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ASSOCIATIONS OF 5HTT-LPR WITH ADHD SYMPTOMS ARE MODERATED BY PLATELET MAOB ACTIVITY

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Introduction: The monoamine systems have been suggested to play a role for the biological background of ADHD symptoms. Thus, polymorphisms in e.g. the serotonin transporter (5HTT) gene have been associated with ADHD like phenotypes.

Furthermore, platelet MAOB activity has frequently been linked to impulsiveness-related traits.

Objective: Biological markers and candidate genes for psychiatric problems are often studied separately. We study ADHD symptoms with regard to the combination of platelet MAOB activity and 5HTT genotype.

Aim: To test the hypothesis that associations between ADHD like behavior problems and 5HTT-LPR polymorphism, would be more robust if calculations were done in combination with platelet MAOB enzyme activity.

Methods: The study group consisted of 156 adolescent twin pairs, i.e. 312 individuals. ADHD symptoms were scored with a structured clinical

interview of both the twin and a parent using Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL).

Results: Presence of a short 5HTT-LPR allele, in combination with high levels of platelet MAOB enzyme activity was associated with higher scores of ADHD like problems and disruptive behavior in boys. No such associations were found in girls.

Conclusion: This examination of ADHD scores in a non-clinical sample suggests that the effects of the 5HTT-LPR are moderated by platelet MAOB activity.