



# Stress, neurotization and psychopatization at students of medical university

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## Abstract

**Aim:** To determine the level of neurotization, psychopathization and stress at the interns of a medical university.

**Material and methods:** Analysis of the results of an anonymous questionnaire for determining the level of stress in accordance with the PSM 25 method and the presence of neurotization and psychopathy was carried out in accordance with a personal UNP questionnaire compiled by I.B. Lasko and B.I. Tonkonogiy. The study involved 133 medical students of 6 course. When processing the results, 8 questionnaires were excluded from the study due to the high level of insincerity. Thus, 125 participants were included in the study, of which 77 (61.6%) were girls and 48 (38.4%) were guys. The average age of the respondents was 23±1 year.

**Results:** 80% of respondents had a low level of stress. However, girls are 5 times more likely to have high stress. Most respondents revealed a clinically significant level of psychopathic character traits.

**Conclusion:** Even though the level of stress resistance of the respondents was high, only 12% of the respondents did not show signs of psychopathy or neurotization.

**Key words:** neurotization, psychopathization, stress, neurotization and psychopathization level, PSM 25

## МЕДИЦИНАЛЫҚ УНИВЕРСИТЕТТІҢ СТУДЕНТТЕРІНДЕ СТРЕСС, НЕУРОТИЗАЦИЯ ЖӘНЕ ПСИХОПАТИЗАЦИЯ Ж.Б. Бибекова, Р.Ф. Гарифзянов, Е.С. Гарифзянова

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### ТҰЖЫРЫМДАМА

**Мақсаты:** Медициналық университеттің интерндеріндегі неуротизация, психопатизация мен күйзеліс деңгейін анықтау.

**Материалдар мен әдістер:** Біз күйзеліс деңгейін және неуротизация мен психопатизация анықтау үшін PSM 25 және И.Б. Ласко мен Б.И. Тонконогий құрастырған НПД әдістерін қолдана отырып анонимді анкета нәтижелеріне талдау жасадық. Зерттеуде 6 курстың 133 интерн қатысты. Нәтижелерді өңдеу кезінде 8 сұрақ-жауап сауықсыздық шкаласының жоғары деңгейіне байланысты зерттеуден шығарылды. Осылайша, зерттеуге 125 адам енгізілді, олардың 77 (61,6%) қыздар, 48 (38,4%) ер балалар болды. Респонденттердің орта жасы – 23±1 жыл.

**Нәтижелер:** 80%-дан астам интерндерде стресс деңгейі төмен болған, бірақ қыздар ер адамдарға қарағанда стресстің жоғары деңгейін 5 есе жиі көрсетті. Респонденттердің басым көпшілігі психопатиялық белгілердің клиникалық маңызды деңгейін анықтады.

**Қорытынды:** Респонденттердің стресске төзімділік деңгейі жоғары болғанына қарамастан, респонденттердің тек 12% психопатия немесе неуротизация белгілері байқалмады.

**Негізгі сөздер:** неуротизация, психопатизация, стресс, неуротизация және психопатизация деңгейі, PSM 25

## СТРЕСС, НЕВРОТИЗАЦИЯ И ПСИХОПАТИЗАЦИЯ У СТУДЕНТОВ МЕДИЦИНСКОГО УНИВЕРСИТЕТА Ж.Б. Бибекова, Р.Ф. Гарифзянов, Е.С. Гарифзянова

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### РЕЗЮМЕ

**Цель:** Определить уровень невротизации, психопатизации и стресса у интернов медицинского университета.

**Материалы и методы:** Проведен анализ результатов анонимного анкетирования для определения уровня стресса по методике PSM 25 и наличия невротизации и психопатизации по личностному опроснику УНП, составленному И.Б. Ласко и Б.И. Тонконогим. В исследовании приняли участие 133 студента 6 курса медицинского университета. При обработке результатов 8 анкет были исключены из исследования по причине высокого уровня шкалы неискренности. Таким образом, в исследование было включено 125 участников, из них 77 (61,6%) девушки и 48 (38,4%) парни. Средний возраст респондентов составил 23±1 года.

**Результаты:** Хотя уровень стресса среди интернов более чем в 80% случаев был низким, у девушек высокий уровень стресса выявляется почти в 5 раз чаще, чем у парней. У преобладающего большинства опрошенных был выявлен клинически значимый уровень психопатических черт характера.

**Заключение:** Несмотря на то, что уровень стрессоустойчивости респондентов был высоким, только у 12% опрошенных не было выявлено признаков психопатизации или невротизации.

**Ключевые слова:** невротизация, психопатизация, стресс, уровень невротизации и психопатизации, PSM 25

## Introduction

Mental health is a state of well-being in which a person realizes his abilities, can withstand ordinary life stresses, work productively and contribute to his community. In this positive sense, mental health is the foundation of human well-being and the effective functioning of the community. The risk factors for the violation of psychological health are conditionally divided into two groups: objective, or environmental factors, and subjective, due to individual and personal characteristics.

People experience stress every day during their studies, professional activities and at home. Training and work in the field of medicine have always been associated with a high level of psychological stress. Adaptation to new living conditions, a strict system of assessing knowledge, numerous exams and constant information overload experienced by students during their studies at higher educational institutions, and especially in medical ones, are able to influence the insufficiently mentally mature personality of young people, lead to the emergence and aggravate development already existing borderline neuropsychiatric pathologies.

Borderline mental disorders are called mental conditions that occupy an intermediate position between normal and pathological. These include neurosis, psychopathic and reactive states. Borderline disorders are characterized by rapid neuropsychic exhaustion, emotional lability, increased emotional irritability, a tendency to conflict, increased conformity, and an acute need for support. Neurotization is a state of emotional instability, which is a kind of first stage in the formation of a future neurosis [1]. Psychopathization is characterized by indifference to the principles of duty and morality, indifference to the opinions of others, increased non-conformism, a desire to

stand out among others, hypocrisy, temper, suspicion, increased pride and self-confidence [2]. We conducted a study among 6th year students of the medical university using a questionnaire to determine the level of neurotization and psychopathization I. Lasko and B.I. Tonkonogiy (NPL) and methods for detecting the stress level – PSM 25 of Lemur – Tieux – Fillion (PSM 25) adapted by N.E. Vodopyanova [3-5].

The research purpose was to determine the level of neurotization, psychopathization and stress at the interns of the medical university.

## Material and methods

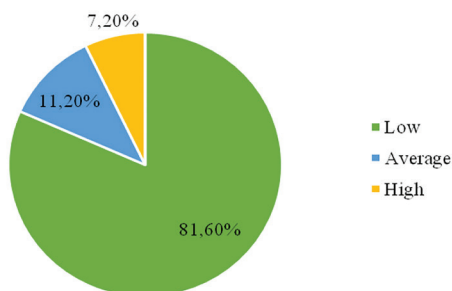
Analysis of the results of an anonymous questionnaire for determining the level of stress in accordance with the PSM 25 method and the presence of neurotization and psychopathy was carried out in accordance with a personal NPL questionnaire compiled by I.B. Lasko and B.I. Tonkonogiy. The study involved 133 medical students of 6 courses. When processing the results, 8 questionnaires were excluded from the study due to the high level of insincerity. Thus, 125 participants were included in the study, of which 77 (61.6%) were girls and 48 (38.4%) were guys. The average age of the respondents was 23±1 year. Study design: cross-sectional open research.

## Results

The stress level of many respondents is low – 102 respondents, on average in 14 respondents, on high in 9 people. The percentage of stress levels is presented in Figure 1.

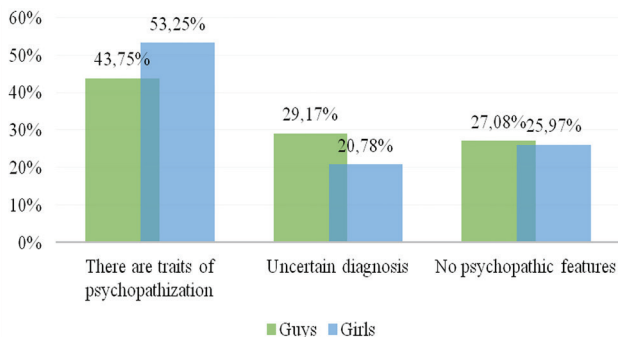
At the same time, a low level of stress was detected in 40 guys and 62 girls, an average level in 7 guys and 7 girls, and a high level in 1 guy and 8 girls. Differences in stress levels by gender of the respondents are presented in Figure 2.

**Figure 1** - The level of stress in students of the 6th year.

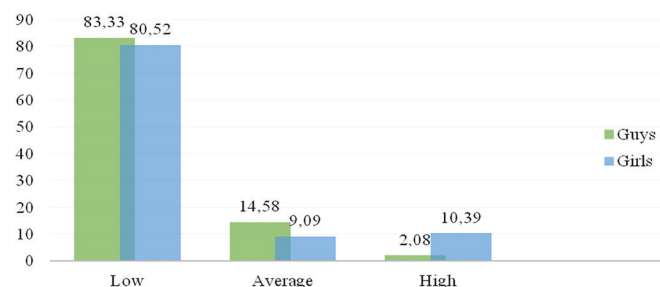


In 41 girls and 21 guys, the level of psychopathization was high, in 16 girls and 14 guys – an uncertain diagnosis on the psychopathization scale, and in 20 girls and 13 guys there were no signs of psychopathization. The percentage of psychopathic traits depending on gender is presented in Figure 3.

**Figure 3** - The level of psychopathization in guys and girls.



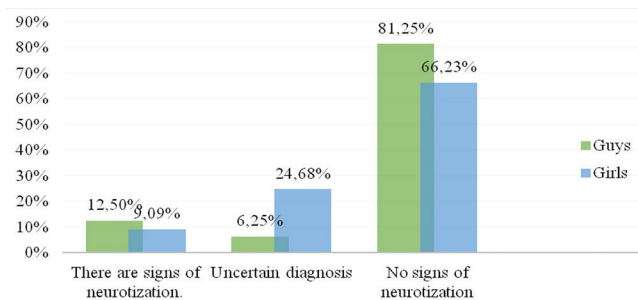
**Figure 2** - The level of stress in guys and girls.



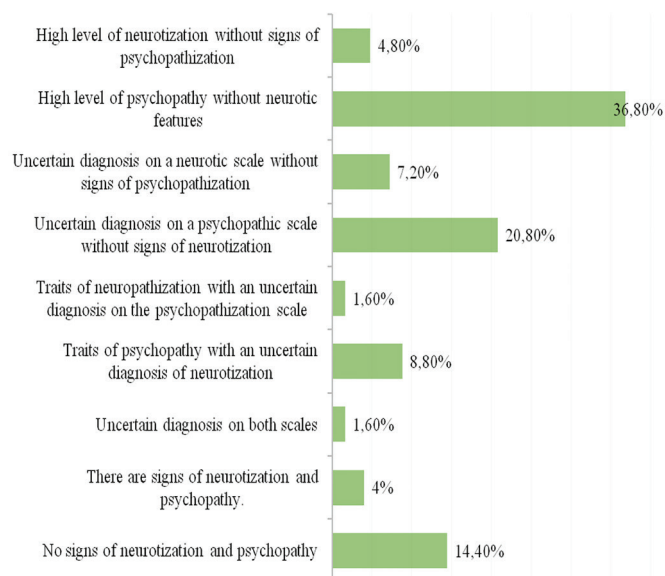
6 guys and 7 girls had a high level of neurotization, 3 guys and 19 girls had an uncertain diagnosis, and 29 guys and 51 girls had no neurotic features. The percentage of neurotic characteristics depending on gender is presented in Figure 4.

Of the 125 examined:

**Figure 4** - The level of neuroticism in guys and girls.

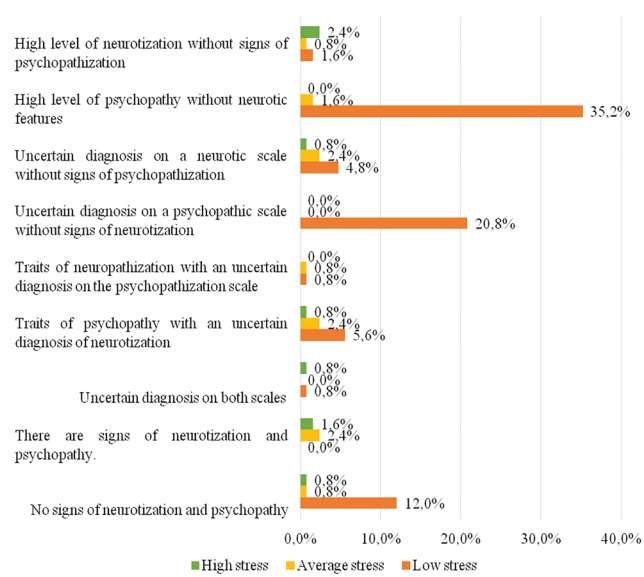


**Figure 5 - Correlation of neurotic and psychopathic features among respondents.**



- 18 have no signs of neurotization and psychopathization;
- 5 have signs of both psychopathization and neurotization;
- 2 have an uncertain diagnosis on both scales;
- 11 have a high rate of psychopathization and an uncertain diagnosis on the neurotic scale;
  - 2 – high rates on the neurotic scale and an uncertain diagnosis of psychopathy;
  - 26 – an uncertain diagnosis on a psychopathic scale without signs of neurotization;
  - 9 – an uncertain diagnosis on the neurotic scale without

**Figure 6 - Correlation of neurotic and / or psychopathic features and stress level among respondents.**



- signs of psychopathization;
- 46 – a high level of psychopathization without signs of neurotization;
- 6 – a high level of neurotization without signs of psychopathization.

Figure 5 shows the correlation of neurotic and psychopathic features in the respondents.

The ratio of the level of stress and traits of neurotization and/or psychopathization among respondents is presented in Table 1 and Figure 6.

**Table 1** Correlation of neurotic and psychopathic features with the level of stress among respondents

The level of neurotization and psychopathy	Stress level (number of people)		
	Low	Average	High
No signs of neurotization and psychopathy	15	1	1
There are signs of neurotization and psychopathy.	0	3	2
Uncertain diagnosis on both scales	1	0	1
Traits of psychopathy with an uncertain diagnosis of neurotization	7	3	1
Traits of neurotization with an uncertain diagnosis on the psychopathization scale	1	1	0
Uncertain diagnosis on a psychopathic scale without signs of neurotization	26	0	0
Uncertain diagnosis on a neurotic scale without signs of psychopathization	6	3	1
High level of psychopathy without neurotic features	44	2	2
High level of neurotization without signs of psychopathization	2	1	3

## Discussion

According to research, the level of neurotization and psychopathization is increased even among mentally healthy students [6]. In such a situation, it is especially important to consider that the disharmony of personality traits is one of the predictors of neuropsychiatric diseases. According to various studies, in the learning process from 18 to 44% of students in medical schools had suicidal thoughts and inclinations [7,8]. At the same time, a high level of neurotization has a negative impact not only on current activities, but also on further professional adaptation, exacerbating difficulties in the work process [9,10]. The actualizes the study of the mental health of future workers already at the stage of their training in an educational institution.

## Conclusion

Analysis of the data allows the following conclusions:

1. Most 6-year interns have a low level of stress – 83.33% of guys and 80.52% of girls, which indicates high stress resistance among graduating specialists.
2. Most often, a high level of stress was detected in girls – 10.39% versus 2.08% in guys, which indicates a higher exposure to stressful situations among the sex.
3. The prevailing combination of characteristics of neurotization / psychopathization / stress is a high level of psychopathization without signs of neurotization against the background of a low level of stress – 35.2% of respondents.
4. The overwhelming majority of respondents revealed a clinically significant level of psychopathic character traits –

43.75% of guys and 53.25% of girls, while neurotic symptoms were observed only in 12.5% of guys and 9.09% of girls.

5. Most often, a high level of stress was determined in individuals with a clinically significant level of neuroticism – 2.4%, while a high level of stress was detected only in respondents

with a clinically significant level or an undifferentiated diagnosis on the neurotization scale.

**Disclosures:** There is no conflict of interest for all authors.

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