

Koraly Pérez-Edgar, PhD — Developmental Psychologist

READING EARLY SIGNS

Many people experience shyness but some people are so fearful of social situations that it impairs the quality of their lives. These people have social anxiety disorder, which is defined by the National Institutes of Health as overwhelming and excessive self-consciousness in everyday social or performance situations.

According to developmental psychologist Koraly Pérez-Edgar, PhD, social anxiety disorder often develops in early childhood.

"Some children are born at risk of anxiety — it's just their biology," says Pérez-Edgar, an associate professor of psychology at Penn State University, where she leads the Cognition, Affect and Temperament Lab. "However, only a subset of these children actually develop anxiety. I study why this minority stays anxious. I look at their genetics, their social interactions and their temperament. I also focus on attention bias to threat, which is a tendency to notice and process things that are potentially threatening."

One trait that Pérez-Edgar examines is called behavioral inhibition — defined as the tendency to display signs of fear and wariness in response to unfamiliar stimuli — which can lead to fear of social circumstances, isolation and clinical levels of anxiety. According to Pérez-Edgar's research, it is a trait that can be identified as early as 4 months old.

BIOLOGY, MEET PSYCHOLOGY

Pérez-Edgar uses multiple methods of analysis to examine behavior, cognition and biology in children.

"For behavior, I look at how they interact with their peers and their parents. For cognition, I monitor attention, memory and performance monitoring, sometimes using simple computer tasks that capture some aspects of it," she says. "In the case of infants as young as 4 months of age, I use infrared eye tracking to see what they are paying attention to."

To study human biology, Pérez-Edgar analyzes genetics and monitors brain activity with electroencephalography and magnetic resonance imaging. The information she gathers, such as changes in brain activity, heart rate and stress hormones, help her identify children at risk for anxiety and determine ways to prevent its onset.

THE PUZZLE OF HUMAN BEHAVIOR

Pérez-Edgar describes her research as a puzzle, where she uses scientific methods to figure out which ideas and theories work and which do not.

"Every now and then, we get a picture of what is actually happening — whether it's a piece of data or a brain image or a video that captures the essence of what we've been studying," says Pérez-Edgar. "When we're able to get this little glimpse, it's one of the most magical things that science can do. That's what keeps it interesting and sustainable, that piece of beauty."



Patrick Mansell/Penn State

"Some children are born at risk of anxiety, but not all will become anxious. I study why some remain anxious by examining their genetics, social interactions and temperament."

DEVELOPMENTAL PSYCHOLOGY

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