) were 13.64 times more likely to experience better postdeployment adjustment. Service members with 20 units greater postdeployment social support scores were 3.82 times more likely to experience better postdeployment adjustment.

DISCUSSION

The results of this study support the hypothesis that recently redeployed service members with high resilience and high social support have greater postdeployment adjustment. Service members with high resilience were those who were able to adjust to adversity and life circumstances by possessing the abilities to (1) view change/stress as a challenge/opportunity and remain committed (perseverant), (2) to engage the support of others and pursue personal and collective goals, (3) to maintain confidence in their effectiveness and to acknowledge the strengthening effects of stress and past successes, (4) to maintain a sense of humor and action-oriented problem-solving approach, and (5) to remain patient, tolerant of negative affect, and optimistic. Service members with high postdeployment social support endorsed the perception that family, friends, coworkers, leaders, and the community provided adequate emotional sustenance and instrumental assistance to the service member after returning home from deployment.

Results from this study showed that service members who endorsed high postdeployment adjustment appeared to meaningfully integrate their transitional experiences into their personal/social lives as evidenced by their limited career, health, intimate relationship, social relationship, and stress reaction difficulties and few concerns about their deployment. These findings are similar to the findings reported on veterans after long-term postdeployment adjustment.[4–7,33] Service members in this study (all of which screened negative for probable PTSD), who endorsed higher short-term adjustment, possessed higher levels of qualities that confer resilience and higher levels of postdeployment social support.

The results of this study partially support the hypothesis that service members with low exposure to combat, less stressful deployment environments, and fewer additional stressful life events would have greater postdeployment adjustment. Combat exposure and additional stressful life events were not significantly related to postdeployment adjustment. These results should be interpreted with caution (see study limitations) because of the relatively low exposure of the overall sample to these stressors. However, service members who were exposed to fewer stressful deployment environments experienced greater postdeployment adjustment.

IA status was significantly and positively related to postdeployment adjustment in this sample ($\chi^2 = 4.82$, $p < 0.05$). In addition, IA status approached statistical significance in the final logistic regression model and may have reached significance in a larger sample. These results do not support the original hypothesis but may be consistent with the results

of other studies and warrant further investigation. For example, Sundin et al[34] investigated the impact of mental health and deploying as an IA in UK armed forces and reported that there were no differences between IAs and those who deployed with formed units on postdeployment adjustment (e.g., post-traumatic stress and common mental disorder symptoms). Similarly, Granado et al[35] reviewed 4,086 Navy Millennium Cohort deployers who completed questionnaires during 2004–2006 and again approximately 3 years later (which represents long-term postdeployment adjustment) and reported that IA deployment was not significantly related to newly reported post-traumatic stress or mental health symptoms. The results of this study suggest that IA experience may also be a protective factor in short-term postdeployment adjustment, at least in otherwise healthy Navy personnel.

Gender, marital status, military occupation, and number of land-based deployments were not significantly related to postdeployment adjustment and were not included as covariates in analyses. Service members with higher resilience and social support had greater postdeployment adjustment after controlling for IA status and perceived threat while deployed.

Limitations

The participants in this study represented a convenience, nonprobability sample of otherwise healthy Navy personnel. Service members with probable PTSD and those who were at risk for harm to self or others were excluded. Therefore, conclusions may not be generalizable to larger populations. In addition, the low levels of stressors (e.g., combat, stressful deployment environments, and additional stressful life events) to which participants reported being exposed seriously limit the evaluation of the role of these nonmodifiable stressors in predicting postdeployment adjustment. The majority of the sample was also not in tactical/operational roles during deployment and most of the sample had some college experience. In addition, only select variables that may have affected adjustment were assessed. There may have been other salient variables that should be considered for future studies, such as unrealistic anticipations of homecoming and lack of meaningfulness of work.[36]

The constructs of resilience and postdeployment social support are also multidimensional, and the domains of measured outcomes for this study may overlap. Therefore, studies that use broad measures of these constructs may be necessary to increase understanding of the complex relationship between these constructs. For example, it is possible that service members with higher resilience attract more postdeployment social supports, which increases postdeployment adjustment. Conversely, service members experiencing low postdeployment adjustment may be less resilient and, therefore, unable to garner postdeployment social support.

The median split technique was used to dichotomize the dependent variable. Because there are no established cut points for the instrument used to measure postdeployment adjustment, it is very difficult to know if the median split technique utilized in this study reflects clinically relevant differences in those with good adjustment and those with poor adjustment. Finally, the cross-sectional design does not allow for time-order examination of factors predicting postdeployment adjustment.

Strengths

Service members in this study were recruited by a civilian provider within a deployment health clinic, outside of the service member's chain of command, no personal identifying information was collected, and the decision to participate or not to participate was made after the recruitment coordinator left the data collection room. Therefore, it is highly unlikely that any service member felt obligated to participate.

Although the sample was a relatively healthy subset of service members and conclusions may not be generalizable to larger populations, more than half (56%) endorsed considerable or extreme difficulties in at least one postdeployment adjustment domain. Therefore, even those service members who are not diagnosed with the most concerning postdeployment symptoms (e.g., PTSD and risk of harm to self or others) appear to be experiencing postdeployment adjustment difficulties. This subset of otherwise healthy postdeployed service members may benefit from studies, such as this one, designed to describe their experiences and identify modifiable risk factors on which interventions may be based. Furthermore, the very high participation rate in this study (88.5%) suggests that postdeployment adjustment is a topic important to this subset of redeployed service members and that they are willing to share their experiences—under the right conditions. The face-to-face recruitment, anonymous response format, and private data collection venue that contributed to the very high participation rate in this study should be employed in other studies involving service members whenever feasible.

Importance of This Work

The Navy currently uses universal prevention measures called the Operational Stress Control (OSC) program to address deployment stressors[37,38] with a goal of improving adjustment across all phases of deployment, including redeployment. The OSC program is grounded in promoting self-care (e.g., good sleep, fitness, eating habits, maintaining a sense of humor, positive attitude, and social connections), and early detection of stress reactions in comrades, and is believed to contribute to resilience building.[36–38] Therefore, the results of this study support the fundamental resilience and social support underpinnings of the Navy's use of the OSC program in helping service members adjust to the family, occupational, and social changes that they confront during the reintegration transition following deployments—at least in service members who experienced relatively low stress exposure during deployment.

ACKNOWLEDGMENTS

We thank the Navy personnel who took the time to participate in this study and share their postdeployment thoughts and experiences. This study would not have been possible without them.

REFERENCES

1. Bowling UB, Shermian MD: Welcoming them home: supporting service members and their families in navigating the tasks of reintegration. Prof Psychol Res Pr 2008; 39: 451–8.
2. Katz LS, Cojucar G, Davenport CT, Pedram C, Lindl C: Post-deployment readjustment inventory: reliability, validity, and gender differences. Mil Psychol 2010, 22: 41–56.
3. Slone L, Friedman MJ: After the War Zone: A Practical Guide for Returning Troops and Their Families. Philadelphia, PA, Da Capo Press, 2008.
4. King DW, King LA, Foy DW, Keane TM, Fairbank JA: Posttraumatic stress disorder in a national sample of female and male Vietnam veterans. Risk factors, war-zone stressors, and resilience-recovery variables. J Abnorm Psychol 1999; 108: 164–70.
5. King LA, King DW, Vogt DS, Knight J, Samper RE: Deployment risk and resilience inventory: a collection of measures for studying deployment-related experiences of military personnel and veterans. Mil Psychol 2006; 18: 89–120.
6. Pietrzak RH, Johnson DC, Goldstein MB, et al: Psychosocial buffers of traumatic stress, depressive symptoms, and psychosocial difficulties in veterans of Operations Enduring Freedom and Iraqi Freedom: the role of resilience, unit support, and postdeployment social support. J Affect Disord 2010; 120: 188–92.
7. Pietrzak RH, Johnson DC, Goldstein MB, Malley JC, Southwick SM: Psychological resilience and postdeployment social support protect against traumatic stress and depressive symptoms in soldiers returning from Operations Enduring Freedom and Iraqi Freedom. Depress Anxiety 2009; 26: 745–51.
8. Kessler RC, Sonnega A, Bromet E, Hughes M, Nelson CB: Posttraumatic stress disorder in the National Comorbidity Survey. Arch Gen Psychiatry 1995; 52: 1048–60.
9. Sharkansky EJ, King DW, King LA, Wolfe J, Erickson DJ, Stokes LR: Coping with Gulf War combat stress: mediating and moderating effects. J Abnorm Psychol 2000; 109: 188–97.
10. Blais AR, Thompson MM, McCreary DR: The development and validation of the Army Post-Deployment Reintegration Scale. Mil Psychol 2009; 21: 365–86.
11. MacDermid Wadsworth SM: Family risk and resilience in the context of war and terrorism. J Marriage Fam 2010; 72: 537–56.
12. Institute of Medicine: Returning Home from Iraq and Afghanistan: Preliminary Assessment of Readjustment Needs of Veterans, Service Members, and Their Families. Washington, DC, National Academies Press, 2010. Available at http://www.iom.edu/Reports/2010/Returning-Home-from-Iraq-and-Afghanistan-Preliminary-Assessment.aspx; accessed March 17, 2014.
13. Tanielian TJ, Jaycox LH: Invisible Wounds of War: Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery. Santa Monica, CA, RAND Center for Military Health Policy Research, 2008. Available at http://www.rand.org/pubs/monographs/MG720.html; accessed March 17, 2014.
14. Doyle ME, Peterson KA: Re-entry and reintegration: returning home after combat. Psychiatr Q 2005; 76: 361–70.
15. American Psychiatric Association: Diagnostic Criteria from DSM-IV-TR. Washington, DC, The Association, 2000.
16. Bliese PD, Wright KM, Adler AB, Cabrera O, Castro CA, Hoge CW: Validating the primary care posttraumatic stress disorder screen and the posttraumatic stress disorder checklist with soldiers returning from combat. J Consult Clin Psychol 2008; 76: 272–81.
17. Faul F, Erdfelder E, Buchner A, Lang AG: Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. Behav Res Methods 2009; 41: 1149–60.
18. Connor KM, Davidson JR: Development of a new resilience scale: the Connor-Davidson Resilience scale (CD-RISC). Depress Anxiety 2003; 18: 76–82.
19. Vogt DS, Proctor SP, King DW, King LA, Vasterling JJ: Validation of scales from the Deployment Risk and Resilience Inventory in a sample of Operation Iraqi Freedom veterans. Assessment 2008; 15: 381–403.
20. Holmes TH, Rahe RH: Social Readjustment Rating Scale. J Psychosom Res 1967; 11: 213–8.
21. Rahe RH, Mahan JL, Arthur RJ: Prediction of near-future health change from subjects preceding life changes. J Psychosom Res 1970; 14: 401–6.
22. Scully JA, Tosi H, Banning K: Life event checklists: revisiting the social readjustment rating scale after 30 years. Educ Psychol Meas 2000; 60: 864–76.
23. Charuvastra A, Cloitre M: Social bonds and posttraumatic stress disorder. Annu Rev Psychol 2008; 59: 301–28.
24. Figley CR, Nash WP: Combat Stress Injury: Theory, Research, and Management. New York, Routledge, 2007.
25. National Center for PTSD: Returning from the War Zone: A Guide for Military Personnel. National Center for PTSD, 2005. Available at http://www.ptsd.va.gov/public/reintegration/guide-pdf/SMGuide.pdf; accessed December 20, 2013.
26. Beder J, Coe R, Sommer D: Women and men who have served in Afghanistan/Iraq: coming home. Soc Work Health Care 2011; 50: 515–26.
27. Kimerling R, Gima K, Smith MW, Street S, Frayne S: The veterans health administration and military sexual trauma. Am J Public Health 2007; 97(12): 2160–6.
28. Mattocks KM, Haskell SG, Krebs EE, Justice AC, Yano EM, Brandt C: Women at war: understanding how women veterans cope with combat and military sexual trauma. Soc Sci Med 2012; 74(4): 537–45.
29. Mayo JA, MacGregor AJ, Dougherty AL, Galarneau MR: Role of occupation on new-onset post-traumatic stress disorder and depression among deployed military personnel. Mil Med 2013; 178: 945–50.
30. Booth-Kewley S, Larson GE, Highfill-McRoy RM, Garland CF, Gaskin TA: Correlates of posttraumatic stress disorder symptoms in marines back from war. J Trauma Stress 2010; 23: 69–77.
31. MacCallum RC, Zhang S, Preacher KJ, Rucker DD: On the practice of dichotomization of quantitative variables. Psychol Methods 2002; 7(1): 19–40.
32. Altman DG, Royston P: The cost of dichotomizing continuous variables. Br Med J 2006; 332: 1080.
33. Kaspersen M, Matthiesen SB, Gotestam KG: Social network as a moderator in the relation between trauma exposure and trauma reaction: a survey among UN soldiers and relief workers. Scand J Psychol 2003; 44: 415–23.
34. Sundin JS, Mulligan K, Henry S, et al: Impact on mental health of deploying as an individual augmentee in the U.K. Armed Forces. Mil Med 2012; 177: 511–6.
35. Granado NS, Zimmermann L, Smith B, et al: Individual augmentee deployment and newly reported mental health morbidity. J Occup Environ Med 2012; 54 (5): 615–20.
36. Adler AB, Bliese PD, Castro CA: Deployment Psychology: Evidence-Based Strategies to Promote Mental Health in the Military. Washington, DC, American Psychological Association, 2011.
37. Ruzek JI, Schnurr PP, Vasterling JJ, Friedman MJ: Caring for Veterans with Deployment-Related Stress Disorders: Iraq, Afghanistan, and Beyond. Washington, DC, American Psychological Association, 2011.
38. Bowles SV, Bates MJ: Military organizations and programs contributing to resilience building. Mil Med 2010; 175: 382–5.