



# RESEARCH RUNDOWN

## The Impact of Autism Service Intensity on Children's Outcomes

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We examined archival data of a community-based early intensive behavioural intervention program to determine the effect service intensity has on outcome measures in different domains for children with autism spectrum disorder. Overall, we found that children showed significant improvements after one year of early intensive behavioural intervention service, and that treatment intensity may influence outcomes even at relatively high levels.

### What is this research about?

Early intensive behavioural intervention (EIBI) is the most evidence-supported treatment for children with autism spectrum disorder (ASD). Based on the principles of applied behaviour analysis, EIBI programs are *early*, starting before age 2, and *intensive*, up to 40 hours per week of one-on-one teaching sessions for two years. Considering the resources required to provide EIBI services, clinicians and other stakeholders want to know how service intensity (defined as hours / week) impacts children's outcomes. We addressed this question by evaluating archival data for children who received one year of EIBI service from the St.Amant Early Learning Autism Program.

### What did the researchers do?

We analyzed archival data from St.Amant Autism Program. We compared children who received an average of 22 hours per week (low-intensity group) and an average of 30 hours per week (high-intensity group) of EIBI for a period of one year. Standardized measures of cognitive functioning, adaptive behaviour, and autism symptoms were examined. Communication subscales were also examined to assess changes in language outcomes.

### What did the researchers find?

From the available dataset of 260 children, 70 children met our inclusion criteria of having an Intake and Year 1 assessment score for at least one outcome measure.

### What you need to know:

We analyzed archival data of a community-based early intensive behavioural intervention program to determine the impact service hours has on child outcomes. Significant improvements were found across all but one outcome measure, after one year of service, regardless of whether the service was lower-intensity (22 hours per week) or higher-intensity (30 hours per week).

We found that children achieved significant improvements in adaptive functioning, autism severity, and cognitive functioning after one year of service in both the high-intensity and low-intensity groups. Analysis of communication related components of the standardized measures showed that all children improved significantly on both expressive communication and general language skills. No significant changes were observed however for verbal performance in either group.



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The high-intensity group made slightly larger average gains than the low-intensity group on most outcome measures (cognitive and autism symptoms, and communication subscales). The difference in gains between the two groups was not statistically significant however. This may be because our sample sizes were too small, or because the difference in service intensity between groups was relatively small. Programs with as few as 20 hours per week are sometimes considered high-intensity, so by this definition our study actually compared two-high intensity groups.

Overall, we found that children with ASD showed significant improvements after one year of EIBI service, and that treatment intensity may influence outcomes even at relatively high levels.

## Why is it important?

This study is important because it adds to the limited body of research examining treatment intensity of EIBI. Our use of standardized assessment measures and the fact that the groups we examined were nearly identical on all variables other than treatment hours contribute to the research in a meaningful way.

## Research Team

Morena Miljkovic, Department of Psychology, University of Manitoba and St.Amant Research Centre

Dr. C.T. Yu, Department of Psychology, University of Manitoba and St.Amant Research Centre

\* Team members and affiliations may have changed

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## Additional Resources

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Project completed 2016. Please see: <http://stamant.ca/research/our-research/project-summaries/> for more project summaries.