

# THE PREVAILING MECHANISMS OF PSYCHOLOGICAL PROTECTION AT PERSONS WITH DIFFERENT DOMINANCE OF TEMPERAMENT

Valentina V. Grebneva<sup>1\*</sup>, Alexey Ju. Kovtunenکو<sup>2</sup>, Victoria B. Tarabaeva<sup>3</sup>, Svetlana V. Moskalenko<sup>4</sup>  
<sup>1,2,3,4,5</sup>Belgorod State University, Belgorod, 85, Pobedy Street, Russia.

Email: \*grebneva@bsu.edu.ru

Article History: Received on 24<sup>th</sup> August 2019, Revised on 25<sup>th</sup> September 2019, Published on 01<sup>st</sup> November 2019

## Abstract

**Purpose:** The article presents the results of the study of the relationship between the type of temperament and the mechanisms of psychological protection used by a person.

**Methodology:** The study was conducted on the basis of the Belgorod State National Research University. The study involved students aged 18-20 years old in the amount of 300 people. The groups were formed taking into account the dominance of the type of temperament. Gr. #1 included respondents with a predominance of sanguine temperament; gr. #2 - phlegmatic; gr. #3 - choleric and gr. #4 - melancholic type.

**Result:** It is shown that there are differences in the severity of the mechanisms of psychological protection in individuals with different dominant temperament. It is revealed that emotionally stable persons with high indicators of strength and balance of nervous processes (sanguine and phlegmatic types) use more complex and ontogenetically later mechanisms of psychological protection.

**Applications:** This research can be used for universities, teachers, and students.

**Novelty/Originality:** In this research, the model of --- is presented in a comprehensive and complete manner.

**Keywords:** *Temperament, Psychological Defense Mechanisms, Reactive Formations, Negation, Substitution, Regression, Compensation.*

## INTRODUCTION

Analysis of foreign and domestic literature has shown that currently relevant is the study of the factors that determine a person's temperament, the connection of temperament with the occurrence and development of diseases of the cardiovascular system, as well as the interdependence of temperament and human behavioral features. However, there is a need to expand ideas about the role of biologically determined properties of temperament in the personal design of protective behavior, about the role and place of psychological protection in the overall structure of individuality ([Abdoli Dehnavi, et al. 2016](#); [Wang, et al. 2016](#)).

In modern studies, attempts are made to determine the protective mechanisms of a person by its individual biological properties, in particular, temperament properties, but in most cases, the data are not the result of experimental work. On the other hand, the literature describes studies studying the formation of defense mechanisms in the process of personality development, their environmental effects, the nature of adaptation, etc. In general, we can state the lack of integration of theoretical and empirical data into a single concept. Therefore, the problem of personality defense mechanisms with different dominance of the type of temperament can be considered as one of the most urgent in the psychology of personality, based on real practical inquiry ([Wang, et al. 2016](#); [Di Giuseppe, et al. 2019](#)).

## METHODS

The study's purpose was to study the relationship between dominant temperament and psychological defense mechanisms used by the individual.

In this context, the tasks of the empirical study were identified as to identify differences in the severity of psychological defense mechanisms among individuals with different dominance of temperament:

1. To diagnose the type of temperament in respondents aged 18-20 years old.
2. To study the prevailing psychological defense mechanisms for people with different dominance of temperament.
3. Based on the mathematical analysis of the information obtained, it is possible to identify possible relationships between the type of temperament and the psychological defense mechanisms used.

The study was conducted on the basis of the Belgorod State National Research University. The study involved students aged 18-20 years old in the amount of 300 people. The groups were formed taking into account the dominance of the type of temperament. Gr. #1 included respondents with a predominance of sanguine temperament; gr. #2 - phlegmatic; gr. #3 - choleric and gr. #4 - melancholic type.

To solve the tasks and obtain more accurate research results, a set of techniques was chosen:

1. Projective technique "Visual Metaphors of Temperament" ([Grebneva, 2000](#)).

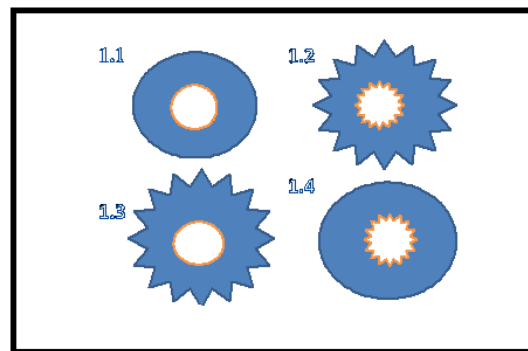
2. Test - questionnaire "Study of Temperament" (H. Eysenck) ([Grebneva, 2000](#)). The use of this technique will allow obtaining not only qualitative but also quantitative data on the indicator of the dominant type of temperament.
3. Questionnaire "Study of Psychological Defense Mechanisms" ([Grebneva, 2000](#)).

Data processing was carried out using the statistical package SPSS 17.0. Data interpretation was carried out on the basis of quantitative and qualitative analysis of the results, as well as the level and comparative analysis of data. The reliability of differences was assessed by the Student's t-test, in order to study the relationship between the preferred psychological defense mechanisms and temperament type dominance indicators, the Pearson correlation coefficient was used.

## RESULTS AND ITS DISCUSSION

Diagnostics of the typological properties of temperament were studied by the method "Visual Metaphors of Temperament" ([Grebneva, 2006](#)). To determine the mechanism of action, we developed the metaphors and used two fundamental aspects concerning the peculiarities of the nervous system: impressionability (internal drawing) and impulsivity (external drawing). Here we rely on theoretical conclusions, according to which an individual's temperament is characterized by S. L. [Rubinstein, 2000](#) as follows: "the strength and stability of the impact that an impression has on a person" (impressionability), as well as "the strength of impulses, the speed with which they seize the motor sphere and go into action" (impulsivity) ([Rubinstein, 2000](#)).

The metaphor of phlegmatic temperament (Fig. 1) reflects a weak impressionability and low impulsivity; choleric (Fig. 1.2) - strong impressionability and high impulsivity; sanguine (Fig. 1.3) - weak impressionability and great impulsivity; (Fig. 1.4) melancholic - strong impressionability and low impulsivity.



**Figure 1:** Visual metaphors of dynamic features of mental activity and human behavior

During the analysis of the results obtained according to the method "Determination of Temperament Type" ([Grebneva, 2000](#)), it turned out that 122 students had choleric type (40.6%), 95 students - sanguine temperament type (31.6%), 35 students - melancholic type (11.6%), 48 students (16%) - phlegmatic temperament type. For further research, we formed groups of 30 people, taking into account the dominant type of temperament. Gr. #1 included respondents with a predominance of sanguine temperament; gr. #2 - phlegmatic; gr. #3 - choleric and gr. #4 - melancholic type.

To confirm the diagnostic data of the prevailing temperament, as well as to obtain quantitative data, we used the method developed by H. Eysenck ([Grebneva, 2000](#)). The diagnostic results are presented in Table 1.

**Table 1:** Indicators of the dominance of the type of temperament in groups of subjects, the average score

Dominance indicators of temperament	Groups			
	#1 (Sanguine)	#2 (Phlegmatic)	#3 (Choleric)	#4 (Melancholic)
Extraversion	14.2±1.1	7.8±0.3*	16.5±0.2*	9.4±0.5*
Neuroticism	10.3±1,0	9.0±0.7	18.1±0.6*	20.5±1.5*

Note: the significance of differences compared with the data of the 1st group

\* - at P<0.05.

The highest results on the "Introversion - Extraversion" scale was found in respondents with the "choleric" type of temperament - 16.5 points, compared to 14.2 points in sanguine persons, 9.4 points - in melancholic and 7.8 points - in phlegmatic persons. That is the respondents of gr. #1 and gr. #3 have a pronounced extraversion - the individual's focus on the people and events around them.

According to the "Emotional Resilience - Neuroticism" scale, high rates were found in the respondents with "Melancholic" type of temperament - 20.5 points, a close indicator was found in the "Choleric" group (18.1), while the average score in the "Sanguine" and "Phlegmatic" groups had no significant differences. Consequently, in the sample we studied, the most emotionally resilient were the respondents of groups #1 and #2, and the unstable ones were gr. #3 and #4. That is, the

results of the diagnostic of dominance type of temperament according to the method developed by H. Eysenck confirm the data obtained by the projective method developed by V.V. [Grebneva, 2006](#).

Table 2 presents the study results of the prevailing psychological defense mechanisms in the groups of respondents.

**Table 2:** Severity of protective mechanisms in groups of respondents with different temperament dominance, the average score

Psychological mechanism	defense	Groups			
		#1	#2	#3	#4
Reactive formations		3.0±0.3	4.0±0.2	7.0±0.5*	7.5±0.2*
Negation		2.0±0.2	4.0±0.5*	6.8±0.3*	8.0±0.3*
Substitution		5.0±0.6	6.0±0.3	7.2±0.5*	7.8±0.4*
Regression		3.0±0.3	2.0±0.5	6.9±0.4*	8.0±0.6*
Compensation		7.0±0.5	7.2±0.8	7.4±0.5	9.1±0.3
Projection		8.3±0.2	9.1±0.4	4.2±0.6*	3.1±0.5*
Displacement		4.0±0.5	2.8±0.2*	7.6±0.6*	8.1±0.3*
Rationalization		8.4±0.4	8.0±0.3*	5.1±0.4*	4.3±0.2*

Note: the significance of differences compared with the data of the 1st group

\* – at  $P < 0.05$ .

Table 2 shows that in gr. #3 and #4 the average score for the indicator "Reactive Formations" is significantly higher compared with gr. #1. Using such a psychological defense mechanism as hyper compensation (reactive education), a person prevents the expression of unpleasant or unacceptable thoughts, feelings or actions by exaggerated development of opposing aspirations. There is a transformation of internal impulses into their subjectively understood opposition. For example, pity or solicitude can be considered as overcompensation or reactive formations with respect to unconscious callousness, cruelty, or emotional indifference. The study results show that this mechanism of psychological protection is more typical of respondents with a dominance of choleric and melancholic temperament.

The average score on the "Negation" scale among respondents of groups #2; #3; #4 was significantly higher than in gr. #1, with the highest value noted among representatives of group #4. The findings suggest that individuals with a predominance of melancholic temperament are more prone to reject problematic situations that are unacceptable for them at a conscious level. It is easier for them to admit that there is no problem than to try to fix something.

The average score on the "Substitution" and "Regression" scales among respondents is gr. #3 and #4 was significantly higher than that of the representatives of gr. #1. The results may indicate that choleric and melancholic people are trying to protect themselves from a disturbing or even intolerable situation by transferring the reaction from an "inaccessible" object to another object or replacing an unacceptable action with an acceptable one. Due to this transfer, the tension generated by the unmet need is discharged. This defense mechanism is associated with redirecting the reaction. When the desired response path to meet a certain need is closed, then something related to the fulfillment of this desire seeks another way out. The defense mechanism of regression, which is also more appropriate for groups of melancholic and choleric people, is characterized by an unconscious descent to an earlier level of adaptation; this behavior is especially manifested in a situation requiring increased responsibility and an important decision.

Our studies revealed significant differences in the average score on the "Projection" scale in groups #3 and #4, namely, it was lower by 50% and 62%, respectively, compared with the indicators of respondents belonging to gr. #1. This psychological defense mechanism involves concealing one's own shortcomings by detecting flaws in the character of another person, which leads to a more uncritical attitude towards one's own shortcomings. The findings suggest that this protection mechanism is more consistent with the respondents with a predominance of sanguine and phlegmatic temperament.

The diagnostics results also showed that in groups #3 and #4 the mean score on the "Repression" scale was significantly higher, and the indicators on the "Rationalization" psychological defense mechanism were decreased.

Thus, the data obtained indicate that respondents with a predominance of choleric and melancholic types of temperament are more in line with such psychological defense mechanisms as reactive formations, denial, regression, repression. The representatives of the sanguine and phlegmatic temperament are characterized by: compensation, projection, and rationalization.

At the final stage of the study, the results of an empirical study of the preferred psychological defense mechanisms of students with different dominance of temperament type in the SPSS program (by applying correlation analysis and contingency table analysis) were processed. In order to study the relationship between the preferred mechanisms of psychological defense and the temperament type dominance indicators, the Pearson correlation coefficient was used, which allows establishing direct connections between variables by their absolute values. The method advantage is that it allows comparing the distribution of signs presented on any scale.

A statistically significant inverse relationship was found between the severity of neuroticism (emotional instability) and psychological protection indicators “rationalization” ( $r = -0.341$ ;  $p = 0.05$ ) and “projection” ( $r = -0.352$ ;  $p = 0.05$ ). Consequently, subjects with a predominance of melancholic and choleric temperament will be least characterized by these protective mechanisms. A statistically significant direct relationship between the severity of neuroticism and the mechanisms of psychological defense “repression” ( $r = 0.362$ ;  $p = 0.05$ ) and “denial” ( $r = 0.359$ ;  $p = 0.05$ ) was also revealed. Consequently, these psychological defense mechanisms are more appropriate for respondents with choleric and melancholic temperaments.

## CONCLUSION

The data obtained in the course of the study make it possible to judge that there are differences in the severity of psychological defense mechanisms among individuals with different dominance of temperament. We assume and experimentally confirm that the personality with an emotionally stable and strong nervous system (sanguine and phlegmatic types of temperament) has more complex and ontogenetically subsequent psychological defense mechanisms.

1. The majority of surveyed respondents aged 18-21 years old have a dominant choleric type of temperament - 40.6%, 31.6% of students - sanguine, 16% - phlegmatic, 16% - melancholic.
2. Respondents with a predominance of choleric and melancholic types of temperament are more in line with such psychological defense mechanisms as reactive formations, denial, regression, repression. The representatives of the sanguine and phlegmatic temperament are characterized by: compensation, projection, and rationalization.
3. The correlation coefficient confirms the relationship between the parameters of emotional stability and the predominance of protective mechanisms. Thus, we revealed a statistically significant positive relationship between the severity of neuroticism and such mechanisms of psychological defense as “substitution” and “negation”.

## ACKNOWLEDGMENT

The author confirms that the data do not contain any conflict of interest.

## REFERENCES

1. Abdoli Dehnavi, Z., Ghorbani, M., & Sadeghi, M. (2016). Comparison of temperament and character traits in patients with coronary heart disease and normal population. *Research Journal of Medical Sciences*, 10(6), 587-592.
2. Abitov, I.R., Gorodetskaya, I.M., 2016. Self-regulation and experience of loneliness of elderly people who live in social care residences. - *International Journal of Environmental and Science Education*, 11 (6): 1021-1029.
3. Degteva, G.N., Korneeva, Ya.A., Simonova, N.N., 2017. Personal resources of oil and gas workers for the purposes of adaptation to the negative arctic climate and geographical conditions. - *Human Ecology*, 9: 15-21. <https://doi.org/10.33396/1728-0869-2017-9-15-21>
4. Di Giuseppe, M., Ciacchini, R., Piarulli, A., Nepa, G., & Conversano, C. (2019). Mindfulness dispositions and defense style as positive responses to psychological distress in oncology professionals. *European Journal of Oncology Nursing*, 40, 104-110. <https://doi.org/10.1016/j.ejon.2019.04.003>
5. Even-tzur, E., Hadar, U., 2019. Socially accepted violence by “agents of law”: Sublimation of aggression as a model. *Aggression and Violent Behavior*, 47: 21-28. <https://doi.org/10.1016/j.avb.2019.01.005>
6. Grebneva, V. V. (2000). *Psychology for curators*. Belgorod, 2006, P. 112 (In Russian).
7. Grebneva, V. V. (2006). Monitoring individual-psychological features of students of higher education as a group health subject. - *Belgorod State University Scientific bulletin. Humanities. Philology. Journalism. Pedagogy Psychology*, 14(263), 180–189 (In Russian).
8. Grebneva, V.V., 2017. Monitoring individual-psychological features of students of higher education as a group health subject. - *Belgorod State University Scientific bulletin. Humanities. Philology. Journalism. Pedagogy Psychology*, 14 (263): 180 – 189. (In Russian).
9. Hankin, B.L., Davis, E.P., Snyder, H., Young, J.F., Glynn, L.M., Sandman, C.A., 2017. Temperament factors and dimensional, latent bifactor models of child psychopathology: Transdiagnostic and specific associations in two youth samples. *Psychiatry Research*, 252 (1): 139-146. <https://doi.org/10.1016/j.psychres.2017.02.061>
10. Rubinstein, S. L. (2000). *Fundamentals of General psychology* - St. Petersburg: Publishing house. "Piter", 614-615 (In Russian).
11. Rubinstein, S.L. *Fundamentals of General psychology* - St. Petersburg: Publishing house. "Piter", 2000: 614-615. (In Russian).
12. Wang, F. L., Eisenberg, N., Valiente, C., & Spinrad, T. L. (2016). Role of temperament in early adolescent pure and co-occurring internalizing and externalizing problems using a bifactor model: Moderation by parenting and gender. *Development and Psychopathology*, 28, 4(1), 1487-1504. <https://doi.org/10.1017/S0954579415001224>
13. Alicke, M. D., & Sedikides, C. (2009). Self-enhancement and self-protection: What they are and what they do. *European Review of Social Psychology*, 20(1), 1-48. <https://doi.org/10.1080/10463280802613866>
14. Liaudet, L., Soriano, F. G., Szabó, É., Virág, L., Mabley, J. G., Salzman, A. L., & Szabo, C. (2000). Protection against hemorrhagic shock in mice genetically deficient in poly (ADP-ribose) polymerase. *Proceedings of the*



- National academy of Sciences, 97(18), 10203-10208. <https://doi.org/10.1073/pnas.170226797>
15. Navarrete, C. D., & Fessler, D. (2003). Meat is good to taboo: Dietary proscriptions as a product of the interaction of psychological mechanisms and social processes. *Journal of Cognition and Culture*, 3(1), 1-40. <https://doi.org/10.1163/156853703321598563>
  16. Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *The journal of psychology*, 91(1), 93-114. <https://doi.org/10.1080/00223980.1975.9915803>
  17. Cohen, S., Kaplan, J. R., & Manuck, S. B. (1994). Social support and coronary heart disease underlying psychological and biological mechanisms. In *Social support and cardiovascular disease* (pp. 195-221). Springer, Boston, MA. [https://doi.org/10.1007/978-1-4899-2572-5\\_9](https://doi.org/10.1007/978-1-4899-2572-5_9)
  18. Navarrete, C. D., & Fessler, D. (2003). Meat is good to taboo: Dietary proscriptions as a product of the interaction of psychological mechanisms and social processes. *Journal of Cognition and Culture*, 3(1), 1-40. <https://doi.org/10.1163/156853703321598563>
  19. Xiang-yang, D. U. (2011). River and Lake Culture and Cultural Identity: The Cultural Psychological Mechanism of the Prevailing Hidden Rules. *Journal of Xuzhou Normal University (Philosophy and Social Sciences Edition)*, 5.