Prosodic complexity in the non-word repetition task:
Language assessment of Serbian typically developing and children with SLI

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Background

- Specific Language Impairment (SLI)

- Non-word Repetition Task (NRT)

- Language assessment in Serbian

Research Aims

▸ Phonological repetition ability of TD and SLI Serbian children

▸ Phonological development assessment and discrimination of SLI in Serbian (and potentially other speech-language disorders)

Participants

- Sixty 4 to 7-year-old TD children (n=15 per age group)
- Forty-two 4 to 7-year-old children with SLI (n=9-11 per age group)

Non-word repetition task in Serbian

- 48 non-words
- Savić, Anđelković, Buđevac & van der Lely, 2010
- (TOPhS, van der Lely & Harris, 1999)

- Systematic varying of phonological parametrs on 4 basic non-words

Non-words

Situation	Number of syllables	Syllable structure	Non-word			
1		CV	paba	kobo	goki	suga
2		CCV	praba	klobo	gloki	spuga
3	2	CVC	palba	kombo	gonki	sunga
4		CCVC	pralba	klombo	glonki	spunga
5		CV	pabada	vukobo	gokibe	kisuga
6		CCV	prabada	vuklobo	glokibe	kispuga
7	3	CVC	palbada	vukombo	gonkibe	kisunga
8		CCVC	pralbada	vuklombo	glonkibe	kispunga
9		CV	pabadaga	vukoboda	gokivube	kisugabe
10		CCV	prabadaga	vukloboda	glokivube	kispugabe
11	4	CVC	palbadaga	vukomboda	gonkivube	kisungabe
12		CCVC	pralbadaga	vuklomboda	glonkivube	kispungabe

Procedure

- Non-word repetition
- Audio recording
- Transcription
- Coding

   pralbadaga – tralbagada
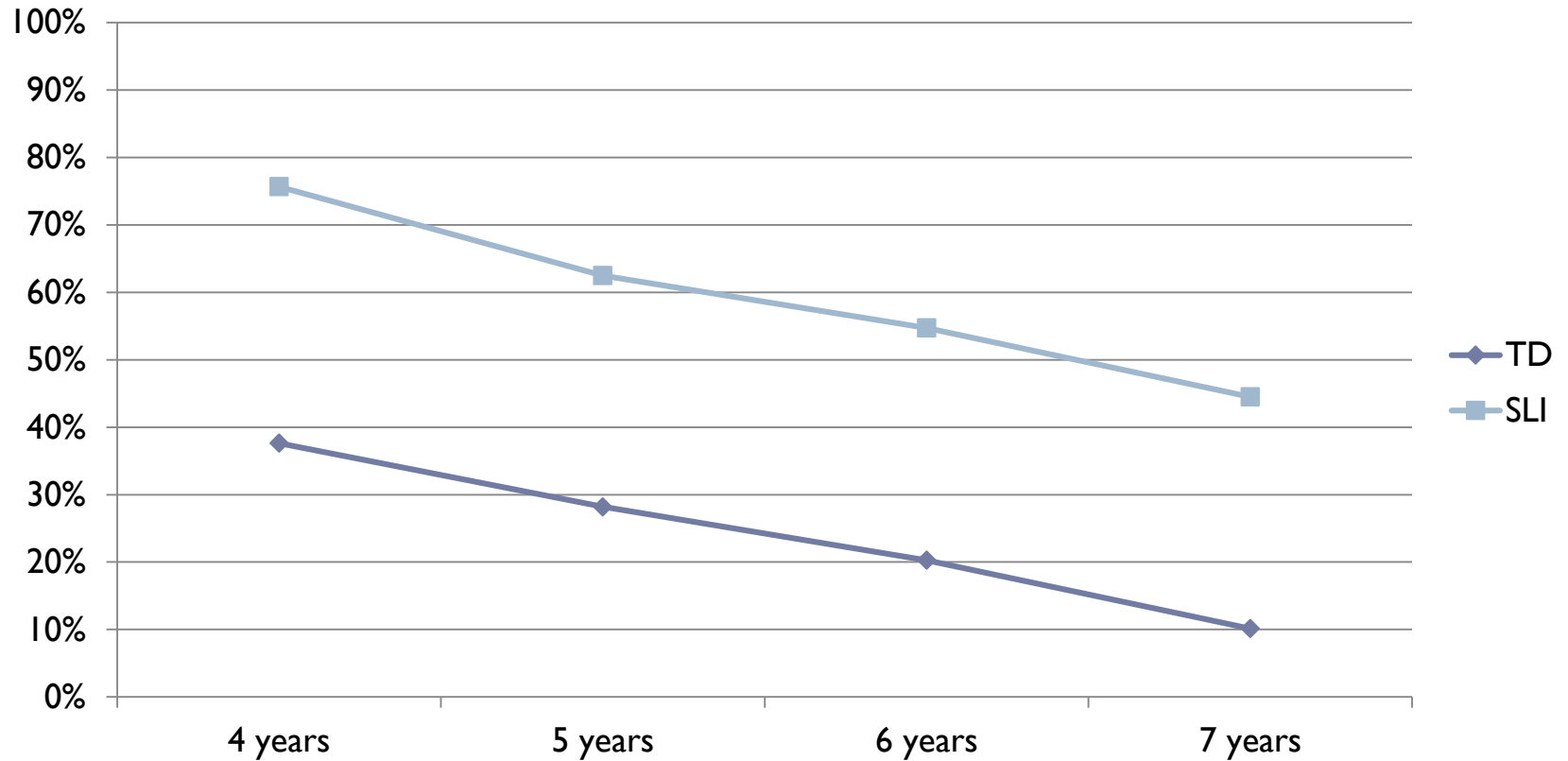
           pabaldagan

           pabraga

- Statistical analysis

Results

Percentage of incorrect nonword repetitions on the task for TD and SLI children by age
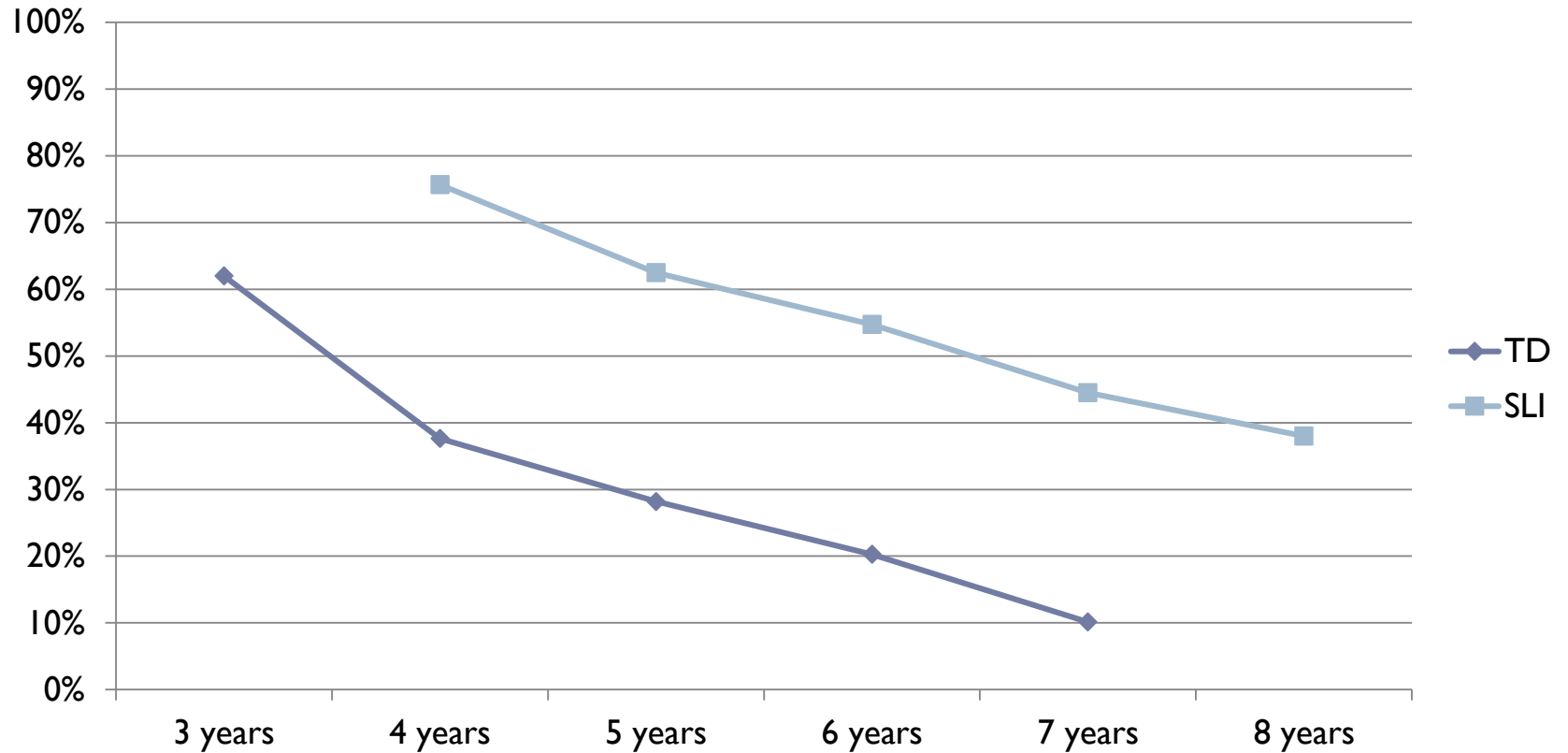

Group: $F(1,94)=155.06$, p<.001
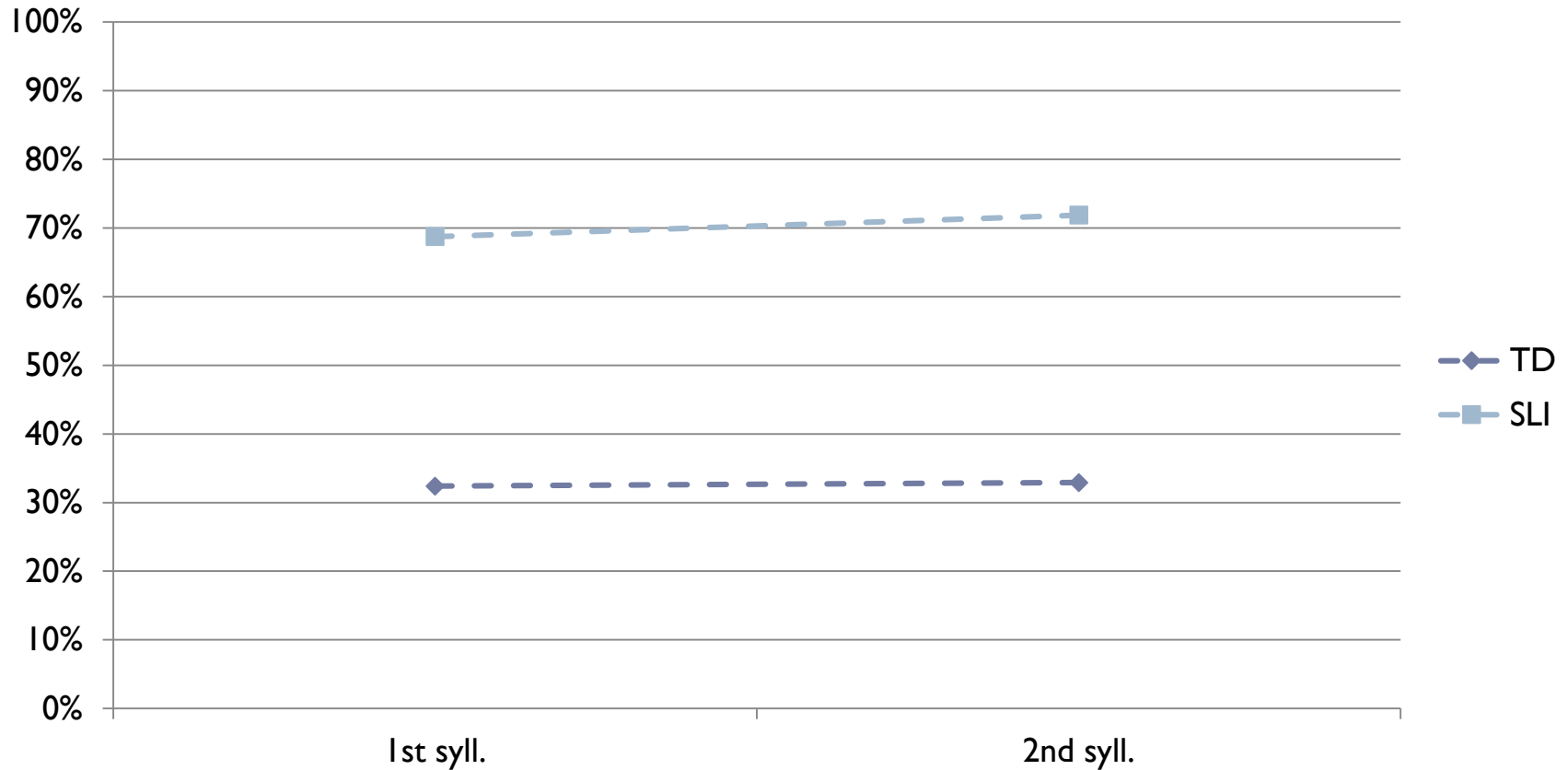Age: $F(3,94)=18.64$, p<.001

Percentage of incorrect nonword repetitions on the task for TD and SLI children by age

SLI 5y - TD 3y non sig.
SLI 6y - TD 3y non sig.
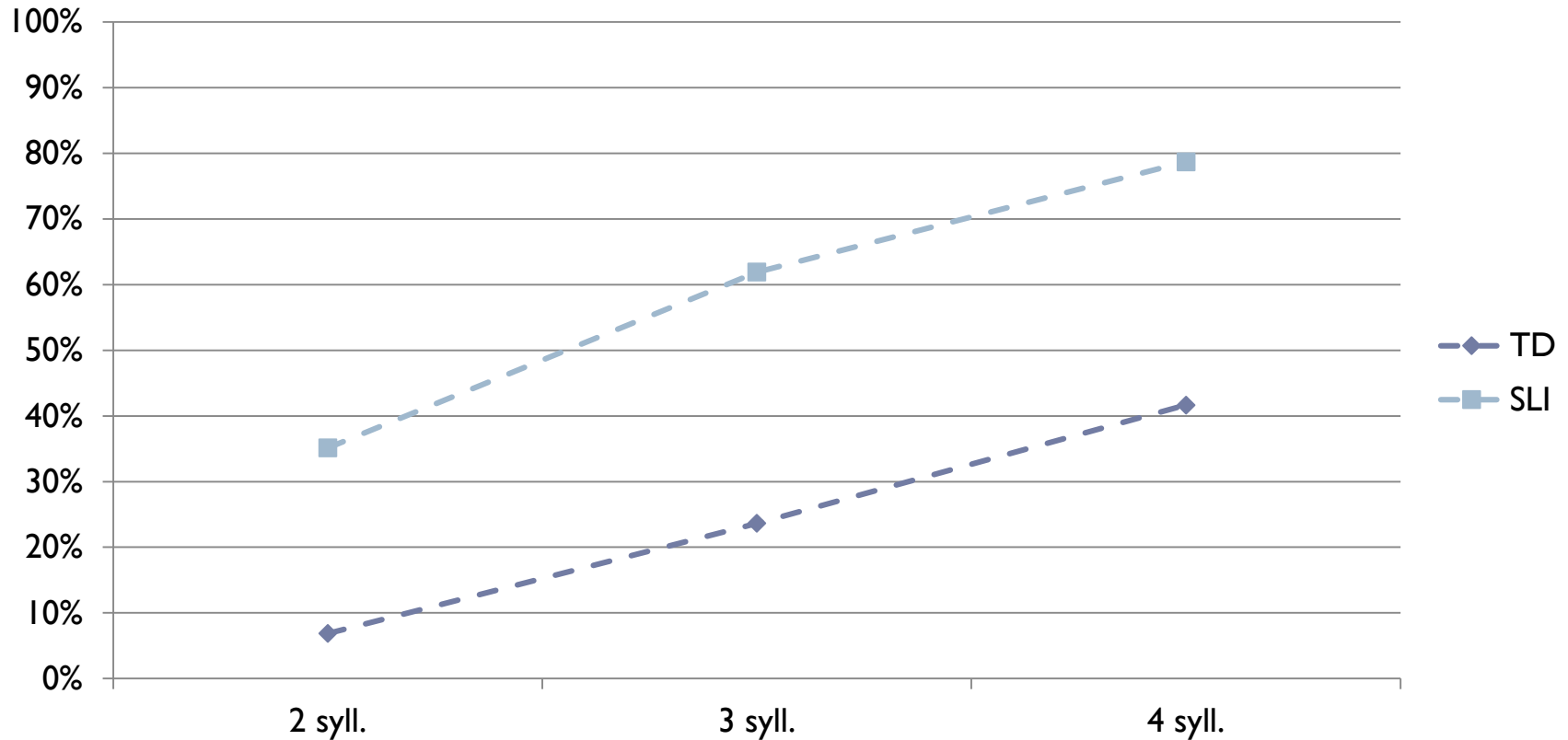SLI 7y - TD 4y non sig.
SLI 8y - TD 5y non sig.

Percentage of incorrect repetitions of nonwords with first and with second stressed syllable for TD and SLI groups of children

Group: F(1,100)=93.73, p<.001

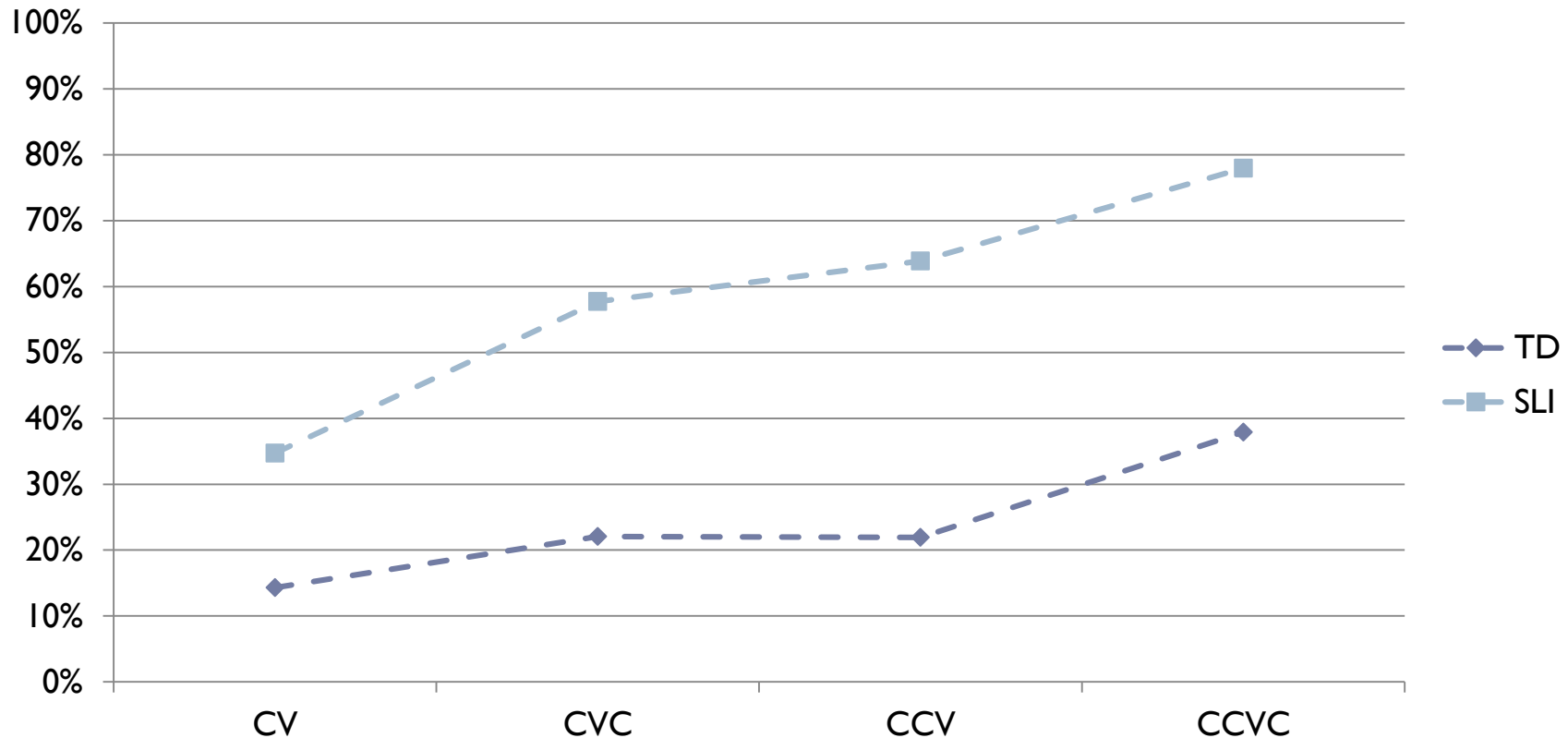# Percentage of incorrect repetitions of 2-, 3-, and 4-syllable nonwords for TD and SLI groups of children

Group: $F(1,100)=98.57$, $p<.001$
N of Syllables: $F(2,200)=275.31$, $p<.001$
Group * N of Syllables: $F(2,200)=5.33$, $p=.006$

Percentage of incorrect repetitions of nonwords with CV, CVC, CCV, and CCVC syllable structure for TD and SLI groups of children
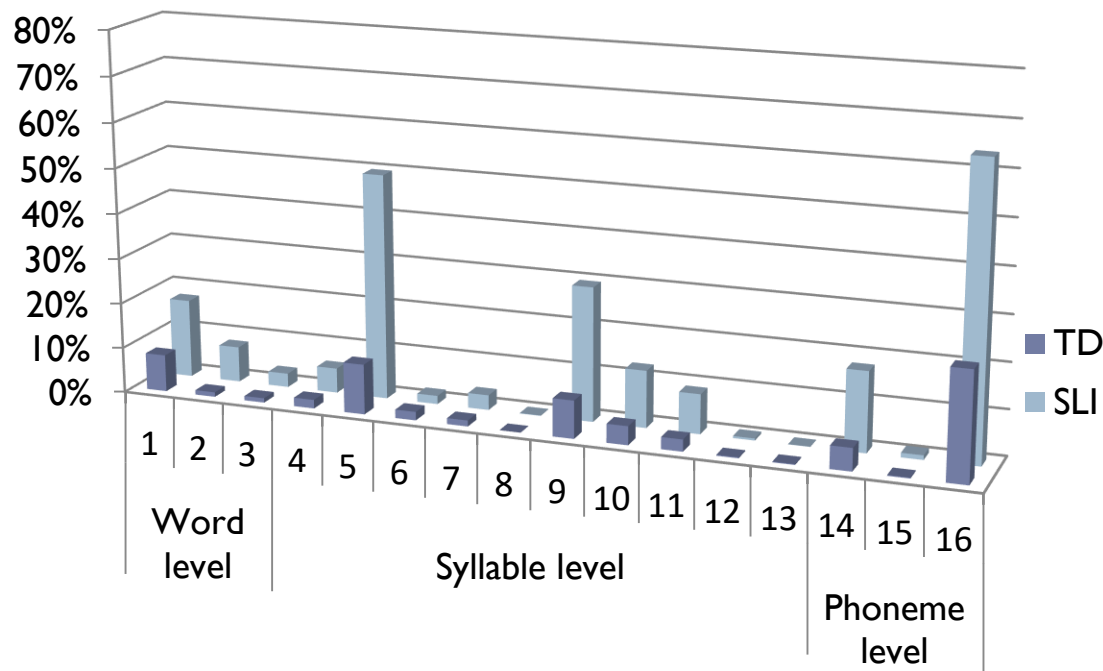

Group: F(1,100)=98.57, p<.001
Syll. Structure: F(3,300)=122.99, p<.001
Group * Syll.Structure: F(3,300)=15.61, p<.001

Percentage of nonword repetitions on the task comtaining a certain type of error on the word, syllable and phoneme level for TD and SLI groups of children

Group: F(16,85)=12.22, p<.001

1 - Stress shifting (vukombo – vukombo)
2 - Syllable omission (gokivube – gokibe)
3 - Syllable addition (paba – pabala)

4 - Onset consonant/cons. cluster omission (kisuga – isuga, glokibe – okibe)

5 - Onset consonant cluster reduction (praba – paba)
6 - Onset consonant cluster addition (vuklobo – vluklobo)
7 - Onset consonant cluster translocation (glokivube – goklivube)
8 - Onset consonant cluster branching (spuga – spfuga)
9 - Coda cons. omission (gonkibe – gokibe)
10 - Coda cons. addition (vukobo – vukoboj)
11 - Coda consonant translocation (palbadaga – pabadalga)
12 - Coda branching (kispuga – kispugang)
13 - Vowel omission without syllable loss (praba – prba)

14 - Consonant metathesis (glonkivube – glonkibuve)
15 - Vowel metathesis (kisugabe – kusigabe)
16 - Phoneme substitution (vukombo – vukonvo)

Conclusion

▸ The ability of phonological repetition significantly increases with age in TD and SLI children

▸ Children with SLI are significantly less successful on the task compared to their TD peers

▸ Children with SLI have more trouble repeating non-words of all prosodic structures compared to their TD peers

▸ Children with SLI make the same types of errors in repetitions as younger TD children, but there are certain differences

▸ The NRT constructed by systematically varying different phonological parameters in accordance with the characteristics of the Serbian language is both age and group discriminative

Further research

- Construction, standardization and adaptation of the test
- Large database – further analyses
- Testing other vulnerable language populations

Thank you for your attention!