

Children with FASD have more severe behavioral problems than children with ADHD

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Children with fetal alcohol spectrum disorders (FASD) have a high risk of psychiatric problems, particularly attention deficit hyperactivity disorder (ADHD), conduct disorder, or both. Often children with FASD are initially diagnosed with ADHD. A new study is the first to examine a range of cognitive factors and social behavior in children with FASD and ADHD, finding that those with FASD have significantly weaker social cognition and facial emotion-processing abilities.

Results will be published in the October issue of *Alcoholism: Clinical & Experimental Research* and are currently available at Early View.

"Behaviorally, FASD and ADHD can look quite similar, particularly with respect to problems with very limited attention, physical restlessness, and extreme impulsivity," explained Rachel Greenbaum, a clinical psychologist with the Children's Mental Health Team at Surrey Place Centre in Toronto, who conducted the study as part of her doctoral dissertation.

"However, social deficits in children with neurodevelopmental disorders may have different underlying mechanisms," noted Piyadasa W. Kodituwakku, associate professor of pediatrics and neurosciences at the University of New Mexico School of Medicine. "For example, children with ADHD experience social problems because of poor self-regulation rather than deficient knowledge of appropriate social behavior. In other

words, a child with ADHD may accurately recite social rules, but fail to apply them. In contrast, social difficulties in a child with autism may result from a fundamental deficit in social sense, referred to as mind-blindness. Thus, when delineating qualitative differences in social phenotypes of neurodevelopmental disorders, it is important to assess not only observable behaviors, but also their underlying cognitive mechanisms."

This study looked specifically at social-cognition and emotion-processing abilities, said Joanne Rovet, a professor at the University of Toronto and senior scientist in neurosciences and mental health at the Hospital for Sick Children, and supervisor of the fetal [alcohol](#) research program.

"'Social cognition' refers to the ability to consider and differentiate between the beliefs, thoughts, feelings, and intentions of oneself and others," said Rovet, who is also the study's corresponding author. "This involves understanding the meaning of social information and knowing how to interact appropriately. These abilities are important for communicating and relating successfully with others. 'Emotion processing' refers to understanding and processing information related to feelings. This includes the ability to recognize and differentiate between varied emotions in others and in oneself. These skills are also important for relating and communicating socially with other people."

Greenbaum and her colleagues recruited three groups of children - 33 (16 boys, 17 girls) with FASD, 30 (24 boys, 6 girls) with ADHD, and a "normal" control group of 34 (18 boys, 16 girls) - from a pre-existing data pool, clinics, communities, and schools in the greater Toronto area. The mean age was 9.2, 9.3 and 8.9 years, respectively. All completed tasks were designed to measure social cognition and emotion processing. Additionally, parents and teachers used standard questionnaires and scales to assess the children's behavioral problems and social skills.

"Our findings show that ... overall, children with FASD have more severe behavioral problems," said Rovet. "In terms of social cognition and emotional processing, the core deficit in FASD appears to be in understanding and interpreting another's mental states and emotions."

Rovet added that a "profile" of children with FASD would include items such as high distractibility and restlessness, as well as behaviors often described as "out of control" and juvenile. "Based on previous work from our lab, children and adolescents with FASD were more likely than children with ADHD to engage in antisocial behaviors, such as cheating, stealing and acting young, as well as sociopathic behaviors including lying and stealing," she said. "Importantly, the findings from our present study, specifically the significant differences in social cognition and emotional processing between children with FASD and ADHD, may underlie the severe conduct problems observed in children prenatally exposed to alcohol."

"In other words," said Kodituwakku, "children with FASD and ADHD have social difficulties, but what is contributing to these difficulties may be different. For example, a child with ADHD may be able to predict how another child would feel in a certain situation, but he or she may do something to hurt that child's feelings despite this ability. On the other hand, a child with FASD may do something to hurt someone else's feelings because of an inability to appreciate that person's reactions. This difference has implications for the development of social-skills training programs. That is, a training program designed for a child with ADHD may include procedures targeting how to translate what the child already knows into actions, while a program designed for a child with FASD may address both building specific cognitive skills and practicing appropriate actions."

"One of the major contributions of this study pertains to understanding what children with FASD look like from a truly clinical perspective,"

said Greenbaum, "helping to clarify for clinicians trying to diagnose and treat them the full extent and specific nature of their previously unidentified problems, thus extending treatment possibilities that may help alleviate some of their more debilitating antisocial and behavioral problems."

One finding with potential for immediate action was that children with FASD have difficulty interpreting social information, including emotions in faces, said Rovet. "These difficulties predict their behavior problems and are linked to their social development," she emphasized. "It is imperative that these children receive assistance in social and emotional processing domains, specifically targeting interventions to deal with their unique deficits."

Source: Alcoholism: Clinical & Experimental Research

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