

## The structure and stability of coping with low-control stressors

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The study examines the latent structure of coping responses within typically low-control situational context. Self-report measures of the sources of stress and 11 situation-specific coping strategies were taken in a sample of recruits attending military basic training. Data gathering procedures were done at the very beginning ( $N=445$ ), and by the end ( $N=421$ ) of the basic training. Support was found via confirmatory factor analyses for a three-factor model of coping that included the dimensions of problem solving strategies, emotion-focused strategies, and the strategies aimed at acceptance of situation. Correlations between the scores on the corresponding latent coping dimensions point to a moderately high stability of coping over the five-week period, ranging from .67 for the acceptance of situation to .75 for the problem solving factor.

The concept of coping comprises numerous ways of dealing with diverse person-environment transactions. This fairly diffuse phenomenon has been defined in terms of strategies, tactics, responses, cognitions, or behavior. A prodigious amount of research has been done since the late 1970s focusing on conceptualization of coping, its potential role in determining how stress affects people and how it can shape adaptational outcomes. Coping has arguably become the most widely studied topic in various subareas within psychology and in allied disciplines. In general, coping scholars agree that research on the nature and function of coping processes is critical in advancing our understanding of the effects of stress on both psychological and physical well-being (e.g. Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Carver, & Scheier, 1994; David, & Suls, 1999; Endler, Speer, Johnson, & Flett, 2000; Lazarus, 2000; Moos, 1995; Parkes, 1994; Somerfield, & McCrae, 2000; Thoits, 1995).

Nevertheless, there is still little consensus on how to conceptualize or measure the ways of coping as the central constructs in the field (see e.g., Ayers, Sandler, West, & Roosa, 1996; Buško, 2000; Compas et al., 2001; Schwarzer, & Schwarzer, 1996; Skinner, Edge, Altman, & Sherwood, 2003; Stanton, Danoff-Burg, Cameron, & Ellis, 1994; Terry, & Hynes, 1998). The measurement of coping

is being complicated by several important conceptual problems, including potential confounding between (cognitive) coping and cognitive appraisals (e.g. Troop, 1998); confounding between coping and coping resources (e.g. dispositional optimism or social support; Coyne, & Racioppo, 2000; Schwarzer, & Schwarzer, 1996); the issues of stability and generality or the consistency of responses across different situations (Carver & Scheier, 1994); and particularly, the problem of dimensionality of coping responses (e.g. Compas et al., 2001; Stanton et al., 1994).

The lack of clarity about basic dimensions or categories used to classify how people cope makes it rather difficult to compare and aggregate findings across/different stressors or domains, across age, sex, or otherwise defined groups. Skinner et al. (2003) emphasize that the structure of coping spans the conceptual space between instances of coping and adaptive processes; thus the critical task for the field would be "...to construct a complete and coherent set of categories at an intermediate level that organizes innumerable situation-specific highly personal responses with respect to their functions in mediating the effects of stress" (pp. 217). Many attempts have been made to reduce the total of possible responses to a more parsimonious set of coping dimensions. Obviously, the number of dimensions established theoretically or found empirically greatly depends on the level within hierarchy of coping concepts, but it shows to rely upon the stressor type or the population under study, as well (e.g. Ayers et al., 1996; Buško, & Kulenović, 1995; Coyne, & Racioppo, 2000; Falkum, Olff, & Aasland, 1997; Fields, & Prinz, 1997; Merluzzi, & Sanchez, 1997; Parker, & Endler, 1992; Stanton et al., 1994; Tamres, Janicki, & Helgeson, 2002; Terry, & Hynes, 1998).

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The well-known and commonly used distinction put forward by Lazarus and Folkman (1984, 1987, 1991) is that of *problem-focused* versus *emotion-focused* dimension, reflecting the function of coping either to act on the source of stress or to regulate emotional responses to the problem. Although Lazarus functional distinction has been generally acknowledged, in the first place for its heuristic merit in the study of coping (Compas et al., 2001; Parker & Endler, 1992), it proved to be too simplistic if used as a structure for classifying ways of coping. Consistent with Lazarus own position, Skinner et al. (2003) argue against taking these dimensions (or any other coping function) as higher order coping categories, maintaining that as categories they are not conceptually clear, mutually exclusive, or exhaustive.

Another set of distinctions pertains to coping methods outlined by certain topological features. The most often used distinction of this kind is *approach* versus *avoidance* (e.g. Moos, 1995; Suls, & Fletcher, 1985; Sweet, Savoie, & Lemyre, 1999), which contrasts the ways of coping that bring a person closer to the source of stress with those coping modes that allow the person to withdraw. Related meaning is implicated by dichotomies like engagement versus disengagement, monitoring versus blunting, vigilance versus cognitive avoidance, active versus passive coping (Fields, & Prinz, 1997; Schwarzer, & Schwarzer, 1996; Tobin, Holroyd, Reynolds, & Wigal, 1989). The arguments previously mentioned for the functional distinctions hold for the most part in case of the latter formulations as well. One problem is that there is no agreement about the definitions of these coping categories; as a consequence, some specific strategies, such as accommodation, support seeking, venting or aggression, often appear to be dismissed or misclassified; furthermore, strategies falling within approach (like instrumental action, catharsis) and avoidance (such as escape, distraction) categories are apparently heterogeneous with regard to functions they serve.

According to Skinner et al. (2003), the most useful set of higher order coping distinctions are those that contribute to the identification of action types. Such a distinction is contained within the constructs and models of *control* which make a difference between *primary control* - efforts aimed at influencing objective conditions, *secondary control* - efforts to adjust oneself to fit objective situation, and *relinquished control* - defined as the absence of any coping attempts (Heckhausen, & Schulz, 1995; Skinner, 1996; Thurber, & Weisz, 1997). Conceptually similar distinctions have been articulated, for instance, in terms of *assimilation* and *accommodation* processes, or within categories of *volitional coping* responses as opposed to *involuntary* responses (Compas et al., 2001; Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000; Skinner et al., 2003). It can be shown that the action-type coping categories overlap reasonably well with the major types of coping

formerly offered by Pearlin and Schooler (1978) who distinguished between responses that modify the situation, responses that control the meaning of the problem, and responses that function for the management of the stress.

A number of studies supports the notion of conceptual and functional differentiation between problem management or problem solving strategies, and those strategies aimed at managing one's appraisal of the stressfulness of the situation (e.g. Carver, & Scheier, 1994; Compas et al., 2001; Masel, Terry, & Gribble, 1996). This kind of distinction proves to be particularly important when trying to explain coping and adjustment processes in situations which are generally perceived as not amenable to control or change (e.g. Bowman, & Stern, 1995; Buško, & Kulenović, 2001a, 2001c; Merluzzi, & Sanchez, 1997; Terry, & Hynes, 1998). Several authors propose a differentiation among emotion-focused strategies, as well (Stanton et al., 1994; Stanton et al., 2000). Thus, an empirical support was found for the idea on differential adaptive value of emotional approach and avoidant-type strategies, which was again more evident when dealing with low-control stressors (Masel, et al., 1996; Stanton et al., 1994; Terry, & Hynes, 1998).

This paper was meant as a contribution to the study on the structure of coping responses within specific low-control circumstances. The principal aim of the study was to test the models on the latent structure of coping assessed on two occasions within objectively the same environmental context. In addition, we sought to inspect the stability of coping, that is, the relationships between corresponding latent dimensions assessed with the several weeks time lag.

Situational framework of the research was defined by the sources of stress related to obligatory military service. There are several features that make military environment particularly suitable for the study of stress and coping: first, adaptive demands upon recruits are rather high, especially during basic military training period; second, potential sources of stress are highly similar for all trainees; and third, stressful situations in military context are characterized by typically low level of control over the events and their outcomes.

## METHOD

### *Sample and procedure*

The study was conducted on a sample of males attending military basic training at the Centre of 'Muzil' in Pula, Croatia. 449 recruits participated in the first part of the

study which was completed at the very beginning of their military service, i.e. within 7-12 days of their stay in the Centre. Average age of participants was 21 years ( $SD=2.59$ ), and the dominant education level was complete secondary school (78%). The only criterion for the selection of participants was the basic literacy. Out of the total sample, 421 recruits (93.8%) took part in the follow-up 5 weeks later, i.e. in the last but one week of their military basic training. Selected set of instruments was administered in groups of 60-80 subjects. Data gathering procedure was identical in the two measurement points and lasted approximately 90 minutes per group including a short pause.

### Instruments

**Sources of stress.** To examine the content of stressful events we administered a list of potential stressors classified into following 6 categories: housing, relationships with other recruits, military regime, relationships with superordinates, disconnection of civilian life, and unclear situations during military service. Subjects were to choose one of the six thoroughly described *categories of problems* appraised as most stressful during military service, or within the last week, respectively.

**Coping.** To assess coping with stressors during military service we tried to cover a broad range of theoretically founded and empirically well documented strategies (e.g. Carver & Scheier, 1994; Masel et. al.; 1995; Parker & Endler, 1992; Schwarzer, & Schwarzer, 1996). We administered an inventory containing 11 situation-specific 4-item coping scales measuring (Cronbach-alpha coefficients are given in parentheses for the 1<sup>st</sup> and 2<sup>nd</sup> time point, respectively)<sup>1</sup>: *Negotiation* ( $\alpha_1=.42$ ;  $\alpha_2=.57$ ) - including active strategies directed to other persons related to the problem; asking for advice, but also confronting; *Planning* ( $\alpha_1=.60$ ;  $\alpha_2=.58$ ) - mainly cognitive efforts aimed at finding solution of the problem; *Active accommodation* ( $\alpha_1=.60$ ;  $\alpha_2=.59$ ) - taking concrete, practical actions aimed at better handling the situation; *Avoidance* ( $\alpha_1=.44$ ;  $\alpha_2=.50$ ) - describing cognitive or behavioral attempts to avoid or escape from the situation;

*Passivization* ( $\alpha_1=.41$ ;  $\alpha_2=.49$ ) - giving up from the attempt to directly resolve the problem, accepting the situation; *Fatalism and religion* ( $\alpha_1=.57$ ;  $\alpha_2=.72$ ) - turning to religion, confidence to the Act of God, or fortune; *Reinterpretation* ( $\alpha_1=.62$ ;  $\alpha_2=.69$ ) - containing efforts directed to create predominantly positive meaning to stressful event; *Expression of emotions* ( $\alpha_1=.57$ ;  $\alpha_2=.68$ ) - open expression

of emotions, venting of feelings; *Wishful thinking* ( $\alpha_1=.65$ ;  $\alpha_2=.67$ ) - describing day-dreaming, desires about the change or disappearance of the source of stress; *Humor* ( $\alpha_1=.78$ ;  $\alpha_2=.85$ ) - introducing humor, recognizing amusing sides of the situation; *Seeking social support* ( $\alpha_1=.48$ ;  $\alpha_2=.54$ ) - turning to other people and close persons, asking for emotional support. Subjects were to appraise how often they used each of presented strategy in previously selected stressful situations (1 = not at all, 4 = often). Scores on each coping scale are computed by summing the answers on corresponding items and vary in theoretical range of 4-16.

### RESULTS

Table 1 presents descriptive statistics and zero-order correlation matrix for the scores on 11 coping subscales obtained in the two measurement points. The descriptive data on the major sources of stress, cognitive appraisals and the ways of coping with stressors selected by trainees have been reported elsewhere (Buško, & Kulenović, 2001a), and will not be commented in more detail here. Of relevance for the present study, however, are the analyses of differences or resemblances in self-rated appraisals and coping among the 6 subsamples created according to previously selected categories of stressful situations (Buško, 2000). The decisions on the subsequent statistical procedures in search for the structure of coping responses depended on the outcomes of these analyses.

Discriminant analyses were performed on both sets of data (i.e. gathered in the two measurement points), and revealed statistically significant albeit not really marked intergroup variability (*Wilks'  $\Lambda$*  = .65,  $\lambda$  = .27,  $r_c$  = .46,  $p < .001$ , for the first time point; and *Wilks'  $\Lambda$*  = .58,  $\lambda_1$  = .35,  $r_{c1}$  = .51,  $p < .001$ ;  $\Lambda_2$  = .79,  $\lambda_2$  = .11,  $r_{c2}$  = .32,  $p < .02$ , for the second time point)<sup>2</sup>. Hence, the examined stressful situations appeared to be more or less homogenous with respect to the ways novices perceive them and cope with. The positions of group centroids, however, suggested that derived discriminant functions in both measurements were able to separate to some extent the group *disconnection of civilian life* from other 5 categories of stressors largely related to different aspects of life within institution.

We decided therefore to use a stringent Box's *M* test to further verify the equality of covariance matrices across the two groups defined by the selected sources of stress: one group included participants who picked the category *disconnection of civilian life*, and the other one included those

<sup>1</sup> The procedures of construction and validation of the coping inventory is described in Buško (2000). Detailed data can be obtained upon request from the first author.

<sup>2</sup> Detailed data and results from these analyses can be obtained from the first author. The analyses were done using SPSSPC+ program package V.10.

Table 1

Means ( $M_{I,II}$ ), standard deviations ( $SD_{I,II}$ ) and intercorrelations of 11 coping scales administered in the first (below the main diagonal,  $N=449$ ) and the second (above the main diagonal,  $N=421$ ) measurement point

Measure	$M_I$	$SD_I$	$M_{II}$	$SD_{II}$	1	2	3	4	5	6	7	8	9	10	11
1. Negotiation	7.20	2.10	7.09	2.24	(.53)	.50	.19	.26	.10	.35	.19	.36	.31	.23	.51
2. Planning	8.95	2.65	9.09	2.47	.47	(.58)	.49	.28	.16	.19	.24	.20	.30	.22	.43
3. Active accommodation	12.25	2.50	11.89	2.40	.35	.45	(.53)	.20	.38	.04	.51	-.02	.02	.40	.37
4. Avoidance	8.04	2.46	8.92	2.23	.21	.23	.01	(.43)	.27	.19	.14	.45	.39	.27	.41
5. Passivization	11.90	2.59	11.52	2.62	.15	.19	.40	.08	(.49)	.16	.39	.14	.25	.27	.23
6. Fatalism and religion	7.56	2.88	7.74	3.13	.22	.18	.05	.21	.10	(.70)	.16	.28	.42	-.07	.28
7. Reinterpretation	10.95	2.78	10.56	2.82	.14	.24	.44	-.03	.29	.10	(.54)	.02	-.01	.41	.24
8. Expression of emotions	5.96	2.04	6.32	2.32	.17	.27	-.03	.33	.15	.19	-.08	(.58)	.47	.16	.32
9. Wishful thinking	9.08	2.92	8.90	2.82	.13	.27	.01	.34	.13	.32	-.06	.42	(.60)	.06	.40
10. Humor	10.77	3.21	10.52	3.41	.18	.14	.27	.22	.24	-.05	.25	.14	.08	(.68)	.26
11. Seeking social support	10.61	2.26	10.51	2.39	.41	.34	.27	.31	.19	.24	.12	.25	.34	.26	(.65)

Note. Coefficients  $r > .11$  are significant at  $p < .01$ . Main diagonal contains test-retest correlation coefficients of 11 coping scales. Results on each scale vary in theoretical range of 4-16.

who chose some of the remaining categories of *stressors within institution*. Test of the homogeneity of covariance matrices yielded insignificant values in both cases (Box's  $M=84.47$ ,  $F=1.24$ ,  $p=.09$ ; and Box's  $M=73.39$ ,  $F=1.08$ ,  $p=.31$ , for the first, and second time point, respectively). Thus there was no reason to suspect that these two subsamples were different in terms of the underlying structure of their coping responses.

The aforementioned analyses provided for a joint treatment of the subgroups defined by the major sources of stress, and hence, all the following procedures aimed at testing the latent coping structure were done on the total sample. Confirmatory factor analyses using LISREL 8.3 (Jöreskog, & Sörbom, 1996) were carried out to test the hypothesis on the underlying structure of the coping measures. The analyses were based on the covariance matrices of the scale-level coping data from the first and second time point, respectively, with the Maximum Likelihood as an estimation method. Along with theoretical considerations, several statistical criteria were used to evaluate the adequacy of the specified measurement models: (a) the  $\chi^2$  goodness-of-fit statistic; (b)  $\chi^2/df$  ratio; (c) Browne and Cudeck's (1993) root mean square error of approximation (RMSEA); and (d) the adjusted goodness-of-fit index (AGFI), as an indicator of global model fit (Jöreskog, & Sörbom, 1996).

Prior to model specifications principal component analyses were done on 11 coping scale data gathered at each measurement point. These exploratory analyses were intended to foster setting up the initial model of latent coping structure (see e.g. Long, 1987). In each of the analyses, three principal components with eigenvalues greater-

than-one were extracted and accounted for 54,7% and 59,6% of total scale-scores variance in the first and second time point, respectively. The structure of obtained components, rotated to Varimax position, was fairly similar for the two sets of data, with several variables saturated by more than one factor. Based on these and the analyses of conceptual meaning of derived dimensions, we defined initial model of coping with three hypothesized latent factors, measured by at least three indicators each.

Thus, factor (1) *problem solving* was defined by Planning, Negotiation, and Seeking social support; (2) *emotion-focused coping* was represented by Wishful thinking, Expression of emotions, and Avoidance, and (3) *acceptance of situation* by variables Active accommodation, Reinterpretation, Passivization, and Humor. The exception was Fatalism and religion scale which did not show clear and theoretically meaningful relations with the derived dimensions, and hence was exempted from further analyses on both data sets. The test of this initial model performed on the first data set resulted in an improper solution, producing the correlation between *problem solving* and *acceptance* latent constructs of  $r=1.0$ , with all the indices showing a poor fit of the model ( $\chi^2(32, N=445)=268.64$ ,  $p<.0001$ , RMSEA=.129, AGFI=.81). Similarly, the initial model tested on the second data set did not yield an adequate fit, as well ( $\chi^2(32, N=421)=195.02$ ,  $p<.0001$ , RMSEA=.110, AGFI=.85).

To come up with an acceptable solution, certain changes to the initial model were needed. Modification indices (Jöreskog, & Sörbom, 1996) suggested introducing additional parameters, allowing thus for cross-loadings of some indicator variables. On the one hand, specific pa-

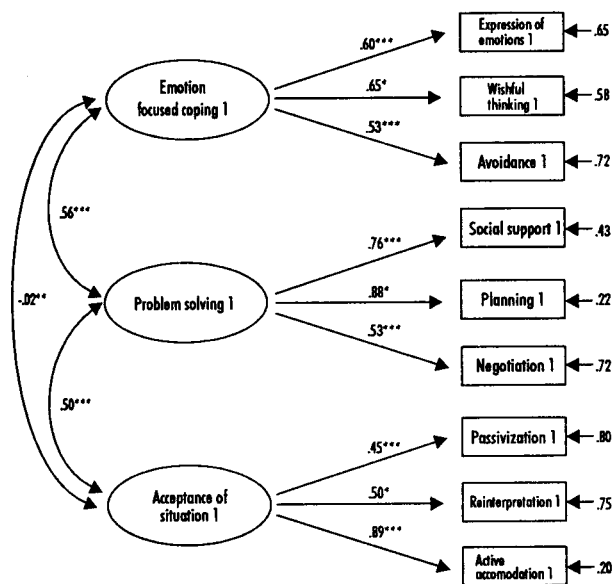
parameters added would obviously improve model fit significantly, and their inclusion also seemed justified theoretically (e.g. allowing Seeking social support, Humor and/or Passivization to load not only on their respective latent factors but also on *emotion-focused coping*). On the other hand, such a modification would overlook some of the important requirements applied to any system attempting to classify ways of coping, that is, the need for coping categories or latent factors to be mutually exclusive and functionally distinct, as well as to keep their definitions conceptually clear (see Skinner et al., 2003). Moreover, the changes suggested by the modification indices were different for the models tested on first and second data set. This fact seems less defensible on theoretical grounds having in mind that the situational context was basically the same in the two measurements. Modifications of this kind appeared therefore to capitalize on chance rather than to imply substantial differences in the latent structure of coping in the two time points.

More detailed scrutiny of the data, correlation matrices, parameter values obtained, and the outcomes of exploratory analyses suggested that the probable source of complexity could be related to one indicator, the subscale of Humor. Although reliable by itself (see Method section), this scale proved to load poorly on its respective factor, and in fact had the lowest intercorrelations with other coping subscales, which is particularly true for the first measurement data (see Table 1). We decided therefore to exclude

the Humor scale from further analyses, and to test the model with 9 indicators loading on one of the three above-mentioned latent factors each. Since the manifest coping variables have been derived from the same instruments parameters for the estimates of correlated residuals for several pairs of indicators were also retained.

Confirmatory factor analysis performed on the first data set suggested that the revised model provided quite a good fit to the data ( $\chi^2(21, N=445) = 40.81, p < .006, \chi^2/df=1.94, RMSEA=.047, AGFI=.95$ ). Also, parameter estimates of the model show that factor loadings for all the indicators are significant at  $p < .001$  (Figure 1). Likewise, the revised model tested on the second data set yielded a satisfactory fit ( $\chi^2(18, N=421)=43.19, p < .001, \chi^2/df=2.39, RMSEA=.058, AGFI=.94$ ), with all the loadings being highly significant, as well (Figure 2).

Although the parameter estimates of corresponding indicators based on the data from the two time points were not equivalent in an absolute sense, the structure of the models and the relationships among the latent coping factors were highly similar in the two sets of data. Having the equality of factor structures empirically demonstrated is a prerequisite for any meaningful comparisons or testing the relations between the corresponding latent constructs to be made. The second aim of this study was to estimate the stability of coping over the five-week period of military basic training. We performed the tests of the models including



<sup>1</sup> parameter estimates fixed to 1.0; \*p<.05; \*\*p<.01; \*\*\*p<.001

Figure 1. The latent structure of coping at the beginning of basic training - standardized path coefficients (maximum likelihood estimates).

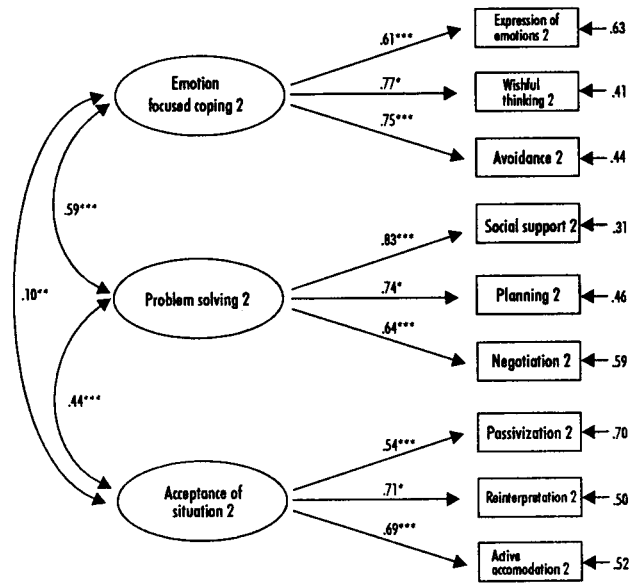


Figure 2. The latent structure of coping at the end of basic training - standardized path coefficients (maximum likelihood estimates).

Table 2

The estimated stability of latent coping factors and the overall goodness-of-fit of the models

Model	$\chi^2$	df	p	AGFI	r
1. Emotion focused coping	13.68	8	ns	.97	.69
2. Problem solving	19.49	8	.012	.96	.75
3. Acceptance of situation	6.22	8	ns	.99	.67

Note: All correlations are significant at  $p < .001$ .

the same latent factors of coping with stress pertaining to the beginning and the end of basic training.

To provide for the equivalence of the latent factors estimated in the two occasions, error variances of the corresponding indicators were set to be equal; besides, the residuals of the corresponding indicators (i.e. measured at first and second time point) were allowed to correlate. The analyses were done for each latent coping factor separately to acquire more reliable parameter estimates. The results of the model testing are summarized in Table 2.

As shown in Table 2, the correlations between scores obtained in two occasions for the three latent coping dimensions range from .67 for the acceptance of situation to .75 for the problem solving factor. Although the obtained coefficients point to a reasonable stability of coping over the five-week period, there is still a substantial amount of variance in these measures left for situational dependency of coping responses.

## DISCUSSION AND CONCLUSIONS

The study aimed at examining the latent structure of coping responses within typically low-control environmental context. Research findings on the role and nature of coping seem to be particularly ambiguous and disparate when dealing with low-control conditions (e.g., Terry & Hynes, 1998). To assess coping in this study we intended to cover a broad range of responses to specific stressful situations commonly present in a military training context. Support was found via confirmatory factor analyses for a three-factor model of coping that included the dimensions of problem solving strategies, emotion-focused strategies, and the strategies aimed at acceptance of situation. The model was not directly compared to some alternative configuration of the coping measures utilized. However, preliminary analyses and the intercorrelations among the latent coping dimensions obtained in both measurement points, suggested that the three-factor model could adequately account for covariances in the set of 9 coping

strategies examined, and that there were no grounds in the data for a hypothesis on the existence of more than three factors.

The structure of coping and the meaning of latent dimensions established in this study seem to compare fairly well with conceptualizations of control-related behaviors (Heckhausen, & Schulz, 1995; Skinner, 1996; Thurber, & Weisz, 1997), and the earlier classification of coping responses suggested by Pearlin and Schooler (1978). Accordingly, the problem solving factor resembles to primary control coping, the factor of acceptance is analogous to accommodative processes or secondary control coping, and the emotion-focused coping matches in part to relinquished control concept or to responses aimed at management of stress.

There is also a correspondence between the observed factor structure and several other coping models tested by similar analytic procedures. Walker et al. (1997) identified three factors in their measure of coping with pediatric pain, Active Coping (including e.g., problem solving and seeking social support), Passive Coping (e.g. disengagement, self-isolation), and Accommodative Coping (e.g., minimizing pain, acceptance). Ayers et al. (1996) identified four relatively highly related factors of dispositional and situational coping in children: Active Strategies, Avoidance, Distraction, and Support Seeking, with the invariant structure proved across gender and different age groups. Connor-Smith et al. (2000) identified Primary Control (e.g. problem solving, emotional regulation), Secondary Control (e.g. cognitive restructuring, acceptance), and Disengagement Coping (e.g. avoidance, wishful thinking), with the first two factors loading on higher order factor of Engagement Coping. The authors replicated the obtained structure across 3 stressors and 2 samples.

There are, of course, visible differences among the studies cited above including our own results, with regard to the configuration and definition of factors established. Nevertheless, to the extent that the agreement among the obtained factor structures is met, these findings speak of the flexibility of coping categories or the dimensions acquired in these studies. Namely, some of the criteria for evaluating the usefulness of any coping taxonomy, proposed by Skinner et al. (2003), refer to the scope stating that coping categories should be generative and flexible, that is, widely applicable across stressors, contexts, and populations. Finally, there seems that the coping structure recognized in our as in abovementioned studies adhere to a considerable extent to Skinner et al.'s (2003) tripartite scheme linking higher order coping categories to adaptive processes. These authors argue that an additional important standard for judging the usefulness of any hierarchy is the extent to which it can organize coping families with respect to adaptive processes. A useful structure of coping, as the

authors state, "...should not only account for a comprehensive range of ways of coping but should also specify the relations among higher order categories in terms of their function in mediating between exposure to stress and the development of mental and physical health" (Skinner et al., 2003, p. 244).

The coping structure upheld in this study should preferably be verified on different samples, and in other low-control contexts differing in type of stressors, their duration, content, or severity. The place of the specific strategies described by Fatalism and religion, and the Humor scales, in the context of coping with low-control stressors of military service, remains unclear. Indeed, factor analyses of analogous scale administered in different albeit highly restrictive institutional contexts, revealed that the subscale of Humor appeared repeatedly as having the least communality out of 9 coping measures, used either in self-report or others' report form (Buško, & Kulenović, 1995; Kulenović, & Buško, 1997). The obtained results are particularly interesting having in mind favorable psychometric features of the two scales, i.e., relatively high internal consistency measures (which is especially true for the Humor scale), and their stability coefficients as well (see Table 1). A possible explanation of why these two scales do not fit well the obtained coping structure might be that they should be considered as falling within the scope of more stable dispositional tendencies, or coping resources, rather than reflecting ever-changing and situation-specific coping responses. It is, of course, likely that the analysis of a more comprehensive set of coping scales would contribute to a more complete and discerning representation of coping in low-control environmental conditions.

When speaking of correlations between the latent coping factors over the short period of military basic training, our results indicate that there is a moderately high stability of the coping dimensions established. If, however, the obtained coefficients reflected just stability in time, one should naturally expect even higher values, taking also into account the fact that the measures are error-free. Hence, there seems more plausible to believe that the context of military service in the two points of measurement was actually different for the trainees in some important ways. Although the physical or objective environment was quite similar in the two time points, the same could not be said for the appraised or subjective situational features. Potential differences appear quite understandable when considering the adaptive demands at the very beginning and by the end of the military basic training. In support of this notice are the findings on the changes in the measures of cognitive appraisals and in the use of different coping modes as a function of time spent in military (Buško, 2000; Buško & Kulenović, 2001). Accordingly, the obtained stability values seem to be reasonable to the extent that the coping

responses reflect inter- and intraindividual differences in cognitive appraisals of the changing situational demands.

## REFERENCES

- AYERS, T. S., SANDLER, I. N., WEST, S. G., & ROOSA, M. W. (1996). A dispositional and situational assessment of children's coping: Testing alternative models of coping. *Journal of Personality*, 64 (4), 923-958.
- BOWMAN, G. D., & STERN, M. (1995). Adjustment to occupational stress: The relationship of perceived control to effectiveness of coping strategies. *Journal of Counseling Psychology*, 42, 1-10.
- BROWNE, M. W., & CUDECK, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Newbury Park: Sage.
- BUŠKO, V. (2000). *Procesi suočavanja i kontinuirana izloženost stresorima Coping processes and enduring exposure to stressors*. Unpublished doctoral dissertation. Zagreb: Filozofski fakultet.
- BUŠKO, V., & KULENOVIĆ, A. (1995). Coping with prison stress. *Review of Psychology*, 2 (1-2), 63-70.
- BUŠKO, V., & KULENOVIĆ, A. (2001a). Coping with stress during military basic training. *Changing Mission for the 21st Century: Proceedings of the 36th IAMPS* (63-68). Zagreb: MORH.
- BUŠKO, V., & KULENOVIĆ, A. (2001b). Depressive reactions as an outcome of stress processes: The study on imprisonment. *Društvena istraživanja*, 10 (1-2), 231-252.
- BUŠKO V., & KULENOVIĆ A. (2001c). Personality and adjustment to a low-control situation: The mediating role of coping. *Poster presented at 6<sup>th</sup> European Conference on Psychological Assessment*, Aachen, Germany, September 2-5, p. 41.
- CARVER, C. S., & SCHEIER, M. F. (1994). Situational coping and coping dispositions in a stressful transaction. *Journal of Personality and Social Psychology*, 66 (1), 184-195.
- COMPAS, B. E., CONNOR-SMITH, J. K., SALTZMAN, H., THOMSEN, A. H., & WADSWORTH, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin*, 127 (1), 87-127.

- CONNOR-SMITH, J. K., COMPAS, B. E., WADSWORTH, M. E., THOMSEN, A. H., & SALTZMAN, H. (2000). Responses to stress in adolescence: Measurement of coping and voluntary stress responses. *Journal of Consulting and Clinical Psychology, 68* (6), 976-992.
- COYNE, J. C., & RACIOPPO, M. W. (2000). Never the twain shall meet? Closing the gap between coping research and clinical intervention research. *American Psychologist, 55* (6), 655-664.
- DAVID, J. P., & SULLS, J. (1999). Coping efforts in daily life: Role of Big Five traits and problem appraisals. *Journal of Personality, 67* (2), 265-294.
- ENDLER, N. S., SPEER, R. L., JOHNSON, J. M., & FLETT, G. L. (2000). Controllability, coping, efficacy, and distress. *European Journal of Personality, 14*, 245-264.
- FALKUM, E., OLFF, M., & AASLAND, O. G. (1997). Revisiting the factor structure of the Ways of Coping Checklist: A three-dimensional view of the problem-focused coping scale. A study among Norwegian physicians. *Personality and Individual Differences, 22*, 257-267.
- FIELDS, L., & PRINZ, R. J. (1997). Coping and adjustment during childhood and adolescence. *Clinical Psychology Review, 17* (8), 937-976.
- HECKHAUSEN, J., & SCHULZ, R. (1995). A life-span theory of control. *Psychological Review, 102* (2), 284-304.
- JÖRESKOG, K., & SÖRBOM, D. (1996). *LISREL 8: User's reference guide*. Chicago: Scientific Software International.
- KULENOVIĆ, A., & BUŠKO, V. (1997). O vjerodostojnosti samoprocjena suočavanja sa stresnim situacijama On the credibility of self-report coping measures. *XIII. Dani Ramira Bujasa: Sažeci priopćenja*. Zagreb, 11-13.12.1997, p.22.
- LAZARUS, R. S. (1991). *Emotion and Adaptation*. New York: Oxford University Press.
- LAZARUS, R. S. (1993). From psychological stress to the emotions: A history of changing outlooks. *Annual Review of Psychology, 44*, 1-21.
- LAZARUS, R. S. (2000). Toward better research on stress and coping. *American Psychologist, 55* (6), 665-673.
- LAZARUS, R. S., & FOLKMAN, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- LAZARUS, R. S., & FOLKMAN, S. (1987). Transactional theory and research on emotions and coping. *European Journal of Psychology, 1*, 141-169.
- LAZARUS, R. S., & FOLKMAN, S. (1991). The concept of coping. In A. Monat, & R. S. Lazarus (Eds.), *Stress and coping: An anthology* (pp. 189-206). New York: Columbia University Press.
- LONG, J. S. (1987). *Confirmatory factor analysis*. Series: *Quantitative applications in the social sciences*. Beverly Hills: Sage.
- MASEL, C. N., TERRY, D. J., & GRIBBLE, M. (1996). The effects of coping on adjustment: Re-examining the goodness of fit model of coping effectiveness. *Anxiety, Stress, and Coping, 9*, 279-300.
- MERLUZZI, T. V., & SANCHEZ, M. A. M. (1997). Assessment of self-efficacy and coping with cancer: Development and validation of the Cancer Behavior Inventory. *Health Psychology, 16* (2), 163-170.
- MOOS, R. H. (1995). Development and applications of new measures of life stressors, social resources, and coping responses. *European Journal of Psychological Assessment, 11* (1), 1-13.
- PARKER, J. D. A., & ENDLER, N. S. (1992). Coping with coping assessment: A critical review. *European Journal of Personality, 6*, 321-344.
- PARKES, K. R. (1994). Personality and coping as moderators of work stress processes: models, methods, and measures. *Work & Stress, 8* (2), 110-129.
- SCHWARZER, R., & SCHWARZER, C. (1996). A critical survey of coping instruments. In M. Zeidner, & N. S. Endler (Eds.), *Handbook of Coping: Theory, Research, Applications* (pp. 107-132). New York: John Wiley & Sons.
- SKINNER, E. A. (1996). A guide to constructs of control. *Journal of Personality and Social Psychology, 71* (3), 549-570.
- SKINNER, E. A., EDGE, K., ALTMAN, J., & SHERWOOD, H. (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin, 129* (2), 216-269.
- SOMERFIELD, M. R., & MCCRAE, R. R. (2000). Stress and coping research: Methodological challenges, theoretical advances, and clinical applications. *American Psychologist, 55* (6), 620-625.
- STANTON, A. L., DANOFF-BURG, S., CAMERON, C. L., & ELLIS, A. P. (1994). Coping through emotional approach: Problems of conceptualization and confounding. *Journal of Personality and Social Psychology, 66* (2), 350-362.



- STANTON, A. L., KIRK, S. B., CAMERON, C. L., & DANOFF-BURG, S. (2000). Coping through emotional approach: Scale construction and validation. *Journal of Personality and Social Psychology*, 78 (6), 1150-1169.
- SULS, J., & FLETCHER, B. (1985). The relative efficacy of avoidant and nonavoidant coping strategies: A meta-analysis. *Health Psychology*, 4 (3), 249-288.
- TERRY, D. J., & HYNES, G. J. (1998). Adjustment to a low-control situation: Reexamining the role of coping responses. *Journal of Personality and Social Psychology*, 74, 1078-1092.
- TAMRES, L. K., JANICKI, D., & HELGESON, V. S. (2002). Sex differences in coping behavior: A meta-analytic review and an examination of relative coping. *Personality and Social Psychology Review*, 6 (1), 2-30.
- THOITS, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior*, (Extra Issue): 53-79.
- THURBER, C. A., & WEISZ, J. R. (1997). "You can try or you can just give up": The impact of perceived control and coping style on childhood homesickness. *Developmental Psychology*, 33 (3), 508-517.
- TOBIN, D. L., HOLROYD, K. A., REYNOLDS, R. V., & WIGAL, J. K. (1989). The hierarchical factor structure of the Coping Strategies Inventory. *Cognitive Therapy and Research*, 13 (4), 343-361.
- TROOP, N. A. (1998). Theoretical note: When is a coping strategy not a coping strategy. *Anxiety, Stress, and Coping*, 11, 81-87.
- WALKER, L. S., SMITH, C. A., GARBER, J., & VAN SLYKE, D. A. (1997). Development and validation of the pain response inventory for children. *Psychological Assessment*, 9 (4), 392-405.

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