

Research examines callous-unemotional traits, conduct problems in children

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Research presented this week at the annual meeting of the American Association for the Advancement of Science highlights the importance of callous-unemotional traits (CU) in identifying children at risk of antisocial behavior and other adjustment problems.

The research, presented by Indiana University Bloomington faculty member Nathalie M.G. Fontaine, finds that the emergence of CU traits in childhood is in most cases influenced by genetic factors, especially in boys. However, [environmental factors](#) appear to be more significant for the small number of girls who exhibit high levels of CU traits.

In this first [longitudinal study](#) employing a group-based analysis to examine the connection between childhood trajectories of CU traits and conduct problems, researchers found that high levels of both CU traits and conduct problems were associated with negative child and family factors at age 4 and with behavioral problems at age 12.

CU traits, such as a lack of emotion and a lack of empathy or guilt, are exhibited by a small number of children and are associated with persistent conduct problems, which are experienced by 5 percent to 10 percent of children.

"The children with high levels of both CU traits and conduct problems between ages 7 to 12 were likely to present negative predictors and outcomes, including hyperactivity problems and living in a chaotic home environment," said Fontaine, assistant professor of criminal justice in the College of Arts and Sciences at Indiana University Bloomington. "If we could identify those children early enough, we could help them as well as their families."

The AAAS presentation combines findings from two articles, one published in July 2010 in the *Journal of the American Academy of Child &*

Adolescent Psychiatry and the other to be published online this week by the *Journal of Abnormal Psychology*. Co-authors include Frühling Rijdsdijk of King's College London; Eamon McCrory of University College London; Michel Boivin of Laval University; Terrie Moffitt of Duke University and King's College London; and Essi Viding of University College London and King's College London.

The researchers examined data for more than 9,000 twins from the Twins Early Development Study, a data set of twins born in England and Wales between 1994 and 1996. Assessments of CU traits and conduct problems were based on teacher questionnaires when the children were 7, 9 and 12. Family-level predictors at age 4 were based on information from parents, and behavioral outcomes at age 12 were based on information from teachers.

Participants were grouped in four trajectories for CU traits: stable low, stable high, increasing and decreasing. While most exhibited stable and low levels of CU traits, about one-fourth had stable high, increasing or decreasing CU traits. Participants were grouped in two trajectories for conduct problems, high and low.

Because the data set included both identical and non-identical twins, the researchers were able to examine the extent to which each trajectory of CU traits was related to genetic and environmental factors. They found that, for boys in all four trajectories, [genetic factors](#) had the strongest influence. But for girls with stable high or increasing levels of CU traits, a shared environment had the strongest influence.

The research found an asymmetrical relationship between CU traits and persistent conduct problems. Children with high levels of CU traits were likely to also display high levels of conduct problems. But children with high levels of conduct

problems did not necessarily exhibit high levels of CU traits.

Children with a high trajectory of CU traits and conduct problems were more likely than others to have experienced negative predictors at age 4, such as hyperactivity, negative parental discipline and chaos in the home. They also were more likely to experience negative outcomes at age 12, including problems with peers, emotional problems and negative parental feelings.

Fontaine emphasized that the findings do not mean that some children are or necessarily will become delinquents or psychopathic individuals -- or that heritability of CU traits equals destiny. Rather, the research suggests that CU traits may be used to identify children who are at risk for persistent and severe [antisocial behavior](#) and to implement appropriate interventions to support and help these [children](#) and their families.

The research also could inform decisions about whether to include CU traits as a sub-typing index within the category of conduct disorder for the next edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V).

Provided by Indiana University

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