

The Genetic Overlap Between Schizophrenia and Childhood Psychopathology

Topic Schizophrenia

Submitter Suzi Gage

SUBMISSION DETAILS

Background The onset of schizophrenia is often preceded by a broad range of psychiatric symptoms, starting during adolescence or even during childhood. We investigated whether this association is explained by pleiotropy, i.e., genetic effects that influence both schizophrenia and childhood and adolescent psychiatric symptoms.

Methods Based on the recent PGC schizophrenia meta-analysis, polygenic risk scores (PRS), reflecting an individual's genetic risk for schizophrenia, were constructed for 1,953 children from the Netherlands Twin Register (NTR) and 5,665 children from the Avon Longitudinal Study of Parents And Children (ALSPAC). The association between the PRS and DSM-IV based measures of anxiety, depression, Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder/Conduct Disorder (ODD/CD) was analyzed at age 7, 10, 12 and 15 years. The results were meta-analyzed across cohorts.

Results The results revealed an FDR-corrected significant association between the PRS and anxiety at age 10 and nominal significant associations for anxiety at age 7 and depression at age 7 and 10. A post hoc analysis revealed stronger associations between the PRS and internalizing disorders than between the PRS and externalizing disorders.

Discussion In line with the earlier reported significant association between adult major depression and schizophrenia, these results suggest a common genetic etiology for schizophrenia and internalizing disorders. In contrast, genetic factors do not explain the association between externalizing disorders at childhood and the onset of schizophrenia later in life.

Co-Authors

* Presenting Author

First Name	Last Name	Affiliation	E-mail
Christel M	Middeldorp	VU University Amsterdam, Biological Psychology	c.m.middeldorp@vu.nl
Michel	Nivard	VU University	m.g.nivard@vu.nl
Suzi *	Gage *	University of Bristol	suzi.gage@bristol.ac.uk
Jouke-Jan	Hottenga	VU University Amsterdam	j.j.hottenga@vu.nl

Toos	van Beijsterveldt	VU University Amsterdam	c.e.m.van.beijsterveldt@vu.nl
Bart	Baselmans	VU University Amsterdam	b.m.l.baselmans@vu.nl
Lannie	Ligthart	VU University Amsterdam	r.s.l.ligthart@vu.nl
Beate	St Pourcain	University of Bristol	beate.stpourcain@bristol.ac.uk
Marcus	Munafo	University of Bristol	marcus.munafo@bristol.ac.uk
Dorret	Boomsma	VU Univ	di.boomsma@vu.nl

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Signature S.H.Gage