

NAME OF PRESENTING AUTHOR: Ekaterina M Kovsh

EMAIL ADDRESS OF PRESENTING AUTHOR: katya-kovsh@yandex.ru

## Association between combinations of genotypes of genes MAOA, COMT, 5HTR2A, DRD4 with emotional and personal characteristics of young people, living in the South of Russia.

Ekaterina M Kovsh<sup>1</sup>, Elena V Vorobyeva<sup>1,2</sup>, Ekaterina G Denisova<sup>2</sup>, Daria S Alekseeva<sup>1</sup>, Vitaly V Babenko<sup>1,2</sup>, Pavel N Ermakov<sup>1</sup>.

<sup>1</sup> Academy of Psychology and Educational Sciences, Southern Federal University, Rostov-on-Don, Russian Federation

<sup>2</sup> Faculty "Psychology, pedagogy and defectology", Don State Technical University, Rostov-on-Don, Russian Federation

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### ABSTRACT:

Introduction. The association of combinations of neurotransmitter systems genes' genotypes (MAOA, COMT, 5HTR2A, DRD4) with peculiarities of the emotional and personal sphere (the level of empathy, emotional intelligence - Emln, alexithymia) were studied on a sample of 100 Russian right-handed psychology students without health problems (average age - 19.3; 68% - women). Genetic methods: DNA analysis, PCR, agarose gel electrophoresis ("Biological Solutions and Technologies", Russia). Psychodiagnostics (questionnaires): 5PFQ, TAS-26, EETS, The test of Emln by D.V. Lyusin. Statistics: ANOVA (Statistica 13.0), Tukey's post-hoc test for non-equilibrium sample sizes. Tukey post-hoc test (ANOVA) revealed the following ( $p < 0,05$ ): combinations of highly active MAOA (H) and Val/Val COMT genotypes ( $M=95.3$ ) and low-level MAOA (L) and Met/Met COMT ( $M=91.6$ ) genotypes are associated with a high level of general Emln; the combination of heterozygous genotypes of the MAOA (M) and Val/Met COMT genes is associated with a significantly lower level of Emln ( $M=95.3$ ); carriers of the combination of the heterozygous genotype of the MAOA (M) gene and the Met/Met COMT genotype have a significantly higher level of empathy in the study sample ( $M=28.5$ ); men who carry a combination of Met/Met COMT and T/T DRD4 ( $M=9$ ) genotypes, as well as carriers of a combination of T/T 5HTR2A and a highly active genotype of the gene MAOA ( $M=13$ ), have a significantly lower level of empathy in the studied sample. Combinations of genes of neurotransmitter systems are associated with the level of empathy and Emln, but not with the level of alexithymia.

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