

Department of Psychology Distinguished Speaker



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Biased Processing of Emotional Information: A Key Mechanism of Risk in the Intergenerational Transmission of Depression.

ABSTRACT

Decades of research have documented the increased risk of depression observed in children of depressed mothers. Despite this, however, the specific mechanisms that place these children at risk remain poorly understood. Theorists have proposed that information-processing biases featured in cognitive models of depression may represent a final common pathway of risk for various genetic and environmental influences. According to cognitive models of depression, individuals' characteristic ways of attending to, interpreting, and remembering stimuli may contribute to the development and maintenance of depression. In this talk, I will review a series of studies from my laboratory in which we have examined the role of information-processing biases in depression risk among children. These studies have included both behavioral (reaction time and eye tracking) as well as electrophysiological (ERP) indices of attention bias and have examined genetic and environmental influences on these biases. In combination, these studies suggest the need for a developmentally-sensitive revision to current cognitive models of depression.

BIOGRAPHY

My research focuses on cognitive, genetic and environmental risk factors for the development of depression and anxiety in children, adolescents and adults. Specifically, we are seeking to integrate cognitive and psychiatric genetic theories of psychopathology by evaluating whether information-processing biases (attention, interpretation and memory) featured in the cognitive theories may represent intermediate phenotypes for specific genetic influences. We are also evaluating gene x cognition x environment models of risk for depression. We are particularly interested in examining how multiple levels of analysis work together to increase depression risk, spanning genetic and epigenetic influences, physiology, cognition, affect and environmental influences. Our work incorporates a number of approaches including experimental psychopathology and prospective multi-wave designs, and methodologies including next-generation gene sequencing and methylation analyses, eye tracking, psychophysiology, ERPs and structured, detailed assessments of various environmental influences and psychiatric symptoms/diagnoses. We currently have two large-scale projects in progress. The first is an NICHD-funded multi-wave longitudinal study examining the development of children's information-processing biases and their role as a mechanism of risk in the intergenerational transmission of depression. This project focuses on 255 mother-child pairs drawn from the community. Children are aged 8-14 at the start of the study and then are followed every 6 months for 2 years, with genotyping conducted at the initial assessment and then assessments of information-processing biases, environmental influences, symptoms and diagnoses collected at each assessment point. The second project is an NIMH-funded study addressing the Research Domain Criteria (RDoC) domain of Negative Valence Systems. This project involves a one-time assessment of 1,000 children aged 7-11 years and their parent. The goal of this study is to provide a fine-grained examination of children's attentional biases using both behavioral (eyetracking) and physiological (event-related potential; ERP) indices to determine which specific components of children's attention are biases in relation to their broad symptoms of depression and anxiety, as well as the more specific symptom domains of low positive affect and physiological hyperarousal. In this study, we are also examining environmental, genetic, and epigenetic influences on these biases.

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