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## **ANALYSIS OF CHARACTERISTICS LIMITING FURTHER MASTERING OF SPECIALITY AMONG STUDENTS FROM THE SOCIAL RISK GROUP**

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One of the main requirements for training a young specialist with high professional competence is to focus educational process on developing skills necessary for students' future work activities.

However, not all young men can easily get on with tough reality of life or choose right priorities, preserve their individuality or create absolutely sound life-style.

So, degradation process affecting a big part of young men, who belong to a social risk group, arouses concern, because in future many of those young men could join successful professional elite of the country.

**Keywords:** social risk group, important professional skills, profессиogram.

## **ИЗУЧЕНИЕ ОСОБЕННОСТЕЙ, ЛИМИТИРУЮЩИХ ОСВОЕНИЕ БУДУЩЕЙ ПРОФЕССИИ У СТУДЕНТОВ ГРУППЫ СОЦИАЛЬНОГО РИСКА**

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Одним из ключевых требований подготовки успешного высококвалифицированного специалиста является четко выраженная направленность учебного процесса на формирование у студентов профессиональных навыков, связанных с характером предстоящей трудовой деятельности. Однако далеко не всей молодежи удастся быстро адаптироваться

к условиям жесткой реальности, выбрать верные приоритеты, сохранить свою индивидуальность и сформировать здоровый стиль жизни. Таким образом, не может не тревожить процесс деградации значительной части молодежи относящихся в так называемую группу риска, тех, кто мог бы составить в будущем образованную и квалифицированную элиту государства.

**Ключевые слова:** группа социального риска, профессионально важные качества, профессиограмма.

Because of education reform and replacement of paradigm of learning, the problem of social deformations among future specialists at all levels of education seems to become especially acute.

Importance of education as a particular social phenomenon with sociocultural, personality and status appeal has diminished [6, 12 ].

This is generally connected to commercialization of higher education, which dramatically lowers possibility of choice for a higher educational institution when enrolment begins. It both sharpens old forms of social deformations and creates new ones among young men, such as destruction of family relations, child neglect, breach of law, alcohol and drug addiction, development of dangerous psychological depressions [1, 7].

There should be noted increasing discrepancy between professional aptitudes of the students and the profile of their specialty, which is, to our mind, the evidence of social deformation in a young man, because it greatly decreases his/her possibility to become a professional and prevents his/her self-determination [14].

The process of developing new forms of psychological and social adaptation goes in a random way, unsystematically, in an avalanche.

Social entity of the youth and various difficulties which come across are generally stipulated by complexes of social factors that predetermine a position of young men in structure of population, in a system of settlement and employment [9, 11]. That is why, among future specialists there is a high portion of young men with

different forms of social deformations, some of them often suffering from health problems [3, 15].

Important professional skills depend on specific work activities. They include individual psychological and personality characteristics of a person which are necessary and sufficient to fulfill any productive activity [2, 13].

Thus, analysis of characteristics limiting further mastering of specialty among social risk group students as an important component of psychophysical readiness of a specialist has become the main subject of our research.

To solve the appointed problems we used a paper (blank) variant of differential diagnostic questionnaire by Klimov E.A., which allows determining professional aptitudes of the optants. 203 first year students studying technical subjects took part in the questionnaire survey. Before testing they were divided into two groups: a “risk” group and a “problem-free” group, according to the level of social deformations and accentuations of a nature [12].

Table 1

Faculties	Tested groups	Number of persons	Person-nature		Person-technical		Person-person		Person-system of signs		Person-image	
			abs.	%	abs.	%	abs.	%	abs.	%	abs.	%
IT faculty	Problem-free	24	0	0	7	29,2	3	12,5	12	50,0	2	8,3
	Risk group	26	1	3,8	10	38,5	4	15,4	10	38,5	1	3,8
Mechanical faculty	Problem-free	34	1	2,9	25	73,5	2	5,9	5	14,7	1	2,9
	Risk group	26	1	3,8	14	53,8	4	15,4	4	15,4	3	11,5
Chemical engineering faculty	Problem-free	21	0	0	15	71,4	3	14,3	2	9,5	1	4,8
	Risk group	23	2	8,7	6	26,1	11	47,8	4	17,4	0	0
Marine engineering and transport faculty	Problem-free	35	1	2,8	24	68,6	5	14,3	5	14,3	0	0
	Risk group	14	1	7,1	8	57,1	1	7,1	2	14,3	2	14,3

According to data obtained, we can state the fact that each faculty has about 19% “problem-free” students who are interested in different specialities, if we take into consideration their professional interests.

In the “risk” group the additional type dominates in 17,8% optants. This fact shows disagreement between intentions and professional aptitudes of the greater part of the first-year students from the “risk” group, which may result in students’ unwillingness to master future profession, missing classes, difficulties in contacting with groupmates and teachers, asocial behavior [10].

Fitness shape of the future specialists was diagnosed by endurance test battery. These tests were conducted to characterize development levels of respiratory and cardiovascular systems. Namely, Stange tests with breath-holding during inhalation; Genche tests with breath-holding during exhalation, Amosov tests and ratio of pulse rebalance (PRR).

Table 2

**Results of the functional component of psychophysical readiness among the first-year students**

№	Parameters	Problem-free	Risk group	P
		X ± m		
1	Stange test, (c)	61,1 ± 2,8	51,4 ± 2,7	<0,05
2	Genche test (c)	55,5 ± 3,5	44,1 ± 3,6	<0,05
3	Amosov test, %	63,6 ± 4,5	57,8 ± 4,4	>0,05
4	Pulse rebalance rate, %	31,6 ± 1,5	24,3 ± 1,9	<0,01

The comparative analysis of data obtained showed that “risk” group students under test appear weaker than their peers in all fitness parameters; as for respiratory tests and ratio of pulse rebalance, these differences are authentic (P<0,05; P < 0,01).

According to Amosov tests, which determine physical health using readings of heart rate after physical exercises, the results of socially adopted students are also higher, than those from the “risk” group. But these intergroup distinctions are not considered authentic, and this can be explained by mean error which is higher for this parameter due to result spread within sampling. In terms of analysis we diagnosed

cardiovascular systems of the tested students evaluating the level of heart rate and the pulse rebalance ratio (PRR).

Table 3

**Evaluation of functioning cardiovascular system of the first-year students**

№	Levels	Problem-free		Risk-group	
		Abs.	%	Abs.	%
1	Amosov test				
	<i>good</i>	6	17,6	4	15,4
	<i>satisfactory</i>	8	23,5	10	38,5
	<i>unsatisfactory</i>	20	58,8	12	46,1
2	Pulse rebalance rate (PRR)				
	<i>Good reaction</i>	19	55,9	6	23,1
	<i>Poor reaction</i>	15	44,1	20	76,1

Data obtained show that, according to Amosov test, first year students in both tested groups have low level of physical health, which makes 58,8% in the “problem-free” group and 46,1% in the “risk” group.

It should be especially noted that 76,1% of the socially disadapted first-year students have poor reaction (according to the test technique) of pulse rebalance rate, which reveals unsatisfactory state of cardiovascular system resulting in disability to do a full course of physical exercises provided by the State educational standard of higher professional education on physical training.

This greatly lowers the level of developing professional competences in future specialists and results in psychological disadaptation, which affects successful professional activity [5].

Taking into account importance of these problems for higher professional education we focused our attention on some urgent problems of present reality – diagnosing social destructions among future specialists and determining specific features of functioning their important professional skills in successful working activities.

50 first-year students from the faculty of Information technologies and communication, speciality “Automation systems of data processing and control” were selected for our further research.

To determine the “risk” group there was used a modified questionnaire offered by M.I.Rozhkov which allows to detect social deformations according to the criteria of aggressiveness, family problems, lack of confidence to people, low self-appraisal, as well as other types of accentuations natural for these criteria.

Data obtained helped us to form two testing groups of students for further research: the “risk” group (n=26) and so called “problem-free” group (n=24).

Analysis of specialized literature allowed us to identify a special character of labour, criteria for vocational fitness of the specialists of this profile, i.e. their important professional skills [4]. This became the base for creating the profессиogram on speciality “Automation systems of data processing and control”.

Table 3

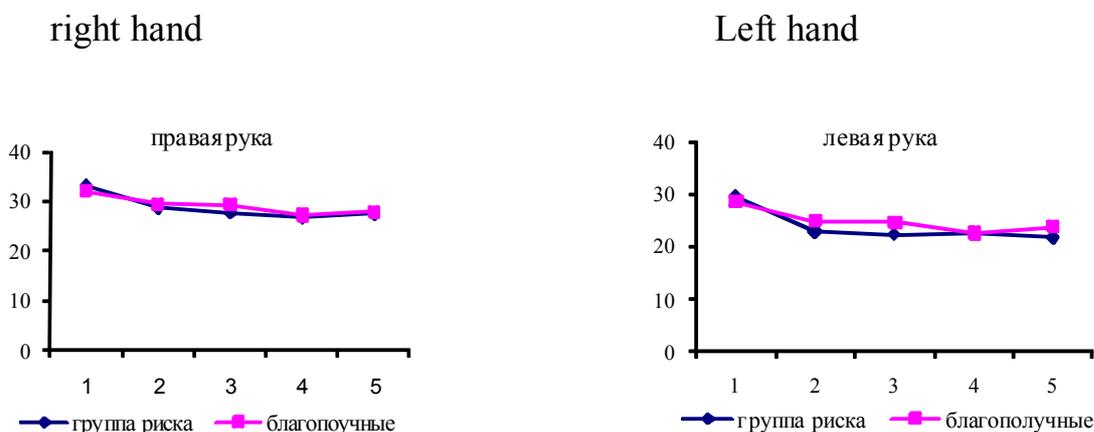
**Profессиogram on speciality 220200 “Automation systems of data processing and control”**

Type of profession after Klimov	Type of activity sort of work	Working conditions (working position, hazards)	Psychophysical characteristics of labour	Important professional features
Person-sign (PS) Person-machinea (PM)	1. solving operational tasks. 2. Knowing all types of computing and coping machines 3. Often individual	1. Indoors 2. working position - sitting. 3. Hazards – hypodynamia, fatigue of eye analyzer	1.Data comes though eye analyzer. 2.work movements don't require much from psychophysical and emotional state of a person.	1. General workability 2. Quickness and accuracy of fingers. 3.Reaction of watching and visual distinguishing 4. Attentiveness. 5. Working memory. 6.Mental efficiency 7. Logical thinking.

On the base of the profессиogram presented we wrote a testing program to study psychophysiological and psychical components of important professional characteristics among students studying this speciality. The testing program includes test battery for analyzing flexibility of nervous system, memory, attention and mentation [8].

Analyzing specific psychophysiological functions of personality under test was carried out using tapping-test in order to study the strength of the nervous system, its flexibility and steadiness; these parameters characterize their local working capacity.

### Diagram



Risk group                  Problem-free group                  Risk group                  Problem-free group

Test results (placing dots by the right and left hands) showed that the cumulative value of 5 squares in the “risk” group both for the right and left hands is lower than that in the “problem-free” group.

According to the results of the test on distribution of attention, authentic differences ( $P < 0,01$ ) between the two tested groups are obtained using the value of actuating degree (AD). Coefficients of working efficiency and nerve force didn't give authentic differences, but the “problem-free” group students far excel the “risk” group students in working efficiency. Invalidity of data can be explained by mean error which is higher for this value due to the results spread within sampling. One should pay special attention on better serial results in the “problem-free” group. The time taken by them to find numbers is authentically less than in the “risk” group in the 1<sup>st</sup>, 4<sup>th</sup> and 5<sup>th</sup> squares ( $P < 0,01$ ; 0,05). Results of finding numbers in the 1<sup>st</sup> square in the “risk” group also are authentically lower ( $P < 0,01$ ), this fact determines a higher degree of actuating in the “problem-free” group ( $P < 0,01$ ).

According to Anfimov test, authentic differences in favour of the “problem-free” group are received from values of total number of scanned combinations of

letters and coefficient of work correctness ( $P < 0,05$ ), which shows higher concentration of attention.

According to Landolt test, analysis of working efficiency per minute didn't show authentic differences ( $P < 0,05$ ), although number of errors is authentically higher in the "risk" group ( $P < 0,01$ ). "Problem-free students authentically overtook their peers from the "risk" group in total number of the scanned symbols ( $P < 0,05$ ). So, we may say that they can easily switch over their attention and have a high visual-motor mobility of nervous processes.

Test of operatory thought didn't show authentic differences between the two tested groups, though data in the "risk" group are rather low.

Taking into consideration all information mentioned above, we can come to the conclusion that:

1. main deconditioning factors of young men are: a low level of self-consciousness, lack of motivation in reaching the goal, self-doubt, contradictoriness between personality self-appraisal and a level of aspirations, a low level of expectancy, family problems, a tendency to avoid reality in stressful situations, etc.

2. first-year students from the "social risk" group have authentically lower level of functional readiness, which can be seen in unsatisfactory condition of respiratory and cardiovascular systems, strength of nervous system, flexibility of nervous processes, functions of memory, attention and mentation.

Considering all the facts mentioned above we can suppose that students with liability to various deviations show poorer functioning of psychophysiological and psychic parameters that make the base for training important professional characteristics in future successful specialists.

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