

Research article

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Self-Regulation and Decision-Making in Students with Diverse Meaning-Transmission Styles

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Absrtact

Introduction. In the modern educational space, characterized by dynamism, information saturation and multitasking, the study of the process of meaning transmission, self-regulation of behavior and decision-making by students come to the forefront in the context of their academic and professional success. The aim of our research is to study the peculiarities of self-regulation of behavior and decision-making in students with different styles and strategies of meaning- transmission in the process of solving educational and professional tasks. **Methods.** The study involved 72 students, including 64 girls, 8 boys, average age 21.1 years. Natural experiment, questionnaire and survey were used as research methods. Research methods: Questionnaire "Strategies of meaning-transmission" (Suroedova, 2011); Questionnaire "Style of self-regulation of behavior" by V. I. Morosanova (Morosanova, 2004); Melbourne Decision Making Questionnaire (Kornilova, 2013). **Results.** We identified the styles of meaning-transmission: neutral, emotional, declarative, philosophical. The study found that there are significant differences in self-organization of activity and decision-making styles in students with different styles and strategies of meaning-making. Students with an active strategy of meaning-transmission are distinguished by developed skills of goal setting, planning and controlling the process of activity, they tend to collect information from different sources and consider alternative ways of solving problems, choosing the most effective. Respondents with the emotional style of meaning-transmission are distinguished by a high level of development of goal- setting and activity programming, evaluation of intermediate and final results of problem-solving, they show flexibility in choosing ways and means of solving a problem situation. **Discussion.** The results of our study can contribute to the

development of psychological and pedagogical technologies aimed at improving the effectiveness of learning and assimilation of professional knowledge, taking into account the students' abilities to make meaning.

Keywords

meaning transfer, styles of meaning transfer, translation of meanings, self-regulation of behaviour, decision-making, educational and professional tasks

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Introduction

Communication and communication are the prerequisites for human interaction. In the process of communication, people receive information and knowledge, express their thoughts and ideas, understand the inner experiences and needs of other people (Mifsud, 2019; Yakupov, 2016). Through communication, communication and meaning-transmission in the joint activity of people, different variants of problem solving are discussed, advantages and disadvantages of strategies for solving the problem are analysed, the most appropriate ways and means of achieving the results of joint activity are selected (Poole, 2008; Orlov, 2018; Suroedova, 2022; Suroedova, Lomova, 2018; Suroedova, Lomova, 2018; Shutenko, 2011).

Meaning-transfer in the educational process

Higher professional education is aimed not only at transferring fundamental knowledge to the student, but also at the formation of practical skills and competences that are in demand in educational and professional activities. As foreign studies show, university graduates feel uncertain about the level of their professional qualification (Jones et al., 2017; Mohammed et al., 2021). In order to increase the level of development of professional competences and confidence in the abilities of students in the educational process, interactive teaching methods are often used, "immersing" students in various professional situations that they may encounter in the future (Moeller et al., 2012; Korotaeva, Andryunina, 2021; Kudakov et al., 2021; Popey-Ool, Shishov, 2021; Morosanova, Bondarenko, Fomina, 2022), including reflexive technologies (Prokhorova, Belova, 2009) and technologies of semantic dialogue (Sharapa, Agasyan, 2019). In practical classes, when discussing non-standard situations arising in professional activities, students

need to show self-organisation and self-regulation of their behaviour, decision-making skills. During the discussion of a problem situation in student groups, "the formation of a common attitude of participants to reality and at the same time the generation of this reality" (Belousova, 2004, p. 26) takes place, which, in turn, leads to the formation of "a common psychological situation as a part of the combined parts of the image of the world and the life world of participants" (Belousova, 2004, p. 23). When jointly solving educational and professional tasks, participants of the educational process have a need to share "open" meanings and psychological qualities of the studied object or situation (Polas, 2023; Belousova, Pischik, 2011). At this point, it is possible to observe the process of meaning-transfer as a system-forming mechanism of formation of common systemic new-formations (individual and group) in the process of joint thinking activity. Pronenko E. A., Bunyaeva M. V. point out that meaning transfer plays an important role in the process of problem solving and decision making. Meaning-transference refers to the transfer and understanding of the meaning of information, ideas, and goals between people (Pronenko, Bunyaeva, 2019). Meaning-transference helps students to see the connection between learning theory and its practical application, promotes deeper understanding and learning of the material, development of critical thinking skills, flexibility and the ability to work in a team (Maknuunah et al., 2021).

Translation of meanings between participants of joint activity is possible by verbal and non-verbal (emotional) means (Belousova, 2004). Such qualities of speech activity as argumentation, logical and coherent presentation of one's thoughts, hypotheses, simplicity and clarity of statements play a leading role in the translation of meanings (Gridina, 2018; Serova, 2021; Stepykin, 2021; Suroedova, 2011). But an important aspect of meaning transmission is understanding not only the verbal content, but also adequate interpretation of the emotional component of a speech utterance, "reading" non-verbal manifestations. Nonverbal communication is a means of self-expression of the student, his ability to reflect emotions and feelings, to express personal meaning (Abakumova, Godunov & Grishina, 2021). It is worth noting that emotional experiences accompany the process of problem solving and decision making, they influence these processes and their result (Belousova, 2020). The ability to convey and understand emotional information allows taking into account and processing emotional evaluations in decision making (Suroedova, Belousova, 2022).

The role of meaning-making in self-regulation of activity and decision-making

The study of the role of meaning transfer in self-regulation of activity and decision-making in the process of joint solution of educational and professional tasks is becoming an increasingly demanded problem in psychology and pedagogy. In the process of joint problem solving, students face various educational and professional problems and uncertainty, and then the system of personal meanings becomes an integral regulator of life activity (Abakumova, Godunov & Grishina, 2021). Through the exchange of meanings

and understanding of the goals and meanings of the task, students can independently manage their learning activities, plan, control and evaluate their actions (Moeller et al., 2012). Meaning transfer in a combined psychological situation allows students to better understand what to do and what path to choose to solve the problem, to understand what meanings and values are embedded in the task, which, in turn, has a stimulating effect on the formation of intrinsic motivation and the effectiveness of learning activities. As studies show, when solving professional tasks, subjects form individual ways of meaning transmission by verbal and non-verbal means of communication - strategies of meaning transmission (Suroedova, 2011).

Styles of meaning transmission

In the process of decision-making by students in joint problem solving, the formation of "group thinking style" (Belousova, 2020) takes place, in the formation of which meaning-transfer plays a leading role. Communication and communication between the subjects of education allow to present and discuss different variants of the solution, analyse and evaluate their advantages and disadvantages (Abakumova, Kagermazova, 2008). Through communicating and understanding the meaning of ideas, opinions and ways of solving a problem, students can jointly make informed decisions, taking into account the different points of view and experience of each participant. Subjects in joint interaction demonstrate different styles of meaning-transfer. Under the styles of meaning transmission we understand the individual form of meaning transmission in subject-subject interaction in various situations: educational and professional activities, training and education, in the ways of joint decision-making and implementation, in the resolution of interpersonal and business contradictions.

The study of the process of meaning transfer in joint problem solving is an urgent problem, because it allows us to reveal the hidden phenomena of thought processes of subjects of joint activity and to identify the most effective ways and strategies of interaction (Belousova & Belousova, 2020). No less important is the problem of studying the personal characteristics of subjects of joint activity with different styles and strategies of meaning-transmission. The skill of effective meaning transfer helps students to be successful in collective projects, negotiations and teamwork in solving professional tasks.

Thus, the study of the role of meaning transfer in self-regulation of activity and decision-making in the process of joint solution of educational and professional tasks is important for modern education. It contributes to the development of key skills and competences necessary for students to work successfully in the future and ensures the effectiveness and quality of learning.

Purpose and hypothesis of the study

The aim of the research is to study the peculiarities of self-regulation of behaviour and decision-making in students with different styles and strategies of meaning-transfer in the process of solving educational and professional tasks.

The object of the study – students with different styles and strategies of meaning-transmission, the subject – features of self-regulation of behaviour and decision-making by students with different styles and strategies of meaning- transmission in the process of solving educational and professional tasks.

The hypothesis was the assumption that there are differences in self-regulation of behaviour and decision-making among students with different styles and strategies of meaning-transmission in the process of solving educational and professional tasks.

Methods

Sample

Bachelor's and Master's degree students of DSTU studying in the direction of "Psychology" took part in the study. A total of 72 respondents aged 20-25 took part in the study, among them 64 girls and 8 boys.

Natural experiment

In this study we used the results of an experiment using video recording of students solving educational and professional tasks (cases) to identify the styles of meaning transfer. Students were presented with a problematic pedagogical situation. The main character of the case was a 2nd grade student (a 7-year-old boy) who demonstrated aggressive and deviant behaviour towards teachers and students, and also had difficulties in writing. In the course of solving the educational and professional task, students had to identify the causes of the child's behaviour and propose ways to correct and prevent deviant behaviour of the schoolchild.

The styles of meaningfulness of the researched were determined by experts according to the following criteria:

- sensitivity / insensitivity to estimates, hypothesis evaluation;
- recursive actions, returning to previously discussed ideas and hypotheses;
- Sensitivity / insensitivity to contradictions;
- inconsistency / consistency of statements / logicity;
- complexity/simplicity of statements;
- operating with scientific concepts,
- an appeal to psychological theories;
- criticality;
- a tendency to generalise, to draw conclusions;
- Managing the discussion process;
- frequency of hypotheses, ideas.

In the course of content analysis and frequency analysis, we have identified the following styles of meaning transmission: **emotional, declarative, philosophical, neutral.**

Methods

- *Questionnaire "Strategies of Meaning Transmission" (Suroedova, 2011).* This technique allows us to identify verbal and non-verbal activity of respondents, as well as strategies of meaning transmission: passive, balanced, active, emotional-dominant and cognitive-dominant strategies.
- *Self-regulation behaviour style questionnaire (Morosanova, 2004).*
- *Melbourne Decision Making Questionnaire (MDMQ) (Kornilova, 2013).*

Processing of results

Methods of mathematical statistics: frequency analysis, descriptive statistics, method of pairwise comparisons Mann-Whitney U-criterion. Mathematical analysis was performed using IBM SPSS Statistics 20.

Results

Styles and strategies of meaning transmission

In the course of the research we have established the styles and strategies of meaning transfer in students in the process of group solution of educational and professional tasks. In the course of the experiment we identified four styles of meaning- transmission, on the basis of which we distinguished 4 groups:

- Group 1 (n = 17) – students with a neutral style of meaning-making;
- Group 2 (n = 12) – students with an emotional style of meaning-making;
- 3 (n = 19) - students with a declarative style of meaning-making;
- Group 4 (n = 24) – students with philosophical style of meaning-making.

Respondents with emotional style are characterised by sensitivity to evaluations, emotional evaluation of hypotheses, situation, object of discussion; recursive actions, frequent returns to previously discussed ideas and hypotheses; sensitivity to contradictions.

Students with declarative style take the role of managing the discussion process (often authoritarian management); high frequency of hypotheses, ideas; show a tendency to make generalisations, conclusions.

Students with philosophical style of meaning-transmission are characterised by complexity of statements; criticality; operation with scientific concepts, reference to psychological theories.

The neutral style of meaning transmission is characterised by the presence of all indicators, but their expression is much weaker than in other styles.

Based on the survey of students to identify meaning-transfer strategies, we found that 5 meaning-transfer strategies are represented in the sample, the results of the survey allowed us to categorise the researched into the following groups:

- Group 5 (n = 3) – students with a passive meaning-transfer strategy;
- Group 6 (n = 10) – students with cognitive-dominant meaning-transfer strategy;
- Group 7 (n = 14) – students with emotionally dominant strategy of meaning-transfer;
- Group 8 (n = 27) – students with balanced meaning-transfer strategy;
- Group 9 (n = 18) – students with an active meaning-transfer strategy.

Features of self-regulation of behaviour in students with different styles and strategies of meaning-transmission in the process of solving educational and professional tasks

The comparative analysis of the results of the study of self-regulation of behaviour between the groups of students with different styles and strategies of meaning-transfer allowed to reveal significant differences. The results of the study of peculiarities of self-regulation of behaviour between the groups of subjects are presented in Tables 1 and 2.

Table 1

Features of self-regulation of behaviour in students with different styles of meaning-transmission in the process of solving educational and professional tasks

Groups	Programming		Modelling		Evaluation of results	
	U/p	Group / \bar{x} / σ	U/p	Group / \bar{x} / σ	U/p	Group / \bar{x} / σ
1-2					56.0 / .050	1 / 6.3 / 1.62
						2 / 7.1 / 1.52
2-3			70.0 / .046	2 / 6.3 / 1.43 3 / 5.1 / 1.55	48.0 / .004	2 / 7.1 / 1.52 3 / 5.5 / 2.21
2-4	84.0 / .037	2 / 7.1 / 1.62 4 / 5.9 / 1.41	74.0 / .017	2 / 6.3 / 1.43 4 / 4.83 / 1.81		

Note. Group 1 - students with neutral style of meaning-transmission; Group 2 - students with emotional style of meaning-transmission; Group 3 - students with declarative style of meaning-transmission; Group 4 - students with philosophical style of meaning-transmission.

Students with the leading emotional style of meaning-transmission differ from students with neutral and declarative styles of meaning-transmission by a greater expression of manifestation of evaluation of results in the process of problem solving. Differences on the "Modelling" scale were revealed in students with emotional style of meaning-transmission and students with declarative and philosophical styles. Students with the emotional style of meaning-transfer differ from students with the philosophical style by the greater expression of indicators on the "Modelling" scale (tab. 2).

Table 2

Features of self-regulation of behaviour in students with different strategies of meaning-transfer in the process of solving educational and professional tasks

Groups	Planning		Programming		Modelling		General level	
	U/p	Group / \tilde{x} / σ	U/p	Group / \tilde{x} / σ	U/p	Group / \tilde{x} / σ	U/p	Group / \tilde{x} / σ
5-6	0.0 / .030	5 / 3.1 / 0.1 6 / 6.4 / 1.95						
5-7	0.0 / .026	5 / 3.1 / 0.1 7 / 6.5 / 1.22	2.0 / .047	5 / 6.4 / 0.4 7 / 6.71 / 1.20			0.0 / .024	5 / 22.8 /1.1 7 / 31.5 / 5.43
5-8	0.0 /.018	5 / 3.1 / 0.1 8 / 6.5 / 1.75						
5-9							0.0/ .019	5 / 22.8 /1.1 9 / 33.5 / 6.09
7-9					70.0 /.03	7 / 5.0 / 1.66 9 / 6.4 / 1.61		
8-9					138.0 /.009	8 / 4.7 / 1.93 9 / 6.4 / 1.61		

Note. Group 5 – students with passive strategy of meaning transfer; Group 6 – students with cognitive-dominant strategy of meaning transfer; Group 7 – students with emotional-dominant strategy of meaning transfer; Group 8 – students with balanced strategy of meaning transfer; Group 9 – students with active strategy of meaning transfer.

The results of mathematical statistics revealed significant differences in self-regulation of behaviour in the process of discussing a problematic pedagogical situation between groups of students with different meaning-transfer strategies. Students with passive strategy of meaning-transfer differ from students with other strategies of meaning-transfer by lower expression of indicators on the following scales of the methodology: "Planning", "Programming" and "General level of self-regulation". Students with active strategy of meaning transfer differ from students with emotionally dominant and balanced strategy by greater expression of indicators on the scale "Modelling".

Features of decision-making in students with different styles and strategies of meaning-transmission in the process of solving educational and professional tasks

The results of mathematical analysis showed the presence of significant differences in the features of self-regulation of behaviour and decision-making styles in students with different styles and strategies of meaning-transfer (Tables 3, 4).

Table 3
Peculiarities of decision-making in students with different styles of meaning-transmission in the process of solving educational and professional tasks

Groups	Procrastination		hyper-vigilance		Avoidance	
	U/p	Group / \bar{x} / σ	U/p	Group / \bar{x} / σ	U/p	Group / \bar{x} / σ
1-2	56.00 / .050	1 / 10.3 / 2.36 2 / 9.3 / 1.96				
1-4			118.0 / .038	1 / 11.1 / 2.15 4 / 9.4 / 2.41		
2-3					70.0 / .046	2 / 9.8 / 2.03 3 / 11.5 / 2.11

Note. Group 1 – students with neutral style of meaning-transmission; Group 2 – students with emotional style of meaning-transmission; Group 3 – students with declarative style of meaning-transmission; Group 4 – students with philosophical style of meaning-transmission.

The results of mathematical statistics allowed to establish: students with neutral style of meaning-transmission differ from students with emotional style by greater expression of data on the scale "Procrastination"; differences on the scale "Supervigilance" are revealed between groups of students with neutral and philosophical strategies of meaning-transmission; differences on the scale "Avoidance" are revealed between groups of students with declarative and emotional style of communication.

Table 4
Peculiarities of decision-making in students with different strategies of meaning- transfer in the process of solving educational and professional tasks

Groups	Vigilance		Procrastination	
	U/p	Group / \bar{x} / σ	U/p	Group / \bar{x} / σ
5-6	0.00 / .03	5 / 11.0 / 1.00 6 / 14.2 / 1.81		
5-7	0.00 / .021	5 / 11.0 / 1.00 7 / 14.8 / 2.17		
5-8	0.00 / .018	5 / 11.0 / 1.00 8 / 15.4 / 1.87		
5-9	0.00 / .019	5 / 11.0 / 1.00 9 / 16.6 / 1.28		
6-7			32.0 / .024	6 / 9.4 / 1.95 7 / 11.0 / 2.35
6-9	26.0 / .002	6 / 14.2 / 1.81 9 / 16.6 / 1.28		

GENERAL PSYCHOLOGY, PERSONALITY PSYCHOLOGY, PHILOSOPHY AND PSYCHOLOGY

Groups	Vigilance		Procrastination	
	U/p	Group / \bar{x} / σ	U/p	Group / \bar{x} / σ
7-8			102.0 / .011	7 / 11.0 / 2.35 8 / 9.5 / 1.84
7-9	66.0 / .002	7 / 14.8 / 2.17 9 / 16.6 / 1.28	74.0 / .046	7 / 11.0 / 2.35 9 / 9.5 / 2.38
8-9	152.0 / .021	8 / 15.4 / 1.87 9 / 16.6 / 1.28		

Note. Group 5 – students with passive strategy of meaning transfer; Group 6 – students with cognitive-dominant strategy of meaning transfer; Group 7 – students with emotional-dominant strategy of meaning transfer; Group 8 – students with balanced strategy of meaning transfer; Group 9 – students with active strategy of meaning transfer.

The study revealed differences in decision-making styles among groups of students using different meaning-transfer strategies. It was found that students with a passive meaning-transfer strategy demonstrate a lower tendency to use the "Vigilance" decision-making style compared to other groups of study participants. Students with emotionally dominant strategy differ from groups of students with cognitive-dominant, balanced and active meaning-transfer strategies with higher procrastination rates. Students using the active strategy of meaning-transmission are characterised by a more pronounced tendency to "Vigilance" in the framework of decision-making compared to representatives of other groups.

Discussion

Students with emotional style of meaning-transmission have more needs to think over the ways of their actions and behaviour in order to achieve the planned goals than other groups of students, the action programmes they develop are detailed and detailed. In the majority of respondents with the emotional style of meaning- transmission the programmes are developed independently and flexibly change in new circumstances and are characterised by greater stability in the situation of interference. In case of inconsistency of the obtained results with the goals, the respondents correct the programme of actions until an acceptable result is obtained. Besides, this group of students to a greater extent is characterised by the ability to identify significant conditions for achieving goals both in the current situation and in the promising future, which is manifested in the conformity of action programmes to activity plans and the conformity of the obtained results to the accepted goals. Students with the emotional style of meaning-transfer are characterised by a developed and adequate self-assessment, a formed and stable system of subjective criteria for evaluating the results of solving problem situations and tasks. This group of students is able to adequately assess the fact of discrepancy between the obtained results and the purpose of activity, as well as the reasons that led to it, they flexibly adapt to changing conditions.

In decision-making, students with neutral style of meaning-transmission differ from respondents with emotional style by deliberately postponing the planned things, despite the fact that it will entail certain problems and complications. Besides, the respondents with neutral style of sense-transmission have the coping "Supervigilance" much more expressed than others and acts as a factor of decision- making which does not include intellectual orientation of search of a way out of a dilemma. Supervigilance provides impulsive decision-making, which promises the possibility of avoiding the problem, and in extreme situations is realised as "panic" in choosing between alternatives.

The results of Simonton et al. (2023) showed that emotions elicit stronger correlations with self-efficacy and Schweder et al. (2020) showed that learning and problem-solving goals are related to positive emotions and self-efficacy in adolescent girls and boys. The relationship between achievement emotions and mindfulness in activity mediated by self-regulation is evidenced by the research of Howell et al. (2011). Research by Seo et al (2007) found that individuals who experienced more intense feelings achieved higher decision-making performance. Moreover, people who were more able to identify and distinguish their current feelings achieved higher decision-making outcomes due to their increased ability to control possible biases caused by these feelings. These findings indirectly support the results of our study that people with an emotional sense-transfer style are more effective in decision making.

For students with a declarative style is inherent to a greater extent coping "Avoidance", which does not require decisive actions, significant tension and responsibility for actions and their consequences when making decisions, but on the contrary - distances from the conflict situation and gives the opportunity to postpone the solution of the problem.

Students with a low level of verbal and non-verbal activity (passive strategy of meaning-transfer) are characterised by a reduced need for planning activities, their goals are subject to frequent changes and are put forward situationally, usually not independently and are rarely achieved. In addition, they are characterised by inability and unwillingness to think through the sequence of their actions. Such people prefer to act impulsively, they cannot independently form a programme of actions, often face inadequacy of the obtained results to the goals of activity and do not make changes in the programme of actions, act by trial and error. It can be said that subjects with a passive strategy of meaning-transmission have no need for conscious planning and programming of their behaviour, they are more dependent on the situation and the opinion of people around them. Such subjects have a reduced ability to compensate for unfavourable personality traits in order to achieve their goals.

Students with an active strategy of meaning-transfer are characterised by a developed ability to identify the most effective ways and strategies of solving tasks to achieve goals. They are distinguished by the ability to goal-setting and problem-setting taking into account the present situation and future perspective, control the process of problem solving and goal achievement in accordance with the action plan. The findings are supported by the results of Jeitziner et al. (2024), where it is shown that non-verbal behaviour acts as a facilitator for students' use of regulatory strategies of planning and monitoring behaviour when solving tasks in online learning and has links with high cognitive ratings of the quality of collaborative group interaction. The authors also observe that there is a greater need for verbal discussion than non-verbal communication in cases of collaborative regulation and control of the task-solving process.

Students with active strategy of meaning-transfer differ from students of other groups by more frequent use of productive coping "Vigilance", which is manifested in decision-making in the context of rationality as readiness to think about goals and alternatives of decisions, focus on collecting information and maximising the coverage of the field of alternatives. This coping is least of all manifested in students with a passive strategy of meaning-transfer. Postponement of decision-making, search for ways out of difficult situations, fulfilment of academic tasks is most often manifested in students with emotionally dominant strategy of meaning-transmission. The studies of Polas et al (2023) prove the importance of effective communication for decision making by employees of enterprises. These results are consistent with our data: students with an active strategy of meaning transfer, which is considered effective (Suroedova, 2011), more often show the ability to make the most effective decisions in joint thinking activity.

Conclusion

In the process of solving educational and professional tasks, four styles of meaning-transmission can be distinguished. The emotional style is characterised by evaluation and sensitivity to the evaluations of others, return to previously discussed ideas and hypotheses,

and sensitivity to contradictions. Declarative style is used by leaders who take on the role of managing the discussion process, initiate hypotheses and ideas, systematise and generalise the results of problem solving. The philosophical style is characterised by complexity, vagueness and ornate statements, operating with scientific concepts; criticality towards hypotheses, tasks and goals. The neutral style of meaning transmission is characterised by the presence of all indicators, but their expression is much weaker than in other styles.

The most effective in self-regulation of activity in problem solving are students with the emotional style of meaning-transfer. They are distinguished by the formed need to achieve the goal, the ability to develop a programme of actions taking into account various factors, flexibly adjust them in new circumstances, show stability in situations of interference; show the ability to adequately assess the fact of discrepancy between the results obtained and the goal of activity, as well as the reasons that led to it.

In decision-making and self-regulation of activity when solving educational and professional tasks, students with an active strategy of meaning-transfer are the most effective. They are characterised by the ability to set goals and plan the course of goal achievement, taking into account various conditions and factors. In the process of problem solving they tend to consider various alternatives taking into account the collected information.

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Elena A. Suroedova – concept and design of the study, literature analysis on the research topic, preparation of sections "Introduction" and "Discussion".

Dmitry I. Popov – selection of diagnostic methods, data collection, participation in data processing, mathematical and statistical analysis of data, participation in the preparation of the final text of the article.

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Is there a Connection Between Genetic Predictors and Psychological Characteristics With the Effectiveness of Psychotherapy?

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Abstract

Introduction. The scientific review presents the results of the analysis of modern literature devoted to the study of the relationship of genetic, epigenetic and psychological factors with the effectiveness of psychotherapy. **Theoretical justification.** Statistical data indicate that in the Russian Federation, taking into account the socio-political transformations of recent times, the population's need for psychological and psychotherapeutic assistance is increasing every year. Despite this, it is still not included in the health insurance. This is largely influenced by the lack of sufficient evidence base confirming the effectiveness of various psychological and psychotherapeutic approaches. The creation of such a system is possible based on the fundamental biological mechanisms underlying mental processes. These include, among others, genetic and epigenetic predictors. The article discusses the basic concepts of genetics and epigenetics related to psychological characteristics and the psychotherapeutic process. Models of correlation and interaction between genes and the environment are described. The results of the analysis of scientific literature devoted to the study of the influence of the carrier of "plasticity alleles", as well as genes of neurotransmitter systems on the effectiveness of psychotherapy are presented. The factors of the social environment that have a significant impact on neurobiological development are described. The relationship of the severity of DNA methylation processes with traumatic experiences on the one hand and with the effects of psychotherapeutic assistance on the other is described. The features of the relationship of methylation