

# MOTIVES FOR SPORTS PARTICIPATION, ATTITUDES TO SPORT AND GENERAL HEALTH STATUS OF THE SLOVENIAN ARMED FORCES EMPLOYEES

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Original scientific paper  
UDC 796.012:316.62:355.1(497.4)

## Abstract:

The purpose of this research was to study the motives for sports participation, general health status, attitudes to sport, general satisfaction with life and self-motivation. Factorial structure of the sport participation motives, the differences of the incentive systems among the employees and the correlation between the incentive systems and other variables were also in the focus of interest. The *Participation Motivation Questionnaire* (PMQ), *Satisfaction With Life Scale* (SWLS), the *General Health Questionnaire* (GHQ), *Self-motivation Inventory* (SMI) and the *Questionnaire of Attitudes Towards Sport* (SS) were used. Employees of the Slovenian army (N=137; 73 soldiers, 36 non-commissioned officers and 28 officers) collaborated in the research. A positive attitude to sport of the army employees was obtained. They mainly do sports in order to develop and maintain their physical abilities, to remain healthy and in good physical condition. They like taking up activities which they are good at. As the least motivating factors they indicated the wishes of their parents and close friends, who liked to watch their performance, and the desire to be popular. The level of self-motivation of the employees in the Slovenian Armed Forces was high as well; the highest being among the commissioned officers. The study has shown above-average levels of general health status and satisfaction with life. The non-commissioned officers expressed the highest level of satisfaction with life among the respondents. Factor analysis gave 7 incentives. The employees, who valued the motives of a group atmosphere and productivity motives, also had a more positive attitude to sports. The employees who valued health, competence and professional promotion motives, along with the group atmosphere motives, were more self-motivated. One discriminant function was obtained by the discriminant analysis and was named intrinsic motivation and satisfaction with life. The highest level of discrimination of the discriminant function occurred between the non-commissioned and commissioned officers (expressed as high), on one hand, and soldiers on the other (expressed as low).

**Key words:** sport, motivation, life satisfaction, attitudes to sport, perceived health, Slovenian Armed Forces (SAF)

## Introduction

The Slovenian Armed Forces (SAF) are defence forces, which execute military defence either autonomously or in an alliance based on international treaties. The hierarchical organization of the SAF provides efficient and proper management and command. Superior-subordinate relations represent a fundamental part of management and exercising the command. A superior is a military figure with the power of command. A subordinate is a military figure who carries out the given commands. The army represents a special area of a person's life and work with specific working conditions, imposing a lot of mental and physical strain. Armies worldwide have been increasingly integrating and performing common tasks, such as peacekeeping in war zones

or common actions in combat in different war zones of the world with various conditions (climatic, geographic, cultural, etc.). To perform well under such conditions an individual has to be well-prepared. Systematic physical training is required to increase the resistance of soldiers to harsh climatic conditions and preserve their work efficiency.

Picarielo (2000) emphasized that physical training is based on programmes aimed at developing endurance, strength and speed, as well as on the development of mental skills, intergroup cohesion, and on the factors related to conditions on the battlefield. Even without the extreme additional environmental and equipment burden, many individuals often face problems; their own bodies may present even a greater challenge and burden than the task itself, which they are supposed to

accomplish. Such problems are usually health-related (overweight and related symptoms, daily exposure to stressful situations, problems with locomotor system, cardio-vascular diseases, etc.) (Karpljuk, Žitko, Rožman, Suhadolnik, & Karpljuk, 2000; Karpljuk, et al., 2003; Novak, 2003). All these conditions and diseases have a negative impact on the performance of assignments and duties in the operating units in the field, as well as at command level, in the divisions and in everyday life (Tkavc, 2004).

Positive aspects of physical exercise can be achieved when the exercise is based on the principles of physical recreation and fulfils its purpose and objectives (Tkavc, 2004). Numerous research studies confirm the positive impact of sports activities on health preservation and promotion. Active individuals experience improvement in mental and physical characteristics, they look better, feel better, and rehabilitate faster. The most important aspect is the pleasure experienced by those who are regularly active. Moderate sports activity strengthens the immune system and is physically and mentally relaxing. It reduces the amount of stress hormones in the organism, which improves the immune system and increases the body's resistance to infection (Ihan, 2000). Mišigoj-Duraković (2003) stated that physical exercise brings about a number of physiological and biochemical changes in the organism and changes in the manner of thinking and experiencing in oneself and in the environment. All that leads to better mental functioning. The basic condition to achieve is pleasure and satisfaction during the exercise routine. According to Tomori (2000), sports influence a person's mentality as well.

The life dynamics of an individual actively includes one's personality, which, on the one hand, depends on various motives and on the other also has the role of a stimulus or guide. Since the old days people have believed in internal and external powers and forces which drive and direct us, thus inducing our behaviour. In the broadest sense motivation represents an oriented and a dynamic behavioural component, which is a characteristic of all animal organisms. It includes stimulation and guidance of activities (Tušak, 2003). Motivation is a process, while motives are stimuli, which direct and manage the activity. Motives stimulate and determine human behaviour every time a wish for a certain goal arises (Kronja, 1966). Motives as a mobilizing dimension of a person's psychosomatic status release the lever which determines whether a person will be active in sports or not. An important part of motivation is also self-motivation, which expresses the capability of motivational self-control. Individuals with a high self-motivation level prepare and motivate themselves and work independently, without any external support or "pressure".

The concept of subjective well-being is general and global and can be generally defined as an

assessment of well-being, satisfaction and happiness. Satisfaction with life represents a basic component of subjective well-being, in addition to the positive and negative affect. According to Diener (2000), the concept of subjective well-being also includes optimism and the sense of fulfilment. "Subjective satisfaction with life is a compromise between what is important to us and what we can actually achieve, considering the environment we live in" (Pychyl & Little, 1998). Several researchers (Diener & Biswas-Diener, 2000; Diener, Suh & Oishi, 1997; Myers & Diener, 1995) established that, in general, people are satisfied with their life.

Diener (1984) mentioned three main characteristics of satisfaction with life. The first characteristic says that satisfaction is subjective and thus remains within one's own perception. The definitions of subjective satisfaction do not state any objective conditions, such as health, financial situation and comfort, which may affect subjective satisfaction but are not in direct relation to it. The second characteristic says that subjective satisfaction contains positive criteria, therefore the determination of satisfaction is not only about the absence of the negative factors but also about the presence of the positive ones. The third characteristic of subjective satisfaction contains a global assessment of all aspects of an individual's life. Although a person can also reach satisfaction in only one area of life, subjective satisfaction is an integrated assessment of a person's life.

Several investigations (Diener, et al., 1997; Myers & Diener, 1995) stated that people, who are more satisfied, are also more successful in various areas of life; satisfaction is related to successful outcomes. Positive moods and emotions lead people in their way of thinking, feeling and behaviour, which encourage them to increase their own abilities and capabilities, as well as reach the goals they have set (Lyubomirsky, King, & Diener, 2005). A person experiences a positive mood and emotions under the circumstances, which s/he interprets as the desired circumstances. Positive emotions signal that life's course is in order, that one's goals have been achieved and that one's own abilities and capabilities are adequate (Carver & Scheier, 1998, in Lyubomirsky, et al., 2005).

Individuals, who experience a greater satisfaction in life, are not only more efficient; they also have other benefits at work – they achieve more important, more autonomous and diverse work positions. They have better salaries, show less non-productive behaviour and are less prone to experience burnout due to workload (Lyubomirsky, et al., 2005).

Previous research about employees in the Slovenian Armed Forces found out some differences in the personal characteristics between certain groups. The differences appeared in the following personality traits: energy, agreeability and openness. Officers

scored highest in all the mentioned dimensions. Comparison of social skills between officers and non-commissioned officers showed the difference in the following dimensions: social sensibility and social manipulation. Officers had a higher result on social sensibility, while social manipulation was more expressed by non-commissioned officers (Tušak & Pori, 2008).

We wanted to examine the various psychological demands of life and work in the Slovenian Armed Forces. We studied the employees in the SAF (soldiers, non-commissioned officers, commissioned officers) to determine the differences among individual motives for participation in sports, satisfaction with life, self-motivation, general health status and attitudes towards sports. Also, we wanted to establish the correlation of motives for participation in sports, attitudes to sports, self-motivation and satisfaction with life among the employees in the SAF. We were also interested in the factor structure of the sports participation motives and in the difference of the incentive systems among the studied groups. Our presumption was that there were no differences in the motives for sports activities, in attitudes to sport or in general health status among the SAF employees.

## Methods

### Subjects

The sample of subjects consisted of 137 employees of the Slovenian Armed Forces (73 soldiers, 36 non-commissioned officers and 28 officers). Respondents cooperated of their own free will. The collection of results was anonymous. The sample was comprised of employees of the

SAF from different units (Ljubljana, Maribor, Kranj, Vrhnika, Slovenska Bistrica, Postojna and Bohinjska Bela). The respondent's age structure and their educational structure are presented in Tables 1 and 2.

### Instruments

In the research, we used the following 5 questionnaires, which are generally used in sports practice in Slovenia. All the questionnaires were translated with permission and adapted for the purpose of research studies and Slovenian circumstances. The instruments have already been used in previous investigations. The structure validity of those instruments was also tested.

**Participation Motivation Questionnaire (PMQ)** (Gill, Gross, & Huddleston, 1980) with a list of 30 potential motives or reasons for sports participation. This questionnaire is particularly intended for the young, who are active in sports, and the motivation of whom is still very diverse. The respondents evaluated each reason on a three-level ordinal scale (*very important; somewhat important; not important*).

By using factor analysis of the reasons, the authors obtained the following main factors or incentives:

- 1 *success and productivity* (e.g. "I like winning");
- 2 *team atmosphere* (e.g. "I like groupwork/teamwork");
- 3 *friendship* (e.g. "I like spending time with my friends");
- 4 *recreation* (e.g. "I like to get out of the house");
- 5 *relaxation and releasing the superfluous energy* (e.g. "I want to release tension");
- 6 *developing abilities* (e.g. "I would like to learn how to train/play") and
- 7 *fun* (e.g. "I like having fun").

The importance of individual goals or of an individual incentive was used as the attractiveness of a motive or incentive and as its valence (positive or negative) in a motivational situation. The authors have reported factors with various levels of reliability, between .60 (*friendship*) and .78 (*team atmosphere*). Although the authors did not indicate any norms, they presented the results obtained from the sample of 720 boys and 418 girls.

The results cannot be compared to the ones obtained in our research since the scale has been adjusted. Namely, in our research we adjusted this scale to a five-level ordinal scale in which number 1 indicated *the reason is irrelevant for me* and number 5 indicated *the reason is highly important for me*. The questionnaire was translated with permission and adapted for the purpose of research needs in Slovenia (Tušak, 1997). The Slovenian version of PMQ (Tušak, 1997) was used in this study. In our research we also obtained seven factors, which are represented and described in the results.

Table 1. Age structure of the sample

Age	Percent
up to 25	18.4
26 to 30	25.5
31 to 35	20.6
36 to 40	13.5
41 to 45	14.2
46 to 50	2.8
51 to 55	3.5
over 55	1.4

Table 2. Educational structure of the sample

Educational level	Percent
secondary education	52.5
vocational education	17.0
professional college	16.3
college and university education	13.5

Cronbach's alpha coefficient in the present study was .94. Cronbach's alpha coefficients for separate factors ranged between .89 (*the motive of social recognition*) and .54 (*the motive of competence*).

**Satisfaction With Life Scale (SWLS)** (Diener, Emmons, Larsen, & Griffin, 1985). Between the different components of the subjective feeling of well-being this scale is narrowly focused on measuring general satisfaction with life and refers to similar constructions as positive affection and loneliness. It presents a cognitive aspect of satisfaction with life. A result on the scale can be labelled as an individual's global estimation of quality of their life according to personal criteria. The scale consists of five items for which individuals have to mark their answers on the scale from 1 (*not true at all*) to 7 (*completely true*). For the end result we scored the average of the answers. Cronbach's alpha coefficient in this study was .87.

**General Health Questionnaire (GHQ)** (Goldberg, 1972, in Goldberg, McDowell & Newell, 1996). We tried to discover any signs of poorer health status. It is an instrument which is used to discover any psychiatric disturbances in residential communities such as primary care or general practice. The questionnaire was translated with the permission and adapted for the purpose of this study. It consists of 12 questions which the participants had to answer on a scale ranging from 1 (*not at all*) to 5 (*a lot more than usually*). A high number of points means a presence of signs of poorer health (an individual has problems with sleeping, concentration, s/he is unhappy, irritable and depressive, has lost faith in him/herself and his/her abilities, etc.). For the final result we scored an average of the answers. Cronbach's alpha coefficient in this study was .92.

**Self-motivation Inventory** (Dishman, Ickes, & Morgan; 1980) includes 40 statements, which measure:

*Self-motivation or internal motivation of subjects (e.g. It is not really easy to promise that I will do something for sure or Whenever I undertake a difficult task I decide to persist until I finish it).*

The respondents gave answers on the basis of a five-level scale (1 = *I completely disagree*, 5 = *I completely agree*). For the final result we scored the sum of the answers. The authors reported the alpha reliability coefficient between .86 and .91. The coefficient obtained by the test-retest method was  $r=.92$ . The authors also reported a high positive correlation with the *Thomas-Zander Ego Strength Scale*. The results of the scale were also correlated with the attachment to certain training programmes or certain sports activities. Cronbach's alpha coefficient in this study was .89.

To find out the intention of points of view on sport we composed the *Attitudes Towards Sport Scale (SS)* (Tušak & Korenjak, 2006, in Tušak, Masten, Tkavc, & Tušak, 2008). It is composed of

35 statements (e.g. *I like competing at competitions, Sport represents enjoyment for me*). The participants label how much a statement is true for them on a five level scale, where 1 means *I completely disagree* and 5 means *I completely agree*. For the final result we scored an average of the answers. Cronbach's alpha coefficient in this study was .92.

## Procedure

After a previous agreement with the Slovenian Armed Forces and their consent to collaborate in the research, we collected the data in different units. The subjects filled in the questionnaires individually and considered the instruction added. For each question the people who carried out the research were there to answer and explain any possible indistinctness. The completed questionnaires were collected after being filled in. To analyse the data we used the one-way analysis of variance (ANOVA), as well as the factor and discriminant analysis.

## Results

Descriptive statistics of the most important and the least important motives for taking up sports activities and other variables showed that the self-motivation level of the employees in the SAF was high ( $M=149.11$ ;  $SD=18.31$ ). The general health status ( $M=1.81$ ;  $SD=.75$ ) and satisfaction with life ( $M=4.38$ ;  $SD=1.28$ ) were above average according to the scale. The employees had a positive attitude towards sports ( $M=3.60$ ;  $SD=.63$ ). They mainly did sports in order to remain healthy (motive 24 –  $M=4.69$ ;  $SD=.60$ ) and in good physical condition (motive 6 –  $M=4.45$ ;  $SD=.76$ ), and because they liked doing what they were good at (motive 12 –  $M=4.45$ ;  $SD=.71$ ). As the least motivating factors they indicated the wishes of their parents and close friends, who would like to watch their performance (motive 9 –  $M=2.42$ ;  $SD=1.19$ ), and the desire to be popular (motive 25 –  $M=2.53$ ;  $SD=1.10$ ).

Table 3 indicates that statistically significant differences have occurred only in the area of satisfaction with life and in the area of self-motivation. The results have shown that the non-commissioned officers experienced the highest level of satisfaction with life; they were followed by the commissioned officers; the least satisfied were the soldiers. The commissioned officers expressed the highest level of self-motivation; they were followed by the non-commissioned officers; the soldiers indicated the lowest level of self-motivation.

From the factor analysis of the motives for sports participation questionnaire based on the collected data (principle components extraction, Varimax rotation) seven factors were obtained, which explained 67.7 % of common variance (Table 4).

The first factor explained 14.1 % of variance and included *the motives of social recognition*. The second factor explained 11.1 % of variance

Table 3. Differences between soldiers, non-commissioned officers and officers in motives for sports participation, attitudes to sports, self-motivation, general health status and satisfaction with life

Variables	Soldiers		Non-commissioned officers		Officers		F	p(F)
	M	SD	M	SD	M	SD		
M1	3.97	.96	4.11	.79	4.11	1.13	.35	.705
M2	4.14	1.00	4.22	.76	3.93	1.02	.78	.456
M3	3.90	1.12	3.94	1.07	3.75	1.18	.27	.767
M4	4.08	1.00	4.14	.93	4.18	.95	.11	.893
M5	4.00	1.01	4.17	.88	4.50	.84	2.84	.062
M6	4.40	.81	4.44	.74	4.61	.63	.78	.461
M7	4.05	.90	4.08	.81	3.87	1.01	.61	.548
M8	4.15	.89	4.22	.80	4.21	.88	.11	.899
M9	2.37	1.12	2.36	1.22	2.64	1.34	.59	.554
M10	4.04	1.11	4.17	.81	3.96	1.14	.32	.730
M11	4.12	1.00	4.17	.70	4.04	1.11	.15	.859
M12	4.44	.73	4.47	.65	4.46	.74	.03	.968
M13	4.03	.88	3.97	1.00	4.11	.96	.17	.847
M14	3.49	1.25	3.11	1.37	3.39	1.23	1.08	.341
M15	3.58	1.20	3.31	1.28	3.36	1.25	.70	.499
M16	4.19	.83	4.25	.77	4.00	1.02	.73	.482
M17	4.08	1.12	3.81	.98	3.82	1.12	1.06	.350
M18	4.05	1.00	4.42	.77	4.21	.92	1.86	.160
M19	4.30	.78	4.53	.65	4.29	.85	1.22	.299
M20	3.89	1.06	3.97	.91	3.89	1.03	.08	.919
M21	3.11	1.19	2.58	1.13	2.96	1.07	2.54	.083
M22	4.03	1.04	4.19	.89	4.11	.74	.38	.683
M23	3.96	.95	3.86	1.07	4.00	.94	.18	.834
M24	4.63	.68	4.75	.50	4.75	.52	.67	.514
M25	2.51	1.07	2.50	1.06	2.61	1.26	.10	.908
M26	4.12	.88	4.00	.89	4.00	.98	.32	.730
M27	2.93	1.26	2.92	1.18	3.04	1.26	.09	.916
M28	3.23	1.14	2.89	1.09	3.25	1.18	1.26	.287
M29	4.40	.80	4.25	.73	3.96	.92	2.93	.057
M30	3.90	1.06	3.83	1.08	3.86	1.21	.06	.946
SWLS	3.98	1.32	5.00	.99	4.63	1.10	9.39	.00*
SS	3.54	.65	3.68	.58	3.65	.62	.78	.463
GHQ	1.83	.85	1.77	.67	1.82	.58	.08	.920
SMI	143.59	18.11	154.17	17.55	157.00	15.25	8.05	.00*

Legend: SWLS – Satisfaction With Life Scale; SS – Attitudes Towards Sport Scale; GHQ – General Health Questionnaire; SMI – Self-Motivation Inventory; PMQ: M1 – motive 1, M2 – motive 2...; \* p < .05.

and included *the motives of friendship, recreation and fun*. The third factor included *the motives of excitement, energy release and skill development* and explained 10.8 % of variance. The other four factors explained 9.9 % to 6.3 % of variance. The fourth factor included *the motives of group atmosphere*, the fifth factor represented *the motives of productivity*, the sixth *the motives of health* and the seventh *the motives of competence and promotion to a higher level* (Table 5). The last factor had a rather low reliability and that is why we had to be cautious in any further discussion.

Table 4. Factorization of the statements of the Motives for Sports Participation Questionnaire

Factor	Eigenvalue	% of Variance	Cumulative %
1	4.22	14.1	14.1
2	3.34	11.1	25.2
3	3.23	10.8	36.0
4	2.97	9.9	45.9
5	2.47	8.2	54.1
6	2.20	7.3	61.4
7	1.89	6.3	67.7

Table 6 shows that there were no statistically significant differences among the soldiers, non-commissioned officers and commissioned officers,

regarding the seven factors or incentives for sports participation.

Table 5. Factor saturation with individual motives

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
M28	.84	.12	.08	.13	.05	.18	.01
M25	.82	.08	.13	-.07	.11	-.01	.03
M21	.79	.04	.01	.01	.25	.00	.18
M14	.69	.14	.02	-.02	.41	.07	.27
M9	.62	.15	.24	.36	.13	-.15	-.06
M27	.56	-.09	.40	.42	.07	.10	.15
M15	.49	.06	.48	.31	.22	-.07	.30
M11	.18	.77	.20	.28	.12	.07	.13
M19	.01	.66	-.02	.20	-.01	.20	.37
M29	.09	.65	.25	.04	.27	.07	.09
M5	.10	.55	.26	.10	-.17	.47	-.21
M2	.02	.54	.32	.36	.11	-.20	-.14
M26	.19	.54	.23	.16	.02	.42	.16
M7	.05	.30	.66	.13	.14	.20	-.11
M30	.29	.22	.61	.22	-.03	.16	.26
M17	.27	.27	.54	.18	.08	.11	.26
M4	.12	.09	.53	.06	.50	.42	-.01
M10	.08	.45	.52	.24	-.01	.06	.38
M22	.18	.29	-.03	.74	.28	.11	.09
M8	.11	.15	.35	.67	-.05	.28	-.03
M18	-.03	.25	.16	.60	.05	.17	.43
M1	.06	.23	.44	.54	.20	.28	.10
M16	.09	.29	.30	.47	.15	.16	.32
M3	.37	-.01	.08	.11	.78	.15	-.01
M20	.40	.16	-.01	.28	.69	.06	.03
M13	.11	.23	.37	.04	.53	.08	.25
M24	.03	.10	.06	.20	.22	.80	.20
M6	-.01	.19	.40	.27	.18	.67	.12
M12	.22	.02	.07	.17	.40	.18	.61
M23	.34	.31	.24	.06	-.07	.08	.58

Table 6. Differences between soldiers, non-commissioned officers and officers in single factors

VARIABLES	Soldiers		Non-commissioned officers		Officers		F	p(F)
	M	SD	M	SD	M	SD		
F1	.07	.98	-.26	1.07	.16	.94	1.75	.178
F2	.03	1.05	.08	.76	-.19	1.14	.64	.531
F3	.08	1.04	-.08	.94	-.09	.99	.40	.668
F4	-.13	1.08	.23	.87	.06	.91	1.65	.197
F5	.03	.99	.07	1.08	-.19	.94	.62	.540
F6	-.13	1.10	.00	.86	.33	.84	2.18	.117
F7	.03	.99	.01	1.12	-.09	.87	.17	.847

Legend: \* p<.05.

Table 7 shows that all statistically significant correlations were positive and low to medium. No calculated correlation was high. The highest positive correlation existed between the fourth factor and the attitude towards sports. It was followed by the correlation between the fifth factor and the attitude to sports. Self-motivation was statistically significantly correlated with the sixth, seventh and fourth factor. The correlation between self-motivation and the seventh factor had to be

Table 7. Pearson's coefficients of correlation between single factors and general health status, satisfaction with life, attitude to sports and self-motivation

Variables	GHQ	SWLS	SS	SMI
F1	.07	-.12	.15	-.03
F2	.00	.08	.03	.07
F3	.12	.05	.10	.11
F4	-.18	.18	.48**	.23**
F5	.03	.03	.35**	.07
F6	.05	.15	.18	.30**
F7	-.10	.17	.03	.30**

Legend: GHQ – General Health Questionnaire; SWLS – Satisfaction With Life Scale; SS – Attitude Towards Sport Scale; SMI – Self-Motivation Inventory; \*\*  $p < .01$ .

Table 8. Canonical discriminant functions

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation	Wilks' Lambda	Chi-square	df	Sig.
1	.335	81.8	81.8	.501	.697	45.166	22	.003
2	.075	18.2	100.0	.264	.930	9.006	10	.532

Table 9. Standardized canonical discriminant function coefficients and structure matrix

	Standardized canonical discriminant function coefficients Function 1	Structure matrix Function 1
SWLS	.67	.67
SMI	.66	.65
GHQ	.44	-.04
SS	-.01	.18
F1	-.14	-.10
F2	-.21	-.08
F3	-.33	-.16
F4	.16	.29
F5	-.12	-.03
F6	.05	.29
F7	-.27	-.01

Legend: SWLS – Satisfaction With Life Scale; SMI – Self-Motivation Inventory; SS – Attitude Towards Sport Scale; GHQ – General Health Questionnaire; F1-F7 – Factors.

guardedly discussed because of its rather low alpha value.

Discriminant analysis has formed one discriminant function, which statistically significantly discriminated between the three groups (soldiers, non-commissioned officers, commissioned officers) (Table 8).

The discriminant function included satisfaction with life, which represented an individual's assessment of his/her own well-being, health status, friendship and partnership, as well as self-satisfaction (Table 9). An individual's subjective experience of satisfaction was reflected in the positive outcome in three basic and primary areas of life: work, social relations and health. An extremely important component of the function is also self-motivation or internal stimulation and self-control in the process of motivation. The two incentives, which were characteristic of this function, were the group-atmosphere incentive and the health incentive. Negative correlations have also been observed with some other incentive systems; however, these correlations were lower and less significant. The obtained significant discriminant function could also be called *intrinsic motivation and satisfaction with life*. The greatest differences among the groups (soldiers, non-commissioned officers and commissioned officers) have occurred

Table 10. Function at group centroids

	Function 1
Soldiers	-.526
Non-commissioned Officers	.578
Officers	.679

with the previously mentioned combination of variables.

The highest level of discrimination of the discriminant function has occurred between the non-commissioned and the commissioned officers (expressed as high), on the one hand, and soldiers on the other (expressed as low) (Table 10).

## Discussion and conclusions

The importance of motion ability training, as one of the fundamental elements of the combat readiness of an army forces' individual and a unit, is beginning to increase in every modern army.

The way of life has been changing significantly, as well as the abilities of an individual and of a society. Sports activities have become increasingly important in developing and maintaining the motion abilities of a modern human being. This research emphasizes the motives for the participation in sports in order to determine how the sports and fitness-related motivation can be stimulated in soldiers of the SAF. A positive attitude of the employees in the SAF was discovered. They did sports to achieve and maintain good physical condition and health, and to enjoy activities they were good at. The least motivating factor was the wish of their parents and close friends, who would like to watch their performance, and the desire to be popular. Although there was no statistically significant difference between the soldiers, non-commissioned and commissioned officers regarding the 30 motives for sports participation, it is obvious that the most important motive among the soldiers was *I want to get promoted to a higher rank*, and the least important one was *My parents and close friends want me to perform well*. The most important motive indicated by the non-commissioned officers was *I want to be in good physical shape and healthy*, and the least important motive for them was *My parents and close friends want me to perform well*. Similarly, the commissioned officers evaluated the motive *I want to be in good physical shape and healthy*, and the least important for them was the motive *I want to be popular*. It is evident that all three groups have a common denominator, i.e. they are motivated to participate in sports activities in the SAF primarily to achieve competence, develop abilities and stay healthy. These motives can be defined as intrinsic motives (wish for promotion, mastering demanding skills, feeling of satisfaction and joy, and good physical and psychological feeling when involved in a physical activity) and can be related to self-motivation, which is also an internal or intrinsic type of motivation. Deci (1975) also set the need of competence as the basis of intrinsic motivation. Csikszentmihaly (1990) explained that intrinsic motivation brings about the feeling of satisfaction and joy and at the same time the individual's enjoyment indicates an underlying presence of internal motivation. The results have shown that the level of self-motivation of the employees in the SAF is high, which means that they were efficient in preparing themselves for various drills independently and were willing to work. We found that the commissioned officers had the highest level of self-motivation, followed by the non-commissioned officers. The soldiers had the lowest level of self-motivation. Self-motivation or internal motivation increased with the status of the employees, which means that, compared to their superiors, the soldiers need somewhat

more incentive to prepare efficiently and carry out the given tasks. Considering the fact that in the army there is a strict autocratic leadership system characterized by orders, prohibition, discipline and absolute obedience, it is understandable that the subordinate employees (soldiers) often adhere to orders due to external constraints or pressure, and to a lesser extent due to their internal drive.

As far as satisfaction with life is concerned, we have established that the employees in the SAF evaluated the level of quality of their lives as above-average. The analyses of differences among the commissioned officers, non-commissioned officers and soldiers have shown the highest level of satisfaction with life in the non-commissioned officers, followed by the commissioned officers, and finally by the soldiers, who were least satisfied. The non-commissioned officers, compared to the commissioned officers and soldiers, therefore more often feel that their lives have been and are good and that at present their lives are fulfilled, pleasant and make sense. Lyubomirsky et al. (2005) also established that the individuals, who are more satisfied with their lives, tend to get more important, more autonomous and more diverse work positions. However, regardless of their status, we can conclude that in general all the employees were satisfied, rather than dissatisfied with their lives, which corresponds to the findings of the previous researchers (Diener & Biswas-Diener, 2000; Diener, et al., 1997; Myers & Diener, 1995).

The general health status was also above-average, which means that the employees in the SAF rarely feel unhappy, irritable, or depressed. They do not experience problems of insomnia due to worries, they do not have concentration problems, and they find joy in their everyday activities. This indicates that the basic purpose of physical education in the SAF has been achieved. Jošt (1994) defined this basic purpose as a concern for a comprehensive and proper psychomotor development of its members, so that they would be healthy, strong and vigorous people, capable of work and study, integrated into the life of their environment, sustaining the efforts of such a pace of life, and sustaining the efforts they have to face when defending their country. Sports exercise, the purpose of which is to maintain health, is the basis of the army and is at the same time the primary condition of a proper motive capacity of an individual. The reason for the high general health status can be related to the highly noticeable previously mentioned motive for participation in sports activities, i.e. health maintenance. Lyubomirsky et al. (2005) concluded that satisfaction with life also contributes to a better mental and physical health, which was also reflected in the results we obtained.

From the factor analysis we obtained 7 incentive systems. We were interested in their correlation



with other variables and we concluded that the employees, who valued the motives of group atmosphere and the productivity motives more, also had a more positive attitude towards sports. Such results are reasonable, because the physical drill in army organizations is based on group work, team spirit and productivity in every sense, which means that the individuals, who find initiative for participation in sports activities in these two incentives, can on the basis of that also develop a more positive attitude towards sports and sports drill in the SAF. The results have shown that the employees who highly value health, competence and the professional promotion motives, along with the group atmosphere motives, are more self-motivated. Regarding the low alpha value of the motive for competence we have to be careful in the interpretation of this result. Considering the fact that all these motives are important intrinsic motivation factors, it is logical that there was a positive correlation between them and self-motivation, which represents an internal or intrinsic motivation.

One significant discriminant function has been obtained by discriminant analysis and we named it *intrinsic motivation and satisfaction with life*. Regarding this discriminant function, the commissioned and the non-commissioned officers had the highest and the soldiers had the lowest correlations with the discriminant function. The results were consistent with our previous findings.

These findings have important practical implications if they are interpreted in the light of the situation-interaction model of motivation (Alderman & Gould, 1980, in Tušak & Tušak, 2003). This model suggests that an individual's motivation is the result of individual factors or motives and of environmental factors, i.e. of a sports situation. Optimal motivation for sports participation occurs when individual's motives face the environment which fulfils these motives. That means that the coach needs to be fully familiar with the motives of the trainees, as this enables the coach to form situations that fulfil these motives. The results of the research have shown that the employees in the SAF

have indicated several important motives. Since the coaches are familiar with these motives, they can structure the environment and the situations in order to help their trainees achieve the desired goals.

Motive abilities of an individual and of the whole unit are one of the basic elements of combat readiness and are therefore becoming increasingly important in the training programmes of modern armed forces. Although the results of the research are positive, it is necessary to attempt to improve, or at least preserve, the existing situation. New quality of awareness, regarding the importance of sports participation, in individuals as well as in the SAF as a whole, can only be achieved by the willingness of each individual to accept sport as a value and as an element of the quality of life. Higher professional competence in the field of sports should be pursued among the members of the SAF and programmes of sports activities should be provided for them. The programmes of sports exercise should fulfil the needs of the modern way of life and should, in addition, eliminate the negative consequences arising from the assignments and duties carried out by the members of the armed forces (Jaenen, 2000; Novak, 2003). These requirements have a wide span – from extremely high physical demands to the elimination of the negative impacts of the modern way of life, such as overweight, stress exposure, diseases of the locomotor system and cardiovascular diseases. All of the previously mentioned diseases are caused by the assignments during services in command, standby duty on devices and handling modern weapons.

If those in charge in the SAF are aware of the significance of the key elements: intrinsic motivation and joy, which are based on the feeling of competence and perceived ability of self-control, as well as on general well-being and pleasure, they will be able to use these findings in practice, particularly in the field of the exercise situation and structure, selection of physical activity and in the way of maintaining motivation for participation in sports activities in the Slovenian Army.

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## MOTIVI ZA SUDJELOVANJE U SPORTSKIM AKTIVNOSTIMA, STAVOVI PREMA SPORTU I ZDRAVSTVENI STATUS ZAPOSLENIKA U SLOVENSKIM ORUŽANIM SNAGAMA

Cilj je ovog istraživanja bio istražiti motive za sudjelovanje u sportskim aktivnostima, stanje zdravlja, stavove prema sportu, zadovoljstvo životom te samo-motivaciju u vojnih službenika Oružanih snaga Slovenije. U fokusu interesa bila je faktorska struktura motiva za sudjelovanje u sportskim aktivnostima, razlike u motivacijskim sustavima u zaposlenika te korelacija između sustava poticaja i ostalih mjenjenih varijabla. U istraživanju su korišteni psihodijagnostički instrumenti: Upitnik motivacije za sudjelovanje (The Participation Motivation Questionnaire - PMQ), Skala zadovoljstva životom (Satisfaction With Life Scale - SWLS), Upitnik o općem zdravlju (General Health Questionnaire - GHQ), Upitnik o samo-motivaciji (Self-Motivation Inventory - SMI) i Upitnik stavova prema sportu (Questionnaire of Attitudes Towards Sport - SS). U istraživanje su bili uključeni zaposlenici Slovenske vojske (N=137, 73 vojnika, 36 nižih časnika i 28 časnika). Na navedenom uzorku ispitanika utvrđeni su pozitivni stavovi prema sportu. Pripadnici Slovenske vojske bave se sportom radi unapređenja i održavanja kondicijskih sposobnosti te održavanja optimalnoga zdravstvenoga statusa. Istraživanje je pokazalo da ispitanici vole aktivnosti u kojima su dobri. Najmanje izraženi motivacijski faktori u

ispitanika bile su želje bliskih prijatelja i roditelja, koji žele pratiti/gledati njihovu aktivnost te želja za popularnošću. Isto je tako zabilježen i visok stupanj samo-motivacije u ispitanika, najviše je izražen u časnika. Istraživanje je pokazalo natprosječno visok zdravstveni status i zadovoljstvo životom. U nižih časnika stupanj zadovoljstva životom bio je najviši. Faktorskom analizom dobiveno je 7 motivacijskih faktora. Ispitanici u kojih su izraženi motivi grupne atmosfere i produktivnosti imaju i izraženije pozitivne stavove prema sportu. Ispitanici u kojih su pored grupne atmosfere naglašeni i motivacijski faktori zdravlja, kompetentnosti i stručnog napredovanja, imaju i izraženiji stupanj samo-motivacije. Diskriminacijskom analizom je utvrđena jedna značajna diskriminacijska funkcija, nazvana *intrinzična motivacija i zadovoljstvo životom*. Najviši stupanj razlikovanja navedenom diskriminacijskom funkcijom zabilježen je između skupine časnika i nižih časnika na jednoj strani te vojnika na drugoj strani.

**Ključne riječi:** sport, motivacija, zadovoljstvo životom, stavovi prema sportu, zdravlje, Slovenske oružane snage

Submitted: February 14, 2009

Accepted: February 25, 2010

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