

RESULTS

The final resulting sample for analysis included 22 children with ASD, after task data was screened for validity (e.g., no equipment failure, children following task instructions, all three measures validly completed.) The path analysis results supported the proposed model, with the nonsignificant chi-square goodness-of-fit test ($p > .05$). This means that there was no difference between the theoretical model and the data. The particular model tested was that ToM performance would be explained by the executive function of response inhibition mediated by the executive function of working memory. As in the companion study for children with ADHD, intellectual ability as measured by the Full Scale IQ score on the WISC-IV was within the average range.

DISCUSSION

Similar to the Dennis et al. (2009) study including children with TBI, we also found statistical support with path analysis for a model to explain ToM performance in children with ASD. Theory of mind (ToM) performance was specifically accounted for by response inhibition as mediated by working memory. As children are better able to inhibit and reflect, their ToM performance improved in more accurate identification of emotions in others. This was dependent on working memory abilities, however, as working memory mediated between response inhibition and ToM task performance. This suggests that sufficient working memory is needed for response inhibition to be effective in improving processing of facial emotions in others (ToM task).

CONCLUSIONS

We did find an effect for the executive functions (response inhibition and working memory) on performance of a ToM task in children with ASD, unlike our previous companion study in children with ADHD. This may be due to challenges of ToM cognitive processing being a core deficit in ASD.

In children with Autism Spectrum Disorder, theory of mind performance was explained by the executive functions of working memory and response inhibition



PROJECT TITLE

Theory of Mind in Children with Autism Spectrum Disorder: The Role of Inhibitory Control and Working Memory

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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 ASD 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 42 had been administered the Stop Signal Task, Reading the Mind in the Eyes Test, and the WISC-IV Working Memory Scale.