2013 Young Scientist Research Fund Awards

CHADD IS PLEASED TO ANNOUNCE the recipients of its 2013 Young Scientist Research Fund Awards. Selected from a pool of well-qualified applicants by renowned experts in the field, these young researchers are making outstanding contributions to our understanding of ADHD. Ann Abramowitz, PhD, co-chair of CHADD's professional advisory board, presented the awards during the organization's annual international conference in November. The award program is administered by Zuali Malsawma, research librarian at CHADD's National Resource Center on ADHD. The awards are currently supported through generous funding from Janssen Pharmaceuticals, Inc., of Titusville, New Jersey, and by a number of individual donations.

KAREN E. SEYMOUR, PhD, is an assistant professor at Johns Hopkins School of Medicine, Division of Child and Adolescent Psychiatry. Her submission was titled *Biobehavioral Correlates of Frustrative Non-Reward in Children with ADHD*. She completed her pre-doctoral clinical internship at Children's National Medical Center in Washington, DC. During graduate school, she engaged in research examining the role of parent psychopathology on treatment outcomes for children with ADHD, and research examining the role of emotion regulation in the relationship between ADHD and depression in youth. Following graduation, Dr. Seymour completed a two-year NIH T32 postdoctoral fellowship in child mental health at Brown University's Alpert School of Medicine, where she received training in the use of affective neuroscience techniques, including fMRI, to examine brain-behavior interactions underlying psychopathology, particularly ADHD and mood disorders, in children and adolescents. She received an NIH Pediatric Loan Repayment Program grant for her work examining brain-behavior interactions involved in emotion regulation processes, such as emotional face processing, in children and adolescents with ADHD and/or mood disorders. At Johns Hopkins, Dr. Seymour will continue her work examining correlates of Frustrative Non-Reward, a form of emotion regulation difficulty, in youth with and without ADHD, and examine the relationship between FNR and mood disorders in youth with ADHD.

DR. KAREN SEYMOUR's *project for this CHADD award will examine the role of frustration and ability to tolerate distress in children with ADHD using MRI.*

Many clinicians, parents, researchers, and patients know that ADHD is the most common psychiatric disorder of childhood and is characterized by developmentally inappropriate levels of inattention, impulsivity and hyperactivity. However, recent research has shed light on the fact that many individuals with ADHD also struggle with impairing mood disorder symptoms including depression and irritability. In fact, rates of co-occurring ADHD and depression range up to 75 percent in youth. Additionally, youth diagnosed with ADHD in childhood are at greater risk for developing depression in the future. Perhaps most sobering is that individuals with ADHD are more likely to report suicidal thoughts and actually commit suicide than individuals without ADHD. Therefore, Dr. Seymour is interested in better understanding the relationship between ADHD and mood disorders. Prior research has shown that individuals with ADHD have greater difficulties regulating their emotions compared to individuals without ADHD especially during times of stress or frustration. Dr. Seymour's early work showed that difficulties with emotion regulation may underlie mood difficulties in youth with ADHD.

Moving forward, Dr. Seymour's work will focus on identifying biologically based correlates of emotion regulation difficulties in individuals with ADHD through the use of functional magnetic resonance imaging (fMRI, brain scans). Dr. Seymour's project for this CHADD award will examine the role of frustration and ability to tolerate distress in children with ADHD using MRI. Given the challenges and frustrations frequently experienced by individuals with ADHD, including impairments in academic and social functioning, examination of frustration in individuals with ADHD is critical. By identifying biologically-based correlates of frustration, Dr. Seymour hopes her research may provide new and more targeted forms of treatment for individuals with ADHD.

KATHRYN L. HUMPHREYS, MA, EdM, is a doctoral candidate in clinical psychology at the University of California, Los Angeles, and is currently completing her clinical internship at the Tulane University School of Medicine

In her CHADD award proposal, **KATHRYN HUMPHREYS** *and her colleagues designed a new task that attempts to separate positive and negative risk-taking behavior, in order to determine whether ADHD is associated with specific risk-taking behaviors.*

with a concentration in infant mental health. Her doctoral research, conducted under the mentorship of Steve Lee, PhD, and Nim Tottenham, PhD, investigates the function of risk-taking behavior in children and adults, including her proposed study (*Examining Risky Behavior in Children with ADHD: A Laboratory-Based Assessment Approach*). She was also awarded the National Science Foundation Graduate Research Fellowship and the Charles E. and Sue K. Young Graduate Student Award to support her research investigating the biological and environmental causes of attention problems. Her research program includes an emphasis on typical and atypical development, with an aim to identify potential pathways to ADHD and externalizing problems. In particular, she is interested in examining heterogeneity within ADHD and the corresponding cause, presentation, course, and treatment implications for individuals with attention problems.

Children with ADHD tend to make poorer decisions when an outcome is uncertain, and are more likely than children without ADHD to engage in dangerous risky behaviors. This tendency could lead to trying to cross the street before looking both ways, smoking that first cigarette, or trying illegal substances. Humphreys and her PhD advisor, Dr. Steve Lee, a former CHADD Young Research Award recipient, studied risk-taking behavior in children with and without ADHD using a computerized measure of risk taking, and found that even in a laboratory setting, children with ADHD take more risks than their non-ADHD counterparts. This original study validated the use of laboratory-based measures in the study of risk taking in this population, but did not allow for the differentiation between "bad" risk taking and "good" risk taking. These two types of risk taking are important to distinguish, as there are many circumstances where taking risks are a healthy and adaptive choice. For example, trying a new route home or asking an acquaintance out for coffee are both risks that could lead to positive outcomes. In her CHADD award proposal, Humphreys and her colleagues designed a new task that attempts to separate positive and negative risk-taking behavior, in order to determine whether ADHD is associated with specific risk-taking behaviors. By clarifying the function of increased risk-taking behavior found in children with ADHD, we may be better able to isolate those tendencies that result in poor outcomes. Findings from this program of research may help to identify targets for intervention in a group of individuals at risk for later maladaptive risky behaviors.