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Post-deployment reintegration measure:

Psychometric replication and preliminary validation results

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Defence R&D Canada – Toronto

Technical Report

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Abstract

An abrupt return home from a six-month overseas deployment to "normal" roles and activities can be a significant stressor for military personnel. An initial scale development study revealed that the post-deployment reintegration experiences of Canadian Forces (CF) personnel were best characterized as distinct positive and negative aspects of four theoretical dimensions: personal, family, occupational, and cultural reintegration. In the present study, 474 CF personnel coming back from an established peace support operation completed a revised reintegration measure. Further support for its multidimensionality and psychometric quality is presented. Moreover, the current research also provides preliminary evidence of the validity of its scores, as they are correlated in predicted ways with other scores, such as organizational commitment, coping, symptomatology, and military-related stress.

Résumé

Après un déploiement outre-mer de six mois, le retour soudain au pays et la reprise des fonctions et activités "normales" peuvent engendrer un stress significatif chez le personnel militaire. Notre première étude sur la création d'échelles de mesure montrait que pour le personnel des Forces canadiennes, la meilleure façon de caractériser l'expérience liée à la réintégration après déploiement était de mesurer les éléments positifs et négatifs de quatre dimensions théoriques : personnelle, familiale, professionnelle et culturelle. Dans la présente étude, 474 membres du personnel des Forces canadiennes de retour d'une opération de paix ont répondu à une version révisée de notre enquête sur la réintégration. Nous présentons d'autres arguments en faveur de l'aspect multidimensionnel et de la qualité de cette méthode comme instrument psychométrique. En outre, les résultats de la présente étude fournissent des indices préliminaires de validation puisqu'ils montrent des corrélations qui avaient été prévues avec le degré d'attachement à l'organisation, les stratégies d'adaptation, la symptomatologie et les facteurs de stress non liés aux opérations militaires.

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Executive summary

Background: The abrupt return to “normal” roles and activities after an extended overseas tour can be a significant stressor for some military personnel. The consequences of poor post-deployment reintegration and adjustment may be wide-ranging and have considerable long-term consequences for both returning soldiers and their families. An initial review of the post-deployment reintegration literature identified several conceptual and psychometric weaknesses. This led to the undertaking of a program of research directed toward the development of a psychometrically sound measure of post-deployment reintegration that reflected the experiences of Canadian Forces (CF) personnel. An initial study supported a multi-dimensional approach to reintegration that consisted of distinct positive and negative experiences associated with personal, family, work and cultural aspects of reintegration after returning from a deployment.

As encouraging as were these initial findings, psychometric analyses of the initial measure indicated that several items could be improved upon through rewording. Second, although an 8-factor model provided the best fit to the data in the first study, the analyses also suggested that items on the cultural and personal subscales tended to load at least moderately on both subscales, indicating some redundancy in these constructs. Third, although not overly long, the length of the scale had to be reduced.

The Current Research: The present research study aimed to address these issues via the continued refinement of the reintegration measure. Specifically, there was a need to improve the clarity of individual items through rewording, to lessen the overlap between items on the personal and cultural reintegration subscales, and to reduce the overall length of the measure. Moreover, the present study also included additional self-report measures in order to begin investigating the relationships among the measure of post-deployment reintegration and several important aspects of personal and operational readiness and effectiveness, thereby providing initial tests of the validity of the reintegration scores with respect to such scores.

Method: 474 CF personnel coming back from an established peace support operation completed a revised version of the reintegration measure in the context of a large-scale survey, the Human Dimensions of Operations Survey. The survey was administered to groups of military personnel in training rooms located at their home base. A Base Personnel Selection Officer was present at each survey session to provide instructions and answer questions. Soldiers completed the questionnaires individually.

Results: Results of factor analyses revealed in a first subsample of 236 soldiers, and then supported, on a separate subsample of 238 soldiers, the presence of relatively distinct subscales that assess the positive and negative aspects of family, and work reintegration. There continued to be considerable overlap between the personal and cultural reintegration dimensions, and so these dimensions were combined onto one personal reintegration dimension. The factor analytic and item analyses also reduced the number of items to 6 per subscale, for a total of 36 reintegration items. Moreover, the psychometric properties of each subscale were good to excellent.

The validity of the reintegration scores with respect to related scores was investigated via correlational analyses. Higher levels of loyalty and feelings of belonging to the Army were significantly correlated with positive work reintegration experiences, and negatively correlated with negative work experiences. Negative personal, family, and work reintegration experiences were related to avoidant coping styles and with higher reports of physical and psychological symptoms in these soldiers. Finally, negative family reintegration experiences were related to higher levels of family stress, but positive family experiences were not. Stressors that were related to work issues were strongly related to negative work reintegration experiences but were unrelated to positive work reintegration experiences. The data also revealed that negative personal reintegration experiences were strongly and negatively related to higher stress levels concerning family, external conditions, and combat-related experiences. Interestingly, positive personal reintegration experiences were related to greater reports of combat-related stress and essentially unrelated to stress associated with work, family or environmental conditions. The implications of these results are discussed and directions for future research in this area are outlined.

Blais, A-R., Thompson, M. M., & McCreary, D. R. (2005). Post-deployment reintegration: Psychometric replication and preliminary validation results. DRDC Toronto TR 2005-277. Defence R&D Canada □Toronto.

Sommaire

Contexte : Après un séjour prolongé outre-mer, le retour soudain aux fonctions et activités normales peut engendrer un stress significatif chez certains membres du personnel militaire. Une réintégration non réussie et une mauvaise adaptation après un déploiement peuvent avoir des répercussions très importantes et des conséquences à long terme considérables pour les soldats concernés et pour leurs familles. Un examen initial des publications portant sur la réintégration postérieure au déploiement a permis de cerner plusieurs lacunes conceptuelles et psychométriques. C'est ce qui nous a amenés à entreprendre un programme de recherche en vue de l'élaboration d'une bonne méthodologie de mesure psychométrique de l'expérience vécue par le personnel des Forces canadiennes lors de la réintégration postérieure à un déploiement. Une première étude allait dans le sens d'une approche multidimensionnelle de la réintégration portant sur les expériences positives et négatives liées aux aspects personnels, familiaux, professionnels et culturels de la réintégration au retour d'un déploiement.

Bien que ces premiers résultats aient été encourageants, les analyses psychométriques de l'enquête initiale ont montré qu'il était possible d'améliorer plusieurs points en adoptant une nouvelle formulation. Deuxièmement, bien que le modèle à huit facteurs ait permis un ajustement optimal aux données de la première étude, selon nos analyses, les aspects inclus dans les sous-échelles culturelle et personnelle tendaient à se répercuter au moins modérément sur ces deux mêmes sous-échelles simultanément, ce qui permet de penser que ce concept hypothétique comporte une certaine redondance. Troisièmement, nous avons reconnu qu'il fallait réduire le nombre de points de l'échelle bien que leur nombre ne soit pas exagérément élevé.

Recherche actuelle : L'objet de la présente recherche est d'étudier ces questions dans le cadre d'une amélioration continue de l'enquête sur la réintégration. En l'occurrence, nous avons tenté de rendre les points individuels plus clairs en adoptant une nouvelle formulation, de réduire les doublons entre les points des sous-échelles personnelle et culturelle et de réduire la longueur totale de l'enquête. De plus, dans la présente étude, nous avons également inclus des mesures d'auto-évaluation pour commencer à étudier les relations entre nos résultats sur la réintégration postérieure au déploiement et plusieurs aspects importants de l'état de préparation et de l'efficacité aux niveaux personnels et opérationnels; cela nous permettait d'obtenir des tests initiaux de validité de l'enquête sur la réintégration.

Méthodologie : 474 membres des FC de retour d'une opération de paix ont rempli une version révisée de notre enquête sur la réintégration dans le cadre d'un sondage à grande échelle (sondage sur les dimensions humaines des opérations). Le questionnaire a été administré à des groupes de membres du personnel militaire dans des salles d'entraînement situées sur le lieu de leur base d'appartenance. Un officier de sélection du personnel de la base était présent à chacune de ces séances, où il donnait les instructions et répondait aux questions. Les soldats ont rempli les questionnaires individuellement.

Résultats : Les analyses factorielles ont montré l'existence de sous-échelles relativement distinctes permettant d'évaluer les aspects positifs et négatifs de la réintégration au niveau familial et professionnel; les résultats de cette nature sont apparus dans un sous-échantillon de

236 militaires, et ils ont été confirmés avec un autre sous-échantillon de 238 sujets. Il restait d'importants recoupements entre les dimensions personnelle et culturelle, de sorte qu'on a regroupé celles-ci en une seule, soit la dimension personnelle de la réintégration. L'analyse factorielle et l'analyse des points abordés ont également permis de réduire le nombre de points à six par sous-échelle et le nombre total de points à 36. De plus, les propriétés psychométriques de chacune des sous-échelles allaient de bonnes à excellentes.

Nous avons aussi entrepris d'établir la validité des échelles de mesure de la réintégration par des analyses de corrélation avec des mesures connexes. À partir des cotes de loyauté et de sentiment d'appartenance aux Forces armées, on note d'une part une corrélation significative avec le nombre d'expériences positives de réintégration professionnelle, et d'autre part une corrélation négative avec les expériences négatives dans le domaine professionnel. Les expériences négatives de réintégration de nature personnelle, familiale et professionnelle étaient liées à des types d'adaptation par évitement et avec une fréquence plus élevée de symptômes physiques et psychologiques signalés par ces mêmes soldats. Et enfin, les expériences négatives de réintégration familiale étaient liées à de plus hauts niveaux de stress familial, mais on ne relève aucun lien entre les expériences familiales positives et les niveaux de stress familial. Les facteurs de stress connexes aux questions professionnelles étaient fortement liés aux expériences négatives de réintégration professionnelle, mais ils n'étaient pas liés aux expériences positives de réintégration professionnelle. De plus, les résultats montrent une forte corrélation négative entre les expériences négatives de réintégration personnelle et l'existence de niveaux de stress plus élevés reliés à la famille, aux conditions extérieures et aux faits vécus au combat. Il est intéressant de constater que les expériences positives de réintégration personnelle étaient associées à un plus grand nombre de mentions de stress dû au combat, et aucunement associées au stress professionnel, familial ou environnemental. Nous traitons des implications de ces résultats et proposons des orientations en vue de recherches à venir dans ce domaine.

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Introduction

Background

The abrupt return to "normal" roles and activities after coming home from extended overseas military service can be a significant stressor (Bercuson, 1996), at least for some personnel. Past psychological research shows that a soldier's homecoming experiences are important in ameliorating or impairing both short and long-term adaptation (e.g., Fontana & Rosenheck, 1994; Johnson et al., 1997; Wilson & Krause, 1985). For instance, participants in a focus group study of Canadian Forces (CF) personnel indicated that it took an average of approximately four months to readjust to in-garrison life "even if the tour had been routine (Thompson & Gignac, 2002).

The consequences of poor post-deployment reintegration and adjustment may be wide-ranging and have considerable long-term consequences for both returning soldiers and their families (Benotsch et al., 2000). The clinical literature shows the range of significant post-deployment problems that can arise, including alcohol abuse and dependence, generalized anxiety, antisocial behaviors, social isolation, hostility, and anger (Orsillo, Roemer, Litz, Ehlich, & Friedman, 1998). At least one further study has shown that homecoming stress, in particular feelings of psychological isolation and feeling disconnected, predicted 43% of the variance in subsequent post-traumatic stress disorder (PTSD) symptomatology (Bolton, Litz, Glenn, Orsillo, & Roemer, 2002). Indeed, these findings showed that homecoming stress was the most significant predictor of PTSD, even after statistically accounting for the effects of combat exposure, earlier life trauma, and current stressful life events (see also Fontana & Rosenheck, 1994). Results such as these led Fontana and Rosenheck to conclude, "homecoming is critical " in determining whether acute stress reactions are either diminished to subclinical intensity or are preserved undiminished to become recognized at some later point " "(p. 683).

As important as is the existing post-deployment reintegration literature, there exist several potential limitations in the associated research (Blais, Thompson, Febbraro, Pickering, & McCreary, 2004). First, most of the information on reintegration was collected from American Vietnam War veterans who were suffering from PTSD. Moreover, their reintegration experiences were based largely on recollections obtained years after the veterans returned from active duty. Thus, our current understanding of the impact of these reintegration experiences, and the reintegration process itself, can be affected by both the clinical aspects of PTSD (e.g., a generally depressed view of events in general), as well as by the presence of recall biases that tend to get worse over time (Ross, 1989). Second, virtually all of the published research in the post-deployment reintegration area involves American military samples; thus, we know very little about the reintegration experiences of Canadian soldiers. Third, the existing reintegration measures offer incomplete information about the reliability and validity of their scores. For example, the underlying factor structure of reintegration measures is rarely addressed in any published form, the existing measures tend to confound reintegration issues with social support, and the measures also tend to assess related aspects of reintegration (e.g., social support, coping) resulting in a great deal of redundancy with other constructs.

Thus, the current understanding of reintegration experiences, and how they unfold over time, are based on research using limited, largely clinical samples and measures of unknown quality. For these reasons, a program of research was undertaken in order to develop a psychometrically sound post-deployment reintegration measure. This assessment tool will focus on the experiences of CF personnel, which will be fundamental to understanding the causes, correlates and consequences of reintegration issues for these personnel. It also can serve as a basis for the creation of post-deployment reintegration programs tailored to the CF's needs. Such a measure then could serve as a vital component of the evaluation of the effectiveness of CF post-deployment reintegration programs.

The post-deployment reintegration scale

Initial scale development efforts were based on a review of the published post-deployment reintegration literature, which was examined for general themes. In addition, items with the best psychometric qualities from pre-existing reintegration measures were examined. Results from a previous focus group study of CF personnel that indicated that four main themes characterized post-deployment reintegration were also integrated (Thompson & Gignac, 2002). The first theme, *personal* reintegration, had to do with aspects of "feeling like oneself again." The second theme involved reintegration back into *family* life. The third theme of *work* reintegration related to adjusting back into in-garrison life and the nature of recollections related to deployment work-related experiences. The fourth theme, termed *cultural* reintegration, referred to returning from settings of extreme deprivation into a land of the "haves." The results from this study also indicated that it was possible to have distinct *positive* and *negative* experiences on each of the four dimensions. For instance, soldiers talked about the joys and the strains of readjusting to family. Similarly they often recalled difficult work experiences from missions, but also spoke of how they had developed their military skills as a result of their mission. This process generated 64 initial items, with approximately equal numbers of items reflecting the potential positive and negative reintegration experiences associated with each of the four dimensions.

Results from an initial scale development study (Blais et al., 2004) supported the notion that reintegration was best depicted by these eight factors, in which the positive and negative aspects of the four themes were represented as distinct experiences. Each of these eight scales had acceptable psychometric properties (e.g., internal consistency reliability estimates). Descriptive results showed that the soldiers who completed the survey endorsed relatively high levels of positive experiences and low levels of negative experiences, especially with regard to personal, family, and cultural reintegration. The highest positive scores were associated with aspects of family reintegration, whereas the highest negative reintegration scores were found on the work dimension.

As encouraging as were these initial findings, psychometric analyses indicated that several items could be improved upon through rewording. Second, although an 8-factor model provided the best fit to the data in this first study, the analyses also suggested that items on the cultural and personal subscales tended to load at least moderately on both subscales, revealing some redundancy in these two constructs. Third, although the scale was not overly long, the number of scale items had to be reduced, in order to alleviate survey fatigue.

The present research

The present research study addressed these issues via the refinement of the post-deployment reintegration measure. Specifically, its objectives were to clarify individual items through rewording, lessen the overlap between items on the personal and cultural reintegration subscales, and reduce the overall length of the measure. Moreover, the present study included additional self-report measures in order to begin investigating the relationships among post-deployment reintegration and several important aspects of personal and operational readiness and effectiveness, thereby providing initial tests of the validity of the reintegration scores with respect to such related scores.

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Method

Participants

Four hundred seventy-four CF personnel who had recently returned from an established peace support operation participated in the present study. From this sample, respondents were randomly assigned to two subgroups. Data from the first grouping ($n = 236$ soldiers) were used for exploratory data analyses, while these from the second grouping ($n = 238$ soldiers) were used for subsequent confirmatory data analyses. Table 1 shows the demographic composition of each group.

Table 1: Demographic characteristics for the two randomly determined groups of participants.

Variable	Category	Group 1 ($n = 236$)		Group 2 ($n = 238$)	
		<i>N</i>	%	<i>N</i>	%
Rank	Pte	44	19	44	19
	Jnr NCM	141	60	148	62
	Sgt	41	17	37	16
Age	17 to 26	40	17	57	24
	27 to 36	104	34	85	36
	37 to 46	73	39	77	32
	47+	17	7	14	6
Gender	Male	208	88	219	92
	Female	26	11	15	6
Children	0	128	54	124	52
	1	33	14	30	13
	2	54	23	46	19
	3+	15	6	32	13
Status	Regular	203	86	203	85
	Reservist	30	13	31	13
Tours, total	1	89	38	93	39
	2	73	31	61	26
	3	34	14	29	12
	4+	35	15	51	21
Tours, past five years	1	100	42	107	45
	2	94	40	83	35
	3+	9	4	15	6

Note: Pte = Private; Jnr NCM = Junior Non-Commissioned Member; and Sgt = Sergeant.

Group 1

The first group was comprised of 44 Privates, 141 junior Non-Commissioned Members (Corporals and Master Corporals), and 41 Sergeants. Most participants were between the ages of 17 and 46 years, and males accounted for 88% of the participants. About half of the respondents did not have children. The majority of participants were drawn from the regular force (86%). The average years of military service were 13.5 and ranged from 2 to 36 years. Almost 68% of the participants had been on one or two previous tours. Over 40% of the participants had had one previous tour in the last five years, 40% had been on two previous tours, and approximately 4% had deployed on three or more missions in the past five years.

Group 2

The second group was quite similar to the first, being comprised of 44 Privates, 148 junior Non-Commissioned Members (Corporals and Master Corporals), and 37 Sergeants. Most participants were between 17 and 46 years old and 92% were men. About half of the participants had no children. The majority of the participants were regular force personnel (85.3%). Years of military service ranged from 2 to 33 years, and the average years of military service was 12. Approximately 40% of the participants had been on at least one previous tour. Forty-five percent of these soldiers had been on one tour in the previous five years, 35% had been on two tours, and 6% had been on three or more tours in the past five years.

Materials

Participants completed the Post-Deployment Reintegration Scale (PDRS), as well as measures from the Human Dimensions of Operations (HDO) project (Dobrevá-Martinova, 1999; Murphy & Farley, 2000). The Directorate of Human Resource Research and Evaluation (DHRRE) developed the HDO for the Chief of the Land Staff to assess various human aspects of operations including unit cohesion, morale, and self-reported stress, and to track these aspects across the deployment cycle. The study was approved by DRDC Human Research Ethics Committee (HREC). All of the measures described below are included in Annex A of this report.

Post-deployment reintegration scale

In order to address the issues of item clarity and of the dimensionality of personal and cultural reintegration, several new items were generated for this iteration of the scale's development, resulting in an 81-item scale. The PDRS assesses military personnel's appraisals of the ease or difficulty they have experienced readjusting to the personal/cultural, family, and organizational aspects of returning home after their deployment. Responses are indicated on a 5-point rating scale representing how true each statement is for the soldier (*Not at All True* □ *Completely True*). Higher scores are indicative of more positive or negative experiences, depending on the valence of the subscale.

Stress in military service

A modified 20-item (out of an initial item pool of 27 items) version of the *Stress in Military Service Questionnaire* (SMSQ; Dobrevá-Martinova, 1998) was used to measure the participants' concerns with military-related occupational stressors. The SMSQ contains five 4-item subscales (*Combat*, *External Conditions*, *Family*, *Service/Career*, and *Work*) that assess the extent to which various stressors have caused the soldier trouble or concern during the previous month. Ratings are made on a scale from 1 (*No trouble or concern*) to 5 (*Very much trouble or concern*). Sample items include "Level of support shown by those outside the CF" (External Conditions), "Boredom while at work" (Work Environment), "Seeing widespread suffering" (Combat Stressors), "Career issues" (Service/Career Issues), and "Time spent away from your family due to service" (Family Concerns). Higher scores are indicative of greater trouble/concern.

Organizational commitment

A short version of the *Organizational Commitment Scale* (based on Gade, Tiggel, & Schumm, 2003) was included in order to evaluate the level to which participants agreed with 8 statements related to *Continuance* (4 items) and *Affective* (4 items) commitment. Respondents rated their agreement with each statement, using a 5-point scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Sample items include "It would be too costly for me to leave the Army in the near future" (Continuance) and "The Army has a great deal of personal meaning to me" (Affective). Higher scores on the Continuance scale suggest a greater perceived lack of alternatives/life disruption resulting from quitting the Army. Conversely, higher scores on the Affective scale are indicative of greater levels of attachment to the military.

Coping

A modified, 12-item (out of an initial item pool of 28 items) version of the *COPE Inventory* (based on Carvey, Scheier, & Weintraub, 1989) was used to examine the extent to which participants relied on *Avoidant* and *Problem-Focused* coping strategies. The scale asks respondents about their general behaviors and responses (i.e., how often, if at all, they have used these responses) when faced with difficult or trying events during the previous month. A rating scale from 1 (*I usually don't do this at all*) to 4 (*I usually do this a lot*) is used. Sample items include "I give up the attempt to cope" (Avoidant; 6 items) and "I take action to try to make the situation better" (Problem-Focused; 6 items). Higher scores are indicative of greater endorsement of avoidant/problem-focused strategies. Avoidant coping styles have been shown to be associated with poor outcomes, while problem-focused coping strategies are generally associated with better outcomes (McCreary & Sadava, 1998).

Psychological distress

A slightly modified 21-version of the *Symptoms Checklist* (Bartone, Ursano, Wright, & Ingraham, 1989) assessed the participants' psychological distress, operationalized as the frequency with which they experience troubles or complaints over the previous

month. Each item is rated on a scale from 1 (*Never*) to 4 (*Very often*). Higher scores are indicative of greater psychological distress.

Procedure

The HDO, in which the PDRS was included, was completed individually using a mass-testing session format in training rooms on military bases. A Base Personnel Selection Officer attended each survey session to provide an introduction to the questionnaire and to answer any questions. All measures were available in either French or English.

Results

Data screening

The data were screened for univariate outliers, univariate non-normality, and missing data. Univariate outliers were defined as z -scores greater than 3.29 ($p < .001$, two-tailed; Tabachnick & Fidell, 2000). All univariate outliers were replaced with the next less extreme rating, as recommended by Kline (1998). Indices of univariate non-normality (i.e., univariate skewness and kurtosis) were not extreme; that is, for most items, skewness was less than 3.0 and kurtosis, less than 7.0 (Kline, 1998), thus score transformations were not required. Finally, in order to retain as much data as possible and, as a result, maximize the overall sample size, sample mean values were inserted whenever individual data points were missing (Cohen & Cohen, 1983). A familywise significance level of .05 is used (corrected for multiple tests when appropriate) except when otherwise noted.

Dimensionality of the revised post-deployment reintegration scale

Exploratory factor analyses

In order to determine the dimensionality of the revised version of the PDRS, data from Group 1 were used to conduct a series of exploratory factor analyses (EFAs).¹ Even though earlier work identified eight dimensions to the PDRS, the rewording of some items and the deletion and addition of others was likely to have had an impact on the underlying dimensionality of the revised measure. The EFA procedure helped determine whether the underlying structure of the new version of this measure was the same as the eight dimensions of reintegration that were previously obtained.

The EFA analyses were performed using CEFA (Comprehensive Exploratory Factor Analysis; version 1.03b) developed by Browne, Cudeck, Tateneni, and Mels (1998). The EFA models were created using a correlation matrix as input, along with a maximum likelihood estimation procedure and a Direct Quartimin rotation. The full correlation matrix is available from the first author. Because the chi-square statistic is sensitive to sample size, an alternative measure of model fit is also reported, which takes into account model complexity: the Root Mean Square Error of Approximation (RMSEA) with its associated 90% confidence interval (CI). Guidelines for the interpretation of the RMSEA values are as follows: values $< .05$ indicate a close fit, values between .05 and .08 suggest a fair fit, and values $> .10$ denote a poor fit (Browne & Cudeck, 1993).

Three separate EFAs were performed. The fit of the 8-factor model (separate positive and negative dimensions of four reintegration dimensions) was evaluated against two

¹ A similar procedure as the one described here was followed to investigate the dimensionality of the Organizational Commitment Scale, COPE Inventory, Symptoms Checklist, and SMSQ. That is, EFAs were conducted on the data from Group 1, followed by item analyses, then CFAs on the data from Group 2. More detail regarding these analyses can be obtained from the first author.

alternatives: a 4-factor model (in which the four reintegration dimensions included both positively and negatively worded items) and a 6-factor solution (in which the personal and cultural items were combined onto a single dimension, although the positive and the negative aspects continued to be treated separately).

Based on the RMSEA and its CI (see Table 2), as well as on ease of interpretation, a mix of the 6- and 8-factor solutions appeared to yield the most comprehensible model: *Family Positive* (9 items), *Family Negative* (11 items), *Personal Positive* (8 items), *Personal Negative* (9 items), *Work Positive* (16 items), and *Work Negative* (11 items) factors. Five items had low loadings on all 8 factors. Of the remaining 12 items, 5 loaded on a "Community" factor (that was ultimately dropped altogether), 5 were concerned with children (and were not analyzed because many respondents did not have children), and the remaining 2 items loaded on another obscure factor that was not considered.

Table 2: Fit indices for exploratory factor models of the PDRS (Group 1, n = 236).

Model	χ^2	df	RMSEA (90% CI)
4-factor	5658.38	2552	.072 (.069; .074)
6-factor	4758.63	2409	.064 (.062; .067)
8-factor	3981.38	2270	.057 (.054; .060)

Six items per factor (for a total of 36 items) were retained, for use in the next phase of analyses, based on a mix of retention criteria: each individual item had to have, whenever possible, (1) a salient loading ($\geq .40$; Pedhazur & Pedhazur Schmelkin, 1991) on only one factor, (2) a corrected item-total correlation of more than .30 (Nunnally & Bernstein, 1994) within that factor, (3) face validity within that factor, and (4) sufficient variability (i.e., participants selected from the full range of response options). Estimated factor loadings, item-level and scale-level descriptive statistics, corrected item-total correlations, and Cronbach's alphas (scale scores) for this 36-item version of the PDRS are presented in Table 3. The subscales were moderately correlated on average ($r = .26$, $p < .05$), with correlations, in absolute values, ranging from .03 to .59.

Confirmatory analyses

In order to determine whether the 6-factor structure that emerged from the exploratory EFAs conducted above could be replicated in an independent sample, a Confirmatory Factor Analysis (CFA) of the PDRS was conducted using data from Group 2. Unlike EFA, CFA allows the researchers to assign individual items to specific factors. The CFA algorithm then determines the extent to which the data fit the model proposed by the researchers. The hypothesized structure represented 6 correlated factors onto which 3 parcels of items were loaded; additional free parameters or constraints were not allowed (e.g., cross-loadings, correlated measurement errors). Three item parcels (i.e., composites of 2 individual items) per factor were used in order to reduce the ratio of participants to free model parameters (Wegener & Fabrigar, 2000).

Table 3: Factor loadings, item- and scale-level descriptive statistics, and reliability statistics for the 36-item version of the PDRS (Group 1, n =236).

Scale/Item		1	2	3	4	5	6	<i>M</i>	<i>SD</i>	<i>CI-TC</i>	<i>Alpha</i>
1. Family Negative								10.90	5.48	.69	.88
7	Tension in relationships	.82	.06	-.11	.07	-.01	-.02	1.87	1.20	.71	
35	Strain on family life	.77	.11	.04	.00	.02	-.07	1.89	1.22	.81	
51	Into sync with family life	.83	.00	.04	-.02	.09	.09	1.75	1.09	.76	
60	Family resented absence	.56	.21	.11	.00	-.07	-.10	1.91	1.20	.61	
63	Difficulty understanding	.70	-.08	.07	.06	.10	.13	1.80	1.10	.70	
76	Negative impact life	.45	.04	.19	.09	.11	-.19	1.69	1.09	.56	
2. Family Positive								15.72	6.46	.77	.92
23	Responsive to needs	-.10	.68	.13	.08	.01	.06	2.19	1.08	.69	
34	Involved in relationships	-.08	.81	.17	-.03	-.08	.10	2.21	1.18	.80	
45	How important family is	.05	.71	-.11	.21	.04	-.01	3.18	1.45	.76	
49	Closer to family	-.06	.83	-.02	.05	-.02	.13	2.48	1.28	.82	
54	Willingness to be with family	.17	.80	-.04	-.04	.01	-.06	2.64	1.36	.77	
58	Time spent with family	.11	.75	-.08	.18	-.06	-.06	3.02	1.30	.77	
3. Personal Negative								8.13	3.04	.60	.82
3	Events of the tour	.14	.03	.49	.08	.16	-.15	1.58	0.94	.56	
9	Devastation	.07	.03	.42	.16	.02	-.14	1.26	0.60	.50	
22	Being in Canada again	.02	-.12	.74	.00	.06	.12	1.34	0.65	.67	
28	Confused about experience	.12	.12	.63	-.03	.04	-.10	1.25	0.61	.61	
31	Culture shock	.11	-.17	.50	.25	-.01	.15	1.38	0.65	.52	
33	Focusing on other things	.11	.08	.73	-.05	.07	.04	1.32	0.67	.73	
4. Personal Positive								17.82	5.96	.65	.86
2	Problems in the world	.13	.05	.05	.38	.10	.22	3.06	1.23	.54	
8	Understanding cultures	-.04	-.03	.09	.39	.10	.30	2.78	1.18	.57	
27	How well off in Canada	.04	.08	.00	.76	-.04	-.10	3.33	1.32	.73	
32	Value of life	-.01	.21	.10	.54	-.06	.17	2.57	1.29	.66	
61	Appreciation conveniences	.01	-.04	.04	.76	.03	.08	2.92	1.35	.71	
70	Appreciate rights, freedoms	.07	.01	-.08	.77	.02	.04	3.16	1.41	.69	
5. Work Negative								15.04	6.09	.59	.82
1	Military bureaucracy	-.05	.21	-.03	.00	.54	-.05	3.04	1.32	.51	
16	Work duties less meaningful	.16	-.10	.01	.04	.67	.09	2.11	1.35	.62	
36	Garrison life boring	-.15	.00	.00	-.07	.72	.04	2.80	1.50	.61	
40	Day-to-day tasks tedious	-.08	.02	.00	-.03	.75	.02	2.39	1.36	.66	
44	Accomplishment at work	.18	-.12	.00	.05	.72	-.01	2.09	1.28	.66	
73	Leaving the military	.06	.16	.01	-.10	.48	-.22	2.60	1.56	.49	
6. Work Positive								16.84	5.02	.51	.76
11	Job-related skills	.13	-.04	-.05	.19	-.07	.44	2.26	1.23	.49	
12	Glad went on tour	.01	-.25	-.19	.08	-.01	.53	3.78	1.32	.47	
39	Deal with stress	-.20	.23	.13	.15	.04	.52	2.12	1.06	.43	
66	Better soldier	.15	.02	-.04	.03	.08	.73	2.56	1.27	.64	
69	Proud of having served	.09	-.08	-.05	.09	-.09	.48	3.57	1.24	.53	
71	Developed friendships	-.08	.20	.15	.21	-.05	.44	2.54	1.28	.48	

Note: Factor loadings in bold indicate salient values (i.e., > .40). CI-TC = Corrected Item-Total Correlations; Alpha = Cronbach's alpha reliability estimate.

The CFA analysis was performed using EQS (version 6.1; Bentler, 2005), and followed the procedures outlined by Byrne (1994) and Kline (1998). The CFA model was created using a covariance matrix as input, along with a maximum likelihood estimation procedure. The full covariance matrix and solution are available from the first author. To assess the adequacy of the fit of the model to the data and based on Hu and Bentler's (1999) "rules of thumb," the following indices of fit are reported: (1) the robust Comparative Fit Index (CFI; Bentler, 1990; $CFI \geq .95$); (2) the robust RMSEA and its associated 90% CI (Steiger, 1990; $RMSEA \leq .06$); and (3) the residuals, that is, the standardized differences between the observed and predicted covariances (SRMR; $SRMR \leq .08$).

After the CFA, the reliability statistics (i.e., Cronbach's alpha, corrected item-total correlations) for each PDRS score were computed. Questions concerning the absolute level of reintegration experiences on each dimension or subscale were addressed by descriptive (i.e., means, standard deviations) and correlational statistics. Differences between the positive and negative dimensions of the Work, Family, and Personal aspects of reintegration were explored using tests of mean differences. Finally, in order to begin assessing the validity of the PDRS scores, the correlations between the reintegration and several related scores were examined. Only data from Group 2 were used for these analyses.

Confirmatory factor analysis

The overall fit for the 6-factor model was acceptable according to Hu and Bentler's criteria (1999), $\chi^2 = 230.29(120)$, $p < .05$, $CFI = .95$; $RMSEA = .06(.05, .07)$; and $SRMR = .06$. The estimated factor correlations ranged, in absolute values, from .02 to .68, with a mean value of .32, $p < .05$, indicating that although some of the factors may overlap in their conceptual meaning (e.g., Family Negative & Personal Negative), on average, they remain relatively distinct. The estimated factor loadings ranged from .63 to .93 (all $p < .05$; see Table 4), with a mean estimated value of .81. The final version of the PDRS can be found in Annex B.

Reliability estimates

Table 4 shows the internal consistency reliability estimates for the items and scales on the revised PDRS. All subscale scores were computed by summing across subscale items. They all yielded internal consistency reliability estimates ranging from .78 to .91, with a mean value of .84, suggesting good internal consistency of the scores.

Descriptive statistics

Table 4 shows descriptive statistics for each of the individual items in the PDRS. The 6 Personal Negative items showed smaller variability in their ratings than did the other items. In a way, this is encouraging, as most participants selected ratings at the lowest end of the rating scale to answer these items and thus tended not to report very strong negative personal reintegration experiences. Table 4 also provides descriptive statistics for each

of the 6 subscales from the PDRS. Generally speaking, respondents endorsed relatively significantly fewer negative family and personal reintegration experiences ($M_s = 10.83$ & 7.86 , respectively), than they did negative work reintegration experiences ($M = 15.36$). Still, the mean scores for the negative subscales fell below or close to the scale score mid-point of 15. The positive subscales were all slightly above the scale mid-point of 15 ($M_s = 16.41$, 18.11 , & 17.05 , for family, personal, and work reintegration respectively).

Table 4: Item- and scale-level descriptive statistics, and reliability statistics for the 36-item version of the PDRS (Group 2, $n = 238$).

Scale/Item		<i>M</i>	<i>SD</i>	<i>CI-TC</i>	<i>Alpha</i>
Family Negative		10.83	5.62	.69	.88
4	Tension in relationships	1.85	1.22	.76	
18	Strain on family life	1.94	1.28	.76	
25	Into sync with family life	1.77	1.18	.76	
31	Family resented absence	1.90	1.21	.60	
15	Difficulty understanding	1.64	1.02	.62	
11	Negative impact life	1.74	1.18	.67	.91
Family Positive		16.41	6.56	.76	
8	Responsive to needs	2.32	1.18	.72	
13	Involved in relationships	2.25	1.16	.76	
23	How important family is	3.23	1.44	.76	
2	Closer to family	2.59	1.35	.76	
28	Willingness to be with family	2.75	1.38	.80	.82
36	Time spent with family	3.27	1.32	.77	
Personal Negative		7.86	2.73	.60	
3	Events of the tour	1.55	0.91	.65	
9	Devastation	1.21	0.51	.51	
21	Being in Canada again	1.25	0.57	.62	
16	Confused about experience	1.24	0.56	.57	.83
26	Culture shock	1.37	0.63	.54	
35	Focusing on other things	1.26	0.60	.68	
Personal Positive		18.11	5.52	.60	
6	Problems in the world	3.14	1.16	.45	
14	Understanding cultures	2.76	1.11	.46	
19	How well off in Canada	3.46	1.29	.65	.82
24	Value of life	2.64	1.28	.68	
29	Appreciation conveniences	2.97	1.29	.63	
33	Appreciate rights, freedoms	3.15	1.36	.72	
Work Negative		15.36	5.94	.60	
5	Military bureaucracy	3.15	1.27	.62	.78
12	Work duties less meaningful	2.12	1.34	.69	
22	Garrison life boring	2.90	1.41	.58	
17	Day-to-day tasks tedious	2.44	1.25	.61	
30	Accomplishment at work	2.09	1.26	.66	
32	Leaving the military	2.67	1.59	.43	
Work Positive		17.05	5.02	.53	
7	Job-related skills	2.29	1.16	.40	
1	Glad went on tour	3.83	1.27	.52	
10	Deal with stress	2.24	1.12	.41	
20	Better soldier	2.59	1.20	.72	
27	Proud of having served	3.63	1.26	.65	
34	Developed friendships	2.47	1.23	.50	

Note: CI-TC = Corrected Item-Total Correlations; Alpha = Cronbach's alpha reliability estimate.

Mean subscale scores showed that the positive aspects of family, $t(237) = 11.07$, and personal reintegration, $t(237) = 29.68$, were significantly higher than their negative counterparts ($M = 16.41$, $SD = 6.56$ vs. $M = 10.83$, $SD = 5.62$; and $M = 18.11$, $SD = 5.52$ vs. $M = 7.86$, $SD = 2.73$, respectively). In contrast to previous results (Blais et al., 2004), the positive aspects of work reintegration were significantly greater, $t(237) = 3.14$, than the negative aspects ($M = 17.05$, $SD = 5.02$ vs. $M = 15.36$, $SD = 5.94$).

Table 5: Descriptive and reliability statistics, and correlations among the PDRS scores, and correlations between the PDRS and other scores (Group 2, $n = 238$).

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reintegration																		
1. Family Negative	10.83	5.62	.88															
2. Family Positive	16.41	6.56	.19	.91														
3. Personal Negative	7.86	2.73	.56	.27	.82													
4. Personal Positive	18.11	5.52	.15	.51	.32	.83												
5. Work Negative	15.36	5.94	.27	.11	.30	.14	.82											
6. Work Positive	17.05	5.02	.05	.38	.18	.54	-.15	.78										
Commitment																		
7. Continuance	12.10	3.66	.22	.09	.05	.12	.11	.06	.68									
8. Affective	13.19	3.28	-.07	.08	-.06	.13	-.46	.44	.27	.73								
Coping																		
9. Avoidant	7.57	2.10	.28	.07	.36	.06	.37	-.06	.09	-.22	.75							
10. Problem-Focused	16.37	3.89	.00	.19	.03	.12	-.08	.24	.05	.24	-.07	.85						
11. Distress	30.32	8.14	.54	.14	.49	.09	.36	-.05	.07	-.25	.37	-.03	.91					
Stress in Military Service																		
12. Combat	5.92	2.71	.17	.20	.38	.25	.09	.16	.04	-.03	.15	.05	.30	.91				
13. External Conditions	7.24	3.32	.27	.13	.31	.07	.24	-.03	.15	-.21	.25	-.07	.39	.57	.81			
14. Family	8.15	3.98	.75	.20	.41	.09	.18	-.10	.18	-.08	.13	-.09	.44	.22	.44	.85		
15. Service/Career	10.99	4.15	.29	.09	.20	.06	.47	-.07	.21	-.22	.19	-.02	.33	.23	.50	.41	.82	
16. Work	9.88	4.08	.20	.07	.17	.08	.65	-.18	.17	-.27	.30	-.07	.29	.14	.44	.32	.66	.81

Note: Correlations in bold are significant at $p < .05$ (two-tailed; corrected for multiple tests).

Correlational analyses

Correlational analyses showed that the negative reintegration scores (of family, personal and work reintegration) were positively correlated with each other ($r_s = .56$, $.27$, & $.30$, respectively; all $p < .05$). For example, higher scores on the negative work dimension were significantly associated with higher scores on the family and personal dimensions. Similarly, the positive

reintegration scores were all positively correlated ($r_s = .51, .38, \& .54$, respectively; all $p < .05$). With regard to the correlations between the positive and negative scores on each dimension, they failed to reach statistical significance, except in the personal domain ($r = .32$), although, even in this case, the association indicated only a 10% overlap in variance. Therefore, in general, the positive and negative aspects associated with each reintegration dimension continue to be perceived as distinct for returning personnel.

Concerning the remaining HDO measures, correlational results in Table 5 also revealed that continuance and affective commitment scores were significantly related to each other ($r = .27$), but avoidant and problem-focused coping scores were not ($r = -.07$). Higher levels of self-reported stress in one domain of military service tended to be significantly related to higher levels of stress in other domains (r_s ranging from .22 to .66). The only exception to this pattern was combat-related stress, which was unrelated to reports of work stress ($r = .14$).

Initial validity analyses

The initial validity of the PDRS scores with respect to various related scores was examined via correlational analyses. These scores were organizational commitment (continuance & affective), avoidant and problem-focused coping styles, psychological distress, and stress in military service. The pattern of correlations between the reintegration subscales scores and these scores are also presented in Table 5.

The two organizational commitment scores were expected to be most highly correlated with work reintegration scores. This expectation was borne out in that greater levels of affective commitment to the military were correlated with significantly higher positive work reintegration experiences ($r = .44$) and lower levels of negative work reintegration experiences ($r = -.46$). Interestingly, neither positive nor negative work reintegration experiences were significantly related to soldiers' perceptions of the negative consequences of leaving the CF (i.e., continuance commitment), although negative family reintegration experiences were ($r = .22$).

Higher levels of experiences across the three negative reintegration domains were associated with significantly higher endorsement of avoidant coping styles ($r_s = .28, .36, \& .37$, for family, personal and work reintegration, respectively), while higher levels of positive reintegration experiences in each domain tended to be associated with higher levels of problem-focused coping strategies, although this relationship only reached statistical significance in the work domain ($r = .24$).

Another hypothesis predicted that higher levels of distress should be significantly related to greater negative reintegration experiences. As Table 5 also shows, this hypothesis was supported in each of the negative reintegration domains ($r_s = .54, .49, \& .36$, respectively). Interestingly,

positive reintegration experiences were essentially unrelated to this adverse outcome.

Finally, particular aspects of reintegration experiences were anticipated to be more or less associated with stress levels reported in different aspects of military life. Supporting this assumption, greater levels of family stress were significantly related to negative family reintegration experiences ($r = .75$). Also as anticipated, negative work reintegration experiences were associated with significantly higher levels of reported work ($r = .65$) and broader career/service stressors ($r = .47$).² Negative personal reintegration experiences were, interestingly, significantly related to higher levels of reported combat, external, and family stress ($r_s = .38, .31$, and $.41$, respectively). Positive personal reintegration experiences showed no significant correlations with levels of stress, except combat levels ($r = .25$).

² Although the PDRS was designed to be conceptually distinct from the SMSQ, some items, especially in the family domain, may be tapping into similar experiences, explaining the moderate-to-high correlations between the PDRS and SMSQ scales.

Discussion

This research describes the second phase of the development of a multidimensional measure of the post-deployment reintegration experiences most relevant to CF personnel. These analyses represent a continuation in the scale development process described in Blais et al. (2004). The objectives of this iteration were to improve the clarity of individual items through the rewording of prior items and the creation of new items that may better reflect the dimensions of post-deployment reintegration under consideration, lessen the overlap between the personal and cultural reintegration dimensions, and to reduce the overall length of the measure. Moreover, support was sought with respect to the dimensionality of the reintegration experiences of CF personnel, in terms of the number and specific dimensions associated with their experiences and also in terms of the distinctiveness of the positive and negative aspects of these experiences. Finally, the present study included related self-report measures in order to begin investigating the validity of the reintegration scores with respect to these related scores.

Exploratory factor analyses revealed, and confirmatory factor analyses supported, a 6-factor model of salient post-deployment reintegration experiences. The previous conceptualization was corroborated in terms of the positive and negative aspects of family and work reintegration; however, soldiers tended not to differentiate between the personal (e.g., feeling like themselves again) and cultural (e.g., readjustments back to the luxuries available in Canada) reintegration dimensions. The results of the exploratory factor analyses also suggested that a smaller number of items might best represent each dimension. Using this information, 6 items per dimension were chosen. This model was subsequently supported by a confirmatory factor analysis. Thus, this study allowed for the refinement of the conceptualization and operationalization of the measure by reducing the number of scales from 8 to 6, as well as the number of items from 81 to 36 items, with 6 items per subscale.

The results of the present study also supported the validity of the reintegration scores with respect to various related scores: as anticipated, higher levels of affective commitment to the Army were positively (negatively) correlated with positive (negative) work reintegration experiences. Neither positive nor negative work reintegration experiences were associated with levels of continuance commitment, except in the negative family domain.

Also expected was the finding that negative personal, family, and work reintegration experiences were related to avoidant coping styles, which tend to be less effective and can even be damaging. Positive reintegration experiences in these three domains were only weakly positively correlated with problem-focused coping strategies. These correlations were not as high as expected, perhaps because positive experiences typically do not require □to the same extent as negative experiences do □the use of coping strategies.

Further, as hypothesized, negative reintegration experiences were significantly associated with higher levels of psychological distress in these soldiers. Positive reintegration experiences were essentially unrelated to symptom reporting.

The relationship between positive and negative personal, family, and work reintegration experiences and soldiers' reports of stress associated with different aspects of their military service was also explored. Negative family reintegration experiences were correlated with

higher levels of family stress, while positive family reintegration experiences were essentially uncorrelated with lower levels of family stress. Stressors that were related to work issues were strongly correlated with negative work reintegration experiences but were unrelated to positive work reintegration experiences.

The data also revealed that negative personal reintegration experiences were most strongly and negatively correlated with higher stress levels concerning family, external conditions and combat-related experiences. Interestingly, positive personal reintegration experiences were positively related only to combat-related stress and were unrelated to any of the other stresses in military service subscales. The fact that personal reintegration experiences cut across stress domains is perhaps not surprising, as it would be difficult to resolve issues in other life domains if one were not able to "feel like oneself again" first.

It is important to note that, while these analyses begin to provide evidence concerning the validity of the reintegration scores with respect to various related scores, they do not speak to the direction of these relationships. That is, they do not answer the question of whether negative or positive reintegration experiences predict or lead to higher or lower levels of job-related stress, psychological symptoms, coping styles, or whether stress in military service, coping styles, and psychological symptoms lead to positive or negative reintegration experiences. Future research will need to address these issues of causality more closely, which can be done, for example, by following people over time using a longitudinal methodology. Future research should also increase the range of outcome measures assessed. For example, it would be important to determine the relation between positive and negative reintegration experiences in these domains and variables such as retention, intentions to leave the military, job satisfaction, as well as sick leave and absenteeism.

Moreover, it is important to expand the groups of soldiers who complete the survey. For instance, some soldiers who serve in high-stress occupations (such as medical) were not included in the present survey. This is because such soldiers are often augmentees (i.e., individuals or small groups who are drawn from reserve or regular force units around the country and are used to supplement or support the main battle group). As force projections estimate that up to 30% of future deployment will be comprised of augmentees, the effect of deployments and post-deployment reintegration on augmentees will likely be an increasingly significant military health and human resource issue.

Nonetheless, from an operational effectiveness point of view, the present findings are quite encouraging. These soldiers reported high levels of positive reintegration experiences in each domain, and the positive experiences associated with reintegration were greater than the negative experiences, and this was true for personal, family and work reintegration. Moreover, these results inform the general conceptualizations concerning the nature of post-deployment reintegration. More specifically, in contrast to much of the previous reintegration literature, the current results suggest that these reintegration experiences can be characterized as largely positive, at least for these CF personnel returning from an established, relatively stable peace support operation. Data such as these, collected over multiple deployments can eventually be used in a normative fashion, to determine with greater precision when reintegration scores deviate from established averages, and thereby suggesting the necessity for increased post-deployment programs and services, and vigilance regarding subsequent problems of health, well-being and operational effectiveness.

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Annex A

Post-Deployment Reintegration Scale (81-item version)

For the next set of questions, please indicate the extent to which each of the statements below is true for you since returning from your overseas deployment. There are no right or wrong answers to these questions. People may have differing views, and we are interested in what your experiences are. **Please indicate the extent to which each of the statements below is true for you since returning from your overseas deployment:**

SINCE RETURNING FROM MY OVERSEAS DEPLOYMENT:

	Not at all True	Slightly	Somewhat	Very	Completely True
1. I find military bureaucracy more frustrating.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
2. I am more aware of problems in the world.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
3. Putting the events of the tour behind me has been tough.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4. I still feel like I am ☐ on the edge. ☐	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
5. My work motivation has increased.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
6. I have felt ☐ out of sorts. ☐	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7. There has been tension in my family relationships.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
8. I have a better understanding of other cultures.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
9. I have had difficulty reconciling the devastation I saw overseas with life in Canada.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
10. I have had trouble dealing with changes within my family.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
11. I am applying job-related skills I learned during my deployment.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
12. I am glad I went on the tour.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
13. I am more interested in what is happening in other countries.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
14. Dealing with memories of death and injuries has been hard.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
15. I have experienced difficulties readjusting to life in Canada.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
16. I feel my current work duties are less meaningful.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
17. My sense of religion or spirituality has deepened.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
18. I feel my career has advanced.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
19. I feel my family is proud of me.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

20. I am mentally tougher than I thought I was.	O 1	O 2	O 3	O 4	O 5
21. I have felt like a stranger within my family.	O 1	O 2	O 3	O 4	O 5
22. It has been hard to get used to being in Canada again.	O 1	O 2	O 3	O 4	O 5
23. I have become more responsive to my family's needs.	O 1	O 2	O 3	O 4	O 5
24. I have a greater appreciation of life in Canada.	O 1	O 2	O 3	O 4	O 5
25. I find the world to be a more horrible place than I thought it was.	O 1	O 2	O 3	O 4	O 5
26. It has taken time to feel like myself again.	O 1	O 2	O 3	O 4	O 5
27. I have realized how well off we are in Canada.	O 1	O 2	O 3	O 4	O 5
28. I have been confused about my experiences during the tour.	O 1	O 2	O 3	O 4	O 5
29. I feel my community appreciates my efforts overseas.	O 1	O 2	O 3	O 4	O 5
30. I am more cynical about humanity.	O 1	O 2	O 3	O 4	O 5
31. Being back in Canada has been a bit of a culture shock.	O 1	O 2	O 3	O 4	O 5
32. I have a greater appreciation of the value of life.	O 1	O 2	O 3	O 4	O 5
33. Focusing on things other than the tour has been difficult.	O 1	O 2	O 3	O 4	O 5
34. I have become more involved in my family relationships.	O 1	O 2	O 3	O 4	O 5
35. The tour has put a strain on my family life.	O 1	O 2	O 3	O 4	O 5
36. Garrison life has been boring.	O 1	O 2	O 3	O 4	O 5
37. I have had to get to know my family all over again.	O 1	O 2	O 3	O 4	O 5
38. My enthusiasm for my job has grown.	O 1	O 2	O 3	O 4	O 5
39. I am better able to deal with stress.	O 1	O 2	O 3	O 4	O 5
40. Day-to-day work tasks seem tedious.	O 1	O 2	O 3	O 4	O 5
41. I would have liked more leave to feel like myself again.	O 1	O 2	O 3	O 4	O 5
42. I feel a stronger sense of teamwork within my unit.	O 1	O 2	O 3	O 4	O 5
43. Getting myself back into the family routine has been difficult.	O 1	O 2	O 3	O 4	O 5
44. I feel a lower sense of accomplishment at work.	O 1	O 2	O 3	O 4	O 5
45. I have realized how important my family is to me.	O 1	O 2	O 3	O 4	O 5
46. On a personal level, I have learned some positive things about myself.	O 1	O 2	O 3	O 4	O 5
47. I have questioned my faith in humanity.	O 1	O 2	O 3	O 4	O 5
48. I feel more self-reliant.	O 1	O 2	O 3	O 4	O 5
49. I feel closer to my family.	O 1	O 2	O 3	O 4	O 5

50. I find that my family would like me to spend more time with them.	O 1	O 2	O 3	O 4	O 5
51. Getting back into sync with family life has been hard.	O 1	O 2	O 3	O 4	O 5
52. I want to spend time with my buddies from the tour.	O 1	O 2	O 3	O 4	O 5
53. I have been less productive at work.	O 1	O 2	O 3	O 4	O 5
54. I have a greater willingness to be with my family.	O 1	O 2	O 3	O 4	O 5
55. I feel my community has welcomed me.	O 1	O 2	O 3	O 4	O 5
56. I find people here in Canada to be concerned about trivial things.	O 1	O 2	O 3	O 4	O 5
57. People have made me feel proud to have served my country.	O 1	O 2	O 3	O 4	O 5
58. I more fully appreciate the time I spend with my family.	O 1	O 2	O 3	O 4	O 5
59. Readjusting to garrison routine has been tough.	O 1	O 2	O 3	O 4	O 5
60. I feel my family resented my absence.	O 1	O 2	O 3	O 4	O 5
61. I have a greater appreciation of the conveniences taken for granted in Canada.	O 1	O 2	O 3	O 4	O 5
62. The people I work with respect the fact that I was on tour.	O 1	O 2	O 3	O 4	O 5
63. I feel my family has had difficulty understanding me.	O 1	O 2	O 3	O 4	O 5
64. Getting back to my old self has been hard.	O 1	O 2	O 3	O 4	O 5
65. I wish I could spend time away from the people with whom I deployed.	O 1	O 2	O 3	O 4	O 5
66. I feel I am a better soldier.	O 1	O 2	O 3	O 4	O 5
67. I have changed my priorities in my life.	O 1	O 2	O 3	O 4	O 5
68. I have a greater appreciation of each day.	O 1	O 2	O 3	O 4	O 5
69. I am proud of having served overseas.	O 1	O 2	O 3	O 4	O 5
70. I more fully appreciate the rights and freedoms taken for granted in Canada.	O 1	O 2	O 3	O 4	O 5
71. I have developed stronger friendships.	O 1	O 2	O 3	O 4	O 5
72. I feel my family has welcomed me.	O 1	O 2	O 3	O 4	O 5
73. I have considered leaving the military.	O 1	O 2	O 3	O 4	O 5
74. I have a more positive perspective on what is important in life.	O 1	O 2	O 3	O 4	O 5
75. I enjoy being back in garrison.	O 1	O 2	O 3	O 4	O 5
76. I feel the tour has had a negative impact on my personal life.	O 1	O 2	O 3	O 4	O 5
If you do not have a spouse/partner please skip the next two questions.					
77. There has been conflict in my marriage or significant relationship.	O 1	O 2	O 3	O 4	O 5

78. My spouse/partner has been reluctant to give up household decisions.	O 1	O 2	O 3	O 4	O 5
If you do not have children please skip the next three questions.					
79. I find my kid(s) have matured more than I expected.	O 1	O 2	O 3	O 4	O 5
80. Relating to my kid(s) has been hard.	O 1	O 2	O 3	O 4	O 5
81. I feel my kid(s) resented my absence.	O 1	O 2	O 3	O 4	O 5

STRESS IN MILITARY SERVICE QUESTIONNAIRE

*Below is a list of issues, situations and threats that have caused stress for personnel serving in the military. Please indicate to what extent these stressors have caused you trouble or concern **during the previous month.***

1	2	3	4	5
No trouble or concern	A little trouble or concern	Some trouble or concern	Much trouble or concern	Very much trouble or concern

	1	2	3	4	5
1. Conditions of service (e.g., pay, allowances).	☐	☐	☐	☐	☐
2. Administrative support.	☐	☐	☐	☐	☐
3. Career issues (e.g., promotion, postings).	☐	☐	☐	☐	☐
4. Training issues (e.g., repetition).	☐	☐	☐	☐	☐
5. Boredom while at work.	☐	☐	☐	☐	☐
6. Degree of control over your work tasks.	☐	☐	☐	☐	☐
7. Uncertainty about what your work role is or will be (e.g., mission, ROEs).	☐	☐	☐	☐	☐
8. Boredom while off-duty.	☐	☐	☐	☐	☐
9. The quality of your personal clothing and equipment.	☐	☐	☐	☐	☐
10. CF policies that impact on your work.	☐	☐	☐	☐	☐
11. Time spent away from your family due to service.	☐	☐	☐	☐	☐
12. Problems with or in your family.	☐	☐	☐	☐	☐
13. Communication with your family.	☐	☐	☐	☐	☐
14. Concern about the impact of deployment on your relationship with your family.	☐	☐	☐	☐	☐
15. Level of support shown by those outside the CF (e.g., government, media).	☐	☐	☐	☐	☐
16. Lack of privacy.	☐	☐	☐	☐	☐
17. Mental or physical fatigue.	☐	☐	☐	☐	☐
18. Harsh environmental conditions (e.g., heat, dust).	☐	☐	☐	☐	☐
19. Threat of serious injury.	☐	☐	☐	☐	☐
20. Double standards (e.g., in supply, applying rules, receiving privileges).	☐	☐	☐	☐	☐

21. Standard of living conditions in the field/on deployment (e.g., food, sleeping quarters).	O	O	O	O	O
22. Lack of recreation opportunities.	O	O	O	O	O
23. Seeing widespread suffering (e.g., starvation, forced migration).	O	O	O	O	O
24. Seeing instances of inhumanity (e.g., mass graves, neglected children, signs of torture).	O	O	O	O	O
25. The impact of a different culture (e.g., attitudes toward women, death, time).	O	O	O	O	O
26. Experience with death (e.g., seeing someone die, handling corpses).	O	O	O	O	O
27. Risk of contracting a serious disease.	O	O	O	O	O

ORGANIZATIONAL COMMITMENT SCALE

Please indicate your level of agreement with the following statements using the scale provided below.

1	2	3	4	5
Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree

		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
1	I feel like ☐ Part of the Family ☐ in the Army.	O	O	O	O	O
2	The Army has a great deal of personal meaning to me.	O	O	O	O	O
3	I feel a strong sense of belonging to the Army.	O	O	O	O	O
4	I feel ☐ emotionally attached ☐ to the Army.	O	O	O	O	O
5	It would be too costly for me to leave the Army in the near future.	O	O	O	O	O
6	I am afraid of what might happen if I quit the Army without having another job lined up.	O	O	O	O	O
7	Too much of my life would be interrupted if I decided to leave the Army now.	O	O	O	O	O
8	One of the problems of leaving the Army would be the lack of available alternatives.	O	O	O	O	O
9	I do not feel any obligation to remain with the Army.	O	O	O	O	O
10	Even if it were to my advantage, I do not feel it would be right to leave the Army now.	O	O	O	O	O
11	I would feel guilty if I left the Army now.	O	O	O	O	O
12	The Army deserves my loyalty.	O	O	O	O	O
13	I would not leave the Army right now because I have a sense of obligation to the people in it.	O	O	O	O	O
14	I owe a great deal to the Army.	O	O	O	O	O

COPE INVENTORY

Please indicate what you generally have done and how you have generally responded when faced with difficult or trying events during the previous month. Use the given scale to indicate how often, if at all, you have used these responses.

1	2	3	4
I usually don't do this at all	I usually do this a little bit.	I usually do this a medium amount.	I usually do this a lot.

	1	2	3	4
1. I take action to try to make the situation better.	☐	☐	☐	☐
2. I try to come up with a strategy about what to do.	☐	☐	☐	☐
3. I use alcohol or other drugs to make myself feel better.	☐	☐	☐	☐
4. I get emotional support from others.	☐	☐	☐	☐
5. I learn to live with it.	☐	☐	☐	☐
6. I look for something good in what is happening.	☐	☐	☐	☐
7. I refuse to believe that it has happened.	☐	☐	☐	☐
8. I criticize myself.	☐	☐	☐	☐
9. I turn to work or other activities to take my mind off things.	☐	☐	☐	☐
10. I concentrate my efforts on doing something about my concerns.	☐	☐	☐	☐
11. I try to get help and advice from other people about what to do.	☐	☐	☐	☐
12. I make fun of the situation.	☐	☐	☐	☐
13. I try to watch a video, listen to music or read, to think less about things.	☐	☐	☐	☐
14. I think hard about what steps to take.	☐	☐	☐	☐
15. I express my negative feelings.	☐	☐	☐	☐
16. I seek comfort and understanding from someone.	☐	☐	☐	☐
17. I use alcohol or other drugs to help me get through it.	☐	☐	☐	☐
18. I accept the reality of the fact that these things have happened.	☐	☐	☐	☐
19. I try to see things in a different light, to make things seem more positive.	☐	☐	☐	☐
20. I say things to let my unpleasant feelings escape..	☐	☐	☐	☐
21. I try to find comfort in my religion or spiritual beliefs.	☐	☐	☐	☐
22. I give up the attempt to cope.	☐	☐	☐	☐
23. I get help and advice from other people.	☐	☐	☐	☐
24. I make jokes about it.	☐	☐	☐	☐
25. I say to myself "This isn't real."	☐	☐	☐	☐
26. I pray or meditate.	☐	☐	☐	☐
27. I give up trying to deal with it.	☐	☐	☐	☐
28. I blame myself for things that happened.	☐	☐	☐	☐

SYMPTOMS CHECKLIST

The next series of questions ask about your general health and well-being and how you would describe yourself.

*Here is a list of troubles or complaints people sometimes have. Using the given scale, please indicate how often you have experienced each of these **over the previous month**.*

		1	2	3	4
		Never	Sometimes	Often	Very often
1	Common cold or flu.	☐	☐	☐	☐
2	Dizziness or faintness.	☐	☐	☐	☐
3	General aches or pains.	☐	☐	☐	☐
4	Sweating hands (e.g. hands feeling wet and clammy).	☐	☐	☐	☐
5	Headaches.	☐	☐	☐	☐
6	Muscle twitching or trembling.	☐	☐	☐	☐
7	Nervousness or tenseness.	☐	☐	☐	☐
8	Rapid heartbeat (while not exercising or working hard).	☐	☐	☐	☐
9	Shortness of breath (while not exercising or working hard).	☐	☐	☐	☐
10	Skin rashes or itching.	☐	☐	☐	☐
11	Upset stomach.	☐	☐	☐	☐
12	Trouble sleeping.	☐	☐	☐	☐
13	Feeling down or blue or depressed.	☐	☐	☐	☐
14	Difficulty concentrating.	☐	☐	☐	☐
15	Crying.	☐	☐	☐	☐
16	Lack of appetite.	☐	☐	☐	☐
17	Loss of weight.	☐	☐	☐	☐
18	Taking medication to sleep or calm down.	☐	☐	☐	☐
19	Overly tired / lack of energy.	☐	☐	☐	☐
20	Loss of interest in things, such as TV, news, and friends.	☐	☐	☐	☐
21	Feeling life is pointless	☐	☐	☐	☐

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Annex B

POST-DEPLOYMENT REINTEGRATION SCALE (36-ITEM VERSION)

There are no right or wrong answers to the following questions. People may have differing views, and we are interested in what *your* experiences are. **Please indicate the extent to which each of the statements below is true for you since returning from OP ATHENA:**

SINCE RETURNING FROM OP ATHENA:	Not at All True	Slightly True	Somewhat True	Very True	Completely True
1. I am glad I went on the tour.	☐	☐	☐	☐	☐
2. I feel closer to my family.	☐	☐	☐	☐	☐
3. Putting the events of the tour behind me has been tough.	☐	☐	☐	☐	☐
4. There has been tension in my family relationships.	☐	☐	☐	☐	☐
5. I find military bureaucracy more frustrating.	☐	☐	☐	☐	☐
6. I am more aware of problems in the world.	☐	☐	☐	☐	☐
7. I am applying job-related skills I learned during my deployment.	☐	☐	☐	☐	☐
8. I have become more responsive to my family's needs.	☐	☐	☐	☐	☐
9. I have had difficulty reconciling the devastation I saw overseas with life in Canada.	☐	☐	☐	☐	☐
10. I am better able to deal with stress.	☐	☐	☐	☐	☐
11. I feel the tour has had a negative impact on my personal life.	☐	☐	☐	☐	☐
12. I feel my current work duties are less meaningful.	☐	☐	☐	☐	☐
13. I have become more involved in my family relationships.	☐	☐	☐	☐	☐
14. I have a better understanding of other cultures.	☐	☐	☐	☐	☐
15. I feel my family has had difficulty understanding me.	☐	☐	☐	☐	☐
16. I have been confused about my experiences during the tour.	☐	☐	☐	☐	☐
17. Day to Day work tasks seem tedious.	☐	☐	☐	☐	☐
18. The tour has put a strain on my family life.	☐	☐	☐	☐	☐
19. I have realized how well off we are in Canada.	☐	☐	☐	☐	☐
20. I feel I am a better soldier.	☐	☐	☐	☐	☐

21. It has been hard to get used to being in Canada again.	O	O	O	O	O
22. Garrison life has been boring.	O	O	O	O	O
23. I have realized how important my family is to me.	O	O	O	O	O
24. I have a greater appreciation of the value of life.	O	O	O	O	O
25. Getting back "into sync" with family life has been hard.	O	O	O	O	O
26. Being back in Canada has been a bit of a culture shock.	O	O	O	O	O
27. I am proud of having served overseas.	O	O	O	O	O
28. I have a greater willingness to be with my family.	O	O	O	O	O
29. I have a greater appreciation of the conveniences taken for granted in Canada.	O	O	O	O	O
30. I feel a lower sense of accomplishment at work.	O	O	O	O	O
31. I feel my family resented my absence.	O	O	O	O	O
32. I have considered leaving the military.	O	O	O	O	O
33. I more fully appreciate the rights and freedoms taken for granted in Canada.	O	O	O	O	O
34. I have developed stronger friendships.	O	O	O	O	O
35. Focusing on things other than the tour has been difficult.	O	O	O	O	O
36. I more fully appreciate the time I spend with my family.	O	O	O	O	O

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(U) An abrupt return home from a six-month overseas deployment to "normal" roles and activities can be a significant stressor for military personnel. Our initial scale development study revealed that the post-deployment reintegration experiences of Canadian Forces personnel were best characterized as distinct positive and negative aspects of four theoretical dimensions: personal, family, occupational, and cultural reintegration. In the present study, 474 Canadian Forces personnel coming back from an established peace support operation completed a revised version of our reintegration measure. We present further support for its multidimensionality, and psychometric quality. Moreover, the current research also provides preliminary evidence of validity as the measure is correlated in predicted ways with organizational commitment, coping strategies, symptomatology, and military-related stressors.

14. **KEYWORDS, DESCRIPTORS or IDENTIFIERS** (Technically meaningful terms or short phrases that characterize a document and could be helpful in cataloguing the document. They should be selected so that no security classification is required. Identifiers, such as equipment model designation, trade name, military project code name, geographic location may also be included. If possible keywords should be selected from a published thesaurus, e.g. Thesaurus of Engineering and Scientific Terms (TEST) and that thesaurus identified. If it is not possible to select indexing terms which are Unclassified, the classification of each should be indicated as with the title.)

(U) post-deployment; reintegration; Canadian Forces; measure; validation

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