

# A structural model of burnout syndrome, coping behavior and personality traits in professional soldiers of the Slovene armed forces

Strukturni model povezanosti med izgorelostjo, strategijami spoprijemanja s stresom in osebnostnimi značilnostmi pri vojaki Slovenske vojske

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## Ključne besede:

sindrom izgorelosti, spoprijemanje s stresom, osebnostne značilnosti, vojska, vojaki, strukturno modeliranje

## Key words:

burnout syndrome, coping behavior, personality traits, military, soldiers, structural equation modeling

## Citirajte kot/Cite as:

Zdrav Vestn 2012; 81: 326–36

Prispelo: 25. jul. 2011,  
Sprejeto: 2. feb. 2012

## Izvleček

**Izhodišča:** V študiji smo ugotavljali ustreznost aditivnega in mediacijskega modela povezanosti med osebnostnimi značilnostmi in spoprijemanjem s stresom pri napovedovanju sindroma izgorelosti med vojaki Slovenske vojske. Aditivni model predvideva, da osebnostne značilnosti in spoprijemanje s stresom medsebojno neodvisno prispevajo k razvoju izgorelosti. Po drugi strani pa mediacijski model nakazuje, da so posamezniki z določenimi osebnostnimi značilnostmi nagnjeni k manj učinkovitim vrstam spoprijemanja s stresom, ki nato vodijo v izgorelost.

**Metode:** 390 vojakov (87-odstotna odzivnost) je izpolnilo Eysenckove osebnostne lestvice, Vprašalnik spoprijemanja s stresom in Vprašalnik izgorelosti Maslachove.

**Rezultati:** Strukturno modeliranje je pokazalo ustreznost aditivnega modela. Kot smo predvidevali, je bila čustvena izčrpanost v pozitivni povezavi z nevroticizmom in na čustva usmerjenim spoprijemanjem s stresom. Depersonalizacija je bila povezana s psihotocizmom, občutek delovne učinkovitosti pa je bil v pozitivni povezavi z ekstravertiranostjo in na problem usmerjenim spoprijemanjem s stresom ter v negativni povezavi z nevroticizmom in na čustva usmerjenim spoprijemanjem s stresom.

**Zaključki:** Za zmanjšanje izgorelosti v vojski bi bilo koristno uvesti treninge učinkovitega spoprijemanja s stresom in sestaviti podpirne skupine med vojaki. Takšni ukrepi bi bili še posebej koristni za vojake z občutljivo osebnostno strukturo (nagnjene k čustveni labilnosti, psihotocizmu in introvertiranosti).

## Abstract

**Background:** This study explored how adequately the additive and mediational models could explain the relationships between personality traits and coping behavior in predicting burnout syndrome in professional soldiers of the Slovene Army. The additive model suggests that personality and coping are independent, unique contributors to maladjustment outcomes. The mediational model, on the other hand, suggests that personality factors predispose people to use particular coping strategies that tend to be less effective for adjustment.

**Methods:** A total of 390 soldiers (87% response rate) completed the Eysenck Personality Questionnaire, the Ways of Coping Questionnaire and the Maslach Burnout Inventory.

**Results:** The structural equation modeling confirmed an adequate fit only of the additive model. As hypothesized, emotional exhaustion was positively associated with neuroticism and emotion-oriented coping. Depersonalization was positively associated with psychoticism, and personal accomplishment was positively associated with extraversion and problem-oriented coping, and inversely with neuroticism and emotion-oriented coping.

**Conclusions:** To reduce burnout in the Slovenian Army, it may be of great benefit to provide training of effective stress-coping mechanisms, and create peer support groups among soldiers. Such intervention should be especially beneficial for soldiers with a vulnerable personality structure (high neuroticism and psychoticism and low extraversion).

## Introduction

Burnout syndrome in military personnel has been a topic of several studies, which have recognized its negative effects on military performance, such as increased staff turnover,<sup>1</sup> poorer group cohesion,<sup>2</sup> and perceived physical<sup>3</sup> and psychological health.<sup>4</sup> Some researchers have also dealt with the determinants of burnout in a military context. Similarly to research conducted in other occupational settings,<sup>5,6</sup> most burnout studies of military occupations have been concerned with external triggers, i.e. organizational and environmental influences, such as role stress, job involvement,<sup>7,8</sup> and job stress.<sup>9</sup> A sense of control, social support,<sup>9</sup> and organizational support<sup>4</sup> proved to be protective factors. Furthermore, job demands, job control and rank were found to be independently associated with different negative physical and psychological outcomes, including common mental disorders and fatigue.<sup>10</sup>

Fewer burnout research studies have dealt with the psychological determinants of burnout in the military. Hardiness,<sup>11</sup> self-esteem<sup>12</sup> and a history of traumatic injuries<sup>2</sup> were shown to be associated with burnout scores. Nevertheless, there are other psychological factors that emerge in the general occupational health literature as important in the development of burnout, namely basic personality traits and coping behavior. These factors, however, have not been thoroughly examined in relation to burnout in military settings.

## Personality traits, coping behavior and maladjustment

The way people perceive and cope with distress is associated with their personality traits.<sup>13,14</sup> People who score high on neuroticism use more self-blame, withdrawal, and cognitive distortion, while extraversion is associated with the use of rational action when dealing with stress.<sup>15</sup> The relationship between personality, coping and different negative outcomes has not been fully explained. Only a few studies have examined this complex relationship when dealing with

burnout as a form of maladjustment outcome.

The mediational model suggests that personality factors predispose people to use particular coping strategies that tend to be less effective for adjustment. Indeed, there is some evidence to support the mediational role of coping in the personality-burnout link. Specifically, in a study of professional caregivers, neuroticism was found to affect emotional exhaustion and depersonalization through emotion-oriented coping strategies<sup>16</sup>, while other personality traits did not show any connection with burnout. However, firm conclusions cannot be drawn from the results of this study owing to the small sample. In the military environment it has been found that prisoners of war with high sensation-seeking traits (a characteristic of extraversion) tend to use active coping strategies that are associated with better adjustment to post-traumatic stress disorder following captivity, and the ones with low sensation-seeking traits tend to cope by detachment and denial, which are associated with poorer adjustment.<sup>17</sup>

On the other hand, according to the additive model, personality and coping are independent, unique contributors to maladjustment outcomes. This model states that certain personality traits and coping strategies are related uniquely to maladjustment, and that each is relevant in the prediction of symptoms.<sup>18</sup> In a sample of nurses, Hudek-Knežević et al.<sup>19</sup> performed hierarchical regression analyses, and found some support for the importance of coping styles and social support above personality traits.

As shown, personality traits, coping behavior and burnout are strongly associated. When seeking ways to reduce burnout syndrome it is of great importance to have a thorough insight into the mechanisms through which personality traits and coping strategies might exert their effects on burnout. However, it is not yet clear whether personality factors predispose people to engage in particular coping strategies that tend to lead to higher burnout symptoms, or whether personality traits and coping strategies have an independent contribution to the burnout syndrome. This study compares

the adequacy of these two models. To our best knowledge, it is the first to attempt this.

According to previous findings, we suggest these paths in the *additive model*:

1. Neuroticism is positively associated with emotional exhaustion.<sup>19-22</sup> According to Eysenck & Eysenck,<sup>23</sup> individuals who score high on neuroticism are prone to emotional, anxious and fearful responses, and these disproportionately pronounced feelings of distress may lead to emotional exhaustion.
2. Neuroticism is negatively associated with personal accomplishment.<sup>19-21</sup> A tendency to expect the worst, combined with defensive reactions and more frequent episodes of frustration, makes it probable that individuals who score high on neuroticism will perceive and report fewer personal accomplishments.<sup>22</sup>
3. Extraversion is positively associated with personal accomplishment.<sup>5,22,24,25</sup> In studies on self-efficacy and job satisfaction extraversion was shown to be an important predictor.<sup>26</sup> Extraverts have a general tendency to have positive experiences<sup>27</sup> and a positive view on their own abilities and self-efficacy,<sup>26</sup> are optimistic, self-confident, sociable and energetic.<sup>28</sup> All these characteristics should maintain soldiers' feelings of competence, successful achievements, job efficacy and the sense of meaning in their work.
4. Psychoticism is positively associated with depersonalization.<sup>20</sup> The tendency to aggressiveness, domination, manipulation, ruthlessness, and solitariness of people who score high on this dimension<sup>28</sup> may contribute to soldiers' cynical and negative attitudes at work.
5. Coping strategies are linked to emotional exhaustion and personal accomplishment.
  - a. Problem-focused coping, which represents active efforts oriented to the solution of the problem, should result in positive feelings about one's efficacy and competence at work. We propose that it is positively associated with personal accomplishment.
  - b. In contrast, the function of emotion-focused coping represents efforts to

balance the negative emotions that arise from a stressful situation and which do not alone lead to the concrete solution of the problem. Such behavior may leave the individual with feelings of lower efficacy and competence. We suggest it is negatively associated with personal accomplishment.

- c. Emotion-oriented coping has been linked to poorer psychological outcomes;<sup>29</sup> we therefore propose it is positively associated with emotional exhaustion.

On the other hand, it seems plausible to assume that coping strategies play a mediational role in the personality traits-burnout link. In accordance with previous studies, in the *meditational model* we suggest these paths:

1. Neuroticism is positively associated with emotional exhaustion and personal accomplishment *via emotion-focused coping*. It has been shown that people high on neuroticism use more emotion-oriented coping.<sup>15</sup>
2. Extraversion is positively associated with personal accomplishment *via problem-focused coping*. Extraverts use more problem solving and active coping when dealing with stress.<sup>15</sup>
3. Psychoticism is positively associated with depersonalization. Some authors see depersonalization as a coping strategy in itself, rather than as a manifestation of burnout.<sup>30</sup> We therefore expect psychoticism to affect depersonalization directly, rather than through coping strategies.

## Methods

### Study design and population

The design of this study was cross-sectional. A total of 448 soldiers from the Slovenian Armed Forces were invited by letter to participate in the study. The nature of the procedure was fully explained in the letter and informed consent was obtained from 390 soldiers who voluntarily agreed to participate (87 % response rate). The study was conducted at the military post in central

Slovenia. Subjects completed a written questionnaire. To increase confidentiality, the questionnaires were returned to the researcher in unmarked sealed envelopes and destroyed after the data were entered into the database. Since participation in the study was anonymous, no data exist on the non-responders, therefore comparisons between them and those who did participate could not be made. The research was completed in accordance with the Helsinki Declaration and approved by the National Medical Ethics Committee of the Ministry of Health of Slovenia.

**Instruments and measures**

1. The demographic characteristics measured were: age, rank (Private, NCO or Officer), gender, number of children, educational level, marital status and job tenure.
2. Eysenck Personality Questionnaire (the EPQ-R)<sup>28</sup> consists of 106 statements describing how people feel, think and behave. Respondents give “yes-no” answers with regards to whether they agree or disagree with the given statement.

The scale assesses three basic personality dimensions (psychoticism, extraversion and neuroticism) and, additionally, the tendency to provide socially desirable answers (the lie scale). It is assumed these traits are stable throughout an individual’s lifetime and are not influenced by his or her current state. Cronbach’s alpha coefficients for the scales range from .71 and .90 for Slovenia, as well as for Great Britain.<sup>28</sup> In our study, Cronbach’s alpha coefficients ranged from .78 to .82.

3. The Ways of Coping Questionnaire (the WCQ)<sup>31</sup> consists of 66 statements about how people cope with stressful situations. After being asked to recall stressful episodes that had taken place in the past three months, subjects rate their agreement with the provided statements using a four-point Likert scale. The scale measures eight coping strategies: planful problem solving, seeking social support, confrontation, distancing, self-controlling, accepting responsibility, escape-avoidance and positive reappraisal. The example

**Table 1:** Demographic characteristics of the sample.

		M	SD	Range
Age in years		30.73	7.61	19–59
Job tenure in years		7.18	5.40	1–22
		f (%)		
Gender	male	342 (88)		
	female	48 (12)		
Education level	vocational school	79 (20)		
	high school	239 (61)		
	college or higher	66 (17)		
Rank	Private	234 (60)		
	NCO	98 (25)		
	Officer	47 (12)		
Marital status	in a relationship	232 (59)		
	single	156 (40)		
Number of children	0	238 (61)		
	1	75 (19)		
	2 or more	77 (20)		

statements for the eight coping strategies, respectively, are: I focused on what I have to do; I tried to find someone's sympathy and understanding; I got angry at the person who caused the problem; I acted as if nothing had happened; I tried to keep my opinion to myself; I tried to be critical to myself; I was hoping for a miracle; I changed and became more mature. The internal consistency reliability for the subscales was reported by Folkman & Lazarus<sup>32</sup> as moderate, ranging from .56 to .85. Cronbach's alpha coefficients in our study ranged from .64 to .76.

4. The Maslach Burnout Inventory (MBI)<sup>33</sup> consists of 22 statements, which describe feelings and opinions related to work. Using a seven-point Likert scale subjects evaluate how often a specific statement applies to them. The scale measures three

main components of burnout: emotional exhaustion describes feelings of being emotionally overextended and drained; depersonalization refers to detached, indifferent and cynical attitudes towards other people at work; and the lack of personal accomplishment is the tendency to evaluate one's achievement at work negatively and involves personal feelings of incompetence. The example statements for the three components, respectively, are: I feel emotionally exhausted because of my work; I feel that I treat some of my clients impersonally, as objects; I can easily understand the feelings of my clients. Internal consistencies of the scales reported by the authors<sup>34</sup> ranged from .71 to .90. Similar reliability was found in our study: from .73 to .85. Since normative values for Slovenian population do

**Table 2:** Personality traits, coping strategies and burnout scores.

		N	Mean	SD	Range
<b>Personality</b>					
Psychoticism	male	342	6.30	3.542	1–22
	female	48	6.48	3.561	1–22
Extraversion	male	342	17.09	4.049	1–23
	female	48	16.44	4.802	1–23
Neuroticism	male	342	5.83	4.397	0–20
	female	48	7.63	4.364	0–20
<b>Coping</b>					
Confrontation		389	8.38	2.750	0–18
Distancing		389	7.11	2.979	0–18
Self-controlling		389	8.28	2.551	0–18
Seeking soc. support		389	8.88	3.025	0–18
Accepting responsibility		389	8.49	2.891	0–18
Escape/avoidance		389	5.29	4.300	0–18
Problem solving		389	11.56	3.058	0–18
Positive reappraisal		389	9.25	2.718	0–18
<b>Burnout</b>					
Emotional exhaustion		390	16.46	11.656	0–54
Depersonalization		390	8.71	6.168	0–30
Personal accomplishment		390	30.37	7.576	3–47

not exist, we used the norms reported by the authors.<sup>34</sup>

### Statistical analysis

The data were analyzed with the SPSS (17.0) and Lisrel (8.71) statistical programs. T-tests were performed to see whether the soldiers differ from the normative values with regard to personality structure and burnout syndrome. As the maximum scores in WCQ differ for each coping strategy, we calculated pondered mean values. A principal component analysis of coping strategies was performed to classify the eight coping strategies into two standard coping factors – problem-focused and emotion-focused coping. Finally, a path analysis was performed to ascertain the adequacy of fit of the additive and meditational models. The overall fit of the models was assessed by using  $\chi^2$ , the standardized root mean square residual (SRMR), the comparative fit index (CFI), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), the non-normed fit index (NNFI) and root mean square residual index (RMSEA). A reasonable fit is indicated if:  $\chi^2$  is not statistically significant, SRMR is less than .05, CFI, GFI and NNFI are .95 or above, AGFI is .90 or above and RMSEA is less than .06.<sup>35,36</sup>

### Results

As seen in Table 1, the sample consisted mainly of young male Privates who completed high school. Approximately 60 % of the soldiers reported being married or in a relationship and most reported being without children.

Male soldiers scored significantly higher on psychoticism ( $t=8.85$ ;  $p=0.000$ ) and neuroticism ( $t=7.58$ ;  $p=0.000$ ) and lower on extraversion ( $t=-4.53$ ;  $p=0.000$ ) compared to Slovenian norms.<sup>28</sup> Female soldiers scored significantly higher only on psychoticism ( $t=3.95$ ;  $p=0.000$ ). Most commonly used coping strategies among soldiers were problem solving, positive re-evaluation of the situation, and seeking social support. Less frequently soldiers were found to rely on avoiding the problem and distancing themselves from it. According to US norms,<sup>34</sup> the soldiers scored significantly lower on emotional exhaustion ( $t=-7.68$ ;  $p=0.000$ ) and higher on the lack of personal accomplishment ( $t=12.07$ ;  $p=0.000$ ).

The two-component solution explained 63 % of the variance. The eight coping strategies were clustered into two groups: problem-focused and emotion-focused coping. With the exception of confrontation and self-controlling, which loaded similarly on both components, the six remaining coping strategies loaded mainly on one of the two components.

Figure 1 demonstrates the proposed structural models. In both models an additional path from emotional exhaustion to depersonalization proposed by the program was applied to obtain the models with the best fit.

As seen in Table 4, better fit is provided by the additive model with all measures indicating an adequate fit. In the mediational model none of the measures indicate an adequate fit.

### Discussion

Our study of the effects of personality traits and coping strategies on burnout dimensions in the Slovenian Armed Forces was successful in that it compared two, in

**Table 3:** The principal component analysis of coping strategies.

Coping strategies	Component	
	problem-focused	emotion-focused
Confrontation	<b>.465</b>	<b>.409</b>
Distancing	-.041	<b>.810</b>
Self-controlling	<b>.494</b>	<b>.418</b>
Seeking social support	<b>.747</b>	-.042
Accepting responsibility	<b>.603</b>	.264
Escape/avoidance	-.132	<b>.932</b>
Problem solving	<b>.919</b>	-.385
Positive reappraisal	<b>.789</b>	.079
$\sigma^2$ <sup>a</sup>	44	19

<sup>a</sup> % of the explained variance.

theory, equally plausible and mutually exclusive structural models, and found strong support for only one of them. In the additive model we assumed direct, independent effects of personality traits and coping strategies on burnout dimensions, whereas in the mediational model we assumed that personality traits impact burnout dimensions through the choice and use of the coping strategies. The structural equation modeling that we used surpasses the simple regression analysis as it enables us to obtain a deeper insight into the complex relationships between the variables in question.

### The independent role of personality traits and coping behavior in predicting burnout

According to the indices presented in Table 4, the additive model was shown to have an adequate fit, while the mediational model proved to be unsuitable. This finding implies that coping strategies are not entirely determined by personality traits, and thus make their own contribution to the development of burnout. To our knowledge, no previous studies have dealt with the comparison of these two models. This finding is therefore valuable not only from the theoretical point of view but also provides us with useful leads for possible intervention to reduce burnout.

In accordance with previous studies,<sup>19,20,25</sup> in the additive model (Figure 1) individuals high on neuroticism and psycho-

ticism and low on extraversion turn out to be more prone to burnout syndrome. With regard to coping behavior, emotion-oriented coping is associated with higher, and problem-oriented coping with lower burnout scores, which also confirms previous findings.<sup>29,37</sup> Additionally, we found a strong connection between emotional exhaustion and depersonalization, proposed by the statistical program, that we did not presume in the model. Recently, Diestel and Schmidt<sup>38</sup> arrived at the conclusion that the burnout process starts with people becoming emotionally exhausted, and this lack of emotional resources then leads to their depersonalized attitudes towards others. The path from emotional exhaustion to depersonalization in our model is consistent with this finding. Moreover, within the theory of conservation of resources,<sup>30</sup> depersonalization is a loss-control strategy used to prevent further reduction of already depleted emotional resources. Following this notion, it seems that emotionally drained soldiers protect themselves from further loss of their resources by isolating themselves from other people at work.

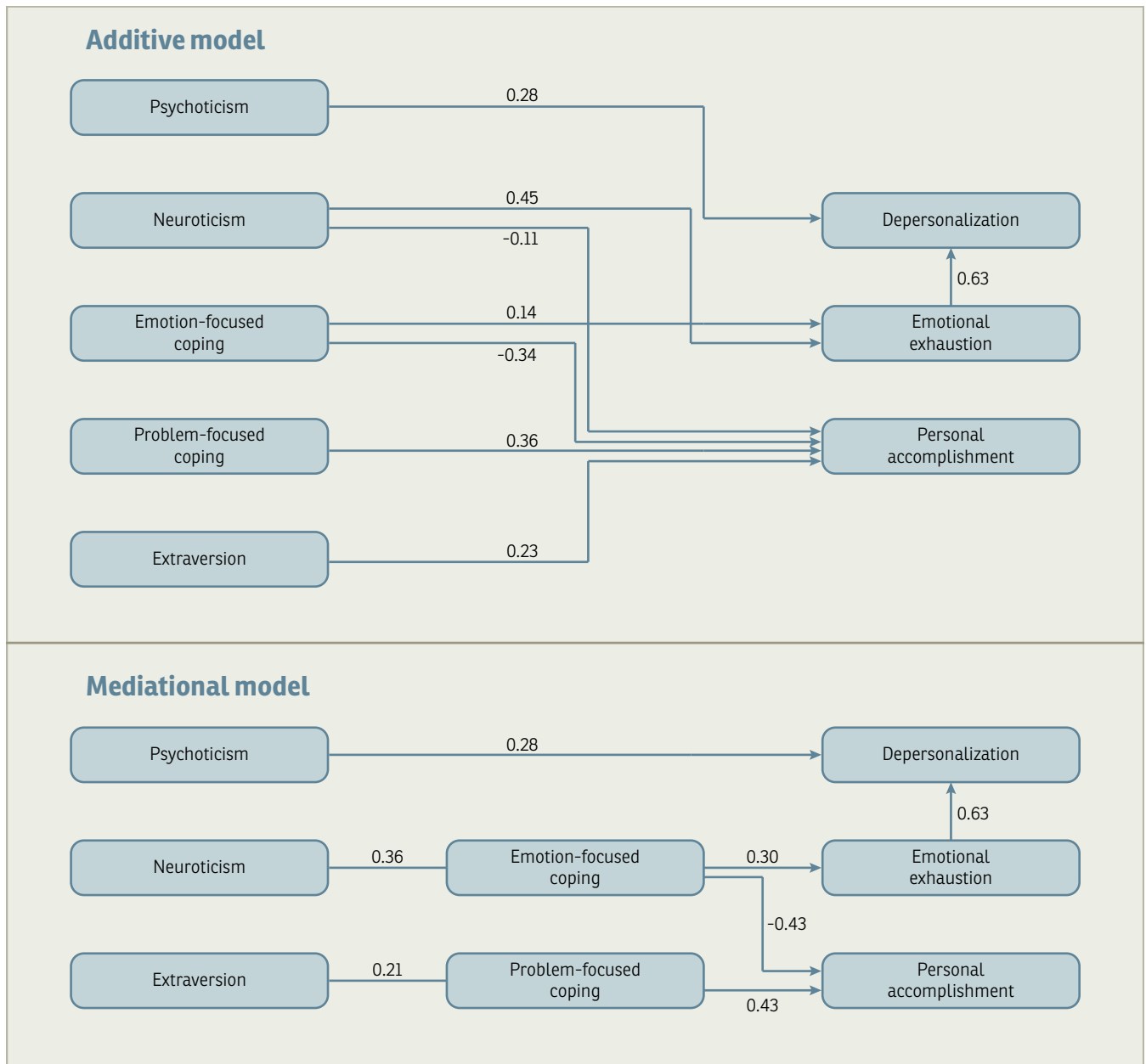
### Implications for intervention

A recent study showed that many Slovenians with mental health difficulties do not seek professional help, one of the possible reasons being the stigmatization of mental health problems.<sup>39</sup> We may assume that in the military setting, where soldier's mental and physical strength has always been highly valued and desired, this stigma is present even more so. It is therefore significant for the Armed Forces to recognize mental health difficulties when they occur, and provide an adequate treatment to its members.

Workplace-based interventions aimed at reducing stress often have little or no effect.<sup>40</sup> Most of the burnout intervention strategies reported in the literature are therefore oriented to the individual and provide treatment, not prevention, much like other stress intervention.<sup>41</sup> The compliance of the additive model (Figure 1, Table 4) found in our study suggests that burnout intervention in the army should include specific mo-

**Table 4:** Fit statistics for the models.

Fit measure	Additive model	Mediational model
$\chi^2$	18.10	250.51
df	10	18
p	0.053	0.000
SRMR	0.043	0.063
CFI	0.99	0.76
GFI	0.99	0.86
AGFI	0.96	0.72
NNFI	0.98	0.62
RMSEA	0.046	0.180



**Fig. 1:** The additive and the mediational models. Values represent regression ( $\beta$ ) coefficients.

difications of personality traits and coping strategies.

Individuals high on neuroticism and psychoticism, and low on extraversion, seem to be most prone to developing burnout syndrome. Personality traits are considered to be rather stable and unchangeable throughout life, and difficult to modify directly. A redefinition of the selection process for admission to the Armed Forces with regard to personality structure as a burnout reduction strategy, has already been proposed in a previous study.<sup>42</sup> The authors saw a possible consequent reduction in the usage of inappropriate coping strategies through selecti-

on. The complex design of the present study, however, was able to show that coping strategies are not entirely determined by personality. This finding emphasizes the need to focus on coping behavior specifically in burnout intervention, regardless of personality. Moreover, some personality characteristics, which are undesirable in most other occupations, are appropriate for the demands of military work. For example, higher levels on psychoticism could even be necessary when facing life-threatening situations.

In contrast to personality traits, coping may be to a greater extent within the range of the individual's personal control and



choice. Therefore, we believe that addressing coping behavior in burnout intervention is a more constructive solution, and this intervention should be aimed particularly at soldiers with a vulnerable personality structure, who could compensate for their vulnerability through enhancement of their coping skills. Ultimately, regardless of personality structure, all individuals who cope ineffectively should be trained to identify the most intense job stressors, observe the ineffective coping strategies they may use in response, and substitute them with more constructive active coping responses. Such training has been successful in improving coping with stressful events.<sup>43</sup> Since in the additive model (Figure 1) both, emotion- and problem-oriented coping were associated with the lack of personal accomplishment, which is according to the norms the most critical component of burnout among Slovenian soldiers (Table 2), this training should be especially beneficial for heightening their feelings of work efficacy. Furthermore, Freedy and Hobfoll<sup>44</sup> enhanced nurses' coping skills by teaching them how to use their social support and individual mastery resources, and found a significant reduction in emotional exhaustion in the experimental group relative to the control group. It seems plausible that similar training could also benefit soldiers not only in reducing burnout but also high anxiety rates, which have previously been associated with poor coping in Slovenian soldiers.<sup>45</sup>

Another possibility for reducing burnout in the military is the peer social support intervention. Such groups provide members with informational and emotional support,<sup>46</sup> and with resources that are beyond those possessed directly by an individual, which helps them to replenish their depleted resources.<sup>47</sup>

### Strengths and limitations

The ability of structural modeling to test causal hypotheses is enhanced when large samples and reliable measures are used, when the investigation is longitudinal, and when the model is derived from substantive theory.<sup>48</sup> The sample in our study was large,

the measures were reliable and we compared two models according to the findings of earlier studies, but our study was cross-sectional. Moreover, we should note that generalizing our results to military settings across different cultures is questionable, and calls for the need of further research to implement a cross-cultural aspect into the studies of burnout in the military. Another limitation of our study is that it did not control for job demands and job stress. For optimization of intervention to reduce burnout in the military population, further research is needed regarding the environmental and situational factors of burnout in military settings.

### Acknowledgments

Present study was a part of the Target research program "Knowledge for peace" (M3-0178), ordered by the Slovenian Research Agency and funded by the Ministry of Defense. We would like to thank all the soldiers who participated.

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