

**RESULTS**

A path analysis was completed, but the chi-square goodness-of-fit test showed the proposed model did not fit the data ( $p < .05$ ). This was indicated by a significant difference in the predicted and observed results. Secondary analyses with regression were completed to better understand the effects of other potential factors affecting theory of mind performance. The variables showing statistically significant contributions are: age ( $p < .01$ ) and gender ( $p < .05$ ) with verbal IQ ( $p < .10$ ) and subtype ( $p < .10$ ) approaching significance. Subtype and gender were examined further with ANOVA's using each as a categorical variable with different levels to compare the impact on ToM performance. Subtype remained marginally significant ( $p < .10$ ) while gender was significant at the  $p < .01$  level.

**DISCUSSION**

Unlike the Dennis et al. (2009) study including children with TBI, we did not find a significant result from our path analysis for children with ADHD. Theory of mind (ToM) performance was not explained by response inhibition or working memory. Subsequent analyses using regression and ANOVA did show, however, that other variables contributed to the ToM performance in children with ADHD. Specifically, age showed that as children increased in age their ToM performance improved in more accurate identification of emotions in others. Gender resulted in similar improvement, with girls showing stronger ToM performance than boys.

**CONCLUSIONS**

We did not find an effect for the executive functions (response inhibition and working memory) on performance of a ToM task in children with ADHD. This may be due to challenges of ToM cognitive processing being greater for other diagnostic groups (i.e., ASD), and we have examined this separately.

# In children with Attention Deficit Hyperactivity Disorder, theory of mind performance was not explained by the executive functions of working memory or response inhibition



**PROJECT TITLE**

Theory of Mind in Children with ADHD: The Role of Inhibitory Control and Working Memory

**TEAM MEMBERS**

- Molly Malone PhD
- Jennifer Crosbie PhD
- Nathan Taback PhD
- Russell Schachar MD
- Evdokia Anagnostou MD

**ORGANIZATIONS/ PROGRAMS**

- Bloorview Research Institute
- Holland Bloorview Kids Rehabilitation Hospital
- Sick Kids
- Ontario Brain Institute
- University of Toronto

**OBJECTIVE**

In a study by Dennis et al. (2009), theory of mind was dependent upon the cognitive processes of executive functioning, in children with traumatic brain injury (TBI). We aimed to discover whether children with ADHD would show a similar pattern of results.

**METHODS**

The Province of Ontario Neurodevelopmental Disorders –Network (POND) provided an opportunity to answer this question. In the data extracted, 100 children with ADHD were assessed, ages 6-18 years. Of these 62 had complete data available for the Stop Signal Task, Reading the Mind in the Eyes Test, and the WISC-IV Working Memory Scale.