Further evidence for the association of the NPSR1 gene A/T polymorphism (Asn107Ile) with impulsivity and hyperactivity.

Laas K, Eensoo D, Paaver M, Lesch KP, Reif A, Harro J.

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Abstract
Administration of neuropeptide S (NPS) elicits anxiolysis, arousal and higher activity in rodents. In humans, the NPS receptor (NPSR1) gene rs324981 A/T (Asn107Ile) polymorphism is associated with fear responses and anxiety. We have recently revealed an association of NPSR1 with impulsivity-related traits and psychopathology. In the present study the association of the NPSR1 genotype with impulsivity and attention-deficit/hyperactivity disorder (ADHD)-related symptoms was re-examined in two independent non-clinical cohorts. We used self-reports of two population-derived samples of the Estonian Psychobiological Study of Traffic Behaviour (EPSTB): a community car driving sample (n=491, MAge=37) and a driving school student sample (n=773, MAge=24). Impulsivity was measured with the Adaptive and Maladaptive Impulsivity Scale (AMIS) in both samples, and with the Barratt Impulsivity Scale (BIS) in driving schools only. For the latter sample, also measurement of ADHD symptoms was carried out with the Adult ADHD Self-Report Scale (ASRS). NPSR1 T-allele carriers had higher scores of impulsivity, motor restlessness and total ADHD scores. The effect on impulsivity originated from male participants but for ADHD symptoms the association was independent of sex. Thus we have confirmed in two additional population-derived samples that the T-allele of the NPSR1 rs324981 polymorphism is associated with increased impulsivity and ADHD-related traits.