


## Health and Disability

# Interrelationship of emotional stability, hassles, uplifts, coping and stress-related symptoms in Swedish female and male military veterans

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Drawing on previous research, two hypotheses were tested: (1) the higher the frequency of daily uplifts and use of functional coping strategies, and the lower the frequency of daily hassles and use of dysfunctional coping strategies, the lower the prevalence of stress-related symptoms will be, and vice versa; and (2) the direct relationship between the personality dimension emotional stability and stress-related symptoms, will be moderated by daily hassles, daily uplifts and coping processes. A quantitative test of a qualitatively developed model was performed. A questionnaire was sent to all Swedish military veterans who had served in the period 2011–2015 and 1859 individuals (1,614 men and 199 women, 46 individuals did not mark gender) responded (40.5% total response rate). All analyses were made separately for men and women. Comparisons between theoretically favorable and unfavorable profiles across the model variables, daily uplifts, daily hassles, functional coping and dysfunctional coping (based on a cluster analysis), showed considerable differences regarding the prevalence of stress-related symptoms as predicted by the model and supporting the first hypothesis. Regression and moderation analyses yielded limited support for the second hypothesis. As predicted, female veterans reported a higher frequency of physical, emotional and cognitive stress-related symptoms than male veterans. The main conclusion is that the theoretical model stood up well when empirically tested and offers a promising approach to future studies on everyday stress and health. The results contribute with new knowledge of military veterans compared to the main stream PTSD, depression and drug abuse-oriented studies.

**Key words:** Coping, emotional stability, hassles, symptoms, uplifts, veterans.

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### INTRODUCTION

Research into the reactions of soldiers' and officers' to their service during and after military operations is extensive. It has generally focused on severe reactions such as post traumatic stress disorder (PTSD), anxiety, depression, drug problems, suicidal behavior, etc. (Michel, 2014). However, the vast majority of soldiers and officers return to their home countries with less severe symptoms of stress that do not fulfill the criteria for psychiatric diagnoses (Eng Berge, Hagen & Overaas Halvorsen, 2020). This implies that there is a risk of these milder reactions being neglected (Larsson, Berglund & Ohlsson, 2016). For example, cumulative "wear and tear" stress reactions related to daily hassles are not adequately dealt with in current DSM-V or ICD-11 conceptions of PTSD (Drescher, Foy, Kelly, Leshner, Schutz & Litz, 2011; Nash & Litz, 2013; Nilsson, Hyllengren, Ohlsson, Kallenberg, Waale & Larsson, 2015; Rosner & Powell, 2009).

A new approach to research into stress and health emerged in the 1980s based on the accumulated effects of daily hassles (e.g., DeLongis, Coyne, Dakof, Folkman & Lazarus, 1982; Gruen, Folkman & Lazarus, 1988; Kanner, Coyne, Schaefer & Lazarus, 1981; Lazarus, 1984, p. 376). Lazarus defined daily hassles as "experiences and conditions of daily living that have been appraised as salient or harmful or threatening to the endorser's

well-being." More simply, Stefanek, Strohmeier, Fandrem, and Spiel (2012, p. 202) define daily hassles as "minor negative experiences which occur quite frequently on a regular basis." This means that a potential hassle only becomes a hassle if it is appraised as a hassle, not simply because it occurs. The appraisal process reflects the meaning and significance the individual ascribes to the situation (DeLongis *et al.*, 1982; Ruffin, 1993). Later research has repeatedly found that accumulated daily hassles show stronger relationships with physical and psychological symptoms than major stressful episodes or chronic stressors (Heron, Bryan, Dougherty & Chapman, 2013; Larsson *et al.*, 2016; Stefanek *et al.*, 2012). Smyth, Sliwinski, Zawadzki *et al.* (2018) have described the accumulation process in response to reported everyday stressors in terms of a stress reaction followed by a stress reducing recovery, which, in turn, in the end is followed by pile-up of stress responses.

Regarding health outcomes, most studies into daily hassles have focused on physical and psychological symptoms rather than illnesses (Gruen *et al.*, 1988; Larsson *et al.*, 2016). This inclination is in line with Folkman's (1985) idea of the importance of what she called transient symptoms. The argument is that general health status changes slowly and is influenced by a range of variables, including genetic dispositions, normal aging, and environmental agents, which have little or no relationship to stress (Smyth *et al.*, 2018). This highlights the importance of including assessments of milder stress reactions rather than only focusing on more severe reactions, such as PTSD, suicide rate, criminality, substance abuse, etc. It seems reasonable to assume

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The questionnaire and the data file can be obtained from the corresponding author.

that different physical, emotional and cognitive stress-related symptoms are differently affected by daily stressful events. Thus, in addition to the common approach of focusing on more reliable aggregate symptom scores, we also wanted to explore individual symptoms.

In early writings about daily hassles, Lazarus and colleagues also highlighted potential favorable effects of daily uplifts, referring to positive or satisfying experiences (e.g., DeLongis *et al.*, 1982; Kanner *et al.*, 1981). Folkman and Moskowitz (2000, p. 115) claim that positive emotions have three adaptive functions during stress: “sustaining coping efforts, providing a ‘breather’, and restoring depleted resources.” However, the findings are varied in terms of daily uplifts. Positive buffering effects have been observed (Finan, Okun, Kruszewski, Davis, Zautra & Tennen, 2010; Lu, 1991), whereas other studies failed to show such effects (Charles, Luong, Almeida, Ryff, Sturm & Love, 2010).

Drawing on the potential importance of accumulated everyday stress, a recent qualitative grounded theory study of military veterans resulted in a theoretical model (Larsson, Ohlsson, Berglund & Nilsson, 2017). This model forms the present study’s conceptual point of departure and is shown in Fig. 1 (only the superior model categories are shown, for details see Larsson *et al.*, 2017).

According to the model, there are two arenas of interplay. In one of them, the superior categories of daily hassles, daily uplifts, and coping strategies interact with each other. For example, a source of irritation occurs (a daily hassle) and it is dealt with clumsily using problem-focused coping efforts. A colleague jokes about it (emotion-focused coping) and the whole group begins to laugh (a daily uplift).

The “product” of this interplay forms the basis for the second arena of interplay, where this product interacts with the superior category stress reactions/symptoms. The dominant form of interplay is the consequent occurrence of stress reactions. However, the dotted arrow in Fig. 1 shows that there can also be interplay where stress reactions are a source. For example, repeated nights of sleeping problems and days of difficulty in concentrating can be perceived as hassles in themselves and can,

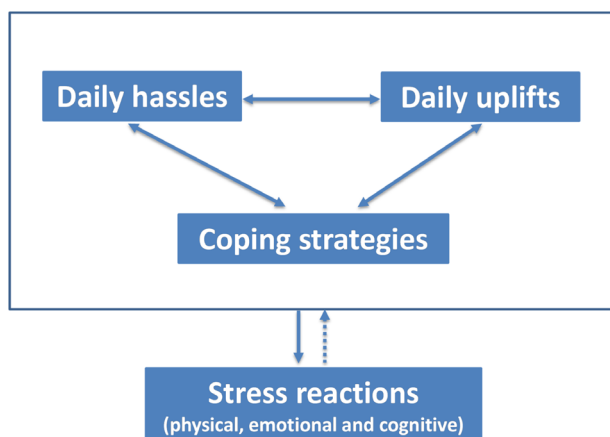


Fig. 1. Model describing the superior categories and their interactions (modified from Larsson *et al.*, 2017)

in turn, contribute to other daily events being appraised as hassles.

The theoretical idea behind the interplay between hassles, uplifts and coping on the one hand, and symptoms on the other, is that if the outcome of the interplay is favorable, there will be few, if any, stress-related symptoms, and vice versa (Larsson *et al.*, 2017). In the favorable case, hassles and dysfunctional coping is well balanced by uplifts and functional coping (see e.g., Libin, 2017, for a discussion of functional – dysfunctional coping). The reverse applies in the unfavorable case. One weakness in the qualitatively generated model is that it is based on in-depth interviews of only 15 veterans. Thus, it is impossible to say anything about the generalizability of the model.

In a systematic literature review (Larsson *et al.*, 2016) it was concluded that the hassles, uplifts, coping and symptoms interplay is framed by antecedent and continuously presents individual factors (e.g., personality) and environmental factors (e.g., work conditions). The influences of personality on stress appraisals, coping and health are well-documented (Hazel & Hankin, 2014; Jibeen, 2014; Lazarus, 1991, 1999; Penley & Tomaka, 2002). Among such antecedent factors, the personality dimension emotional stability (and its opposite neuroticism) appears to be particularly important (Penley & Tomaka, 2002; Rääkkönen, Matthews & Kuller, 2002). Neuroticism has been found to predict the reporting of symptoms but not the onset of actual disease (Brough, 2005; Costa & McCrae, 1985; Feldman, Cohen, Lepore, Matthews, Karmarck & Marsland, 1999). Prospective evidence of health benefits of positive emotionality has also been found (Danner, Snowdon & Friesen, 2001), although the potential causal mechanism remains murky (Cohen & Pressman, 2006; Hampson & Friedman, 2008). In summary, stronger evidence of negative health effects of neuroticism have been noted compared to positive effects of emotional stability, the opposite pole of the continuum (Baumeister, 2001; Brough, 2005; Wearing & Hart, 1996). Two potential sources of stress-related symptoms have been discussed. First, the interplay between hassles, uplifts and coping processes. Second, the impact of personality, and emotional stability – neuroticism in particular. Given that appraisal processes (e.g., resulting in experiences of hassles and uplifts) and coping processes are assumed to be affected by personality factors (e.g., emotional stability), it has been argued that the direct relationship between emotional stability and stress-related symptoms could be moderated by hassles, uplifts and coping processes (Larsson *et al.*, 2016).

Summing up, a first aim was to explore the validity of the model in a sample of female and male veterans. This aim was operationalized into Hypothesis 1: the higher the frequency of daily uplifts and use of functional coping strategies, and the lower the frequency of daily hassles and dysfunctional coping strategies, the lower the prevalence of stress-related symptoms will be, and vice versa. A second aim was to study how the antecedent condition of emotional stability is directly associated with stress-related symptoms in military veterans and if this association is moderated by daily hassles, uplifts and coping efforts. This aim was operationalized into Hypothesis 2: the direct relationship between the personality dimension emotional stability and stress-related symptoms, will be moderated by daily hassles, daily uplifts and coping processes.

The presented model (Fig. 1) lacks a gender perspective, which is a drawback because some previous studies have shown an increased risk of stress-related problems among female veterans (Michel, 2014). However, the gender-related results are not unequivocal (Crum-Ciaflone & Jacobsen, 2013; Middleton & Craig, 2012). Therefore, an additional research question was to explore the relevance of the model within and between female and male responders. We expected women to report higher frequencies of stress-related symptoms, but previous studies did not offer clear guidance on how the suggested model would function from a gender perspective.

## METHOD

### Participants and procedure

The study population were all men and women who had served on an international military operation, once or more, with the Swedish Armed Forces here labeled “veterans” in the period 2011–2015. Individuals who had served as “single participants” (e.g., military observers) were excluded as they were part of a separate study. A list of 4,594 people was obtained from the Swedish Tax Agency and a questionnaire was posted to their home addresses. It included an information letter from the Head of the Swedish Armed Forces’ Veteran Center as well as a letter from the research group and a prepaid reply envelope. An Internet link was also provided for digital responses. Three weeks later, a reminder was posted again to all 4,594 (the questionnaire was filled in anonymously, so we did not know who had responded). Responses were received from 1,859 people (1,596 (86%) postal questionnaires and 263 (14%) digital questionnaires). This yielded a response rate of 40.5%. General background data about the men ( $n = 1,614$ ) and women ( $n = 199$ ) who responded are presented in Table 1 (46 individuals did not mark gender).

### Measures

The questionnaire was composed of a combination of established scales and newly developed items. The latter were deduced from the qualitative study of Swedish veterans (Larsson *et al.*, 2017) mentioned above.

**Emotional stability.** The Single Item Measure of Personality (SIMP; Woods & Hampson, 2005) was used. This instrument measures each of the five dimensions of the Big Five model of personality (Costa & McCrae, 1992) on a nine-point bipolar scale. The scale ranging from 1 (neuroticism) to 9 (emotional stability) was used.

**Daily hassles during the last month.** This was measured using 13 items ( $\alpha = 0.85$ ). It was a mix of items from the Stress Profile (Setterlind & Larsson, 1995) and newly constructed items based on interview responses obtained in the qualitative study of veterans (Larsson *et al.*, 2017). The new items were written by the principal author and then discussed with the co-authors. After this, they were pilot tested on a research colleague who is also a military veteran. Following this, some final adjustments were made. Examples: “Worry about practical things such as economy, housing, garden, car” and “Irritation from boss/bosses (present work).” All items had five-point response scales ranging from 1 (Never) to 5 (Very often) and they are presented in Appendix A.

**Daily uplifts during the last month.** This was measured using nine items ( $\alpha = 0.84$  with the same mixture of sources reported about daily hassles. Examples: “Joy about being together with my family” and “Joy from stimulating work.” All items had five-point response scales ranging from 1 (Never) to 5 (Very often) and they are presented in Appendix A.

**Coping during the last month.** A mix of items from the Ways of Coping Checklist (Lazarus & Folkman, 1984) and newly constructed items derived from the above-mentioned qualitative study of veterans was used (a

Table 1. Comparison of female and male responders on a selection of background variables

	Men ( $n = 1614$ )%	Women ( $n = 199$ )%	Chi-square	$p^a$
Education			51.67	<b>0.000</b>
High school	38	19		
University – no degree	24	17		
University – degree	38	64		
Single or married/cohabitant			3.04	0.081
Single	22	28		
Married/cohabitant	78	72		
Rank during the mission			25.11	<b>0.000</b>
Soldier	15	13		
Non-Commissioned Officer	29	40		
Second Lieutenant/Lieutenant	17	24		
Captain	17	16		
Major/Lieutenant Commander	13	6		
Lieutenant Colonel or higher	9	1		
Employment in the Armed Forces today			64.13	<b>0.000</b>
Yes, permanent	54	34		
Yes, intermittent (reservist)	18	17		
Yes, civilian	5	15		
No, have other employment	17	29		
No, unemployed	0	0		
No, study	3	5		
No, retired	2	0		

<sup>a</sup>Bold text = statistically significant difference.

total of 43 items). A factor analysis (principal axis factoring with oblique rotation) was performed. Oblique rotation was chosen because we expected interrelationships between emerging latent factors. Items with a factor loading of 0.40 or higher in a given factor, and having factor loadings of 0.29 or lower in the other factors, were accepted in the factor. Using these criteria, 19 of the 43 items were dropped because of low or mixed factor loadings. The following five factors (33.0% explained variance) were retained: (1) Planful problem-solving (8 items,  $\alpha = 0.79$ ). Example: “I know what has to be done, so I double my efforts to make things work”; (2) Emotional self-controlling (4 items,  $\alpha = 0.67$ ). Example: “Talk to someone about how I am feeling” (reversed coding); (3) Physical exercise (2 items,  $\alpha = 0.70$ ). Example: “I do physical exercise because it makes me feel good”; (4) Positive reappraisal (4 items,  $\alpha = 0.61$ ). Example: “I make light of the situation, refuse to get too serious about it”, and (5) Escape-Avoidance (6 items,  $\alpha = 0.76$ ). Example: “I wish that the situation will go away or somehow be over with”; in line with Carver (1997) and Carver, Scheir and Weintraub (1989), the Escape – Avoidance scale was considered dysfunctional and the other four coping scales functional. All items had five-point response scales ranging from 1 (Never) to 5 (Very often) and they are presented in Appendix A.

**Physical, emotional and cognitive stress symptoms during the last month.** A checklist from the Stress Profile (Setterlind & Larsson, 1995) was used. The list contains 10 physical symptoms ( $\alpha = 0.83$ , example: “Headache or migraine”), eight emotional symptoms ( $\alpha = 0.88$ , example: “Restlessness”) and four cognitive symptoms ( $\alpha = 0.88$ , example: “Concentration difficulties”). All items were intended to identify the situation

during the last month and had five-point response scales ranging from 1 (Never) to 5 (Very often) and they can all be seen in Appendix B.

### Statistics

SPSS Statistics version 25 was used in the statistical analyses. Summary indices were calculated for all the instruments mentioned, except the Emotional stability single item personality scale. This was done by adding the raw scores of the items belonging to a scale and dividing this sum by the number of items. Skewness and kurtosis test were performed to check the response distribution on all above-mentioned scales. The outcome was evaluated as indicating approximate normality (due to the large sample size, no significance test was performed). Descriptive statistics and bivariate correlations (Pearson) were calculated and subgroup comparisons were performed using chi-square tests and one-way analysis of variance. Cluster analysis (K-means) was used to identify profiles of response patterns among female and male respondents. Hierarchical regression analyses were performed separately for men and women with each of the three symptom scales as the dependent variable. Age and Emotional stability were regarded as antecedent variables and entered in step 1. The hassles, uplifts and coping scales were entered in step 2.

In addition, moderation analyses (Hayes, 2013) were performed on each of the symptom scales in both sexes. In these analyses, Emotional stability was selected as independent variable (antecedent), and hassles, uplifts, functional coping and dysfunctional coping respectively as moderator variables. A moderator variable is one that may affect the relationship between two others. Default grand mean centering was used on the predictor variables. Listwise deletion of missing responses was used in the cluster, correlation, regression and moderation analyses. Due to this, these analyses are based on 1,392 men (22 deleted cases) and 174 women (25 deleted cases). Statistical significance was assumed at  $p < 0.05$ . The full questionnaire (in Swedish) and the data file (SPSS) can be obtained from the corresponding author.

### Ethics

The project was approved by the Regionala etikprövningsnämnden (2016) in Stockholm (Protokoll EPN 2016/53). All participants provided written informed consent.

## RESULTS

### Dropout analysis

The gender and age of the 1,813 individuals who responded to the questionnaire were compared with the 2,785 who did not. As can be seen in Table 1, the responding group comprised 89% men and 11% women. The corresponding proportions among the dropouts were 90% men and 10% women. The difference is not statistically significant (chi-square (1) = 2.28,  $p > 0.05$ ). The mean age among the male responders was 39.2 years ( $SD = 10.9$ ), while it was 36.7 years ( $SD = 9.5$ ) in the non-responding group. This difference is statistically significant ( $t(4125) = 10.80$ ,  $p < 0.001$ ). The mean age among the female responders was 37.6 years ( $SD = 10.6$ ), compared to 39.4 years ( $SD = 10.8$ ) among the non-responders. This difference is not statistically significant ( $t(465) = -0.78$ ,  $p > 0.05$ ). No further comparisons could be made.

### Background variables

Background data for female and male participants are shown in Table 1. Table 1 shows that men heavily dominate the study group. The male participants also had higher military ranks during the mission. The women have a higher level of education. The male participants are, to a greater degree, still permanently employed by the Armed Forces. The difference between the mean ages of men and women (39.2 years versus 37.6 years, see Table 2 below, is not statistically significant,  $p = 0.06$ ).

### Test of the gender prediction: comparison between men and women

Table 2 shows that women have statistically significant higher mean scores on the hassles and uplifts scales, two of the

Table 2. Comparison of female and male responders on main study scales

Scales	Men ( $n = 1614$ )		Women ( $n = 199$ )		$t$	$p$
	$M$	$SD$	$M$	$SD$		
Antecedents						
Age	39.16	10.92	37.62	10.64	1.88	0.060
Emotional stability <sup>a</sup>	6.34	1.73	5.46	1.88	6.30	<b>0.000</b>
Daily hassles & uplifts <sup>b</sup>						
Hassles	2.35	0.61	2.45	0.56	2.18	<b>0.029</b>
Uplifts	3.76	0.61	4.00	0.65	5.19	<b>0.000</b>
Coping <sup>b</sup>						
Planful problem-solving	3.57	0.54	3.59	0.59	0.42	0.677
Emotional self-controlling	2.83	0.67	3.20	0.61	7.31	<b>0.000</b>
Physical exercise	3.41	1.02	3.62	1.00	2.77	<b>0.006</b>
Positive reappraisal	3.06	0.65	3.10	0.68	0.90	0.367
Escape/Avoidance	2.58	0.64	2.78	0.62	4.05	<b>0.000</b>
Symptoms <sup>b</sup>						
Physical	1.67	0.58	1.92	0.62	5.55	<b>0.000</b>
Emotional	1.94	0.75	2.23	0.82	4.95	<b>0.000</b>
Cognitive	2.00	0.83	2.21	0.95	3.24	<b>0.001</b>

<sup>a</sup>Scale scores can vary between 1 (lowest Emotional stability) to 9 (Highest Emotional stability).

<sup>b</sup>Scale scores can vary from 1 (Never during the last month) to 5 (Very often during the last month).

functional coping scales, the dysfunctional scale and on all three symptom scales. Men score higher on Emotional stability. The study prediction, which included the symptom scales, was fully confirmed.

*Test of Hypothesis 1: comparison of veterans with different profiles on the theoretical model variables*

The participants' scores on the theoretical model variables Daily uplifts, Daily hassles, Functional coping and Dysfunctional coping were entered into a cluster analysis (K-means). Among men, four profiles regarded as meaningful were obtained, and among women a three-profile solution was selected. The result for men is shown in Table 3. A one-way analysis of variance for each of the four model variables was run and significant  $F$  values ( $p < 0.001$ ) were obtained in both samples. This indicates that the means of the profiles differ significantly on all four model variables. The individuals in the respective profiles were compared on the three aggregated symptom scales (see Table 3).

Table 3 shows the outcome in the male subsample. The theoretically most unfavorable profile (I) is characterized by low scores on Daily uplifts and Functional coping, and high scores on Daily hassles and Dysfunctional coping. The theoretically most favorable profile (IV) shows the reverse pattern. The two in-between profiles (II and III) differ mainly in that profile II have higher scores on Daily uplifts and both coping scales.

Profile I exhibits the highest scores, and profile IV the lowest, on all three symptom scales. The difference between profile II and III is not significant on physical and cognitive symptoms. On the emotional symptom scale, profile II shows a higher score (more frequent symptoms) than profile III. The mean differences shown in Table 3 remain statistically significant after Bonferroni corrections. The same applies to all 22 individual symptom scales.

The result in the female subsample resemble the pattern obtained among men. A theoretically unfavorable profile ( $n = 58$ ) was obtained with low scores on Daily uplifts and

Functional coping and high scores on Daily hassles and Dysfunctional coping. A theoretically favorable profile ( $n = 60$ ) shows the reverse pattern. A third in-between profile ( $n = 56$ ) scored high on Daily uplifts and both coping scales and in-between on Daily hassles. The unfavorable profile had the highest scores on the three aggregate symptom scales as well as on all 22 individual symptom scales. The means of the individuals in the favorable profile were lowest on all symptom measures. The mean differences were statistically significant on the three aggregate symptom scales as well as on all individual emotional and cognitive symptom scales after Bonferroni corrections.

A final comparison (chi-square tests) between the theoretically favorable and unfavorable profiles was made focusing on each individual symptom (see Appendix B). The scale on each symptom scale was dichotomized as follows: "Never-Seldom-Sometimes" = 0 and "Often-Very often" = 1. Considerable differences between the favorable and unfavorable profiles were found. Among men, all 22 comparisons remained statistically significant after Bonferroni correlations. Among women, the corresponding number was nine (all ten physical symptoms and three cognitive symptoms were not significant after Bonferroni correlations, although the differences were in the expected direction). To illustrate the profile differences, in the male theoretically favorable profile, three per cent or fewer reported "Often-Very often" on 19 symptoms. The exceptions were Back pain or back problems (9.8%), Pain in the neck of shoulders (8.7%) and Forget things easily (3.8%). In the female theoretically favorable profile, five per cent or fewer reported "Often-Very often" on 17 symptoms. The exceptions were Back pain or back problems (10.0%), Pain in the neck or shoulders (18.3%) Headache of migraine (6.7%), Tension in different muscles (10.0%) and Forget things easily (6.7%). In the theoretically unfavorable female and male profiles, about 20-40% reported "Often-Very often" on most symptoms.

The result of the profile comparison on aggregated symptom scales, as well as on individual symptoms, was regarded as a confirmation of Hypothesis 1.

Table 3. Description and comparison of profile on the theoretical model variables (male subsample)

Theoretical model variables <sup>a</sup>	I Theoretically most unfavourable profile ( $n = 232$ )	II Medium profile more uplifts coping ( $n = 420$ )	III Medium profile less uplifts coping ( $n = 371$ )	VI Theoretically mot favourable profile ( $n = 420$ )	$F$	
Uplifts	3.16	4.06	3.33	4.24	552.21***	
Hassles	3.15	2.44	2.33	1.78	566.13***	
Functional coping	3.00	3.52	2.95	3.27	159.96***	
Dysfunctional coping	3.34	2.91	2.27	2.00	741.72***	
Outcome Variables <sup>a</sup>	Profile I	Profile II	Profile III	Profile IV	$F$	Scheffé <sup>b</sup>
Physical symptoms	2.15	1.70	1.64	1.38	97.84***	A,B,C,E,F
Emotional symptoms	2.85	2.00	1.84	1.41	282.84***	A,B,C,D,E,F
Cognitive symptoms	2.84	2.06	1.92	1.50	171.81***	A,B,C,E,F

<sup>a</sup>Scale scores could range from 1 (low frequency) to 5 (high frequency).

<sup>b</sup>Scheffé tests. A = significant difference between profile I and II. B = significant difference between profile I and III. C = significant difference profile I and IV. D = significant between profile II and III E = significant difference between profile II and IV. F = significant difference between profile III and IV.

\*\*\* $p < 0.001$ .

*Test of Hypothesis 2: correlation, regression and moderation analyses*

Bivariate correlations between the main study scales are shown in Table 4. Perusal of Table 4 shows that most correlations in the male group are statistically significant. However, this is largely due to the high number of male respondents. Looking at correlations of 0.20 or higher, most are found for Emotional stability, Hassles, Uplifts, Escape/Avoidance and Emotional self-controlling. Emotional stability, Uplifts, and Emotional self-controlling covary negatively with the symptom scales, while Hassles and Escape/avoidance covary positively. It should also be noted that the three symptom scales show high inter-correlations for both the female and male responders.

The relationships between the main study scales were also analyzed using hierarchical regression and moderation analysis respectively. Regression analyses were performed within both men and women on each of the three symptom scales. The results of the analyses with Emotional symptoms as dependent variable are shown in Table 5.

Table 5 shows that fairly high adjusted  $R^2$  values were obtained among both men and women. The addition of the hassles, uplifts and coping scales in step 2 added considerably to the amount of explained variance. Emotional stability, Hassles, Uplifts and Escape/Avoidance showed the strongest contributions in the final models.

The hierarchical regression analyses with Physical symptoms and Cognitive symptoms respectively as dependent variables resulted in the following adjusted  $R^2$  values – Physical symptoms: 0.27 (men) and 0.16 (women) and Cognitive symptoms: 0.43 (men) and 0.36 (women). The patterns on the individual scales resembled the ones obtained with Emotional stability as dependent variable (see Table 4). The addition of the hassles, uplifts and coping scales added significantly ( $p < 0.001$ ) to the amount of explained variance in all these four analyses. The result of one of the moderation analyses is presented in Table 6.

Table 6 shows that the predictor variable Emotional stability and the moderator variable Hassles had significant  $t$  values among men on all three symptom scales ( $p < 0.001$ ). Among women, the predictor variable Emotional stability had a significant  $t$  value on emotional symptoms ( $p < 0.05$ ). The moderator variable Hassles

had significant  $t$  values on all three symptom scores. Among men, significant interactions between the predictor variable and the moderator variable were also found on the emotional and cognitive symptom scales ( $p < 0.05$ ).

Similar moderation analyses were performed, separately for men and women, with uplifts, the four functional coping scales (combined) and the dysfunctional coping scale respectively as moderator variables. Significant interaction effects ( $p < 0.05$ ) between emotional stability and the two coping scales were noted among men on emotional and cognitive symptoms. No other significant interaction effects were found.

## DISCUSSION

The result of the study could be summarized as follows: (1) the predicted relationship between the theoretical model variables daily uplifts, daily hassles, functional and dysfunctional coping on the one hand, and stress-related symptoms on the other, was confirmed; (2) the predicted moderation of daily uplifts, daily hassles and coping processes on the direct relationship between the personality dimension emotional stability and stress-related symptoms, only received limited support; and (3) as predicted female veterans reported higher frequencies of stress-related symptoms than male veterans.

We will now look at the findings more in detail. The first hypothesis states that higher frequency of daily uplift and use of functional coping strategies, and lower frequency of daily hassles and use of dysfunctional coping strategies, will be associated with lower prevalence of stress-reacted symptoms, and vice versa. This hypothesis was directly tested using a person-centered profile analysis based on individual scores on the key model variables. The obtained profiles, four among men and three among women, came out as predicted by the model on the aggregate physical, emotional symptom scales, as well as on all individual symptoms among men, and all individual emotional symptoms among women.

We suggest that the results on the individual symptom scales provide valuable knowledge not seen previously in studies using aggregate symptom scales. These are the things from which people actually suffer. The symptom prevalence among

Table 4. Correlations (Pearson) between the main study scales<sup>a</sup>

Scale	1	2	3	4	5	6	7	8	9	10	11	12
1 Age	<b>1.00</b>	0.05	-0.23	0.07	-0.12	0.01	-0.05	-0.21	-0.37	-0.09	-0.20	-0.10
2 Emotional stability	0.01	<b>1.00</b>	-0.35	0.20	0.15	0.06	0.07	0.09	-0.35	-0.29	-0.42	-0.37
3 Hassles	0.01	-0.26	<b>1.00</b>	-0.37	0.16	-0.23	-0.03	0.00	0.57	0.46	0.63	0.55
4 Uplifts	-0.05	0.05	-0.34	<b>1.00</b>	0.26	0.44	0.16	0.21	-0.23	-0.23	-0.36	-0.29
5 Planful problem-solving	-0.19	0.04	-0.05	0.27	<b>1.00</b>	0.36	0.18	0.35	0.22	-0.05	-0.08	-0.17
6 Emotional self-controlling	-0.07	0.07	-0.26	0.26	0.51	<b>1.00</b>	0.19	0.10	-0.12	-0.15	-0.26	-0.24
7 Physical exercise	0.10	0.02	0.03	0.34	0.14	0.02	<b>1.00</b>	0.10	0.02	-0.13	-0.07	-0.09
8 Positive reappraisal	-0.13	0.16	-0.05	0.19	0.43	0.17	0.25	<b>1.00</b>	0.23	0.03	0.04	0.00
9 Escape/Avoidance	-0.29	-0.29	0.46	-0.19	0.28	-0.09	0.02	0.35	<b>1.00</b>	0.41	0.63	0.51
10 Physical symptoms	-0.04	-0.11	0.39	-0.22	0.02	-0.12	0.00	0.07	0.35	<b>1.00</b>	0.65	0.59
11 Emotional symptoms	-0.12	-0.32	0.58	-0.38	0.03	-0.21	-0.08	0.10	0.60	0.66	<b>1.00</b>	0.76
12 Cognitive symptoms	-0.00	-0.22	0.54	-0.32	-0.05	-0.19	-0.02	0.11	0.46	0.52	0.76	<b>1.00</b>

Notes: <sup>a</sup>Men: Correlations above the diagonal. Correlations between 0.05–0.07  $p < 0.05$ , between 0.08–0.09  $p < 0.01$ , 0.10 or higher,  $p < 0.001$ . Women: correlations below the diagonal. Correlations between 0.15–0.20  $p < 0.05$ , between 0.21–0.24  $p < 0.01$  and 0.25 or higher  $p < 0.001$ .

Table 5. Hierarchical regression analyses of predictor scales on emotional symptoms

Step and predictor variable	Men (n = 1614)				Women (n = 199)			
	B	SE	F	p	B	SE	F	p
<b>Step 1</b>								
Age	-0.013	0.002	57.802	0.000	-0.006	0.006	1.168	0.282
Emotional stability	-0.184	0.011	85.219	0.000	-0.158	0.034	22.182	0.000
<b>Step 2</b>								
Age	0.000	0.001	0.000	0.986	0.002	0.005	.273	0.602
Emotional stability	-0.058	0.009	38.229	0.000	-0.068	0.028	6.049	0.015
Hassles	0.377	0.028	48.104	0.000	0.401	0.104	14.985	0.000
Uplifts	-0.124	0.031	20.263	0.000	-0.289	0.080	12.974	0.000
Planful problem-solving	-0.133	0.032	16.803	0.000	0.016	0.104	0.025	0.874
Emotional self-controlling	-0.033	0.036	0.823	0.823	0.143	0.119	1.443	0.232
Physical exercise	-0.030	0.014	4.365	0.037	-0.028	0.050	0.317	0.574
Positive reappraisal	-0.065	0.024	7.887	0.005	0.159	0.084	3.632	0.059
Escape/Avoidance	0.491	0.032	237.439	0.000	0.542	0.098	29.900	0.000
Step 1 $R^2$ / adjusted $R^2$	0.23/0.22				0.13/0.12			
Final model $R^2$ / adjusted $R^2$	0.56/0.56				0.56/0.53			
$R^2$ change	$p < .001$				$p < .001$			

Table 6. Moderation analyses – linear models of predictors of symptoms

Variable	Men (n = 1,614)				Women (n = 199)			
	b	SE B	t	p	b	SE B	t	p
<b>PHYSICAL SYMPTOMS</b>								
Constant	1.66	0.148	113.11	0.000	1.95	0.051	38.24	0.000
Emotional stability (centred)	-0.04	0.009	-4.71	0.000	-0.01	0.027	-0.26	0.794
Hassles (centred)	0.40	0.027	14.76	0.000	0.42	0.097	4.36	0.000
Emotional stability x Hassles	-0.01	0.015	-0.91	0.362	0.07	0.050	1.49	0.138
<b>EMOTIONAL SYMPTOMS</b>								
Constant	1.93	0.017	113.75	0.000	2.23	0.056	39.92	0.000
Emotional stability (centred)	-0.09	0.010	-8.97	0.000	-0.07	0.031	-2.31	0.022
Hassles (centred)	0.67	0.031	21.52	0.000	0.82	0.111	7.47	0.000
Emotional stability x Hassles	-0.03	0.014	-2.30	0.000	-0.01	0.053	-0.12	0.906
<b>COGNITIVE SYMPTOMS</b>								
Constant	1.98	0.020	100.62	0.000	2.22	0.067	33.13	0.000
Emotional stability (centred)	-0.09	0.012	-7.33	0.000	-0.05	0.038	-1.28	0.218
Hassles (centred)	0.66	0.036	18.19	0.000	0.85	0.141	5.98	0.000
Emotional stability x Hassles	-0.03	0.017	-2.00	0.046	0.09	0.084	1.11	0.270

Note:  $R^2$  see Table 5.

respondents in the theoretically favorable profile was very low. The reverse picture was found among the participants in the theoretically unfavorable profile, particularly on emotional and cognitive symptoms.

Hypothesis 1 was also indirectly supported in the outcome of the bivariate correlations and the regression and moderation analyses. We conclude that the hypothesis is confirmed and that the model-based prediction of the associations between of the concepts daily hassles, daily uplifts and coping, adds meaningful knowledge to our understanding of how everyday events and coping strategies contribute to stress-related symptoms. Most previous studies have noted that the negative impact of hassles on health is stronger than the favorable effect of uplifts (see e.g., Hardt & Johnson, 2010; Larsson *et al.*, 2016; Schmidt, Klusmann, Ludke, Möller & Kunter, 2017). This tendency was also noted in the profile analysis in the present study. The

combination of Daily hassles and Dysfunctional coping was stronger related to higher symptom scores, than daily uplifts and Functional coping was associated with lower symptom scores. Totenhagen, Serido, Curran, and Butler (2012) point to the importance of balance between hassles and uplifts. However, no study was found that also incorporated the importance of functional and dysfunctional coping.

The second hypothesis states that the direct relationship between emotional stability and stress-related symptoms will be moderated by daily hassles, daily uplifts and coping processes. Among men, significant interaction effects were noted between emotional stability and the moderator variables hassles, functional coping and dysfunctional coping on the emotional and cognitive aggregate symptoms scales. Thus, on these two symptom scales, the predictor variable emotional stability had a direct effect on symptoms as well as an effect which was moderated by daily

hassles, functional and dysfunctional coping. Among women, no significant interaction between the predictor and moderator variables was found. In conclusion, the test of the second hypothesis resulted in some support among men (four of twelve possible significant interaction effects) and no support among women. A possible explanation in the case of women is that the lower score on the antecedent variable emotional stability, combined with the negative impact of daily hassles and dysfunctional coping, outweighed potential moderation effects. This interpretation would be in line with results found in a study of female victims of sexual assault (Stensveghen, Arnevesen Bronken, Lien & Larsson, 2020).

The additional research question concerned the issue of potential gender-related differences. The observed differences can be summarized as follows: (1) women have a lower mean score on emotional stability; (2) women report higher frequencies of both daily hassles and daily uplifts; (3) women report more use of the dysfunctional coping strategy Escape/Avoidance as well as the functional coping strategies Emotional self-controlling and Physical exercise; and (4) women have more frequent problems with physical, emotional and cognitive stress-related symptoms. The results on emotional stability and symptoms are in line with the reviews by Michel (2014) and Smyth *et al.* (2018). However, related to the hassles, uplifts and coping model, the present results could indicate that, in the case of women, a higher frequency of daily uplifts and functional coping strategies cannot compensate for a higher frequency of daily hassles and less functional coping (cf. Stensveghen *et al.*, 2020). No comparable gender-oriented studies were found. If this reasoning is valid, it implies that individual-level interventions should include attempts to increase awareness of the importance of minor everyday hassles and conscious efforts to alter the balance between functional and dysfunctional coping. This issue deserves further study.

The methodological strengths of the study include the selection of measurement scales. They were either established instruments, or scales constructed from codes and categories developed in a grounded theory study (Larsson *et al.*, 2017). The scales had high or acceptable reliability. We suggest that the findings can be generalized to military veterans, at least in the Western cultures. Given the present sample of mainly male soldiers and lower and medium ranked officers, there is obviously a need for replication studies, preferably longitudinal, in various organizational and non-organizational contexts.

One weakness in the study is the low response rate (40.5%). The dropout analysis showed that the responders did not differ from the non-responders in terms of gender. The male responders were significantly older than the male non-responders (40.2 vs 36.7). We believe that this age difference had little or no effect. Subgroup analysis based on age, within the group of responders, yielded no significant results (not shown in the Results section). Two potential reasons behind the dropout rate are that the questionnaire was perceived as being too extensive and that many people experience “survey fatigue” nowadays. We tried to prevent this by adding an information letter from the Head of the Swedish Armed Forces’ Veteran Center and by giving the respondents an opportunity to respond either on paper or digitally.

Another shortcoming is that the study is based on self-ratings, collected at one point in time. Subsequently, there is a risk of

artificially inflated relationships among variables, so called common method variance (Podsakoff, MacKenzie and Podsakoff, 2012). In particular, there is a risk of responses being affected by general mood level in the present study. Emotional stability can be regarded as a proxy for general mood level (Clark & Watson, 2008). The significant contributions of hassles, uplifts and dysfunctional coping in the multiple regression analyses, and the limited interaction effects found in the moderation analyses, can be seen as an indicator of a limited impact of common method variance.

Another methodological weakness is the period between the military mission and the data collection. This could vary from two to seven years. This may cause the memory to fade, but it should be noted that all questions referred to the situation during the last month.

## CONCLUSION AND PRACTICAL IMPLICATIONS

In the introduction, the need for studies focusing on daily “wear and tear” stress reactions among military veterans was mentioned. We conclude that the findings in the present study add to the knowledge gained in studies focusing on veterans suffering from PTSD, depression, drug problems, etc. (see e.g., Eng Berge *et al.*, 2020). In particular, the model-based assumption of interrelationship of daily uplifts, daily hassles and coping processes appear to be promising and deserve further studies.

Potential practical implications primarily include an increased focus on emotional stability during selection. The education of individuals, front-line leaders and strategic-level leaders in organizational settings is also recommended. Such efforts should focus on increasing the participants’ awareness of daily hassles and uplifts and their interplay with functional and dysfunctional coping. The use of cognitive behavioral therapy interventions by health care professionals are also suggested (cf. Castillo, Chee, Nason, *et al.*, 2016) for individuals with severe stress-related problems. Such interventions could be effectively directed at the appraisal of daily hassles, and at dysfunctional coping strategies. Thus, in contrast to major traumatic events, the core model concepts can be affected (Heron *et al.*, 2013). This may be an important advantage of the suggested model from a stress management perspective.

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## APPENDIX A

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Daily hassles, daily uplifts and coping items

Daily hassles

Worry about own performance<sup>a</sup>

Worry about own appearance<sup>a</sup>

Worry about future health<sup>a</sup>

Worry about family members or relatives<sup>a</sup>

Worry about practical things such as economy, housing, garden, car<sup>a</sup>

Annoyed at co-workers (present job)

Annoyed at boss/bosses (present job)

Annoyed at family members

Annoyed at being interrupted and not being able to finish things

Annoyed at the traffic/transportations

Annoyed at bad employment conditions (present job)

Annoyed at slowness in the organization (present job)

Annoyed at high work load (present job)

### Daily uplifts

Joy from memories of reunions with mission participants

Joy from co-workers (present job)

Joy from boss/bosses (present job)

Joy from stimulating work (present job)

Joy from having succeeded with something or reached a goal<sup>a</sup>

Joy from being together with my closest persons<sup>a</sup>

Joy from relaxation and recreation (for example literature, music, walks, sports)<sup>a</sup>

Joy from giving someone something (for example time, listening, caring or a gift)<sup>a</sup>

Joy from having someone to talk to who wants to listen<sup>a</sup>

Functional coping

### Planful problem-solving

I try more or less systematically to weigh the pros and cons of different action alternatives against each other

I know what has to be done so I double my efforts to make things work<sup>b</sup>

I make efforts to get more information

I try more or less consciously to get a clear picture of all action alternatives

I try to analyze problems in order to understand them better<sup>b</sup>

I draw on my past experiences if I have been in similar situation before<sup>b</sup>

I stand my ground and fight for what I want<sup>b</sup>

I make a plan of action and follow it<sup>b</sup>

(continued)

## Appendix A (continued)

### Emotional self-controlling

I talk to someone about how I am feeling<sup>b</sup> (R)

I try to keep my feelings to myself<sup>b</sup>

I let my feelings out, one way or the other (R)

I ask colleagues for help (R)

### Physical exercise

I do physical exercise because it makes me feel good

I use physical exercise to ease my mind

### Positive reappraisal

I try to look for the silver lining, so to speak; try to look on the bright side of things<sup>b</sup>

I make light of the situation; refuse to get too serious about it<sup>b</sup>

I remind myself how much worse things could be<sup>b</sup>

I go along with fate; sometimes I just have bad luck

### Dysfunctional coping

#### Escape - avoidance

I wish that the situation will go away or somehow be over with<sup>b</sup>

I criticize or lecture myself<sup>b</sup>

I have phantasies or wishes about how things might turn out<sup>b</sup>

I take it out on other people<sup>b</sup>

I prepare myself for the worst<sup>b</sup>

I try to make myself feel better by eating, drinking, smoking, using drugs or medication, etc<sup>b</sup>

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Notes: <sup>a</sup>From Setterlind & Larsson, 1995. <sup>b</sup>Modified from Lazarus & Folkman, 1984. (R) = reverses coding.

## APPENDIX B

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Individual symptoms (from Setterlind & Larsson, 1995)

Physical symptoms

Back pain or back problems

Pain in the neck or shoulders

Headache or migraine

Stomach pain or stomach problems

Tension in different muscles

Sweating

Pressure over the chest or chest pain

Palpitation of the heart

Breathlessness

Dizziness

Emotional symptoms

Powerlessness/helplessness

Depressed/feeling low

Restlessness

Nervousness or worry

Tiredness/weakness

Sleeping problems

Crying easily

Difficulties to relax

Cognitive

Concentration difficulties

Difficult to make decisions

Forget things easily

Difficulties to think clearly

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