



## Gender Features of the Psychosocial State of Students in the Period of Adaptation to the Educational Environment of the Pedagogical University

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Received: September 11, 2022

Published: December 21, 2022

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### Abstract

The article presents the results of psychophysiological and personal characteristics study of first-year students of the Kuibyshev branch of the Novosibirsk State Pedagogical University (59 girls and 35 boys) in various areas of education. To study the personal qualities of students, we used a computer program for assessing the socio-psychological adaptation and personal potential of students, based on the methodology of Rogers and R. Diamond in the adaptation of K. A. Osnitsky. Indicators of the psycho-emotional state were determined by the methods of T. Ehlers, Bass-Darkey, and Ch. D. Spielberger in the adaptation of Yu. L. Khanin. The following psychophysiological parameters were evaluated: speed of a simple visual-motor reaction, reaction to a moving object, and cognitive characteristics (mechanical, semantic and imaginative memory, mental performance, concentration of attention). The results of the study indicate the gender differences in the psychological state, degrees of adaptation to the educational environment of the university and a number of psycho-functional and personal parameters of students. Young men had higher level of self-esteemation, emotional comfort, internality, desire for dominance, adaptability, aggressiveness, motivation for success, mechanical memory, speed of visual-motor reaction and reaction to a moving object. The girls showed higher values of reactive and personal anxiety, better indicators of the quality of imaginative memory and attention switching. There were no gender differences in the mobility and productivity of nervous processes, the volume of semantic memory, verbal aggressiveness and hostility. The influence of the specifics of different educational profiles on the psychosocial state of representatives of both sexes was not revealed.

It is concluded that gender differences in the psychosocial status and personal psychophysiological qualities of young people are caused not only by biological factors, but also significantly depend on the socio-cultural impact of the environment. In this regard, it is important to further study and analyze the interaction of biological and social factors for a more complete understanding of the gender characteristics of modern youth in the context of the actualization of the educational activities in the university.

**Keywords:** Students; Gender Differences; Mental Health; Educational Environment; Socialization; Adaptability

### Introduction

The directions of development of Russian society indicate a constant increase in the requirements imposed by employers to the quality of professional training and competence of specialists at all levels. Moreover, the formation of professionally significant qualities is assumed already at the stage of studying at a university. However, in the conditions of continuous reforms of the higher education system, a number of problems arise related to the quality of "pre-university" training, which is still the subject of discussion, since it does not meet the criteria of cognitive, personal and psy-

chosocial development of high school graduates. In this regard, it is necessary to identify potential psychophysiological resources of applicants in a timely manner: personal dominants, physiological capabilities and cognitive abilities for the qualitative development of educational programs of the university. That is why the task of successful adaptation of yesterday's students to the conditions of the new educational environment is more relevant for first-year students [1], and timely diagnosis and quantitative assessment of their psychophysiological and psychosocial states, taking into account gender differences, allows to adjust the process of realizing the personal and intellectual potential of students.

Currently, the importance of the psychological health of young people dictates the need to develop the adaptive techniques for the successful formation and development of personality in the educational system. The range of issues related to this problem is widely discussed not only in the scientific literature, but is also among the priority states and public tasks [2,11,24]. In Russian research papers, attention was mainly paid to the issues of morpho-functional health of students [5,15,25], psycho-emotional state [7,16,17,24], physical development [20,25] and social well-being of young people [10,19,26]. Foreign authors focus on the relationship between mental health, adaptation and quality of life, and address issues of gender aspects of a person’s psychological state, [8,12,13,18,22]. However, despite the fact that the problem of optimizing the psychosocial state of young people is described quite widely in the literature [10,20,21], the issues of gender characteristics of adaptation processes in the context of the formation of the personality of future teachers require further study.

- **The purpose of the work:** To assess the gender characteristics of the psychosocial state of students in the process of adaptation to the educational environment of the university.
- **Tasks:**
  - To study the psychophysiological and cognitive parameters of the first year students;
  - To identify the characteristic features of the personal and psychosocial characteristics of the first-year students depending on their gender.
- **Organization and methods of research:** The study was conducted with first-year students of the Kuibyshev branch of Novosibirsk State Pedagogical University using the computer program “Assessment of socio-psychological adaptation and personal potential of students” [3]. 59 girls and 35 boys aged from 17 to 19 years of various fields of study took part in the survey. All students at the time of the study were practically healthy, belonged to the basic and preparatory medical health groups. Students were tested in the morning from 10 to 13 o’clock outside the examination session. The obtained data were statistically processed using the Student’s parametric t-test method for independent samples with a significance level of at least  $p \leq 0.05$  using the STATISTICA computer software package (Version 7.0).

- **The results of the study and discussion:** The functional state of the organism is determined by the joint functioning of various structures and processes, therefore, specific manifestations of the functions of individual links are always interdependent and interrelated [6,17]. To identify the features of the systemic organization of personal, psychophysiological, neurodynamic and cognitive characteristics a comprehensive diagnosis of students of both gender groups was carried out.

The students’ psychosocial status and subjective assessment of the level of personal development were determined by diagnostics on the scale of socio-psychological adaptation (SPA) using the methodology of K.A. Ositsky. The results of the assessment of students’ adaptive capabilities indicate high values of most indicators in both gender groups with significant differences. Such parameters as adaptability, self-acceptance, emotional comfort, internality, the desire for dominance, internal control in young men were significantly higher, that reflected in a higher level of integral characteristics of adaptation, while external control was significantly higher in girls. (Table 1). The nature of gender differences in adaptation indicators mainly corresponds to the norms [6,13,19], however, it can be associated not only with the psychophysiological features at this age period, but also with the impact of both positive and negative socio-environmental, economic and cultural factors of a small city.

Parameter	Girls	Boys	P
Adaptability	60,8 ± 1,1	69,6 ± 1,6	***
Self-acceptance	73,9 ± 1,2	80,7 ± 1,9	*
Acceptance of others	63,6 ± 1,5	67,9 ± 2,4	ns
Emotional comfort	60,3 ± 1,5	72,3 ± 3,4	*
Internality	62,2 ± 1,3	78,4 ± 1,5	***
Striving for dominance	55,4 ± 1,7	78,5 ± 2,7	***
Internal control	53,5 ± 1,2	63,7 ± 1,2	***
External control	24,3 ± 1,2	13,5 ± 1,1	***
Integral level of adaptation, points	3,5 ± 0,1	4,0 ± 0,1	**

**Table 1:** Parameters of socio-psychological adaptation of students (% of students).

**Note:** In this and the following tables the significance of the differences: \* -  $p \leq 0,05$ ; \*\* -  $p \leq 0,01$ .  
\*\*\* -  $p \leq 0,001$ ; ns- nonsignificant.

To understand the gender characteristics of the socio-psychological adaptation of students we studied their personal characteristics that determine motivational and target stability, emotional background and the level of development of cognitive processes as the most significant qualities for successful study at the university. The psycho-emotional state of the freshmen was assessed using the tests of T. Ellers, G. Eysenck and A. Bass-A. Darky.

The results of the assessment have been revealed the higher level of anxiety in girls, including situational and personal, while boys had higher levels of motivational focus on success and physical aggression (Table 2). However, in general, with a high level of motivation for success, indicators of anxiety and aggressiveness in both groups were within the average values. The absence of intergroup differences in aggressiveness and hostility in the conditions of the new environment, may be due to the fact that gender differences in the level of emotional intelligence would be more distinguishable in older age [8,23].

Parameter, points	Girls	Boys	p
Motivation for success	18,0 ± 0,5	21,6 ± 0,6	**
Situational anxiety	25,2 ± 0,9	21,3 ± 1,7	*
Personal anxiety	43,1 ± 0,8	33,6 ± 1,4	**
Integral level of anxiety	2,7 ± 0,1	1,9 ± 0,2	**
Physical aggression	3,9 ± 0,2	5,6 ± 0,2	**
Aggressiveness index	15,8 ± 0,5	17,6 ± 1,0	ns
Hostility index	10,4 ± 0,4	10,5 ± 0,8	ns

**Table 2:** Indicators of the psycho-emotional state of students.

The analysis of gender differences in motivational orientation makes it possible to identify promising opportunities for productive development of both personal and educational possibilities by young people, while the level of development of attention, memory, mental performance and senso- motor reactions largely determines the success of cognitive activity in general. Therefore, it was important to evaluate these parameters in students in a new socio-cultural and educational environment. Memory as one of the most important mental processes is often characterized as a subsystem of personal development, and at the same time as a substructure of intellectual potential, that plays a leading role in shaping the level of development of cognitive qualities [4,16].

The results of assessing the level of semantic and imaginative memory were significantly higher in girls, and the values of these parameters were at a high level, while the volume of mechanical memory was higher in boys, although on an average level (Table 3).

Parameter	Girls	Boys	p
Mechanical memory, points	4,7 ± 0,2	7,0 ± 0,4	**
Semantic memory, points	8,6 ± 0,2	8,0 ± 0,3	ns
Imaginative memory, points	8,0 ± 0,2	6,9 ± 0,4	*
Switching attention, sec	62,4 ± 3,0	53,8 ± 3,0	*
Simple visual-motor reaction, msec	202,2 ± 5,5	168,8 ± 2,7	**
Reactions to a moving object, the number of matches	4,5 ± 0,1	4,8 ± 0,01	*
The coefficient of productivity of mental performance, conventional units	0,52 ± 0,01	0,55 ± 0,02	ns
The coefficient of mobility of nervous processes, conventional units	1,85 ± 0,04	1,78 ± 0,03	ns

**Table 3:** Psychophysiological parameters of students.

Despite the fact that the basis of mechanical memory consists mainly of neural connections of the first signaling system, the perception and reproduction of information was significantly difficult for girls. In general, the higher level of semantic and imaginative memory in girls indicated a better development of speech and perception.

The results of the study of senso-motor reactions were statistically better in young men, both in the study of the speed of switching attention, a simple visual-motor reaction, and in response to a moving object. The level of mental performance did not differ statistically significantly between the groups.

The data obtained may indicate the greater psychophysiological and social activity of the boys in the process of mastering a new space, whereas for girls with better expressed “feminine” qualities (imaginative memory, external control, higher anxiety, caution, and sensitivity) were more characteristic, which should be taken into account in the process of adaptation of female students to the study in university.

## Conclusion

The analysis of the psychosocial profile of the first-year students of the university in a small regional town showed the presence of a number of gender differences in personal, psychophysiological and cognitive characteristics. These differences may be due to both the structural and functional features of the brain, the influence of sex hormones on neuropsychic processes, and the influence of the socio-cultural environment of a small town on the psychological status of young people. This combination of factors allows us to conclude that the first-year students have the necessary level of formation of psychophysiological and neurodynamic properties that determine the possibility of successful adaptation and study at the university, however, it is necessary to take into account the gender characteristics of students' psychosocial development in the educational work of university teachers.

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