

Prevalence and genetic-environmental etiology of symptoms of disruptive behavior problems in early childhood: A Singleton-twin study

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Previous behavior genetic research converges on the conclusion that disruptive behavior problems (Attention Deficit-Hyperactivity Disorder, Oppositional-Defiance Disorder, Conduct Disorder) show substantial heritability. The present study explores the genetic and environmental contributions to individual variation in symptoms of disruptive behavior problems in a sample of 18-month-old twins from a population-based cohort. Participants were ascertained from birth records and recruited as part of the Quebec Newborn Twins Study (N=650 pairs), a prospective study aimed at assessing the emotional development of twins from infancy to adolescence. Parallel information was obtained from a representative cohort of same-age singletons (N=2200) similarly ascertained and recruited as part of the Longitudinal Study of Child Development in Québec (LSCDQ/ÉLDEQ). ADHD, ODD and CD symptomatology was assessed through maternal interviews during a home visit when the twins were 18 months of age.

The observed prevalences were similar for twins and singletons. Quantitative genetic models were fitted to symptom counts and to disorder classes. For all measures, scores were more correlated for monozygotic (MZ) than dizygotic (DZ) twins. The best-fitting models included substantial genetic influence, which accounted for the largest part of the familial aggregation observed for these conditions. Environmental factors also explained a significant portion of the variance. These results are interpreted in relation to the developmental etiology of disruptive behavior problems.