

# Journal of Occupational Health Psychology

## **An Assessment of the Overlap Between Morale and Work Engagement in a Nonoperational Military Sample**

Gary W. Ivey, J-R. Sébastien Blanc, and Janet Mantler

Online First Publication, December 22, 2014. <http://dx.doi.org/10.1037/a0038559>

### CITATION

Ivey, G. W., Blanc, J-R. S., & Mantler, J. (2014, December 22). An Assessment of the Overlap Between Morale and Work Engagement in a Nonoperational Military Sample. *Journal of Occupational Health Psychology*. Advance online publication.

<http://dx.doi.org/10.1037/a0038559>

# An Assessment of the Overlap Between Morale and Work Engagement in a Nonoperational Military Sample

Gary W. Ivey  
Carleton University

J-R. Sébastien Blanc  
Canadian Armed Forces, Ottawa, Ontario, Canada

Janet Mantler  
Carleton University

The degree of overlap between two positive motivational constructs—morale and work engagement—was assessed in a random sample of Canadian Armed Forces personnel stationed across Canada ( $N = 1,224$ ). Based on self-determination theory and past research, job-specific self-efficacy, trust in teammates, and job significance were expected to be associated with morale and work engagement. Structural equation modeling analyses revealed that morale and work engagement were highly positively correlated, but had different patterns of association with predictor and outcome variables. Although trust in teammates and job significance predicted both morale and work engagement, job-specific self-efficacy predicted morale but not work engagement. Willingness to deploy on operations, turnover intentions, and psychological distress were predicted by both morale and work engagement, but morale was a better predictor of psychological distress and work engagement was a stronger predictor of turnover intentions. Together, the results suggest that, despite their overlap, morale and work engagement, as defined and measured herein, are not interchangeable.

*Keywords:* military, morale, positive psychology, self-determination theory, work engagement

The positive psychology movement was stimulated more than a decade ago by Seligman and Csikszentmihalyi (2000) who appealed to social and behavioral scientists to move beyond pathology and damage repair to studying positive human traits and social conditions that enable individuals and communities to flourish. This call for a shift in focus was inspired by the realization that the amount of research on negative states grossly exceeded that on positive states by a ratio of 14:1 (Myers, 2000). It was also based on the opinion that adaptive and maladaptive constructs are not simply two opposites of the same spectrum and, therefore, the processes that drive positive outcomes are likely different than those that lead to dysfunctional outcomes (Hart & Cooper, 2001). Two work-related constructs that were redefined under the positive psychology framework are morale (Britt & Dickinson, 2006; Peterson, Park, & Sweeney, 2008) and work engagement (Bakker, Schaufeli,

Leiter, & Taris, 2008; Schaufeli, Salanova, González-Romá, & Bakker, 2002).

Morale is an old and familiar construct that has been plagued by inconsistent application, inconclusive research, and a lack of consensus on what morale is and what it is not (Britt & Dickinson, 2006; Gal, 1986; Manning, 1991; Peterson et al., 2008). Britt and Dickinson (2006) recently adopted a positive psychology approach to understanding morale during military operations upon recognizing that the amount of research devoted to determining what causes large numbers of military personnel to have high morale was less than that devoted to establishing what causes a minority of personnel to develop posttraumatic stress disorder (PTSD). Drawing on positive psychology theory, and building on past morale research, Britt and Dickinson (2006) concluded that morale is “a service member’s level of motivation and enthusiasm for accomplishing mission objectives” (p. 162). This conceptualization was later extended to nonoperational work settings by Britt, Adler, Bliese, and Moore (2013), who highlighted the consistencies between Britt and Dickinson’s (2006) morale construct, vigor (Shirom, 2010), and civilian morale (Hart, 1994). The result is a broader view of morale as “a positive construct that combines feelings of energy with feelings of enthusiasm for accomplishing salient tasks” (Britt et al., 2013, p. 95). Thus, for Britt and colleagues (2006, 2013), morale is a positive motivational variable capable of energizing individuals’ efforts in a way that leads to better adjustment and performance under stressful conditions. They hypothesized that a sense of purpose combined with an optimistic and confident orientation toward a goal or activity would instill high morale, which would lead to positive outcomes,

---

Gary W. Ivey, Department of Psychology, Carleton University; J-R. Sébastien Blanc, Director General Military Personnel Research and Analysis, Canadian Armed Forces, Ottawa, Ontario, Canada; Janet Mantler, Department of Psychology, Carleton University.

The opinions expressed in this article are those of the authors and do not necessarily represent the official policy or position of the Canadian Armed Forces or the Department of National Defence. We thank Dr. Jennifer Peach (from Director General Military Personnel Research and Analysis) for facilitating the collection of our data.

Correspondence concerning this article should be addressed to Gary W. Ivey, Department of Psychology, Carleton University, 1125 Colonel By Drive, Ottawa, ON, Canada, K1S 5B6. E-mail: gary.ivey@carleton.ca

such as thriving, resilience, and optimal performance under stressful conditions.

While Britt and Dickinson (2006) were encouraging greater specificity in the definition of morale, work engagement researchers were highlighting the inconsistencies in the work-related engagement literature (Bakker et al., 2008; Macey & Schneider, 2008) and warning against treating engagement as an “all-inclusive umbrella term” (Bakker et al., 2008, p. 189) for the same reasons that apply to morale and other psychological states—it creates confounding effects that puts limits on empirical testing and practical application (Suddaby, 2010). And as Britt and Dickinson (2006) were striving to reduce the gap between the amount of research dedicated to PTSD versus morale, proponents of a positive psychology perspective on work engagement had noticed that the amount of research on job-related burnout in the past three decades largely outweighed the focus on work engagement (Bakker et al., 2008). Consistent with the positive psychology message, Schaufeli et al. (2002) argued that work engagement is not simply the opposite end of a burnout spectrum, but rather, it is a distinct concept that is negatively related to burnout. They defined work engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption” (p. 74).

Notwithstanding the differences between Britt and colleagues’ (Britt & Dickinson, 2006; Britt et al., 2013) definition of morale and Schaufeli et al.’s (2002) definition of work engagement (e.g., the latter incorporates absorption), both constructs have many characteristics in common. Both are considered individual psychological phenomena, and both have been described as affective-motivational constructs (Bakker et al., 2008; Britt et al., 2013). As well, both are hypothetically influenced through one’s work-related confidence, optimism, and sense of purpose (Bakker et al., 2008; Britt et al., 2013). These are facilitated through a combination of job resources, such as leadership, positive work team dynamics, and job characteristics (Bakker et al., 2008; Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Britt & Dickinson, 2006; Britt, Dickinson, Moore, Castro, & Adler, 2007; Mauno, Kinnunen, & Ruokolainen, 2007), and through personal resources, such as dispositional traits, self-efficacy, and identity (Bakker et al., 2008; Britt & Dickinson, 2006). Furthermore, both morale and work engagement are associated with similar outcomes of importance to the workplace, such as psychological well-being, contextual performance, persistence under demanding conditions, and retention (Bakker et al., 2008; Britt & Dickinson, 2006; Britt et al., 2007; Britt et al., 2013). Finally, a comparison of their respective scale items reveals significant item content overlap. Specifically, both the 5- and 6-item versions of Britt and colleagues’ (Britt & Dickinson, 2006; Britt et al., 2013) Morale Scale and the 9-item Utrecht Work Engagement Scale (UWES-9; Schaufeli, Bakker, & Salanova, 2006) measure individuals’ energy, enthusiasm, motivation, and eagerness in the context of their work.

Although researchers have distinguished morale from associated concepts like subjective vitality (Britt & Dickinson, 2006) and depression (Britt et al., 2007), and although researchers have made distinctions between work engagement and associated concepts like burnout, workaholism, and organizational commitment (Bakker et al., 2008; Schaufeli et al., 2002;

Schaufeli, Taris, & van Rhenen, 2008), the degree of similarity between these popular perspectives on morale and work engagement have yet to be evaluated. Accordingly, the purpose of the present study was to investigate the extent to which morale, as defined and measured by Britt and colleagues (2006, 2007, 2013), conceptually overlaps with work engagement, as defined by Schaufeli et al. (2002) and as measured by Schaufeli et al. (2006).

Given the similarities, we expected morale and work engagement to be highly positively correlated (*Hypothesis 1*). To further assess their overlap, or distinctiveness, from one another, we opted to explore their respective patterns of association with other constructs. This approach to establishing construct validity is consistent with best practices (Suddaby, 2010) and comparable research (e.g., Britt et al., 2007). We used self-determination theory (SDT; Deci & Ryan, 2000) as the foundation on which to build a structural equation model of morale, work engagement, their antecedents, and their outcomes. We felt SDT was suitable given its association with positive psychology (Ryan & Deci, 2000) and the positive and motivational orientation of morale and work engagement. According to SDT, goals are pursued and achieved based on the degree to which individuals are able to satisfy (a) their need for competence (to engage challenges and experience mastery), (b) their need for relatedness (to seek attachments and experience feelings of security, belongingness, and intimacy with others), and (c) their need for autonomy (to self-organize, self-regulate, and to work toward inner coherence). With SDT, autonomy also concerns becoming more authentic in life, which is achieved by engaging in activities that are meaningful, thus, satisfying intrinsic needs (Deci & Ryan, 2000). Research in various settings has demonstrated that deprivation of one or more of the needs negatively impacts motivation and well-being (Deci, Connell, & Ryan, 1989; Ryan & Grolnick, 1986; Williams, Grow, Freedman, Ryan, & Deci, 1996).

In keeping with SDT, we hypothesized that high levels of work engagement (as per Schaufeli et al., 2002, 2006) and morale (as per Britt & colleagues, 2006, 2007, 2013) would emerge from a strong sense of job-specific self-efficacy (a proxy for competence; *Hypothesis 2a*), feelings of trust in teammates (a proxy for relatedness; *Hypothesis 2b*), and the belief that the work one is doing is meaningful or significant (a proxy for autonomy; *Hypothesis 2c*). Further, we expected those who are highly engaged, and those who have high morale, to be more willing to accept work-related challenges (i.e., more willing to deploy on a military operation; *Hypothesis 3a*), have lower turnover intentions (*Hypothesis 3b*), and experience less psychological distress (*Hypothesis 3c*). Because of the similarities between morale and work engagement, and in the absence of research to suggest otherwise, we had no grounds to predict differences in the strength of their respective associations with these antecedents and outcomes.

## Method

### Participants and Procedure

Participants were Canadian Armed Forces (CAF) personnel stationed across Canada. Measures of interest were added to the CAF’s Your Say Survey (YSS), an organizational climate survey

that is typically administered twice per year and is designed to capture the attitudes and opinions of CAF members about issues that are of importance to senior military leaders.

An invitation to participate was sent to 4,435 randomly selected CAF members starting November 16, 2012, through the CAF's defense-wide area network. Data were collected electronically until January 15, 2013. To ensure the sample reflected the CAF's composition at the time, members were randomly selected in 20 strata defined by rank and command (e.g., Navy, Air Force, Army, Military Personnel Command). Participation in the survey was voluntary. In total, 1,793 personnel (40%) started to complete the survey. Because of the length of the survey coupled with sometimes slow network speeds, it is not unusual for some YSS participants to quit before completion. Missing values and outliers were dealt with following Graham's (2009) and Byrne's (2009) guidelines, respectively. Although English and French versions of the survey were administered, we removed all French cases ( $n = 208$ ) from our dataset to avoid potential measurement error associated with translation.

The final sample ( $N = 1,224$ ) consisted of Regular Force (100%) noncommissioned members (63%) and officers (37%) stationed at Navy (20%), Air Force (23%), Army (23%), and other (34%) units across Canada. The majority of participants had more than 10 years of military service (83%), were between 25 and 44 years of age (60%), and had some college or university education at a minimum (60%). More than half of the sample (56%) had deployed on a military operation abroad within five years before survey completion, and 22% had deployed twice or more. Although all respondents in the final sample completed English surveys, 14% of participants reported that French was their first official language (compared with 86% English). About 85% of the sample was male and 15% was female. Ethnicity was not measured.

## Measures

**Morale.** Morale was assessed with Britt and Dickinson's (2006) 6-item Military Morale Scale. Participants rated their level of *motivation, morale, energy, drive, enthusiasm, and eagerness* on a 5-point scale (from *very low* to *very high*). Britt et al. (2007, 2013) recommend adapting the referent to match the context. Accordingly, because participants were not deployed on a military operation, they were asked to respond in the context of their "motivation and enthusiasm for accomplishing work objectives" as opposed to "... mission objectives." The Cronbach's alpha coefficient for this scale was .93.

**Work engagement.** Schaufeli et al.'s (2006) UWES-9 was used to measure work engagement. Participants were presented with nine descriptions (e.g., *At my work, I feel bursting with energy, I am enthusiastic about my job*) and were asked to rate how often they feel that way toward their work on a 7-point scale (from *never* to *always*). The items reflect the three dimensions of work engagement (i.e., vigor, dedication, and absorption) defined by Schaufeli et al. (2002). The Cronbach's alpha coefficient for this scale was .88, which is within the range of .85 to .90 reported by Schaufeli et al. (2006).

**Job-specific self-efficacy.** As a proxy for SDT's competence need, participants' confidence in their ability to do their job was measured with 5 items designed to measure job-specific self-efficacy as an antecedent of morale for use in CAF surveys. On a 5-point scale (from *strongly disagree* to *strongly agree*), participants rated their level of agreement with statements about how they feel toward their

job (e.g., *I am prepared for whatever challenge I might face on the job*). The Cronbach's alpha coefficient for this scale was .90.

**Trust in teammates.** SDT's relatedness need is about feeling a sense of security and belonging (Deci & Ryan, 2000), which is analogous to trust in a military team setting (Thompson, Adams, & Niven, in press). Accordingly, trust in teammates was measured with the CAF's 18-item Trust in Teams Scale. Used extensively by the CAF since 2012, the Trust in Teams Scale was designed to reflect three dimensions of trust in a military team setting: benevolence (e.g., *My teammates look out for me*), competence (e.g., *My teammates are highly skilled*), and integrity (e.g., *My teammates honour their word*). On a 7-point scale (from *completely disagree* to *completely agree*), participants rated their level of agreement with statements about the people they "work closely with on a daily basis." The Cronbach's alpha coefficient for this scale was .93.

**Job significance.** The degree to which participants feel as though their work is meaningful was measured with a 4-item Job Significance subscale of a CAF Job Satisfaction Scale (Bernard, 2004). Participants rated their level of agreement on a 5-point scale (from *strongly disagree* to *strongly agree*) with statements about how they feel toward their job (e.g., *I feel my work is important*). A previous psychometric assessment of this scale yielded strong internal consistency ( $\alpha = .81$ ) and support for its one factor structure (Tremblay, 2009). The Cronbach's alpha coefficient for this scale was .93.

**Psychological distress.** Psychological distress was measured with the 10-item Kessler Psychological Distress Scale (K10; Kessler et al., 2002). Past research suggests the K10 is a valid and reliable scale that can be used in a variety of cultures and settings (e.g., Fassaert et al., 2009; Furukawa et al., 2008; Oakley Browne, Wells, Scott, & McGee, 2010). Respondents indicated how often they experienced symptoms of anxiety and depressive disorders in the previous four weeks on a 5-point scale. To be consistent with the other scales in the survey, the rating scale was reverse coded (from 1 = *none of the time* to 5 = *all of the time*). This version was used in prior military research (McCuaig Edge & Ivey, 2012) and was recently validated for military application (Blanc, Zamorski, Ivey, McCuaig Edge, & Hill, 2014). The Cronbach's alpha coefficient for this scale was .86.

**Turnover intentions.** Turnover intentions was measured with 3 items from the YSS Career Intentions Scale that reflect a strong desire to remain with the CAF (e.g., *I intend to stay with the CAF for as long as I can*). Participants rated their level of agreement on a 7-point scale (from *completely disagree* to *completely agree*). The Cronbach's alpha coefficient for this scale was .84.

**Willingness to deploy.** Given the inherent risks and hardships, there might not be a greater challenge for service members than to deploy on military operations. Participants' willingness to deploy on operations was measured with 3 items from the YSS Willingness to Deploy Scale. On a 5-point scale (from *definitely not* to *definitely yes*), participants rated their willingness to deploy on an international operation or mission (e.g., *I would welcome an opportunity to deploy*). The Cronbach's alpha coefficient for this scale was .91.

## Results

### Descriptive Statistics and Correlations

Descriptive statistics and correlations among measured variables are presented in Table 1. Mean scores were computed by averaging responses to the items representing each variable. For

Table 1  
Descriptive Statistics and Correlations Among Measured Variables

Variable	Mean	SD	Range	1	2	3	4	5	6	7	8
1. Job Significance	3.88	.92	1–5	(.93)							
2. Trust in Teammates	5.28	1.04	1–7	.37*	(.93)						
3. Self-Efficacy	4.26	.65	1–5	.39*	.20*	(.90)					
4. Morale	3.53	.85	1–5	.50*	.31*	.36*	(.93)				
5. Work Engagement	4.56	1.03	1–7	.71*	.40*	.37*	.72*	(.88)			
6. Psychological Distress	1.69	.69	1–5	-.28*	-.28*	-.25*	-.46*	-.38*	(.86)		
7. Willingness to Deploy	4.16	1.05	1–5	.18*	.13*	.20*	.24*	.26*	-.15*	(.91)	
8. Turnover Intentions	4.24	1.66	1–7	-.32*	-.21*	-.15*	-.40*	-.44*	.25*	-.25*	(.84)

Note. Cronbach's alpha coefficients are in parentheses.

\*  $p < .001$ , two-tailed.

each of the three multidimensional variables that could be represented by item parcels, the means were computed by averaging the scores for each parcel.<sup>1</sup> Mean scores for all variables fell above the scale midpoint with the exception of psychological distress, which was below the scale midpoint. All correlation coefficients between measured variables were of the expected size and direction. The largest correlation coefficient was between morale and work engagement,  $r = .72$ ,  $p < .001$ , suggesting, as expected, a very strong positive association between those variables.

### Evaluation of the Measurement Model

We evaluated the measurement model underlying the structural equation model in SPSS Amos 18 using 2,000 bootstrap samples and the maximum likelihood discrepancy function. We statistically controlled for the possible inflation (or deflation) effect of common method variance by loading all latent construct indicators onto an unmeasured method factor (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff, MacKenzie, & Podsakoff, 2012). This approach to evaluating the effects of common method variance is well suited for situations in which (a) the predictor and criterion variables cannot be obtained from different sources, (b) the predictor and criterion variables cannot be measured in different contexts, and (c) the source of method bias cannot be identified (Podsakoff et al., 2003).

Model fit was assessed using absolute fit indices (i.e., chi-square [ $\chi^2$ ] test statistic, RMSEA, PCLOSE), comparative fit indices (i.e., CFI and TLI), and parsimonious fit indices (i.e., PNFI and AIC). A model fits reasonably well when its  $\chi^2$  statistic is not significant, its RMSEA value is lower than .08, its PCLOSE is greater than .05, and, by convention, when its comparative fit indices are greater than .90 (Tabachnick & Fidell, 2001). Because there are no standards for how high PNFI and AIC values should be to indicate parsimonious fit, these fit indices are best used to compare two competing models (Kelloway, 1998). The model with the smaller AIC and PNFI values is regarded as superior. Another strategy to compare the fit of nested models consists of computing chi-square difference ( $\chi^2_{\text{diff}}$ ) tests to evaluate whether freeing (or constraining) parameters in the model make any statistical difference. A statistical difference is detected when the  $\chi^2_{\text{diff}}$  exceeds a tabled value for the appropriate number of degrees of freedom.

Fit indices for the measurement model underlying the structural model are presented in Table 2. The measurement model exhibited

a reasonably good fit, with most indices exceeding the standard bounds of a well fitting model: RMSEA = .06; CFI = .94; TLI = .93. Adding a latent common method factor that exerted the same amount of influence on each variable in the measurement model (Model 2) made a small, yet statistically significant improvement to model fit,  $\chi^2_{\text{diff}}$  (405,  $N = 1,224$ ) = 10.68,  $p < .01$ . An examination of the factor loadings (Table 3, top) revealed consistently strong associations between all latent constructs and their manifest indicators. All interfactor correlation coefficients among latent constructs were of the expected size and direction (Table 3, bottom). Although the correlation coefficient for work engagement and job significance,  $r = .79$ ,  $p < .001$ , was very high, all variance inflation factors associated with the predictor variables were below the risk threshold for multicollinearity (Maruyama, 1998). The correlation coefficient for morale and work engagement,  $r = .73$ ,  $p < .01$ , suggests a strong positive association. However, fixing the correlation between morale and work engagement to 1.0 (Table 2, Model 3) resulted in a significant decrease in model fit,  $\chi^2_{\text{diff}}$  (406,  $N = 1,224$ ) = 150.51,  $p < .001$ , which suggests that they are not the same.

### Evaluation of the Structural Equation Model

Having established a measurement model that supports the underlying structure of the hypothesized structural equation model, we evaluated the fit of the structural equation model using the same software, procedures, and guidelines we applied to test the measurement model. The model (Table 4, Model 1) provided a reasonably good fit to the data: RMSEA = .07; CFI = .92; TLI = .91. The nonsignificance of the parameter coefficient between

<sup>1</sup> Although item parceling is not always advisable (e.g., when the primary goal of the study is to understand the structure of a set of items), numerous researchers have highlighted the psychometric merits of parcel-level analysis relative to item-level analysis (see Little, Cunningham, Shahar, & Widaman, 2002, for a review). For instance, compared with models based on item-level data, parcel-based solutions tend to be less vulnerable to Type I error because of spuriously significant correlations among larger sets of manifest variables. Parcel-based models are also less likely to be contaminated by trivial, yet empirically significant, sources of variance that cannot be predicted a priori. Lastly, because individual item scores are statistically less reliable than aggregate scores, parcel-based models tend to be more stable and, therefore, more generalizable than item-based solutions. In the present sample, the Cronbach's alpha coefficients for the parcels representing trust in teammates, work engagement, and psychological distress ranged from .71 to .96.

Table 2  
Fit Indices for the Measurement Models

Model	$\chi^2$ statistics		RMSEA	PCLOSE	CFI	TLI	PNFI	AIC	$\chi^2_{\text{diff}}(1)$
	$\chi^2$	df							
1. Measurement model without common method factor	2315.56	406	.06	<i>ns</i>	.94	.93	.81	2495.56	
2. Measurement model with common method factor	2304.88	405	.06	<i>ns</i>	.94	.93	.81	2486.88	10.68*
3. Model 2 with correlation between morale and work engagement fixed to 1.0	2455.39	406	.06	<i>ns</i>	.93	.92	.80	2635.39	150.51**

Note.  $\chi^2$  = chi-square;  $\chi^2_{\text{diff}}$  = chi-square difference; *df* = degrees of freedom; RMSEA = Root Mean Square Error of Approximation; PCLOSE = close fit to the population RMSEA; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; PNFI = Parsimony Normed Fit Index; AIC = Akaike Information Criterion; RMSEA confidence interval = 90%.

\*  $p < .01$ . \*\*  $p < .001$ .

job-specific self-efficacy and work engagement suggested that this path could be removed from the model without adversely affecting its fit. Therefore, the hypothesized model was re-estimated and, as expected, removing the path between job-specific self-efficacy and work engagement (Model 2) did not negatively impact its fit,  $\chi^2_{\text{diff}}(419, N = 1,224) = 1.95, ns$ .

Standardized parameter estimates for the structural model are presented in Figure 1. As shown, even though morale and work engagement were found to be highly correlated (see Table 3), they did not exhibit the exact same pattern of associations with the modeled antecedent and outcome variables. Whereas morale was found to be associated with job-specific self-efficacy,  $\beta = .31, p < .001$ , no association was found between work engagement and job-specific self-efficacy. Additionally, though job significance was found to be the main “driver” of morale,  $\beta = .48, p < .001$ , the association between job significance and work engagement was even stronger,  $\beta = .72, p < .001$ . Psychological distress was found to be more strongly related to morale,  $\beta = -.31, p < .001$ , than to work engagement,  $\beta = -.12, p < .01$ . Work engagement, on the other hand, was a superior predictor of turnover intentions,  $\beta = -.64, p < .001$ .

## Discussion

We examined the degree to which Britt and colleagues’ (2006, 2007, 2013) conceptualization of morale overlaps with Schaufeli and colleagues’ (2002, 2006) work engagement concept. This is a fair and important question given their common inspiration and conceptual foundation, and their similar characteristics, measures, and hypothetical antecedents and outcomes of significance to organizations. To test our hypotheses, we evaluated a structural equation model that compared their respective associations with relevant antecedents and outcomes, as established by previous research, the positive psychology framework, and SDT (Deci & Ryan, 2000).

### The Overlap Between Morale and Work Engagement

In accordance with our hypotheses, morale and work engagement were highly positively correlated and, with one exception (i.e., job-specific self-efficacy and work engagement), they were both associated with the antecedents and outcomes examined herein. Despite their similarities, however, our results suggest that the two positive psychological constructs are not interchangeable. Their distinctiveness was first demonstrated by the strength of their correla-

tion coefficient, which suggests that nearly half of their variance is unique. Moreover, when set to be perfectly correlated (the same), the fit of the measurement model was significantly reduced. Their uniqueness was further demonstrated in the assessment of a structural equation model, in which their respective patterns of association with relevant antecedents and outcomes differed. Specifically, although trust in teammates had about the same degree of influence on morale as it did on work engagement, job significance was a stronger predictor of work engagement than morale and, contrary to *Hypothesis 2a*, job-specific self-efficacy did not have a direct effect on work engagement. And although morale had a stronger association with service members’ willingness to deploy on military operations and with their levels of psychological distress, work engagement emerged as the stronger predictor of turnover intentions.

The distinctiveness of morale from work engagement might be explained by several factors. The most likely is the absorption component of work engagement. Absorption concerns being happily immersed in one’s work, which, as mentioned previously, is not salient in Britt and Dickinson’s (2006) morale concept. The items that reflect absorption might have colored the latent work engagement construct enough to reduce the potential impact job-specific self-efficacy has on it.<sup>2</sup> Past research suggests there might be something different about absorption relative to the other components. For example, researchers have demonstrated that, unlike vigor and dedication, absorption is moderately positively correlated with workaholism (Schaufeli et al., 2008). And, according to Bakker et al. (2008), there is a lack of consensus on whether absorption should be considered a core aspect of work engagement. Perhaps, then, the distinctiveness of the morale and work engagement constructs examined herein can be explained by the overt consideration of being completely immersed in one’s work. Removing the absorption component of work engagement could render it less distinct from, or the same as, Britt and colleagues’ (2006, 2007, 2013) morale construct.

<sup>2</sup> For instance, it is conceivable that having low job-specific self-efficacy could lead to one of two outcomes: (a) high absorption (or concentrated effort) among those who are confident in their ability to eventually master their job, or (b) low absorption (or withdrawal from work) among those who tend to get discouraged and give up. If this were true, having roughly equal proportions of participants falling into these two categories would attenuate the association between job-specific self-efficacy and work engagement.

Table 3  
*Confirmatory Factor Analysis – Factor Loadings and Interfactor Correlations*

	Latent factor							
	Signif.	Trust	Self-Eff.	Morale	WE	Distress	Willing.	Turnover
Item/Parcel								
Signif 1	.88**							
Signif 2	.91**							
Signif 3	.85**							
Signif 4	.80**							
Benevolence		.88**						
Competence		.82**						
Integrity		.96**						
Self-Eff 1			.81**					
Self-Eff 2			.87**					
Self-Eff 3			.80**					
Self-Eff 4			.70**					
Self-Eff 5			.72**					
Morale 1				.82**				
Morale 2				.72**				
Morale 3				.76**				
Morale 4				.85**				
Morale 5				.89**				
Morale 6				.86**				
Vigor					.82**			
Dedication					.95**			
Absorption					.71**			
Negative Affect						.84**		
Fatigue						.76**		
Agitation						.70**		
Nervousness						.71**		
Willing 1							.87**	
Willing 2							.92**	
Willing 3							.78**	
Turnover 1								.71**
Turnover 2								.81**
Turnover 3								.87**
Interfactor correlations								
Signif.	—							
Trust	.35**	—						
Self-Eff.	.36**	.13**	—					
Morale	.49**	.27**	.33**	—				
WE	.79**	.40**	.33**	.73**	—			
Distress	-.39**	-.38**	-.39*	-.61*	-.52**	—		
Willing.	.15**	.10*	.17**	.22**	.23**	-.22**	—	
Turnover	-.33**	-.20**	-.13*	-.41**	-.46**	.33**	-.27**	—

Note. Signif. = Job Significance; Trust = Trust in Teammates; Self-Eff. = Job-specific Self-Efficacy; WE = Work Engagement; Distress = Psychological Distress; Willing. = Willingness to Deploy; Turnover = Turnover Intentions.

\*  $p < .01$ , two-tailed. \*\*  $p < .001$ , two-tailed.

Second, the stronger association between job significance and work engagement, relative to morale, could be attributed to item content overlap between the Job Significance Scale and the dedication subscale of the UWES-9—each contain an item reflecting pride in work. Finally, their distinctiveness could be attributed in part to participants rating their “level of morale” in a multiple item morale scale. Previous researchers have pointed out the numerous conceptualizations of morale (e.g., Britt & Dickinson, 2006; Gal, 1986; Manning, 1991; Peterson et al., 2008), and Ivey (in press) recently demonstrated that CAF members have their own, often divergent, views of what morale is. It is possible that some participants rated their morale in the general well-being sense, which might explain morale’s association with psychological distress. We recommend that these plausible explanations be considered as these two positive motivational

constructs continue to evolve. Additionally, the dynamic nature of both morale and work engagement is poorly understood (Bakker et al., 2008; Britt & Dickinson, 2006). Indeed, if and how these constructs fluctuate day to day could further distinguish the two.

### Limitations

Several limitations must be acknowledged. First is the use of certain measures that have not been extensively assessed in terms of their psychometric properties (i.e., Trust in Teams Scale, Job-Specific Self-efficacy Scale, Career Intentions Scale, and Willingness to Deploy Scale). Consequently, it is possible that these scales underestimated or overestimated the true effects of the constructs they were designed to measure. Because our data were collected

Table 4  
Fit Indices for the Structural Models

Model	$\chi^2$ statistics		RMSEA	PCLOSE	CFI	TLI	PNFI	AIC	$\chi^2_{diff}$ (1)
	$\chi^2$	df							
1. Hypothesized model	2780.64	418	.07	<i>ns</i>	.92	.91	.82	2936.64	
2. Model 1 without a path from self-efficacy to work engagement	2782.59	419	.07	<i>ns</i>	.92	.91	.82	2936.59	1.95

Note.  $\chi^2$  = chi-square;  $\chi^2_{diff}$  = chi-square difference; *df* = degrees of freedom; RMSEA = Root Mean Square Error of Approximation; PCLOSE = close fit to the population RMSEA; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; PNFI = Parsimony Normed Fit Index; AIC = Akaike Information Criterion; RMSEA confidence interval = 90%.

within the parameters of a larger CAF study, we were restricted to those measures. However, the fact that the pattern of associations among the measured variables was generally consistent with our expectations, theory (Deci & Ryan, 2000; Ryan & Deci, 2000; Seligman & Csikszentmihalyi, 2000), and past research (Bakker et al., 2007, 2008; Britt & Dickinson, 2006; Britt et al., 2007, 2013; Mauno et al., 2007) gives us confidence in the validity of our findings.

A second limitation stems from the survey sampling procedure, which makes the resultant sample vulnerable to a sampling bias, such that those who chose to complete the survey might not be representative of the larger CAF population. This is easier to acknowledge than to control for. We expect that the effect of sampling bias was attenuated by randomly selecting participants, but we acknowledge the requirement for replication, particularly across genders and occupational groups.

Third, the cross-sectional, same source measurement of interrelated constructs lends itself to method biases that can either attenuate or accentuate the associations among the measured constructs. However, in accordance with best practices (Podsakoff et al., 2012), the effects of method biases were mitigated by several survey design features, including an explanation of the purpose of the survey to encourage accurate responding, the assurance of participant anonymity, the physical separation of individual measures, and varied response formats. As well, we sought to ease the effects of common method variance by incorporating an unmeasured common method factor into our measurement model. Still,

longitudinal research is required to support the cause and effect associations implied here.

Finally, as is the case with any study that does not use stratified random samples drawn from the general workforce, we cannot claim with certainty that our results generalize beyond the population from which our sample was collected. However, we have several reasons to argue for the generalizability of our findings. First, our findings cohere with SDT, which transcends specific employment context. Second, our results are consistent with patterns of association found in previous work engagement research that used civilian samples (e.g., Bakker et al., 2007, 2008; Mauno et al., 2007), and which partly informed our structural equation model. Third, as a result of our sampling strategy, our results reflect input from personnel across a variety of military occupations, including nonstereotypical military roles (e.g., health care, technical/mechanical, administration), working in a setting that does not expose them to the risks and conditions that are generally unique to military operations (Castro & McGurk, 2007; Garber, Zamorski, & Jetly, 2012; Mulligan et al., 2010). Lastly, because we focused our participants on their energy, enthusiasm, and so forth for accomplishing their work tasks and objectives, as opposed to military mission objectives, we expect their perspective to cohere with that of civilian employees. Nonetheless, we believe the extent to which the associations described herein can be replicated, and whether they persist in civilian and quasi-military (e.g., police, border guards) settings, and on military operations, needs to be assessed.

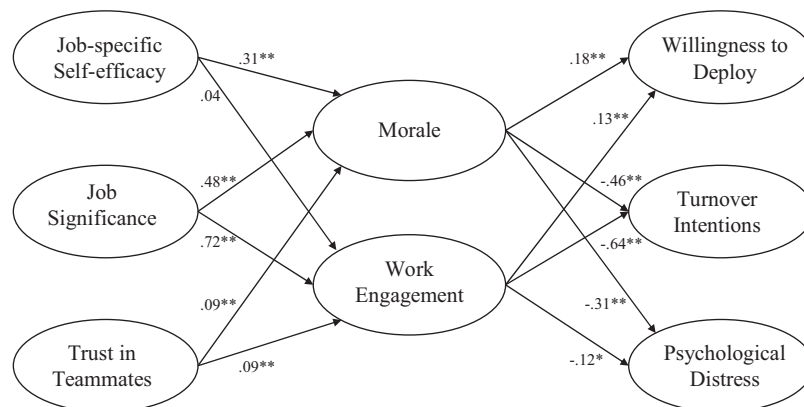


Figure 1. Standardized parameter coefficients for the hypothesized structural equation model. Correlations between exogenous variables are not included in this figure to reduce its complexity and facilitate reading. \*  $p < .01$ , \*\*  $p < .001$ .



## Implications

This research suggests that Britt and Dickinson's (2006) morale construct is highly relevant and important to military organizations, even when applied to a nonoperational setting. Among nondeployed military personnel, morale appears to be nurtured through their confidence in their own job skills and abilities, through the recognition that the work they are doing is important and meaningful, and through a sense of trust in those they work closely with. Accordingly, military leaders can set the conditions for high morale through training and development, rewards and recognition, communication, and team building. Doing so could enhance service members' willingness to deploy on operations, their intentions to stay with the organization, and their psychological well-being.

Given the longstanding association between morale and cohesion (Farley & Veitch, 2003; Manning, 1991; Shamir, Brainin, Zakay, & Popper, 2000; Siebold, 2006), we feel compelled to comment on the relatively weak (albeit significant) standardized parameter coefficient for trust in teammates and morale. We caution against concluding that trust in teammates is not as important as the other antecedents in this study. An examination of the standard deviation and mean score for trust in teammates (see Table 1) suggests that most participants had high levels of trust in their teammates, as well as high levels of confidence in their work-related abilities. There was somewhat more variance in the job significance scores. The results of our structural equation model, then, indicate that in a group of highly trained service members who have likely spent much time building trusting work relationships, job significance is a comparatively stronger driver of morale.

This research indicates that Schaufeli et al.'s (2002, 2006) view of work engagement also has its place in a nonoperational military setting. Work engagement appears to be stimulated by trust among team members and the sense that one's work is significant. A focus on individual skill development might not inspire work engagement. Instead, leaders might be well advised to focus on team building and by emphasizing to subordinates the importance of their work. Doing so could indirectly increase their subordinates' willingness to deploy and psychological well-being. This recommendation coheres with Frankl's (1963) work on the benefits of finding purpose in life and is supported by organizational research on the mechanisms through which transformational leadership affects well-being (Arnold, Turner, Barling, Kelloway, & McKee, 2007). The largest gains from an engaged military workforce, however, may be an increased likelihood that its personnel will intend to stay with the organization.

In light of their similar characteristics, it might be tempting for organizational researchers to use the UWES-9 (Schaufeli et al., 2006) as a proxy measure of morale or, vice versa, to use the Military Morale Scale (Britt & Dickinson, 2006) as a proxy measure of work engagement. Some military researchers, for example, have used the UWES (Schaufeli et al., 2002) as a direct measure of individual morale (van Boxmeer, Verwijns, & Euwema, 2011). The present findings suggest that, although the two constructs are highly correlated, their respective measures are not interchangeable. Researchers should select their scale according to need—if the focus of the research is on predicting turnover intentions, the UWES-9 is recommended. However, we recommend Britt and

Dickinson's (2006) Morale Scale if the focus is on morale as a positive motivational construct, and/or if willingness to deploy or psychological well-being are the focal outcomes.

## Conclusion

As of May 2014, PsycINFO produced 421 titles of peer-reviewed journal articles published since 2000 that contain either "employee engagement" or "work engagement." In contrast, just 135 publications contained "morale" in their title. The similarities highlighted in this study create new opportunities for researchers to leverage the knowledge gained in one area for application in the other. This could be especially helpful in the development of intervention strategies, an area cited by both morale (Britt & Dickinson, 2006) and work engagement (Bakker et al., 2008) researchers as needing greater attention.

This study contributes to the growing body of research that seeks to apply positive psychology to the workplace. It does so by contrasting two positive motivational constructs that are associated with the energy and enthusiasm with which employees approach their work: morale (as per Britt & colleagues, 2006, 2007, 2013) and work engagement (as per Schaufeli & colleagues, 2002, 2006). This research enhances our understanding of morale and work engagement, not so much by clarifying what they are, but by demonstrating what they are not (i.e., interchangeable).

## References

- Arnold, K. A., Turner, N., Barling, J., Kelloway, E. K., & McKee, M. C. (2007). Transformational leadership and psychological well-being: The mediating role of meaningful work. *Journal of Occupational Health Psychology, 12*, 193–203. <http://dx.doi.org/10.1037/1076-8998.12.3.193>
- Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement particularly when job demands are high. *Journal of Educational Psychology, 99*, 274–284. <http://dx.doi.org/10.1037/0022-0663.99.2.274>
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress, 22*, 187–200. <http://dx.doi.org/10.1080/02678370802393649>
- Bernard, J. (2004). *Les facteurs explicatifs de la rétention du personnel d'officiers au sein du Commandement aérien des Forces canadiennes* (Unpublished master's thesis). Université du Québec à Hull, Hull, QC, Canada.
- Blanc, J.-R. S., Zamorski, M., Ivey, G. W., McCuaig Edge, H. J., & Hill, K. (2014). How much distress is too much on deployed operations? Validation of the Kessler Psychological Distress Scale (K10) for application in military operational settings. *Military Psychology, 26*, 88–100. <http://dx.doi.org/10.1037/mil0000033>
- Britt, T. W., Adler, A. B., Bliese, P. D., & Moore, D. (2013). Morale as a moderator of the combat exposure-PTSD symptom relationship. *Journal of Traumatic Stress, 26*, 94–101. <http://dx.doi.org/10.1002/jts.21775>
- Britt, T. W., & Dickinson, J. M. (2006). Morale during military operations: A positive psychology approach. In T. W. Britt, C. A. Castro, & A. B. Adler (Eds.), *Military life: The psychology of serving in peace and combat: Military Performance* (Vol. 1, pp. 157–184). Westport, CT: Praeger Security International.
- Britt, T. W., Dickinson, J. M., Moore, D., Castro, C. A., & Adler, A. B. (2007). Correlates and consequences of morale versus depression under stressful conditions. *Journal of Occupational Health Psychology, 12*, 34–47. <http://dx.doi.org/10.1037/1076-8998.12.1.34>

- Byrne, B. (2009). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd ed.). New York, NY: Routledge.
- Castro, C. A., & McGurk, D. (2007). The intensity of combat and behavioral health status. *Traumatology, 13*, 6–23. <http://dx.doi.org/10.1177/1534765607309950>
- Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of Applied Psychology, 74*, 580–590. <http://dx.doi.org/10.1037/0021-9010.74.4.580>
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268. [http://dx.doi.org/10.1207/S15327965PLI1104\\_01](http://dx.doi.org/10.1207/S15327965PLI1104_01)
- Farley, K. M. J., & Veitch, J. A. (2003). Measuring morale, cohesion, and confidence in leadership: What are the implications for leaders? *The Canadian Journal of Police & Security Services, 1*, 353–364.
- Fassaert, T., De Wit, M. A. S., Tuinebreijer, W. C., Wouters, H., Verhoeff, A. P., Beekman, A. T. F., & Dekker, J. (2009). Psychometric properties of an interviewer-administered version of the Kessler Psychological Distress scale (K10) among Dutch, Moroccan and Turkish respondents. *International Journal of Methods in Psychiatric Research, 18*, 159–168. <http://dx.doi.org/10.1002/mpr.288>
- Frankl, V. E. (1963). *Man's search for meaning*. New York, NY: Washington Square Press.
- Furukawa, T. A., Kawakami, N., Saitoh, M., Ono, Y., Nakane, Y., Nakamura, Y., . . . Kikkawa, T. (2008). The performance of the Japanese version of the K6 and K10 in the World Mental Health Survey Japan. *International Journal of Methods in Psychiatric Research, 17*, 152–158. <http://dx.doi.org/10.1002/mpr.257>
- Gal, R. (1986). Unit morale: From a theoretical puzzle to an empirical illustration: An Israeli example. *Journal of Applied Social Psychology, 16*, 549–564. <http://dx.doi.org/10.1111/j.1559-1816.1986.tb01158.x>
- Garber, B. G., Zamorski, M. A., & Jetly, R. (2012). Mental health of Canadian Forces members while on deployment to Afghanistan. *The Canadian Journal of Psychiatry/La Revue canadienne de psychiatrie, 57*, 736–744.
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology, 60*, 549–576. <http://dx.doi.org/10.1146/annurev.psych.58.110405.085530>
- Hart, P. M. (1994). Teacher quality of work life: Integrating work experiences, psychological distress, and morale. *Journal of Occupational and Organizational Psychology, 67*, 109–132. <http://dx.doi.org/10.1111/j.2044-8325.1994.tb00555.x>
- Hart, P. M., & Cooper, C. L. (2001). Occupational stress: Toward a more integrated framework. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work, and organizational psychology: Organizational psychology* (Vol 2, pp. 93–114). London, UK: Sage.
- Ivey, G. W. (in press). How's morale? What is morale? In G. W. Ivey, K. Sodom, W. Dean, & M. A. Tremblay (Eds.), *The human dimensions of operations: A personnel research perspective*. Ottawa, ON, Canada: Canadian Defence Academy Press.
- Kelloway, E. K. (1998). *Using LISREL for structural equation modeling: A researcher's guide*. Thousand Oaks, CA: Sage.
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., . . . Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalence and trends in non-specific psychological distress. *Psychological Medicine, 32*, 959–976. <http://dx.doi.org/10.1017/S0033291702006074>
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling, 9*, 151–173. [http://dx.doi.org/10.1207/S15328007SEM0902\\_1](http://dx.doi.org/10.1207/S15328007SEM0902_1)
- Macey, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology: Perspectives on Science and Practice, 1*, 3–30. <http://dx.doi.org/10.1111/j.1754-9434.2007.0002.x>
- Manning, F. J. (1991). Morale, unit cohesion, and esprit de corps. In R. Gal & D. Mangelsdorff (Eds.), *Handbook of military psychology* (pp. 453–470). Hoboken, NJ: Wiley.
- Maruyama, G. (1998). *Basics of structural equation modeling*. Newbury Park, CA: Sage. <http://dx.doi.org/10.4135/9781483345109>
- Mauno, S., Kinnunen, U., & Ruokolainen, M. (2007). Job demands and resources as antecedents of work engagement: A longitudinal study. *Journal of Vocational Behavior, 70*, 149–171. <http://dx.doi.org/10.1016/j.jvb.2006.09.002>
- McCuaig Edge, H. J., & Ivey, G. W. (2012). Mediation of cognitive appraisal on combat exposure and psychological distress. *Military Psychology, 24*, 71–85. <http://dx.doi.org/10.1080/08995605.2012.642292>
- Mulligan, K., Jones, N., Woodhead, C., Davies, M., Wessely, S., & Greenberg, N. (2010). Mental health of UK military personnel while on deployment in Iraq. *The British Journal of Psychiatry, 197*, 405–410. <http://dx.doi.org/10.1192/bjp.bp.110.077263>
- Myers, D. G. (2000). The funds, friends, and faith of happy people. *American Psychologist, 55*, 56–67. <http://dx.doi.org/10.1037/0003-066X.55.1.56>
- Oakley Browne, M. A., Wells, J. E., Scott, K. M., & McGee, M. A., & the New Zealand Mental Health Survey Research Team. (2010). The Kessler Psychological Distress Scale in Te Rau Hinengaro: The New Zealand Mental Health Survey. *Australian and New Zealand Journal of Psychiatry, 44*, 314–322. <http://dx.doi.org/10.3109/00048670903279820>
- Peterson, C., Park, N., & Sweeney, P. J. (2008). Group well-being: Morale from a positive psychology perspective. *Applied Psychology: An International Review, 57*, 19–36. <http://dx.doi.org/10.1111/j.1464-0597.2008.00352.x>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903. <http://dx.doi.org/10.1037/0021-9010.88.5.879>
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology, 63*, 539–569. <http://dx.doi.org/10.1146/annurev-psych-120710-100452>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78. <http://dx.doi.org/10.1037/0003-066X.55.1.68>
- Ryan, R. M., & Grolnick, W. S. (1986). Origins and pawns in the classroom: Self-report and projective assessments of individual differences in children's perceptions. *Journal of Personality and Social Psychology, 50*, 550–558. <http://dx.doi.org/10.1037/0022-3514.50.3.550>
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement, 66*, 701–716. <http://dx.doi.org/10.1177/0013164405282471>
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies, 3*, 71–92. <http://dx.doi.org/10.1023/A:1015630930326>
- Schaufeli, W. B., Taris, T. W., & van Rhenen, W. (2008). Workaholism, burnout, and work engagement: Three of a kind or three different kinds of employee well-being? *Applied Psychology: An International Review, 57*, 173–203. <http://dx.doi.org/10.1111/j.1464-0597.2007.00285.x>
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology. An introduction. *American Psychologist, 55*, 5–14. <http://dx.doi.org/10.1037/0003-066X.55.1.5>
- Shamir, B., Brainin, E., Zakay, E., & Popper, M. (2000). Perceived combat readiness as collective efficacy: Individual- and group-level analysis.

- Military Psychology*, 12, 105–119. [http://dx.doi.org/10.1207/S15327876MP1202\\_2](http://dx.doi.org/10.1207/S15327876MP1202_2)
- Shirom, A. (2010). Feeling energetic at work: On vigor's antecedents. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: Recent developments in theory and research* (pp. 69–84). New York, NY: Psychology Press.
- Siebold, G. L. (2006). Military group cohesion. In T. W. Britt, C. A. Castro, & A. B. Adler (Eds.), *Military life: The psychology of serving in peace and combat: Military Performance* (Vol 1, pp. 185–201). Westport, CT: Praeger Security International.
- Suddaby, R. (2010). Editor's comments: Construct clarity in theories of management and organization. *The Academy of Management Review*, 35, 346–357. <http://dx.doi.org/10.5465/AMR.2010.51141319>
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn & Bacon.
- Thompson, M. M., Adams, B. D., & Niven, W. (in press). Trust in military teams. In G. W. Ivey, K. Sudom, W. Dean, & M. A. Tremblay (Eds.), *The human dimensions of operations: A personnel research perspective*. Ottawa, ON, Canada: Canadian Defence Academy Press.
- Tremblay, M. A. (2009). *Unit morale profile: A psychometric analysis (Technical Memorandum 2009–013)*. Ottawa, ON, Canada: Director General Military Personnel Research and Analysis.
- van Boomeer, F., Verwijns, C., & Euwema, M. (2011, October). *Assessing soldiers' morale in a challenging environment: Multilevel psychological climate information*. Paper presented at the 53rd annual meeting of the International Military Testing Association, Bali, Indonesia.
- Williams, G. C., Grow, V. M., Freedman, Z. R., Ryan, R. M., & Deci, E. L. (1996). Motivational predictors of weight loss and weight-loss maintenance. *Journal of Personality and Social Psychology*, 70, 115–126. <http://dx.doi.org/10.1037/0022-3514.70.1.115>

Received August 11, 2014

Revision received October 25, 2014

Accepted November 3, 2014 ■