The analysis of the polymorphic variant rs2285351 in the gene of IFT122 in the development of spatial abilities of students

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Spatial abilities play a significant role in a person’s success, they are a reliable predictor of his academic achievements in scientific fields related to STEM. The conducting of massive longitudinal screenings are show ~69% of all individual differences are due to the participation of various genetic factors (Rimfeld et al., 2017). We searched for the association of the polymorphic variant rs2285351 in the gene IFT122 with the development of the spatial abilities of 312 young people different sex, aged 17-34, studying in higher educational institutions with using KASP technology (LGC, Biosearch Technologies). The analysis of the association was carried out in such indicators as: sex, professional sphere and psychological correlates (4 tests for space: mechanical reasoning; paper folding; pattern assembly; share rotation, academic performance, test of Raven). The statistical evaluation revealed deviations in 16 respondents on data of testing in the distance of Mahalanobis (>95%) and therefore they were removed from the study. So that the group consist of 296 people (60 men, 236 women). 

For evaluate the results of genotyping, we using the software PLINK 1.9. During the analysis, we found statistically significant differences in comparing individuals of the technical and socio-humanitarian spheres (β=1.441, p=0.0387), which indicates the involvement of rs2285351 of the gene IFT122 in the development of spatial intelligence in our group. It is also known that rs2285351 is associated with the development of the spatial orientation trait (Bi et al., 2017).

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