

Poster presentation

## The role of the serotonin transporter in the background of traits associated with Neuroticism: the association of affective temperaments, anxiety and depression in a psychiatrically healthy population

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### Background

Results from contemporary research suggest that the serotonin transporter gene plays a role in the background of several mental disorders related to the Neuroticism trait, which has also been associated with this gene. However, the Neuroticism trait and psychiatric disorders are very complex both in their manifestation and in their neurobiological background, with several, mutually interrelated genetic, neurochemical, psychological and social factors playing a role. Therefore in order to have a better understanding of what role 5HTTLPR plays in the background of affective and anxiety disorders on one hand, and in the background of the Neuroticism trait on the other, it seems more reasonable to find better described, more distinct and atomic entities composing these phenomena and investigate their association with the polymorphism in question. The aim of our research was to investigate the association of Neuroticism-related characteristics, such as depression, anxiety and affective temperaments with the 5HTTLPR polymorphism of the serotonin transporter gene in a psychiatrically healthy population.

### Materials and methods

138 psychiatrically healthy women participated in our study. All completed the Zung Self-Rating Depression

Scale (ZSDS), the Spielberger State-Trait Anxiety Inventory (STAI), and the Temperament Evaluation of Memphis, Pisa, Paris and San Diego questionnaire (TEMPS-A). 5HTTLPR genotype was determined by PCR and amplification products were resolved on an 8% non-denaturing polyacrylamide gel by electrophoresis and visualized by silver staining. Psychometric scores of subjects carrying and not carrying the s allele (dominant model) were compared by using ANOVA.

### Results

Subjects carrying the s allele scored significantly higher on the ZSD, on both STAI subscales and on those affective temperament subscales which by definition carry a depressive component (depressive, cyclothymic, irritable, anxious).

### Conclusions

Our results support that the s allele is associated with affective lability, depression proneness and increased anxiety even in a psychiatrically healthy population. The fact that all the above phenomena are associated with the s allele supports the unity of the Neuroticism trait from a genetic point of view. Research on the genetic associations of personality dimensions leads the way to identifying

endophenotypes, such clearly defined and often biochemically quantifiable characteristics which would help in deciphering the genetic background of psychiatric disorders.

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