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Antisocial behavior may be highly polygenic

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(HealthDay)—Antisocial behavior (ASB) may be highly polygenic, with sex-discordant associations identified for some loci, according to a study published online Oct. 4 in *JAMA Psychiatry*.

Jorim J. Tielbeek, from Vrije Universiteit Amsterdam in the Netherlands, and colleagues used genome-wide association data from five large population-based cohorts and three target samples with genome-wide genotype and ASB data to estimate the single-nucleotide polymorphism-based heritability of ASB. The discovery and target samples were composed of 16,400 and 9,381 individuals, respectively (all of European descent), including child and adult samples.

The researchers identified three promising loci with sex-discordant associations (8,535 females, chromosome 1: rs2764450, chromosome 11: rs11215217; 7,772 males, chromosome X: rs41456347). In an independent Finnish Crime Study (2,536 males and 3,684 females), polygenic risk score analyses showed prognostication of antisocial phenotypes; in a population-based sample (394 males and 431 females), shared genetic origin was seen with conduct problems, but this was not the case in a substance-dependent sample (950 males and 1,386 females). There was a significant inverse genetic correlation for ASB with educational achievement.

"The Broad Antisocial Behavior Consortium entails the largest collaboration to date on the genetic architecture of ASB, and the first results suggest that ASB may be highly polygenic and has potential heterogeneous genetic effects across sex," the authors write.

Two authors disclosed financial ties to the pharmaceutical industry, and one has a patent for the use of sodium-hydrogen exchange inhibitors in the treatment of attention deficit/hyperactivity disorder.

More information: Abstract/Full Text (subscription or payment may be required)

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