

**10th Congress of  
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# **THEORY OF MIND DEVELOPMENT IN 5-6-YEAR-OLD CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER**

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## SHORT INTRODUCTION

**Theory of Mind (ToM)** is the ability to understand and predict other people's thoughts, desires, and beliefs. It is a critical foundation for social interaction and emotional regulation in early childhood. Emerging research highlights the close relationship between language development and ToM acquisition, with language providing the cognitive tools needed to represent and reason about mental states.

Children with **Developmental Language Disorder (DLD)** often face challenges not only in communication but also in this broader domain of social cognition, potentially affecting their adaptation in educational and peer settings. Despite growing international evidence for this link, research specifically examining ToM development in Latvian-speaking children with DLD remains scarce, representing a significant gap in the local clinical and educational literature.

This study addresses that gap by investigating ToM development in 5–6-year-old children with DLD compared to typically developing peers, with implications for speech-language therapy practice and early intervention design.



## **OBJECTIVE(S) AND METHODS (1)**

The primary aim of this study was to investigate the characteristics of Theory of Mind development in 5–6-year-old children with Developmental Language Disorder.

The specific objectives were to:

1. Review the scientific literature on Theory of Mind, Developmental Language Disorder, and their interrelationship.
2. Develop and adapt ToM assessment protocols suitable for Latvian-speaking children.
3. Select study participants according to defined inclusion and exclusion criteria.
4. Administer the ToM tasks and collect data from both groups.
5. Analyse and compare results across the experimental and control groups using statistical methods.
6. Conclude differences in ToM development between children with DLD and typically developing peers.

The central research question was: How does Theory of Mind development differ in 5–6-year-old children with Developmental Language Disorder compared to their typically developing peers?



## OBJECTIVE(S) AND METHODS (2)

**Participants.** Twenty-four children aged 5;3–6;10 years were recruited from two municipal preschool institutions. Twelve children formed the experimental group (children with a speech-language therapist-confirmed diagnosis of DLD; 9 boys, 3 girls; mean age = 5;10, SD = 5.1 months), and twelve formed the control group (children with typical language development; 7 boys, 5 girls; mean age = 5;10, SD = 4.5 months). Groups were matched by chronological age ( $\pm 3$  months). All children were native Latvian speakers with no additional developmental diagnoses. Parental informed consent was obtained for all participants.

**Measures.** ToM was assessed using two widely validated false-belief tasks:

- **Change-of-location** (Wimmer & Perner, 1983) – children predicted where a character would look for an object based on a false belief about its location (0–1 points).
- **Unexpected Contents** (Perner, Leekam & Wimmer, 1987) – children were asked about their own prior false belief and a third person's false belief regarding the contents of a familiar container (0–2 points).

The maximum total score across both tasks was 3 points.

**Procedure.** Individual testing sessions were conducted in the speech-language therapy room of each preschool, lasting no more than 5 minutes per child. Visual props were used to support task comprehension. Responses were recorded manually by the researcher.

**Data Analysis.** Descriptive statistics (means, standard deviations) were calculated for each group. Between-group differences were evaluated using an independent-samples t-test, with a significance threshold of  $p < 0.05$ . All analyses were performed in Microsoft Excel.



## RESULTS (1)

### Comparison of Children's Age and Theory of Mind Task Results Between Groups

Group	Mean Age (months)	Theory of Mind Tasks		
		Change-of- location (points)	Unexpected Contents (points)	Total Score (points)
Experimental group	71 (5.11)	0.50 (0.52)	1.08 (0.90)	1.58 (1.08)
Control group	70 (4.54)	0.75 (0.45)	1.92 (0.29)	2.67 (0.65)

*Note.* Data are reported as mean values, with standard deviation (SD) shown in parentheses.



## RESULTS (2)

1. A total of 24 children completed both false-belief tasks. Children with DLD scored consistently lower than their typically developing peers across both measures.
2. On the Change-of-location task, the experimental group achieved a mean score of 0.50 (SD = 0.52) compared to 0.75 (SD = 0.45) in the control group. While this difference favoured the control group, it did not reach statistical significance ( $p = 0.22$ ).
3. On the Unexpected Contents task, the experimental group scored a mean of 1.08 (SD = 0.90), significantly lower than the control group mean of 1.92 (SD = 0.29), a statistically significant difference ( $p = 0.009$ ). Seven children in the experimental group failed the third-person perspective question entirely, suggesting particular difficulty with attributing false beliefs to others.
4. Total scores across both tasks were 1.58 (SD = 1.08) for the experimental group and 2.67 (SD = 0.65) for the control group, a statistically significant difference ( $p = 0.008$ ). Nine control group children achieved the maximum score of 3 points, while only two children in the experimental group did so. Three children with DLD scored zero points across both tasks.
5. Groups did not differ significantly by age ( $p = 0.900$ ), indicating that the observed performance gap is attributable to language development status rather than chronological age.



## CONCLUSIONS

1. Children aged 5–6 years with Developmental Language Disorder demonstrated significantly delayed Theory of Mind development compared to typically developing peers, as evidenced by lower scores on standardised false-belief tasks.
2. Both false-belief tasks were more challenging for children with DLD, but the Unexpected Contents task produced the most marked group differences, pointing to particular difficulty with representing and attributing mental states to a third person.
3. The results support the view that language, especially grammatical competence and mental-state vocabulary, serves as a critical enabler of ToM development. Interventions targeting children with DLD should therefore incorporate ToM-building components alongside traditional language therapy goals.
4. The findings align with international literature indicating that ToM difficulties in children with DLD represent a developmental delay rather than a permanent deficit, underscoring the value of early, targeted intervention.
5. Future research should include larger and more diagnostically differentiated samples, employ a broader battery of ToM measures, and apply a standardised language assessment procedure to allow more precise conclusions about the nature and extent of the relationship between language impairment and social cognition in this population.



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