

Research on the Correlation between Subjective Control and the Indexes of Study Progress of Bachelors of the Faculty of Physical Education and Sport

Investigación de interrelaciones entre control subjetivo e indicadores de éxito de los licenciados de la Facultad de Educación Física y Deportes

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Abstract

The purpose of the study is to examine the correlation between the psychological content parameters of *subjective control* and the indexes of study progress of the bachelors of the Faculty of physical education and sport. It was established that there is no correlation between the psychological content parameters of *subjective control* ($p < .05$), and the knowledge quality in general education courses of the research students ($p > .05$). There is a quantitative and percent advantage of the indexes of the bachelors-teachers. We recommend implementing a flexible approach in organizing educational, training and competition processes of bachelors-sportsmen and applying combined variants taking into consideration the curricula, training schedules, maximum training loads and timetables of sportsmen's participation in competitions. The obtained considerably lower indexes of internality in family relationships ($M = 33.12$) and considerably higher indexes of internality concerning health and illness ($M = 18.22$) of the bachelors-sportsmen are explained as subjective self-regulatory concentration of the bachelors-sportsmen on sport career and the aspiration for achieving sports results, in particular, individual or team achievements at the expense of psycho-physiological dominants, anthropological characteristics and health. The obtained results allow making local corrections to organizing and managing educational, training and competition processes at the stage of planning.

Resumen

El objetivo del artículo es investigar interrelaciones entre parámetros psicológicos sustanciales de control subjetivo e indicadores de éxito de los licenciados de la Facultad de Educación Física y Deportes. No se han establecido interrelaciones entre parámetros psicológicos sustanciales de control subjetivo ($p < .05$) e indicadores de éxito de enseñanza secundaria de los investigados ($p > .05$). Ha sido constatado el predominio cuantitativo y de porcentaje de la calidad de conocimientos entre los licenciados profesores. Se recomienda establecer flexibilidad en la organización de los procesos educativos, entrenamientos y competiciones de los licenciados deportistas, introducir opciones teniendo en cuenta planes de estudios, horarios de entrenamientos, volumen máximo de deporte adicional y planes de participación en las competiciones. Se han obtenido indicadores considerablemente bajos de internalidad en relaciones familiares ($M = 33.12$) y significativamente altos - relacionados con la salud y enfermedades ($M = 18.22$)

de los licenciados deportistas, lo que se argumenta como la concentración de autorregulación subjetiva de los licenciados deportistas en la carrera deportiva e intención de garantizar un resultado deportivo por medio de dominantes psico-fisiológicos, datos antropocéntricos y salud. Los resultados empíricos obtenidos permiten realizar modificaciones locales en la organización y manejo de los procesos educativos, entrenamientos y competiciones en los etapas de planificación.

Key words

Teacher – Physical Education – Knowledge Quality

Palabras clave

Profesor – Cultura física – Calidad de conocimientos

Introduction

One of the most important criteria of self-determination of an individual, in J. B. Rotter's opinion, is subjective control, i.e. the ability of a person to take responsibility for his/her behavior, for the results of activities in different life situations¹. The key indicator of *subjective control* is its level, in other words, the ability of an individual to control himself/herself and his/her behavior, to be responsible for everything happening to him/her and his/her surroundings². In sports, competition and educational activities *subjective control* is considered as an important component of general control, determining external or internal regulatory ability of an individual and it is based on the character of comparison of actual results to planned results or the results achieved before and is meant to identify strengths and weaknesses of a sportsman's, a coach's and a teacher's qualification and is aimed at their further self-perfection. The research on a considerable correlation between social expectations of future physical education teachers and the indexes of study progress³ is of great interest. Another study determines that actualization of a subjective position of future physical education teachers contributes to realizing motivation for self-development, there is an increase in the proportion of motifs and values of personal and professional improvement provided that psychological support of motivation and value development is organized⁴.

¹ Rotter, J. B. "Generalized expectancies for internal versus external control of reinforcement". General and Applied, 80(1), (1966): 1-28.

² Rotter, J. B. "The development and applications of social learning theory: Selected papers". (New York: Praeger. 1982).

³ Popovych, I. S. & Blynova, O. Ye. "The Structure, Variables and Interdependence of the Factors of Mental States of Expectations in Students' Academic and Professional Activities". The New Educational Review, 55(1), (2019): 293-306.

⁴ Halian, I. M. "Motivational and value determinants of professional development of future physical education teachers". Science and education. Scientific and practical journal of South

It was proved that the level of *subjective control* is directly dependent on self-regulation of an individual's behavior⁵. Other researchers considered self-regulation as control of behavior ensuring the correlation of internal capabilities and external aims⁶. There are studies combining *subjective control* and self-regulation and considering them as basic components of an individual's resourcefulness. *Subjective control* is integrated into Strength model, suggested by R. F. Baumeister, B. J. Schmeichel and K. D. Vohs⁷. We will characterize six fundamental principles of this model:

“....1) actions of self-regulation spend limited resources, therefore after such actions individual resources are temporarily reduced that affects subjective control; 2) when resources are depleted, an individual is less efficient in other tasks of self-regulation, his/her regulatory ability decreases; 3) the same resources are used for a wide range of regulatory activities and self-control; 4) resources like energy or strength can be restored after relaxation or by means of other mechanisms; 5) training self-control can lead to a continuous increase of the ability of self-regulation and the level of *subjective control* rises; 6) an individual can change his/her behavior long before these resources are spent, i.e. he/she can predict possible effects of self-regulation”.

The study examines subjective well-being of personality as a multifunctional integral social and psychological phenomenon⁸.

The research on the efficiency of applied professional physical training of juveniles as a result of applying informational and methodological systems is worthy of attention. It was established that the types of control used: preliminary, operational, current, overall, self-control (the level of subjective control) – allow increasing the efficiency of the process of physical education of students⁹. The studies whose authors touch upon the issue of *subjective control* – the examination of model indexes of technical and tactical actions of footballers¹⁰ and the analysis of motor actions of the players of professional

Ukrainian National Pedagogical University named after K. D. Ushynsky. Psychology, 3, (2018): 36-42.

⁵ Boryshevsky, M. “Personality in the dimensions of self-consciousness”. (Sumy: Ellada. 2012).

⁶ Sergienko, E. A., Vilenskaya, G. A. & Kovaleva Yu. V. “Behavior control as subject regulation”. (Moscow: Institute of Psychology, RAS. 2010).

⁷ Baumeister, R. F., Schmeichel, B. J., & Vohs, K. D. “Self-regulation and the executive function: The self as controlling agent”. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (pp. 516-539). (New York, NY, US: The Guilford Press. 2007).

⁸ Zavatskyi, V. Yu., Zavatskyi, Yu. A. & Spytska, L. V. “The formation of subjective well-being of personality”. *Nierówność społeczne a wzrost gospodarczy. Social Inequalities and Economic Growth*, 55(3), (2018): 401-409.

⁹ Kashuba, O. & Golovanova, N. “Increase in efficiency of professionally applied physical training of pupils of 16-17 years old based on application of informational and methodical systems”. *Physical education of students*, 22(2), (2018): 57-62.

¹⁰ Lebedev, S., Abdula, A., Bezyasichny, B., Karpets, L., Shpanko, T. & Efremenko, A. “Model indicators of technical and tactical actions for highly qualified footballers with different roles in

football teams¹¹ – also attract attention. It is essential to take into account self-control and a regulatory ability of a sportsman's temporary mental state. It is important to work at a regulatory ability to transform these mental states into positive mental skills, enabling a sportsman to focus on using his/her intellectual and physical potential efficiently during official competitions¹². Another study determines and proves that the structure, variables and interdependence of the factors of mental states of expectations are important components of academic and professional activities of students, and the obtained empirical results of the research contribute to efficient organization of educational process^{13,14}.

B. F. Lomov proved in his system-level conception that an individual is able to prepare in advance according to the predicted changes of the environment. He/she predicts a result and makes an action plan. It is accompanied by subjective regulation of behavior and determines its character in a certain situation¹⁵. The process of mental regulation of an individual's behavior is accompanied by localization of *subjective control* affecting all the areas of his/her vital activities. Locus of expectations plays a key role in localization of subjective control. Localization of expectations reflects a dynamic component of a sportsman's training for competition activities. Features of internality and externality of social expectations influence all the actions, acts and results of an individual's behavior^{16,17}. Locus of control (Rotter, 1966) is a double-pole characteristic: internals are on one pole and externals are on the other one. Every individual has his/her place on the scale of internality–externality. Internals have internal locus of control, externals have external locus of control. A sportsman-internal evaluates all significant events happening in his/her life as a result of his/her own activities. He/she considers him/herself able to influence the events in his/her life, manage them and therefore to be responsible for them and his/her life on the whole. A sportsman-external, vice versa, interprets all the events happening in his/her life as the ones depending not on him/her but on some other forces (God, other people, fortune etc). In professional activities externals are characterized by more conformity, they are

the Premier League of Ukraine". Journal of Physical Education and Sport, 18(2), (2018): 706-709.

¹¹ Lebediev, S., Beziazychnyi, B., Bulgakov, O., Stadnik, S., Khudiakova, V., Yefremenko, A., Zhurid, S. & Petrusenko, N. "Analysis of motor activity of professional football team players in the Ukrainian first league". Journal of Physical Education and Sport, 19(1), (2019): 87-91.

¹² Nagla, E. "Impact of using some of mental strategies on the psychological hesitation and effectiveness of tactical activity of juniors' kumite". Journal of Physical Education and Sport, 15(1), (2015): 32-39.

¹³ Popovych, I. S. & Blynova, O. Ye. "Research on the Correlation between Psychological Content Parameters of Social Expectations and the Indexes of Study Progress of Future Physical Education Teachers". Journal of Physical Education and Sport, 19(3), (2019): 847-853.

¹⁴ Olefir, V., Kuznetsov, M. & Plokhikh, V. "Effect of physical exercises and perceived stress interaction on students' satisfaction with life". Pedagogics, Psychology, Medical-Biological Problems of Physical Training and Sports, 23(1), (2019): 30-35.

¹⁵ Lomov, B. F. "Mental regulation of activity". (Moscow: Institute of Psychology, RAS. 2006).

¹⁶ Popovych, I. S. "Social expectations – a basic component of the system of adjusting of social conduct of a person". Australian Journal of Scientific Research, 2(6), (2014): 393-398.

¹⁷ Popovych, I. S. "Social expectations in the theories of motivation of personality". Philosophy. Psychology. Sociology, 4(20), (2014): 53-63.

more inclined to manipulations and more yielding and sensitive to others' opinions and evaluations. On the whole, externals are excellent executors working efficiently under other people's control. At the same time, internals, unlike externals, work more efficiently not in a team but on their own. They are more active in searching for information. In addition, internals are better at coping with tasks requiring initiative. They are more decisive and self-confident, they are not afraid of taking risks. Our observations show that internal leaders in team sports are able to use authoritarian leadership successfully and make decisions in extremely critical situations. The above mentioned features of *subjective control* make it necessary to formulate a hypothesis about a significant level of sportsmen's *subjective control* as compared to that of teachers of physical education. Thus, the research on the correlation between psychological content parameters of *subjective control* and the indexes of study progress of bachelors of the Faculty of physical education and sport is thought to be topical, timely and the one requiring empirical evidence.

Hypothesis. The authors assume: 1. Psychological content parameters of *subjective control* of bachelors of the Faculty of physical education and sport have an impact on the study progress in their academic and professional training. 2. Probably, sports and competition activities require considerable internalization of volitional efforts that makes it possible to assume that bachelors of physical education and sport have considerably higher indexes of *subjective control* than bachelors-teachers of physical education do.

Purpose. To examine the correlation between psychological content parameters of *subjective control* and the indexes of study progress of bachelors of physical education and sport.

1. Methodology and methods

Methodological fundamentals of the empirical Research on the Correlation between *Subjective Control* and the Indexes of Study Progress of Bachelors of the Faculty of Physical Education and Sport are the system of successive measures with application of psycho-diagnostic instruments. This methodology was tested by the researchers when examining professional development of future professionals^{18,19,20,21} and also evaluating mental states of expectations in different activities^{22,23,24,25}. All the above-mentioned

¹⁸ Borysiuk, A. S. "Research on the peculiarities of the motivation sphere of future doctors". Insight: the psychological dimensions of society, 1, (2019): 102-109.

¹⁹ Halian, I. M. "Personal determinants of responsibility of future educators". Insight: the psychological dimensions of society, 1, (2019): 15-21.

²⁰ Halian, O. "Responsibility and emotional burnout of teachers". Insight: the psychological dimensions of society, 2, (2019): 16-23.

²¹ Popovych, I., Lymarenko, L., Tereshenko, N., Kornisheva, T., Yevdokimova, O., Koverznieva, A., & Aleksieieva, M. "Research on the Effectiveness of Training Technologies' Implementation in Student Theater". Revista Inclusiones, Vol: 7 num 2, (2020): 104-121.

²² Khmil, V. V. & Popovych, I. S. "Philosophical and Psychological Dimensions of Social Expectations of Personality". Anthropological Measurements of Philosophical Research, 16, (2019): 55-65.

experimental and empirical studies contain the elements of the research on *subjective control* and the indexes of study progress.

1.1. Participants

The second-fourth year students (n=212, the age of 18-22 years) of Kherson State University were examined. All the students study at the Faculty of physical education and sport and pursue a degree in the areas of study "Secondary education (Physical education)" and "Physical education and sport". Participation in the research does not violate rights and does not endanger students' wellbeing. The research is conducted according to ethical standards of committee on the rights of experiments of Helsinki declaration of 2013²⁶.

1.2. Organization of research

At the end of the academic year 2018-2019, in May-June, we received a test profile of the indexes of the study progress of the second-fourth-year students of the Faculty of physical education and sport. The indexes of the study progress are the Grade Point Average and the coefficient of knowledge quality. These data concern the second term of the academic year. The GPA (Grade Point Average) – is an average grade for examinations. It is determined as general study progress of a student and is a key index of study progress for a particular period of time. Students having GPA=2.0 are expelled. The next important index of study progress used in the research is knowledge quality. KQ (Knowledge Quality) is determined as the ratio of the number of grades "A", "B", "C" by the European Credit Transfer and Accumulation System (ECTS) to the total number of grades. Knowledge quality is a derivative of a student's study progress for examinations indicating a qualitative component of academic and professional training. We differentiated between the indexes of knowledge quality by the areas of study: KQg – the index of knowledge quality determined by the level of knowledge in general education subjects; KQp – the index of knowledge quality determined by the level of knowledge in practical, methodological and professional training. The coefficient of knowledge quality is within the range .0-1.0.

Psychological content parameters of the level of *subjective control* were determined with the questionnaire "Level of subjective control" ("LSC")²⁷ during

²³ Popovych, I., Blynova, O. Zhuravlova, A., Toba, M., Tkach, T. & Zavatska, N. "Optimization of development and psycho-correction of social expectations of students of foreign philology". Revista Inclusiones. Vol: 7 num Especial, (2020): 82-94.

²⁴ Popovych, I., Borysiuk, A., Zahrai, L., Fedoruk, O., Nosov, P., Zinchenko, S. & Mateichuk, V. "Constructing a Structural-Functional Model of Social Expectations of the Personality". Revista Inclusiones, Vol: 7 num Especial, (2020): 154-167.

²⁵ Popovych, I., Kononenko, O., Kononenko, A., Stynska, V., Kravets, N., Piletska, L. & Blynova, O. "Research of the Relationship between Existential Anxiety and the Sense of Personality's Existence". Revista Inclusiones, Vol: 7 num Especial, (2020): 41-59.

²⁶ "WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects". (2013).

²⁷ Rotter, J. B. "Generalized expectancies ...

the summer examinations of the academic year 2018–2019. The questionnaire allowed determining the following empirical variables: general internality (GI), internality in the area of achievements (IA), internality in the area of failures (IF), internality in family relationships (IFR), internality in the area of labor relations (ILR), internality concerning health and illness (IHI). The theoretical and methodological framework of the empirical research was the statement that one of the most important personality traits is the degree of independence, self-sufficiency and diligence of an individual in achieving aims, the development of a sense of responsibility for everything happening to him/her. It is methodologically reasonable to use the scientific category “localization of control”²⁸. We defined localization of control as a multidimensional profile, whose components are connected to the types of social situations, in particular, to sports, competition, educational and other situations with a different degree of generalization. The responses were evaluated by means of the bipolar semantic differential scale, its value was within the range of -3 (absolutely disagree) and +3 (absolutely agree). The indexes of reliability, obtained by means of Cronbach’s alpha, were: $\alpha_{LSC} = .792$. The indexes of reliability of the methods used and the tests of Cronbach’s alpha were within sufficient (.7) and high levels (.9).

1.3. Statistical Analysis

Statistical processing of the empirical data was performed by means of the statistical program “SPSS” v. 23.0 and “Microsoft Excel”. Spearman’s correlation coefficients (r_s) were used to find and determine the correlation between the indexes obtained. The arithmetic mean of the parameters (M) was calculated, minimum (min), maximum (max) and the mean square deviation (SD) were given. Verification of the parameters of the normal distribution was done by means of Kolmogorov-Smirnov one-sample criterion λ . The evaluation of differences reliability of distinctions of average values of the independent sample was carried out by parametrical methods by means of Student’s t-test on the basis of normal Gaussian distribution of the research quantitative characteristic. The differences between the values of the variables at the level $p \leq .05$ are considered statistically significant.

2. Results

The obtained results of the research psychological parameters of *subjective control* and the indexes of study progress were evaluated using the scales of minimum (min), maximum (max), the arithmetic mean (M) and the mean square deviation (SD), given in Table 1.

Scale	Minimum, min	Maximum, max	Arithmetic mean, M	Mean square deviation, SD
“LSC”				

²⁸ Rotter, J. B. “Generalized expectancies ...

IG	132.00	237.00	187.12	20.96
IA	26.00	69.00	52.78	7.28
IF	29.00	71.00	46.12	7.54
IFR	17.00	52.00	34.64	5.97
ILR	24.00	49.00	33.65	5.04
IHI	5.00	27.00	16.73	4.17
"Indexes of study progress"				
GPA	2.90	5.00	3.56	.57
KQg	.00	1.00	.21	.25
KQp	.00	1.00	.31	.26

Note: min – minimum; max – maximum; M – arithmetic mean; SD – mean square deviation.

Table 1

The results of psychological parameters of *subjective control* and the indexes of study progress of the research sample set (n=212)

The complex of nine research parameters is methodologically substantiated, that reflects the research subject of *subjective control* of the bachelors of physical education and sport. The scale titles reflect the content and structure of the research phenomenon. Since they make a semantic core of the research subject, we will explain their psychological essence: IG – a general level of *subjective control* over any life situations – is an integrating parameter; IA – *subjective control* over emotionally positive events and situations. The research participants with high indexes think that they have achieved everything in their life on their own, and that they are able to achieve their aim successfully in the future; IF – characterizes a developed sense of *subjective control* concerning negative events and situations, such research participants are inclined to accuse themselves of various troubles and sufferings; IFR – shows the level of the respondents' ability to be responsible for the events happening in their married life; ILR – reflects an individual's *subjective control* of his/her actions as an important factor of organizing production activities, labor relations in organizations, in their career path; IHI – a regulatory ability to be responsible for their own health has special importance for the research participants, whose results are related to physical loads.

The results of study progress of the bachelors-teachers and the bachelors-sportsmen of the second-fourth years of the Faculty of physical education and sport by the index of the Grade Point Average (GPA) are given in Table 2.

Level Grade Point Average	Grade by National Grading System	ECTS Grade	Grade by 100-point grading scale	Bachelors- teachers (n=114)		Bachelors- sportsmen (n=98)	
				n	%	n	%
4.7-5.0	excellent	A	90-100	7	6.14	4	4.08
3.8-4.6	good	B	82-89	17	14.91	10	10.20
		C	74-81	35	30.70	25	25.51
2.8-3.7	satisfactory	D	64-73	28	24.56	28	28.58

		E	60-63	23	20.18	25	25.51
2.0-2.7	unsatisfactory	FX	35-59	4	3.51	6	6.12
1.0-1.9	unsatisfactory	F	1-34	0	0.00	0	0.00

Table 2

The indexes of the Grade Point Average (GPA) of the research sample set of the bachelors-teachers (n=114) and the bachelors-sportsmen (n=98)

The results of the students' study progress by the index of the Grade Point Average were determined by the following scales: grades by the National Grading System, ECTS grades and grades by 100-point grading scale. The obtained results of the Grade Point Average are within the range of 2.75-5.00 by the empirical data and the indexes of the bachelors-teachers are higher as it was predicted. The Grade Point Average of study progress 4.7-5.0 ("excellent", A, 90-100) prevails among the bachelors-teachers n=7; 6.14% of the research participants against n=4; 4.08%. The Grade Point Average of study progress 3.8-4.6 ("good", B-C, 74-89) also prevails among the bachelors-teachers n=52; 45.61% of the research participants in contrast to n=35; 35.71% of the bachelors-sportsmen. The Grade Point Average of study progress 2.8-3.7 ("satisfactory", E-D, 60-73) was obtained by n=51; 44.74% of the bachelors-teachers and n=53; 54.09% of the bachelors-sportsmen. The Grade Point Average of study progress 2.0-2.7 ("unsatisfactory" with a possibility of retaking an exam, FX, 35-59) was received by n=4; 3.51% of the bachelors-teachers and n=6; 6.12% of the bachelors-sportsmen. There are no research participants with the Grade Point Average 1.0-1.9 ("unsatisfactory" with the necessity to retake a course, F, 1-34).

We will give the results of study progress of the bachelors-teachers and the bachelors-sportsmen of the second-fourth years of the Faculty of physical education and sport by the index of Knowledge Quality, determined by general education subjects (KQg) and the subjects of practical, methodological and professional training (KQp) in Table 3.

Level of Knowledge Quality	Value	Bachelors-teachers (n=114)				Bachelors-sportsmen (n=98)			
		KQg		KQp		KQg		KQp	
		n	%	n	%	n	%	n	%
High	.91-1.00	1	0.88	2	1.75	1	1.02	2	2.04
	.81-.90	3	2.63	4	3.51	2	2.04	4	4.08
	.71-.80	4	3.51	7	6.14	4	4.08	6	6.12
Medium	.61-.70	5	4.39	8	7.02	4	4.08	7	7.14
	.51-.60	10	8.77	9	7.89	9	9.18	11	11.23
	.41-	21	18.42	24	21.06	20	20.41	20	20.41

	.50								
Sufficient	.31- .40	17	14.91	22	19.30	15	15.31	17	17.35
	.21- .30	11	9.65	9	7.89	8	8.16	8	8.16
	.11- .20	10	8.77	6	5.26	8	8.16	8	8.16
Low	.00- .10	32	28.07	23	20.18	27	27.56	15	15.31

Table 3

The indexes of Knowledge Quality (KQ) of the research sample set of the bachelors-teachers (n=114) and the bachelors-sportsmen (n=98)

The index of Knowledge Quality is differentiated by two areas: 1) general education courses and 2) practical, methodological and professional training. The index of Knowledge Quality in general education courses (KQg) was determined by general education subjects. The index of Knowledge Quality of practical, methodological and professional training (KQp) was determined by the subjects immediately relating to the theory and methods of physical education, training process and competition activities.

Guided by the logic of empirical research we determined the correlation between psychological content parameters of *subjective control* and the indexes of study progress of the research participants by Spearman's correlation coefficient r_s . The results of the correlation analysis are represented in Table 4.

Indexes	IG	IA	IF	IFR	ILR	IHI	GPA	KQg	KQp
IG	1.000	.739**	.017	.170*	.622**	.193*	.265**	.103	.607**
IA	.739**	1.000	.028	.027	.483**	.183*	.172*	.083	.588**
IF	.017	.028	1.000	.138*	.191*	.191*	.189*	.102	.186*
IFR	.170*	.027	.138*	1.000	.149*	.112	.164*	.104	.141*
ILR	.622**	.483**	.191*	.149*	1.000	.249**	.302**	.182*	.590**
IHI	.193*	.183*	.191*	.112	.249**	1.000	.042	.082	.190*
GPA	.265**	.072	.189*	.164*	.302**	.002	1.000	.496**	.821**
KQg	.103	.083	.102	.104	.182**	.082	.496**	1.000	.584**
KQp	.607**	.588**	.186*	.141*	.590**	.190*	.821**	.584**	1.000

Note. * – the correlation is significant at the level $p < 0.05$ (two-way); ** – the correlation is significant at the level $p < 0.01$ (two-way).

Table 4

The correlation of *subjective control* and the indexes of study progress of the bachelor's of the Faculty of physical education and sport (n=212)

The determination of the correlation coefficients allows stating that all the correlations are positive, but not all of them are significant. Thus, general internality IG has the highest positive significant correlation with the index of knowledge quality in practical, methodological and professional training KQp ($r_s = .607$; $p < .01$) and the Grade Point Average GPA ($r_s = .265$; $p < .01$). Internality in the area of achievements IA also has a high index of positive significant

correlation with the knowledge quality in practical, methodological and professional training KQp ($r_s=.588$; $p<.01$) and the Grade Point Average GPA ($r_s=.172$; $p<.05$). The values of internality in labor relations ILR – KQp ($r_s=.590$; $p<.01$) and GPA ($r_s=.182$; $p<.05$) are similar. It is interesting from a scientific point of view that there is no significant correlation of almost all psychological content parameters of *subjective control* with the indexes of knowledge quality in general education courses, except internality in labor relations ILR – KQg ($r_s=.182$; $p<.05$), and it requires additional attention in the course of organization of teaching general education subjects. The obtained results confirm the first hypothesis of the research and show the diversity of all internal psychological content correlations of the research subject in the aspect of content.

In order to confirm or disprove the second hypothesis about prevailing internalization of *subjective control* in sports and competition activities of the bachelor's of physical education we presented quantitative and percent distribution of the data of the bachelors-teachers and the bachelors-sportsmen. Table 5 contains the frequency distribution of the research participants' empirical data by all the scales: GI, IA, IF, IFR, ILR, IHI.

Scale	Bachelors-teachers (n=114)						Bachelors-sportsmen (n=98)					
	High level		Medium level		Low level		High level		Medium level		Low level	
	n	%	n	%	n	%	n	%	n	%	n	%
IG	14	12.28	88	77.19	12	10.53	13	13.27	75	76.53	10	10.20
IA	12	10.53	89	78.07	13	11.40	11	11.22	76	77.56	11	11.22
IF	14	12.28	87	76.32	13	11.40	12	12.24	75	76.54	11	11.22
IFR	16	14.04	85	74.56	13	11.40	10	10.20	72	73.47	16	16.33
ILR	13	11.40	89	78.07	12	10.53	11	11.22	77	78.58	10	10.20
IHI	14	12.28	79	69.30	21	18.42	19	19.39	67	68.37	12	12.24

Table 5

The distribution of the parameters of *subjective control* "LSC" of the bachelors-teachers (n=114) and the bachelors-sportsmen (n=98)

The profile of the sample set by psychological content parameters of *subjective control* of the bachelors-teachers and the bachelors-sportsmen showed the distribution of the empirical data relatively similar to the Gaussian curve. We obtained high results of a medium level, they range from 69.30% to 78.58% of the research participants, low levels – from 10.20 % to 18.42% and from 10.20% to 19.39% of the research participants have a high level. High levels of the indexes of *subjective control* have a percent advantage among the bachelors-sportsmen, in particular IG (n=13; 13.27%), IA (n=11; 11.22%), IHI

($n=19$; 19.39%). The indexes IFR ($n=16$; 14.04%) are higher among the bachelors-teachers, respectively the indexes of *subjective control* IF and ILR are almost at the same level. It was confirmed that the research distributions are normal by means of a one-sample criterion of Kolmogorov-Smirnov f .

3. Discussion

The positive significant correlation of the correlation pairs (see Table 4) indicates that the research participants demonstrate a correlation with the key parameters of *subjective control* due to, firstly, practical, methodological and professional training ($r_s = .141-.607$; $p < .05-.01$), and also the Grade Point Average ($r_s = .164-.302$; $p < .05-.01$). The significance of the correlation is recorded during purposeful observations in the actions and acts reflecting the scenarios of *subjective control* of the course of events, self-regulatory value attitude and orientation towards the result of activities and success. The lack of significant correlation between the research psychological parameters and the level of knowledge quality in general education courses KQg ($r_s = .082-.104$; $p > .05$) of all the indexes, except ILR, is explained by the fact that taking general education courses is an important stage of improving an individual's worldview, erudition and has an impact on career development and professional development, but Spearman's correlation coefficient r_s does not confirm it. Another empirical study also established the lack of significant correlations between psychological content parameters of social expectations and the indexes of study progress of future physical education teachers. The researchers determined a significant correlation between the parameters of social expectations and the Grade Point Average ($p < .01$), the knowledge quality in methodological training ($p < .01$) and the knowledge quality in practical and professional training ($p < .05$)²⁹.

We will show the comparison of the arithmetic mean (M) of psychological content parameters of *subjective control* of the bachelors-teachers and the bachelors-sportsmen in Figure 1.

²⁹ Popovych, I. S. & Blynova, O. Ye. "The Structure, Variables and Interdependence of the Factors of Mental States of Expectations in Students' Academic and Professional Activities". The New Educational Review, 55(1), (2019): 293-306.

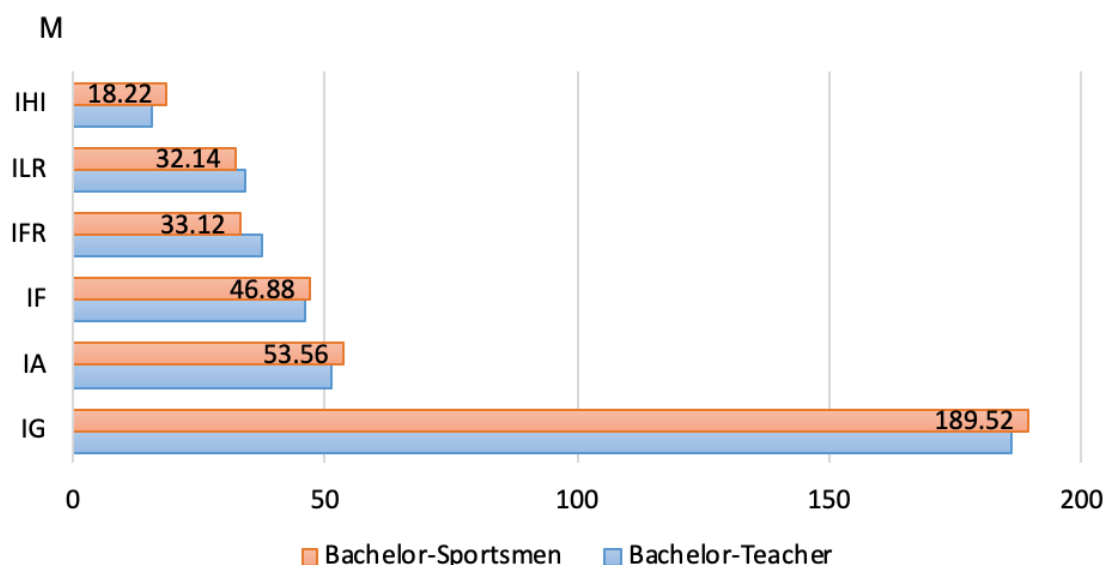


Figure 1

The arithmetic mean (M) of psychological content parameters of *subjective control* of the bachelors-teachers and the bachelors-sportsmen

The comparison of the arithmetic mean allows stating that the indexes of four parameters of subjective control: IG (M=189.52), IA (M=53.56), IF (M=46.88) and IHI (M=18.22) are higher among the bachelors-sportsmen, and the indexes of *subjective control* IFR (M=37.56) and ILR (M=33.92) are higher among the bachelors-teachers. The comparison of two independent sample sets was made using Student's t-criterion, since the distribution is normal, the samples are independent and the representation of the research participants is considerable – 114 and 98 respondents. The following results were obtained: IG ($p=.19$; $p>.05$), IA ($p=.18$; $p>.05$), IF ($p=.17$; $p>.05$), IFR ($p=.09$; $p>.05$), ILR ($p=.11$; $p>.05$) and IHI ($p=.81$; $p>.05$). The obtained statistical data disprove the second hypothesis, though a number of the indexes of *subjective control* prevail over the data of the bachelors-teachers, but the values are not significant and they are at the level $p>.05$. Respectively the indexes of subjective control: IFR (M=37.56) and ILR (M=33.92), which are higher among the bachelors-teachers, do not prevail considerably being at the level $p>.05$.

Conclusions

1) All the psychological content parameters of subjective control: GI, IA, IF, IFR, ILR, IHI of the bachelors of the Faculty of physical education and sport (n=212) have a significant positive two-way correlation with the knowledge quality in practical, methodological and professional training ($p<.01$; $p<.05$). The psychological content parameters of subjective control: GI, IA, IF, IFR, ILR, except IHI ($p>.05$) of the bachelors of the Faculty of physical education and sport (n=212) have a significant positive two-way correlation with the Grade Point Average ($p<.01$; $p<.05$). These scientific facts allow considering the first hypothesis of the research to be confirmed, i.e. the psychological content

parameters of *subjective control* of the bachelors of the Faculty of physical education and sport influence the study progress in their academic and professional training.

2) The psychological content parameters of subjective control: GI, IA, IF, IFR, IHI, except ILR ($p < .05$) of the bachelors of the Faculty of physical education and sport do not have significant correlations with the knowledge quality in general education courses ($p > .05$). Since general education subjects are important and obligatory and affect general intellectual development, value orientations of teachers and sportsmen, we highlight a vital problem of searching for innovative methods of teaching general education subjects, establishing relationships between key academic activities and the subjects "History", "Philosophy", "English" etc., developing high-quality educational and methodological support, the variants of full-time or part-time distance education, providing the process of studying these subjects with motivational argumentation and suitability for students.

3) The comparative analysis of the research parameters (see Table 2 and Table 3) makes it possible to identify a quantitative and percent advantage of the indexes: GPA, QKp, QKg among the bachelors-teachers. Statistical significance of this advantage has not been determined. Obviously training sessions and competitions affect the level of study progress of bachelors-sportsmen, i.e. they reduce it. To prevent this tendency from increasing we recommend implementing a flexible approach to organizing educational, training and competition processes of bachelors-sportsmen and applying combined variants taking into consideration the curricula, training schedules, maximum training loads and timetables of sportsmen's participation in competitions.

4) The obtained considerably higher indexes IHI ($M=18.22$) and considerably lower indexes IFR ($M=33.12$) of the bachelors-sportsmen are explained by subjective self-regulatory concentration of the bachelors-sportsmen on their career (partially, marital relationships are in the background, marriage is delayed) and the aspiration for achieving sport results at the expense of psycho-physiological dominants, anthropological characteristics and health, in particular, individual or team achievements. IHI – is a regulatory ability to take responsibility for one's health and is a value-oriented component of success.

5) The obtained data of psychological content parameters of *subjective control* and their interdependence of the bachelors of the Faculty of physical education and sport allow making local corrections to organizing and managing educational, training and competition processes at the stage of planning.

6) Prospects of subsequent researches. Further scientific research will focus on examining the changes in educational, training and competition processes on the basis of implementing the results of the research on the correlation between subjective control and the indexes of study progress of bachelors of the Faculty of physical education and sport.

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References

Baumeister, R. F., Schmeichel, B. J., & Vohs, K. D. "Self-regulation and the executive function: The self as controlling agent". In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (pp. 516-539). New York, NY, US: The Guilford Press. 2007.

Boryshevsky, M. "Personality in the dimensions of self-consciousness". Sumy: Ellada. 2012.

Borysiuk, A. S. "Research on the peculiarities of the motivation sphere of future doctors". *Insight: the psychological dimensions of society*, 1, 2019: 102-109. DOI: 10.32999/2663-970X/2019-1-16

Halian, I. M. "Motivational and value determinants of professional development of future physical education teachers". *Science and education. Scientific and practical journal of South Ukrainian National Pedagogical University named after K. D. Ushynsky. Psychology*, 3, 2018: 36-42. DOI:10.24195/2414-4665-2018-3-5

Halian, I. M. "Personal determinants of responsibility of future educators". *Insight: the psychological dimensions of society*, 1, 2019: 15-21. DOI: 10.32999/2663-970X/2019-1-2

Halian, O. "Responsibility and emotional burnout of teachers". *Insight: the psychological dimensions of society*, 2, 2019: 16-23. DOI: 10.32999/2663-970X/2019-2-2

Kashuba, O. & Golovanova, N. "Increase in efficiency of professionally applied physical training of pupils of 16-17 years old based on application of informational and methodical systems". *Physical education of students*, 22(2), 2018: 57-62. DOI:10.15561/20755279.2018.0201

Khmil, V. V. & Popovych, I. S. "Philosophical and Psychological Dimensions of Social Expectations of Personality". *Anthropological Measurements of Philosophical Research*, 16, 2019: 55-65. DOI: <https://doi.org/10.15802/ampr.v0i16.187540>

Lomov, B. F. "Mental regulation of activity". Moscow: Institute of Psychology, RAS. 2006. Retrieved from URL <https://www.litres.ru/boris-lomov/psihicheskaya-regulyaciya-deyatelnosti-izbrannye-trudy/chitat-onlayn/>

Lebedev, S., Abdula, A., Bezyasichny, B., Karpets, L., Shpanko, T. & Efremenko, A. "Model indicators of technical and tactical actions for highly qualified footballers with different roles in the Premier League of Ukraine". *Journal of Physical Education and Sport*, 18(2), 2018: 706-709. DOI:10.7752/jpes.2018.02103

Lebediev, S., Beziazychnyi, B., Bulgakov, O., Stadnik, S., Khudiakova, V., Yefremenko, A., Zhurid, S. & Petrusenko, N. "Analysis of motor activity of professional football team players in the Ukrainian first league". Journal of Physical Education and Sport, 19(1), 2019: 87-91. DOI:10.7752/jpes.2019.s1013

Nagla, E. "Impact of using some of mental strategies on the psychological hesitation and effectiveness of tactical activity of juniors' kumite". Journal of Physical Education and Sport, 15(1), 2015: 32-39. DOI:10.7752/jpes.2015.01006

Olefir, V., Kuznetsov, M. & Plokhikh, V. "Effect of physical exercises and perceived stress interaction on students' satisfaction with life". Pedagogics, Psychology, Medical-Biological Problems of Physical Training and Sports, 23(1), 2019: 30-35. <https://doi.org/10.15561/18189172.2019.0105>

Popovych, I. S. & Blynova, O. Ye. "Research on the Correlation between Psychological Content Parameters of Social Expectations and the Indexes of Study Progress of Future Physical Education Teachers". Journal of Physical Education and Sport, 19(3), 2019: 847-853. DOI:10.7752/jpes.2019.s312

Popovych, I. S. & Blynova, O. Ye. "The Structure, Variables and Interdependence of the Factors of Mental States of Expectations in Students' Academic and Professional Activities". The New Educational Review, 55(1), 2019: 293-306. DOI:10.15804/tner.2019.55.1.24

Popovych, I., Blynova, O. Zhuravlova, A., Toba, M., Tkach, T. y Zavatska, N. "Optimization of development and psycho-correction of social expectations of students of foreign philology". Revista Inclusiones. Vol: 7 num Especial, 2020: 82-94. Retrieved from: <http://www.archivosrevistainclusiones.com/gallery/1%20vol%206%20numesprasilapla%201%202019enemarnclu.pdf>

Popovych, I., Borysiuk, A., Zahrai, L., Fedoruk, O., Nosov, P., Zinchenko, S. y Mateichuk, V. "Constructing a Structural-Functional Model of Social Expectations of the Personality". Revista Inclusiones, Vol: 7 num Especial, 2020: 154-167. Retrieved from: <https://www.revistainclusiones.com/gallery/11%20vol%207%20num%20majaespecialleabriljunio2020revincludi.pdf>

Popovych, I., Kononenko, O., Kononenko, A., Stynska, V., Kravets, N., Piletska, L. y Blynova, O. "Research of the Relationship between Existential Anxiety and the Sense of Personality's Existence". Revista Inclusiones, Vol: 7 num Especial, 2020: 41-59. Retrieved from: <https://www.revistainclusiones.com/gallery/5%20vol%207%20num%20especialleabriljunio2020revincludi.pdf>

Popovych, I., Lymarenko, L., Tereshenko, N., Kornisheva, T., Yevdokimova, O., Koverznieva, A., y Aleksieieva, M. "Research on the Effectiveness of Training Technologies' Implementation in Student Theater". Revista Inclusiones, Vol: 7 num 2, 2020: 104-121. Retrieved from: <https://www.revistainclusiones.com/gallery/6%20vol%207%20num%20eabriljunio2020revincludi.pdf>

Popovych, I. S. "Social expectations – a basic component of the system of adjusting of social conduct of a person". Australian Journal of Scientific Research, 2(6), 2014: 393-398.

Popovych, I. S. "Social expectations in the theories of motivation of personality". Philosophy. Psychology. Sociology, 4(20), 2014: 53-63.

Rotter, J. B. "Generalized expectancies for internal versus external control of reinforcement". General and Applied, 80(1), 1966: 1-28.

Rotter, J. B. "The development and applications of social learning theory: Selected papers". New York: Praeger. 1982.

Sergienko, E. A., Vilenskaya, G. A. & Kovaleva Yu. V. "Behavior control as subject regulation". Moscow: Institute of Psychology, RAS. 2010. Retrieved from URL <http://biblioclub.ru/index.php?page=book&id=86264>

"WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects". 2013. Retrieved from: <http://www.wma.net/es/30publications/10policies/b3/17c.pdf>

Zavatskyi, V. Yu., Zavatskyi, Yu. A. & Spytska, L. V. "The formation of subjective well-being of personality". Nierówności społeczne a wzrost gospodarczy. Social Inequalities and Economic Growth, 55(3), 2018: 401-409. DOI: 10.15584/nsawg.2018.3.28