

# Examining the Impact of Intensive Cognitive Training on the Social and Emotional Well-being of School-Age Children

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## Introduction

### Cognitive training and social and emotional well-being

- Researchers are increasingly utilizing cognitive training platforms to explore their potential impact on the nuanced well-being of school-age children.
- A notable intervention under scrutiny is the Arrowsmith Program, specifically designed to address various cognitive processing weaknesses.
- The program tailors individualized intervention plans, incorporating multiple exercises, each targeting specific processes or combinations of processes with identified deficits.
- In the present study, our focus centered on evaluating a pivotal component of the Arrowsmith Program—the Symbol Relations task.

→ Our hypothesis posited that engaging in Symbol Relations training would yield discernible and generalized improvements in the nuanced domains of social and emotional well-being among school-age children.

## Discussion

### Social and emotional well-being transformations through CIP training

- Our findings indicate that participation in a brief yet concentrated regimen of this cognitive training exercise elicits positive changes in these well-being measures.
- While preliminary, our data suggest that Symbol Relations training is associated with widespread improvements in social and emotional functions.
- Ongoing studies employing social and emotional well-being assessments aim to further explore this potential.
- Our future research endeavors involve expanding the participant pool to include a larger group of students and increasing the time intervals between assessments to account for potential practice effects on additional measures of social and emotional well-being.
- These efforts will facilitate the isolation and specification of the underlying behavioral and neural mechanisms contributing to the observed enhancements.

## Materials & Methods

### Participants

Sixty-two students, age range 9-19 years diagnosed with Neurodevelopmental Disorders were recruited from Arrowsmith Schools in Canada and the United States.

### Assessments

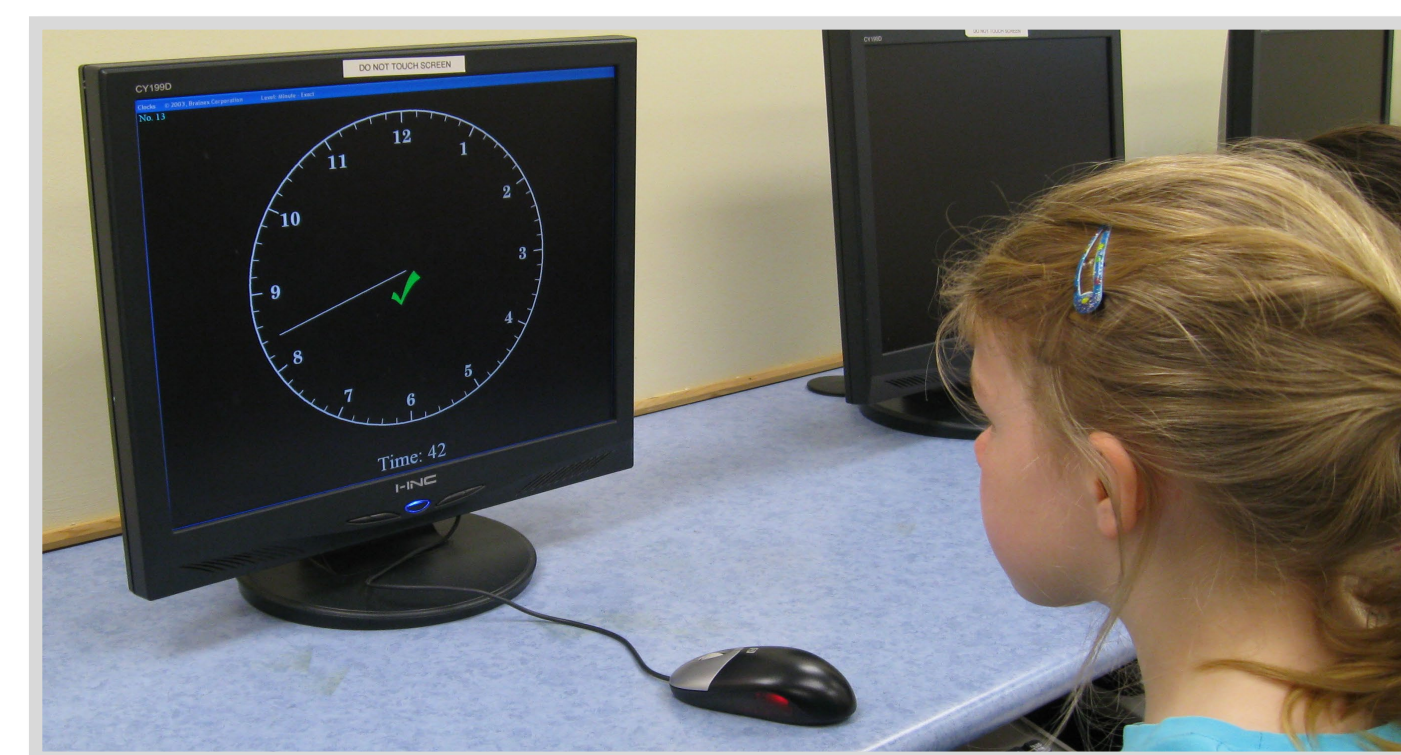
Social and emotional well-being were evaluated one month prior to and one month following participation in the Cognitive Intensive Program (CIP) through a series of standardized measurements.

Social and emotional well-being assessments

- Immediate Mood Scaler
- Arrowsmith Parental Survey

### Intervention

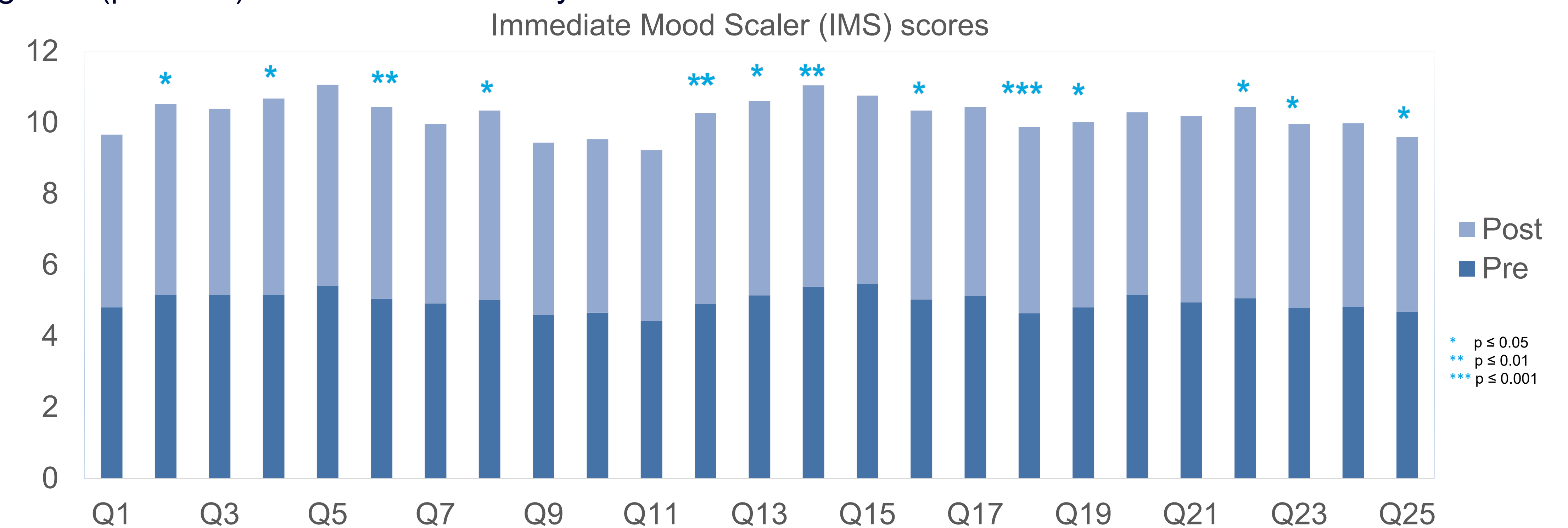
The Arrowsmith Symbol Relations Task is a visual-spatial exercise that ramps up in complexity as participants add hands to an analog clock face based on accuracy. During the CIP, students spend up to five hours daily, five days a week, over six weeks to master it.



## Results

### Social and emotional well-being changes

Using scores from the Immediate Mood Scaler (IMS) scale as indicators of social and emotional well-being, our analysis revealed statistically significant improvements in the overall score of IMS measure ( $p < 0.05$ ) following the training. Additionally, the parental survey also indicated significant enhancements in emotional intelligence ( $p < 0.05$ ). Details of the survey can be obtained from the authors.



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## References

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