

COMPARISON OF DIMENSIONS OF SELF-CONCEPT AMONG STUDENTS OF SPORT AND PHYSICAL EDUCATION, PSYCHOLOGY AND MECHANICAL ENGINEERING

(Original scientific paper)

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Abstract

The research was conducted on the sample of 160 students of the University of Nis, 60 of whom were students of the Faculty of Sport and Physical Education, 60 students of Psychology and 40 students of the Faculty of Mechanical Engineering. 76 male and 84 female examinees participated in this research. For examining of the self-concept dimensions, the Self Concept Scale (Opacic, 1995.) was used. It measures the following dimensions: emotionality-rationality, rigidness, misanthropy, moral negativity, locus of control, global self-esteem, sex attraction, evaluation by others, physical and intellectual abilities. The results pointed toward the existence of statistically important differences between the students of sport and physical education and students of psychology regarding the distinctiveness of the following dimensions of self-concept: misanthropy, moral negativity, global self-esteem, as well as the physical and intellectual abilities. Comparing the dimensions of self-concept between students of sport and physical education and the future mechanical engineers, a statistically important differences has been distinguished in regard to the following dimensions: evaluation by others and the physical ability. The overcome results, to a certain extent, could be explained by the knowledge and experience gained during the studying. Statistically important differences in dimensions of self-concept regarding sex differences of the examinees can be considered within the scope of cultural and social influence on the development of the self concept within the individuals. Therefore, these differences can not be neglected during the examination of the overcome results when comparing the students of different study groups, because of specificity of the sex structure of the examinees.

Keywords: *Self concept scal, physical abilities, intellectual abilities, cognitive structure, student's maturing, t-tes*

INTRODUCTION

Self-concept or self knowledge is a kind of construct with a long history of research in the psychology, which, depending on their theoretical orientation, different authors define the self-concept differently. Besides the self-concept idea, terms like self-awareness, ego-identity, self-knowledge, self, ego-feeling, the ego (Hrnjica. 1994.) are also in theoretical usage. This diversity in terms points toward the fact that the concept which would quite successfully describe the

whole personality, has not been found yet.

The founder of the concept of ego-structure is William James (James, 1890., according to Janakov, 1988.) who distinguishes "cognitive ego" and "empirical ego". The empirical ego is made of three components: physical or material ego, social ego and spiritual ego.

Sarabin (Sarabin, 1952., according to Janakov, 1988.) determines the self as one of the forms of the organization of experience. That is the cognitive structure which has an empirical origin. The changes

within the self are the products of learning, but also of maturing of the individual. Sarabin distinguishes 'private ego' and 'social ego'. Private ego has four components: somatic self, receptor-effector self, primitive self and introjecting-extrojecting self. Social ego begins to develop itself during the second year of age and it is organized according to the roles and the social influences.

According to Allport (Allport, 1969.), self-knowledge is something which is developed gradually while the child grows up. The knowledge of the self includes some more aspects. The sense of physical self, the sense of permanent identity of the self and self-evaluation develops during the first three years. The sense of permanent identity of the self develops during the second year, and one of the most important factors of this development is the development of speech. The expansion of the self and the image of the self are developed from the fourth toward the sixth year. The ego, as a rational actor, is the aspect of the self which is developed from the sixth to the twelfth year. The self-personal aspirations appears as a final aspect of the development of the sense of the self. Proprium in Allport's theory represents the construct which unifies the stated aspects of the sense of the self.

According to Opacic (1994.), the self-concept is an organised scheme of experience that a person has about himself. During the life, we are receiving a great number of information about ourselves. However, man's cognitive system aims at reducing the number of information. The reduction is firstly made by selection, and then by generalizing information. The final results are classified schemes which are used for structuring the future information. These classified schemes actually represent the image of the self; thus, for particular elements, a particular valuative judgements are connected. In this way, different elements of the image of the self, get a different significance.

The image of the self according to Berns (Berns, 1979., according to Hrnjica, 1994.) is only one element of the idea of the self. The valuative component of the image of the self has a strong motivational power and self-respect of the individual depends on it. The self-respect is a dimension which is inseparable from the self-knowledge. Therefore, some of the authors, when they speak toward the structure of the self concept, they are distinguishing three components: descriptive, evaluative and that of willingness to react (Berns, 1979., according to Janjetovic, 1996.). The descriptive component stands for the image of the self and the evaluative self-esteem. We consider these elements also as dimensions.

The self concept is developed through interaction with other people who represent an important source of information which we are receiving about ourselves through other people's reactions to us, as well as through a direct comparison toward the others. For this reason, it can be said that the process of socialization, which in most societies is different for

the male and female children, is of great importance for the development of the self concept. A child adopts those attributes on time which are, within the limits of his society and culture, attached to the male or female gender. The acceptance of the own gender role entails the desirability of the certain characteristics, where the physical strength and efficiency is more valued among men and sociability is of greater importance among the women. Fitting into the stereotype which is attached to a men and a women increases the congruency of the self-evaluative system, decreases the instability and increases the sense of stability (Opacic, 1994.).

Harter (Harter, 1990., according to Tubic, Djordjic and Pocek, 2012.) emphasizes that the formation of the self is determined not only by cognitive processes but also by social context, so that the individual's immediate environment will be convenient or less convenient environment for the development of the self. According to this author, the feeling of competence is the basic aim of successful behaviour. Therefore, an individual will participate in those activities in which it perceives itself as competent.

In this work, we compare the different dimensions of the self-concept among students of different study groups, with the assumptions that there will be differences in distinctiveness of particular dimensions of the self-concept among the students of sport and physical education, psychology and mechanical engineering.

Super (Super, 1990., as per Hedrih, 2006.) emphasizes the importance of self-concept for the professional development. According to this author, the idea of the self changes throughout the life through the interaction with the environment in all areas of the life, and also in the area of professional development. Accordingly, the professional development represents a creation of the image of the self in the area of profession. Therefore, the choice of profession, according to this author, would represent the realization of the image of the self. Further experience that a person gains in his profession will influence his self-concept, which will consequently determine the future choices in his career.

The research goals

Within the research has the following goals:

- Determine whether there are statistically significant differences, on the hand between sport and physical education and psychology students, on the other hand, between the students of sport and physical education and engineering students in the severly dimensions: emotionality-rationality, rigidity, misanthropy, moral negativity, locus of control, global self-esteem, sex attraction, evaluation by others, physical ability, intellectual ability.

- Determine whether there are statistically significant differences in these dimensions of self-concept regarding to the gender of the students.

METHODS

The instruments for research

For measuring the dimensions of the self-concept, a Self-Concept Scale was used (Opacic, 1995.), which has 100 items. The task of the examinee is to determine the extent of agreement with the cited statement on the five-degree Likert scale. By quantitative analysis of self-decription of the examinee, the

Table 1. The structure of the example according to the sex

Sex	No	%
Male	76	47.5%
Female	84	52.5%
Total	160	100%

The results of the research

Table 3. The distinctiveness of dimensions of self-concept according to the faculty and theoretical and empirical range of scores

	Faculty	No	AS	SD	Min	Max
Emotionalityrationality	FSPE	60	30.60	5.950	14	44
	Psycho	60	29.02	4.778	19	40
	FME	40	39.20	5.979	13	39
	Total	160	29.91	5.557	13	44
Rigidness	FSPE	60	30.47	6.964	11	45
	Psycho	60	28.22	6.931	13	48
	FME	40	31.53	6.895	16	50
	Total	160	29.89	7.024	11	50
Misanthropy	FSPE	60	32.68	6.052	17	45
	Psycho	60	28.77	6.924	14	46
	FME	40	32.92	6.840	13	50
	Total	160	31.28	6.831	13	50
Moral negativity	FSPE	60	34.23	6.495	18	49
	Psycho	60	30.38	7.490	15	50
	FME	40	32.95	6.477	14	47
	Total	160	32.47	7.045	14	50
External locus of control	FSPE	60	30.83	6.220	13	43
	Psycho	60	29.67	7.257	17	50
	FME	40	29.53	6.437	12	44
	Total	160	30.07	6.665	12	50
Global self-esteem	FSPE	60	35.45	6.534	22	49
	Psycho	60	38.65	6.906	20	50
	FME	40	35.67	6.967	21	50
	Total	160	36.71	6.909	20	50
Sex attraction	FSPE	60	32.42	5.616	22	46
	Psycho	60	32.65	6.467	13	45
	FME	40	31.33	7.318	14	49
	Total	160	32.54	7.699	13	49
Evaluation by others	FSPE	60	38.48	5.780	26	49
	Psycho	60	39.65	5.092	30	50
	FME	40	36.00	5.430	22	50
	Total	160	38.30	5.593	22	50
Physical abilities	FSPE	60	41.77	5.715	22	50
	Psycho	60	31.27	7.449	11	45
	FME	40	32.65	7.361	16	48
	Total	160	35.55	8.344	11	50
Intellectual abilities	FSPE	60	36.58	5.938	25	49
	Psycho	60	39.05	5.466	25	50
	FME	40	34.35	5.727	19	46
	Total	160	36.95	5.969	19	50

Table 2. The structure of the example according to the study group

Study group	No	%
FSPE	60	37.5%
Psychology	60	37.5%
FME	40	25%
Total	160	100%

following dimensions of self-concept are determined: emotionality-rationality, rigidness, misanthropy, moral negativity, locus of control, global self-esteem, sex attraction, evaluation by others, physical and intellectual ability.

Table 4. The difference in the degree of distinctiveness of dimensions of self-concept between the students of sport and physical education and students of psychology

Dimensions	Faculty	AS	t	Sig.
Emotionality-rationality	FSPE	30.60	1.607	0.111
	Psychology	29.02		
Rigidness	FSPE	30.47	1.774	0.079
	Psychology	28.22		
Misanthropy	FSPE	32.68	3.299	0.001
	Psychology	28.77		
Moral negativity	FSPE	34.23	3.008	0.003
	Psychology	30.38		
External locus of control	FSPE	30.83	0.946	0.346
	Psychology	29.67		
Global self-esteem	FSPE	35.45	-2.607	0.010
	Psychology	38.65		
Sex attraction	FSPE	32.42	-0.211	0.833
	Psychology	32.65		
Evaluation by others	FSPE	38.48	-1.173	0.243
	Psychology	39.65		
Physical abilities	FSPE	41.77	8.663	0.000
	Psychology	31.27		
Intellectual abilities	FSPE	36.58	-2.367	0.020
	Psychology	39.05		

Table 5. The differences in the degree of distinctiveness of dimensions of self-concept between students of sport and physical education and students of mechanical engineering.

Dimensions	Faculty	AS	t	Sig.
Emotionality-rationality	FSPE	30.60	0.329	0.743
	FME	30.20		
Rigidness	FSPE	30.47	-0.747	0.457
	FME	31.53		
Misanthropy	FSPE	32.68	-0.186	0.853
	FME	32.92		
Moral negativity	FSPE	34.23	0.969	0.335
	FME	32.95		
External locus of control	FSPE	30.83	1.016	0.312
	FME	29.53		
Global self-esteem	FSPE	35.45	-0.164	0.870
	FME	35.67		
Sex attraction	FSPE	32.42	0.842	0.402
	FME	31.33		
Evaluation by others	FSPE	38.48	2.156	0.034
	FME	36.00		
Physical abilities	FSPE	41.77	6.956	0.000
	FME	32.65		
Intellectual abilities	FSPE	36.58	1.869	0.065
	FME	34.35		

Table 6. The distinctiveness of dimensions of self-concept according to the sex and theoretical and empirical range of scores

	Sex	No	AS	SD	Min	Max
Emotionality-rationality	male	76	28.89	5.941	13	44
	female	84	30.82	5.047	19	40
Rigidness	male	76	29.89	7.596	11	50
	female	84	29.88	6.509	16	48
Misanthropy	male	76	31.54	6.785	14	50
	female	84	31.04	6.905	13	46
Moral negativity	male	76	33.01	6.904	16	47
	female	84	31.98	7.176	14	50
External locus of control	male	76	29.64	6.468	13	44
	female	84	30.45	6.854	12	50
Global self-esteem	male	76	36.61	7.001	22	50
	female	84	36.80	6.865	20	49
Sex attraction	male	76	31.03	6.320	14	49
	female	84	33.32	6.264	13	46
Evaluation by others	male	76	36.92	6.192	22	50
	female	84	39.55	4.686	28	50
Physical abilities	male	76	37.05	7.809	16	50
	female	84	34.19	8.621	11	50
Intellectual abilities	male	76	35.84	6.049	19	49
	female	84	37.95	5.750	26	50

Table 7. The differences in the distinctiveness of dimensions of self-concept according to the sex of the examinees

Dimensions	Sex	AS	t	Sig.
Emotionality-rationality	male	28.89	-2.217	0.028
	female	30.82		
Rigidness	male	29.89	0.012	0.990
	female	29.88		
Misanthropy	male	31.54	0.465	0.643
	female	31.04		
Moral negativity	male	33.01	0.929	0.354
	female	31.98		
External locus of control	male	29.64	-0.764	0.446
	female	30.45		
Global self-esteem	male	36.61	-0.175	0.861
	female	36.80		
Sex attraction	male	31.03	-2.305	0.022
	female	33.32		
Evaluation by others	male	36.92	-3.001	0.003
	female	39.55		
Physical abilities	male	37.05	2.193	0.030
	female	34.19		
Intellectual abilities	male	35.84	-2.262	0.025
	female	37.95		

The Sample for Research

The research was conducted on the sample of 160 male and female students of the University of Nis, 60 of whom were sophomores at the Faculty of Sport and Physical Education (38 male and 22 female), 60 juniors (8 male and 52 female) at the Faculty of Philosophy, Psychology Department, and 40 students (15 male and 5 female) at the Faculty of Mechanical Engineering (20 sophomores and 20 juniors).

The data shown in Table 4. show that there are statistically important differences in the degree of distinctiveness of certain dimensions of the self concept between the students of sport and physical education and students of psychology. Students of sport and physical education have the following dimensions emphasized: misanthropy, moral negativity and physical abilities, while students of psychology have global self-esteem and intellectual abilities emphasized. The differences that arose are statistically important on $\text{Sig} \leq 0.01$, level, except for the differences which are obtained regarding the intellectual abilities, where the level of importance is $\text{Sig} < 0.05$.

The data shown on Table 5. points to the existence of statistically important differences in the degree of distinctiveness of the dimension evaluation by others ($\text{Sig} < 0.05$) and the dimension physical ability ($\text{Sig} < 0.01$). According to the obtained data, it could be said that the self-evaluations among the students of sport and physical education, within the domain of evaluation by others, and physical abilities, are higher than among the students of mechanical engineering.

From this table it can be seen that there are statistically important differences in the distinctiveness of particular dimensions of self-concept among the examinees of different sex. Namely, a higher distinctiveness of the following dimensions is obtained among female examinees: emotionality-rationality, sex attraction, evaluation by others and intellectual abilities. Self-esteem of male examinees regarding the physical abilities are higher in relation to the female examinees. The differences that arose are statistically important on the level $\text{Sig} < 0.05$, except in case of evaluation by others where the significance of the difference correspond to the level $\text{Sig} < 0.01$.

CONCLUSION

The overall results show that the students of sport and physical education are different from the students of psychology and mechanical engineering. Statistically important differences in relation to students of psychology are obtained according to the following dimensions: misanthropy, moral negativity, global self-esteem, physical and intellectual abilities. Students of sport and physical education have misanthropy, moral negativity and self-evaluation of physical abilities more emphasized, while dimensions self-esteem and intellectual abilities are more emphasized among the future psychologists. While comparing students of sport and physical education and students of mechanical

engineering, statistically important differences were obtained regarding self-evaluation of the physical abilities and evaluation by others in the sense that they were more emphasized among the students of sport. Having in mind that the determination of the self-concept is an organized scheme of experience that a person has about himself, which is developed through the interaction with people and which is of great importance for the professional development of the individual, it could be concluded that some of the results are expected (Opacic, 1994.; Super, 1990., according to Hedrih, 2006.). Taking into account the choice of future profession, the criteria for matriculating the Faculty of Sport and Physical Education, and later, during the studies, the requirements from the students, it is expected that the self-evaluations of this group of students, regarding their own physical abilities, are higher than those of students of psychology and mechanical engineering whose professions do not require doing physical activities. The results of the research show that moderate physical activities, besides the emotional functioning, self-esteem and self-contentment, influence the physical self-concept (Fox, 2000., according to Tubic, Djordjic and Pocek, 2012.). The importance of doing sport for self-knowledge is justified by the research conducted by Tubic, Djoric and Pocek (2012.) where the results show that adolescents who do some sport evaluate themselves more favorably in most of the examined aspects of self-concept in relation to other people of the same age who do not do any organized sport.

Besides this, when it comes to differences in the dimension physical ability between students of sport and students of psychology, the results according to sex differences should not be neglected. The sex structure of the examined examples on both faculties imposes the necessity of taking into consideration the differences in dimensions of self-concept between the sexes. The results show that this dimension is more emphasized among the men than among the women; that is to say that self-esteem of men is higher. It could be said that these differences are culturally conditioned and connected to social expectations. This explanation is applicable on the results obtained from differences between students of physical education and psychology, on the dimension intellectual ability. Because of their self-evaluation of intellectual abilities, the results which are obtained regard sex differences and it can be assumed that differences in this dimension between the students of sport and physical education and students of psychology are conditioned by the sex structure of the examinees. The absence of differences in this dimension between examinees from the Faculty of Sport and Physical Education and the students of the Mechanical Engineering, who are mostly male, is in favor of this research. The differences in dimension of self-concept regarding sex of the examinee can be explained by the way of nurturing boys and girls, the messages they receive from the environment and social expectations which are attached toward the different sexes. Janjetovic

(1996.), by comparing different aspects of the self of adolescents got results which suggest that boys evaluated the physical appearance, strength and competence more favorably and that they expressed more of general self-esteem, while the sense of general incompetence and emotionality were less emphasized among the boys. The differences are in accordance with the sex stereotypes when it comes to evaluation of physical strength, competence and emotionality. The differences that are seen by comparing the examinees of different sexes correspond to the cited results, no matter certain differences in age of the examinees, and they reflect the stereotypes about the male and female sex roles which exist in our society.

The distinctiveness of the dimension evaluation by others among students of sport in relation to students of mechanical engineering can be related to the fact that people who do sport are often positively evaluated and accepted by others. So, the fact that this dimension, which is mostly based on information we receive from others, is not surprising because it also implies the impression we live on others and acceptance in society. This dimension is more emphasized among the students of sport than among students of mechanical engineering, whose nature of future profession and current student duties is totally different.

The higher values for misanthropy among the students of sport and physical education as being different from those among the future psychologists, can, to some extent, be explained by the nature of the future profession of the examinees. Namely, the profession of a psychologist mostly implies work with people and solving their psychological problems, helping people with certain problems, generally speaking, dealing with the human nature and it is expected that these students will show less affection to assign negative characteristics to others; in other words to evaluate others in a negative way.

The differences in the dimension global self-esteem, which is more emphasized among the students of psychology in relation to students of sport and physical education, can be a consequence of the nature of the knowledge gained throughout studying. During their studies, students of psychology gain a knowledge about the importance of particular concepts like self-esteem, as well as skills of working on oneself which can influence the obtained difference in this research. However, the fact that future psychologists who often are facing with testing material, which can, to some extent, have effect

on the answers of the examinees and the results, cannot be neglected. This should be taken into consideration while studying the differences obtained in the dimension moral negativity between the future psychologists and teachers of physical education. Having knowledge on the testing material and giving socially desirable answers, can be the cause of weaker results among the students of psychology in this dimension.

In further researches it would be good to check the results by studying a bigger example and introduce a greater number of factors which are important for forming self-concept and changes in dimensions of self-knowledge which appear through the life of an individual.

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СПОРЕДБИ НА ДИМЕНЗИИТЕ НА SELF-КОНЦЕПТОТ КАЈ СТУДЕНТИТЕ ЗА СПОРТ И ФИЗИЧКО ОБРАЗОВАНИЕ, ПСИХОЛОГИЈА И МАШИНСТВО

(Оригинален научен труд)

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Апстракт

Истражувањето е спроведено на примерок од 160 студенти од Универзитетот во Ниш: 60 студенти од Факултетот за спорт и физичко воспитување; 60 студенти од Филозофскиот факултет (Катедра за психологија); 40 студенти од Машинскиот факултет. Он нив 76 беа од машки и 40 од женски пол. За проценување на селф-концептот, применета е Скалата на селф концептот (Опачиќ, 1994), која ги мери следните димензии: емоционална-рационалност, ригидност, мизантропија, морален негативизам, локус контрола, глобално самопочитување, полна привлечност, евалуација од страна на другите, физичките способности и интелектуалните способности. Резултатите укажаа на постоење статистички значајни разлики меѓу студентите за спорт и физичко воспитување и студентите по психологија, во изразувањето на следните димензии на селф-концептот: мизантропија, морален негативизам, глобално самопочитување и физички и интелектуални способности. Со споредување на димензиите на селф-концептот кај студентите за спорт и физичко воспитување и потенцијалните машински инжењери, добиени се статистички значајни разлики во следните димензии: евалуација од страна на другите и во физичките способности. Добиените резултати, донекаде можат да се објаснат со знаењата и искуствата кои се стекнати во текот на студирањето, а добиените статистички значајни резултати со оглед на полот на испитаниците, може да се анализираат во рамките на културолошките и општествените влијанијата врз развојот на претставите за себе кај поединецот. Поради тоа, добиените разлики не треба да се запоставуваат при споредбите на резултатите на студентите од различни групи со оглед на специфичностите на полот на третираните испитаници во ова истражување.

Клучни зборови: *Селф-концепт скала, физички способности, интелектуални способности, когнитивна структура, учење, созревање, t-test*

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