METHODS OF PSYCHOLOGICAL RESILIENCE DEVELOPMENT ÎN THE MILITARY STUDENT ENVIRONMENT

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Abstract. Concern for the development of psychological resilience of the military began during basic military training in specialized academies and schools. The purpose of this study is to measure the extent to which students from Land Forces Academy in Sibiu used the main methods of developing psychological resilience required to the professional military. For this we constructed a questionnaire consisting of 40 items which lists these methods. Data obtained from the questionnaire were subjected to factor analysis, eight factors being retained, representing potential categories of methods used by the Land Forces Academy students to develop their psychological resilience.

Keywords: psychological resilience, military environment

Introduction

Psychological resilience definitions are many and varied. The common elements that are found in most of them refer either to the power of the individual to endure a lot of stress, trauma or a difficult event or to the presence of coping mechanisms that allow it to return to normal operation after such events or to the individual's ability to grow in a positive direction. For example, Campbell et al. (2008) believes that resilience refers to "the capacity to cope with or adapt to significant risk and adversity and to recover quickly from stressful change or misfortune." Haglund et al. (2007) define resilience as "the ability to

successfully adapt to stressors, maintaining psychological well-being in the face of adversity" and Jensen and Fraser (2005) as "One's capacity to adapt successfully in the presence of risk and adversity". (Meredith et al., 2011, p. 79-81)

Developing resilience is essential for the military environment. The armies of the world are concerned with the construction of the most effective strategies to increase the resilience of their forces by land, air or sea. In recent decades the focus is on achieving a higher level of physical, mental, social and spiritual preparation of militaries in line with the realities of the modern world conflicts and social needs of the global environment.

Through specific military training, beyond adequate professionalization of the military, it is aimed at building self-confidence in their ability to cope with various situations.

Together with the other components of the preparation for battle, the psychic has become a crucial factor because in the new environment of military confrontation, strengthening the resilience and adaptability are key factors for success and objective achievement.

Rigorous training in conditions as close to reality missions, actions under stressful factors is a prerequisite to military training. NATO armies have implemented various programs over time to develop resilience, tailored to each specific, common and appropriate request. The Romanian Military Psychology Department also created a program for the psychological support of troops. It begins three months before departure within military missions and ends two weeks after the resumption of home units, which means almost a year of psychological support in the main activities carried out by the military. The components of this program are:

- Psychological Selection
- Psychological preparation for the mission;
- Permanent psychological support during deployment;
- Psychological assessment of post-mission.

Mental preparation is a conscious process that is aimed at obtaining the optimal state of the military to fulfil its tasks and objectives regardless of distractions around. It is made from periods of peace, in the formative training process, taking into account the demands and requirements of the type of work and their effects on the psyche and behaviour of soldiers.

In the training activities, in addition to what is used to imply a real battle, soldiers develop their skills and develop specific skills such as the sense of observation, concentration, reaction speed, distributive attention, etc. In basic training, the military are trained on the importance of discipline and teamwork to create cohesion. They also follow training psychological modules for battle; the latter is one of the original facets of resilience, being strengthened further by experience in the field, conferring the military greater self-confidence and increased safety in action. The emphasis is on knowledge of a broad range of threats and the exercise of the correct ways to answer them.

Meredith and colleagues (2011) have identified in relevant publications a set of factors that support and develop psychological resilience. They separated these factors into four categories to distinguish those that operate at the individual level (intrinsic) from those that involve other people who are part of a group - family, organization (unit) or community (extrinsic factors). Identified intrinsic factors are:

- Positive coping - the ability to cope with difficult circumstances, availability and the ability to solve by own effort personal and

interpersonal problems, resistance to stress and conflict, activation and the use of effective coping mechanisms;

- Positive Affect - the cultivation of positive emotions and feelings as enthusiasm, optimism, humour, hope, flexibility in the face of change and so on;

- Positive thinking - the use of advanced information processing methods, the use of knowledge and changing preferences: Restructuring, positive reframing, extracting the true meaning from situations encountered, flexibility, reappraisal, refocusing, psychological preparation;

- Realism - Setting realistic goals and expectations from themselves, from others and from situations encountered, development of self-esteem and the sense of personal worth, self-confidence and in personal effectiveness, correct perception of the level of control over the circumstances and accepting what is beyond its control;

- Behavioural control - Monitoring, evaluating, and modifying emotional reactions to accomplish goals through self-regulation, self-management, self-enhancement, etc.

- Physical fitness.

- Altruism.

Resilience of the military group, supported by factors such as positive command climate, teamwork and cohesion, is not possible without the resilience of its members.

Methodology

Based on the elements listed above, we constructed a questionnaire consisting of 40 items by which we have listed the main methods to develop psychological resilience specific to the environment

and the military profession. Our initial goal was to measure the degree to which students of Land Forces Academy in Sibiu are using these methods.

Being concerned about the effectiveness of psychological preparation of our students, we are interested in obtaining a valid instrument to measure it, as a means to provide feedback to both those who design training programs and assessing their efficiency. This questionnaire is a starting point in our scientific demarche.

Students were asked to evaluate whether using each of the methods listed on a Likert scale with values from 1 to 5, where 1 means "very little" and 5 means "very much".

The questionnaire was applied to a total of 200 students from years of study II and III, from the Land Forces Academy in Sibiu, in October-November 2013. Within this sample there were summarized 50 (25%) girls and 150 men (75%), aged 20 to 23 years old, meaning an average age of 21.48 (s.d. = 4.48). The questionnaire was anonymous.

The statistical tests indicated that the structure of the questionnaire is suitable for factorial analysis (KMO = 0.692., Bartlett's Test of Sphericity: $p<.001$). After applying specific statistical procedures, those items that have not uploaded any factor and which had low correlation coefficients were eliminated. The resulting questionnaire contains a total of 31 items. Examples of items removed from the analysis: "I identify thought patterns that prevent me from successfully cope with difficult situations I face", "I practice sports for disconnecting and removing the effects of stressful situations."

In the next step we applied KMO and Bartlett's Test for remaining items. KMO (Kaiser-Meyer-Olkin) verifies partially if correlations among variables are small. A high value of this test (> 0.7) indicates that

the variables tested may be the factor analysis object. Hypothesis that the correlation matrix of the variables included in the analysis is an identity matrix was rejected by Bartlett's test. The result is shown in Table 1.

Table no.1.

KMO and Bartlett's Test Criterion

KMO and Bartlett's Test (SPSS Output)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,709
Bartlett's Test of Sphericity	Approx. Chi-Square	2,318E3
	df	465
	Sig.	,000

In conclusion, our data is suitable for factor analysis.

The protocol adopted here for factor analysis was to use default settings initially (Principal Axis Factor - PAF) and to rotate the matrix of loadings to obtain orthogonal (independent) factors (Varimax rotation with Kaiser Normalization). The prime goal of factor analysis is to identify simple items loadings (>0.30) on factors that are interpretable, assuming that items are factorable.

All procedures reported here utilise SPSS 16.0.

In the next step, there were identified variables that explain to satisfaction the factors extracted from the analysis. Communalities were calculated for each variable. The communality expresses the proportion of variance which that variable has in common with the other: the greater the communality is, factors influence more the variable for which communality is calculated. Small values indicate variables that do not fit well with the identified factor solution. Therefore, items that had communality less than 0.3 were eliminated.

Results

Factor analysis on the remaining items identified 10 factors. At this level of analysis, statements with factor loading less than 0.4 and those that load several factors simultaneously were considered inappropriate. The results are shown in Tables 2 and 3. The data analysis was divided into two tables because of restrictions imposed by the terms of editing.

Table no. 2.

Factorial Structure - Rotated Factor Matrix (Factors 1 - 4)

Methods of psychological resilience development	Loadings				Communality
	Factor				
	1	2	3	4	
Gaining more experience of life	.745				.660
Constant effort to acquire new information about the situations	.527				.610
Changing those strategies to solve problems that do not perform as expected	.512				.552
Training continuously for a better preparation to face difficult situations that may arise	.441				.313
Connecting with nature		.665			.540
Seeking support from colleagues		.633			.592
Using relaxation techniques		.585			.404
Using meditation techniques		.500			.467
Sleep and rest		.349			.329
Continuously developing their own skills			.769		.733
Identifying their strengths			.586		.603
Developing critical thinking			.566		.475

Methods	Factor 1	Factor 2	Factor 3	Factor 4	Communality
Identifying controllable elements of the difficult situations they face in order to act on them			.436		.461
Identifying positive meanings in stressful situations				.709	.606
Focusing on the positive traits of people with which they interact				.537	.654
Avoidance of catastrophic thinking				.495	.348
Anchoring in reality				.459	.499
Setting small and tangible goals can be solved step by step				.413	.410
Eigenvalue	6.086	3.310	1.967	1.720	
Percentage of total variance	19.634	10.676	6.347	5.547	

Extraction Method: Principal Axis Factoring.;
Rotation Method: Varimax with Kaiser Normalization
.a. Rotation converged in 17 iterations.

<div align="right">**Table no.3.**</div>
Factorial Structure - Rotated Factor Matrix (Factors 5 - 8)

Methods of psychological resilience development	Loadings				Communality
	Factor				
	5	6	7	8	
Improving communication with the others	.792				.741
Using autosuggestion to move easily over difficult times	.528				.576
In-depth analysis of issues for not to jump to conclusion	.501				.382

Keeping a broad perspective on situations	.393				.629
Eliminating personal convictions that prevent the successful solving of difficult situations		.709			.638
Identifying feelings and emotions that hinder effective involvement into a situation		.556			.402
Identifying personality traits that prevent successful involvement in resolving difficult situations.		.448			.451
Requesting support from friends to overcome difficult moments			.656		.625
Enlisting the help of people who have the ability or power to help			.538		.638
Using prayer or other forms of religious practice to better deal with the difficulties				.654	.470
Requesting help from superiors in difficult situations				.564	.402
Eigenvalue	1.534	1.424	1.363	1.238	
Percentage of total variance	4.949	4.595	4.390	3.993	

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 17 iterations

Factor analysis revealed still two factors, each loaded with one item:

- Factor 9 is loaded heavily with the item that relates to providing help when needed, the idea of reciprocity (eigenvalue = 1.155, communality = .710); this factor explains 3.727% of the total variance.

- Factor 10 is loaded poorly with the item that refers to the practice of expressing emotions as a way to release inner tensions (eigenvalue = 1.089, communality = .333); this factor explains 3.512% of the total variance.

Together, these ten factors explain 67.375% of the total variance.

The first factor is charged with four items referring to the efforts of students to self-improvement: the constant effort to acquire new information that would help them understand what they go through, to change those strategies to solve problems that do not perform as expected, to train continuously for a better preparation to face difficult situations that may arise, to gain more experience of life. We called this factor "continuous self-improvement"; this factor explains 19,634% of the total variance.

The second factor is loaded by items referring to concrete ways to relax and remove stress: connecting with nature, using relaxation techniques and meditation, sleep and rest, seeking support from colleagues. We called this factor "relaxation methods"; this factor explains 10.676% of the total variance.

The third factor consists of items that relate to students' efforts to continuously develop their skills, to identify their strengths, to develop critical thinking and the ability to identify controllable elements of the difficult situations they face in order to act on them. We called this factor "self-development"; this factor explains 6.347% of the total variance

The fourth factor is loaded with the following items: identification of positive meanings in stressful situations, the habit to focus on the

positive traits of people who interact, avoidance of catastrophic thinking, solidly anchored in reality, setting small and tangible goals can be solved step by step. We called this factor "cognitive control"; this factor explains 5.547% of the total variance.

The fifth factor is constructed from four items: the use of suggestion to move easily over difficult times, in-depth analysis of issues not to jump to conclusions, the effort to keep a broad perspective on situations, improving communication with the others. We called this factor "self-regulation"; this factor explains 4.949% of the total variance.

The sixth factor is loaded with the following items: eliminate personal convictions that prevent the successful solving of difficult situations, identify feelings and emotions that hinder effective involvement into a situation, the identification of personality traits that prevent successful involvement in resolving difficult situations. We called this factor "self-awareness"; this factor explains 4.595% of the total variance.

The seventh factor is loaded with two items: support request from friends to overcome difficult moments and enlisting the help of people who have the ability or power to help. We called this factor "connection" this factor explains 4.390% of the total variance.

The eighth factor consists of two items: the use of prayer or other forms of religious practice to better deal with the difficulties and request help from superiors in difficult situations. We called this factor "appeal to a higher authority"; this factor explains 3.993% of the total variance.

All these ten factors explain 60.136% of the total variance.

Conclusions

After analyzing the above results we retained first eight factors that are potential categories of methods used by the military students of the Land Forces Academy to develop psychological resilience. These factors are possible starting points in building a valid tool for evaluating the effectiveness of such methods. Cronbach's alpha coefficient calculation indicates that only two of the eight factors reached an acceptable level: factor number three, which we call "self-development" (α = .744) and factor number four that we called "cognitive control" (α = .705). The other factors did not exceed the 0.7 threshold. Therefore, the items of the two factors can be retained as starting points, while all the others can have an indicative value in a future study.

Land Forces Academy students focus on continuous self-improvement and on the acquisition of the general and vocational skills and knowledge that will prepare them for any possible difficulty. It is clear that, overall, the sample that responded to the questionnaire is characterized by an internal *locus of control:* success in solving possible problems largely depends on the personal features, capabilities and efforts.

An interesting element is, we believe, the presence of the item regarding "seeking the support of colleagues" in the second factor which is loaded with items concerning specific methods of relaxation: connecting with nature, using relaxation techniques and meditation, sleep and rest. This indicates that the military student group is, for its members, not only a working and training group but also a leisure group: given the length of time that these students spend together, the relationships established between them become increasingly fast informal.

Also, the fifth factor which we called "self-regulation" contains, along with items that relate to the use of self-suggestion, to the one analyzing the issues in order not to jump to conclusions and to the effort to maintain a more range of situations, the item that relates to improving communication with others. This item, along with the one mentioned in the previous paragraph and the presence of ninth factor highly charged with the item that relates to providing help when needed (the idea of reciprocity), suggests the presence of a factor related to interpersonal relations within a small group, a factor that has not been highlighted by the use of questionnaire.

How students responded to the questionnaire and how the items were grouped on factors suggest that the development of psychological resilience remains a personal initiative of each student individually, despite the efforts of teachers and military instructors to create consistency and constancy in this type of training.

Bibliography:

Bartone, P. T. (2006), Resilience Under Military Operational Stress: Can Leaders Influence Hardiness? *Military Psychology, 18 (Suppl.), S131–S148*, Lawrence Erlbaum Associates, Inc, http://www.hardiness-resilience.com/docs/Bartone.pdf

Britt, T.W. Castro, C.A., Adler, A.B. (eds.) (2006), *Military Life. The Psychology of Serving in Peace and Combat. Military Culture.*, Volume 4, USA, Greenwood Publishing Group, ISBN 0-275-98304-8

Juncu, I., Totolici, P., Radu, I., Dutu, P., Radu, V. (1994), *Agresiune şi apărare psihologică*, Editura Academia de Înalte Studii Militare, Bucureşti

Meredith L.S., Sherbourne C. D., Gaillot S.G., Hansell L., Ritschard H. V., Parker, A. M., Wrenn G. (2011), *Promoting Psychological Resilience in the U.S. Military,* Published by the RAND Corporation, http://www.rand.org