

# Genetics may affect pregnancy risk factors for offspring neurodevelopmental conditions

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Maternal genetic liability to neurodevelopmental conditions is associated

with several pregnancy-related factors previously thought to be associated with those conditions, according to a study published online July 6 in *JAMA Psychiatry*.

Alexandra Havdahl, Ph.D., from the Lovisenberg Diaconal Hospital in Oslo, Norway, and colleagues recruited parents from June 1999 to December 2008 as part of the Norwegian Mother, Father, and Child Cohort Study and derived polygenic scores (PGS) for attention-deficit/[hyperactivity disorder](#) (ADHD), autism, and schizophrenia in mothers and fathers. The associations between maternal PGS and 37 pregnancy-related measures were estimated and compared to those from paternal PGS predicting paternal measures. Data were available for 14,539 mothers and 14,897 fathers.

The researchers observed modest but robust associations between specific pregnancy-related measures and maternal PGS, including ADHD PGS with asthma and smoking (odds ratios, 1.15 and 1.26, respectively), prepregnancy body mass index (BMI) and pregnancy weight gain ( $\beta = 0.25$  and  $0.20$ , respectively), and taking folate and not taking supplements (odds ratios, 0.92 and 1.09, respectively). Associations were seen for schizophrenia PGS with coffee consumption and smoking (odds ratios, 1.09 and 1.12, respectively) and with prepregnancy BMI and pregnancy weight gain ( $\beta = -0.18$  and  $0.17$ , respectively). PGSs for ADHD, autism, and schizophrenia were all associated with symptoms of depression/anxiety (odds ratios, 1.15, 1.13, and 1.13, respectively). For maternal and paternal PGS, associations were largely consistent, apart from ADHD PGS and smoking (fathers: odds ratio, 1.13).

"Our findings suggest that pregnant individuals with high ADHD or [schizophrenia](#) genetic liability are at increased risk of adverse pregnancy-related exposures," the authors write.

Several authors disclosed financial ties to the [pharmaceutical industry](#).

**More information:** Alexandra Havdahl et al, Associations Between Pregnancy-Related Predisposing Factors for Offspring Neurodevelopmental Conditions and Parental Genetic Liability to Attention-Deficit/Hyperactivity Disorder, Autism, and Schizophrenia, *JAMA Psychiatry* (2022). [DOI: 10.1001/jamapsychiatry.2022.1728](https://doi.org/10.1001/jamapsychiatry.2022.1728)

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