REFERENCE DATA FOR

THE SYLLABLE REPETITION TASK (SRT)

Technical Report No. 17

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OVERVIEW: THE SYLLABLE REPETITION TASK (SRT)

The goal of this technical report, the fourth in a series of papers on the Syllable Repetition Task (SRT), is to extend the reference data available for this task. This overview provides brief summaries of the goals and findings of the three prior papers and an overview of the present Phonology Project Technical Report No. 17. The following four sections provide reference data from five sources organized by participants' speech-language status.

A. Overviews of Prior SRT Papers

Shriberg, Lohmeier, et al. (2009). The goals of Shriberg, Lohmeier, et al. (2009) were to describe the development of the SRT and to report findings from three validity studies. The SRT is an 18-item imitation task that assesses a speaker's ability to repeat non(sense) words. The SRT was designed specifically for speakers whose speech errors preclude their completing conventional nonword repetition tasks or biases nonword task findings due to their difficulty repeating some sounds correctly and/or the difficulty transcribers have in reliably transcribing and scoring disordered speech. The only five speech sounds in the SRT nonwords are the four voiced consonants /b/, /d/, /m/, and /n/ and the vowel /ɑ/. By limiting the target consonants to just four of the 'Early-8' speech sounds (Shriberg, 1993), speaker and transcriber constraints associated with more complex consonants and consonant environments are eliminated. Shriberg, Lohmeier, et al. (2009) includes a proof of concept study that supports use of the SRT to identify children with expressive language impairment. This first paper also reports initial findings from analyses that illustrate how the error responses on the SRT can be used to deconstruct speech processing constraints underlying lowered SRT performance scores. Definitions for the three speech processes of interest, termed *encoding, memorial,* and *transcoding*, are provided in

Shriberg, Lohmeier, et al. (2009) and extended in Shriberg, Lohmeier, Strand, and Jakielski (2011).

Shriberg and Lohmeier (2008). The goals of Shriberg and Lohmeier (2008), Phonology Project Technical Report No. 14, were to provide (a) psychometric data on the SRT, (b) statistical findings from several analyses of SRT data not reported in Shriberg, Lohmeier, et al. (2009), (c) reference data obtained from 70 children ages 4-to-16 years with typical speech (a subset of the data reported in the present paper), (d) administration instructions, (e) scoring instructions, and (f) a form for manual scoring of the SRT. A PowerPoint file that includes the audio stimuli for administration of the SRT can be freely downloaded from the Phonology Project website: http://www.waisman.wisc.edu/phonology.

Shriberg, Lohmeier, Strand, and Jakielski (2011). The goals of this third paper on the SRT were to use this task to address two questions about speech processing in Childhood Apraxia of Speech (CAS). The first question used SRT encoding, memorial, and transcoding scores from several study samples to determine the level of support for viewing CAS as a multi-domain disorder, with core deficits in auditory-perceptual encoding and memorial processes in addition to the signature deficit in transcoding. The second question addressed the level of statistical support for using any one or more SRT metrics as a conclusive sign of CAS (i.e., to differentiate CAS from Speech Delay and from Motor Speech Disorder-Not Otherwise Specified). Findings were interpreted as support for a multi-domain descriptive-explanatory account of CAS, with transcoding scores achieving clinically significant, but not statistically conclusive diagnostic accuracy.

B. Overview of the Present Technical Report

The goals of the present technical report were to assess the stability of means and standard deviations data reported in the prior SRT technical report (Shriberg & Lohmeier, 2008), and to make extended reference data available to individuals using the SRT for research or clinical decision making. SRT Performance and Processing scores were assembled from 552 participants who had been administered the SRT in the context of collaborative studies at four sources in the U.S., and one source in Australia.

Table 1 provides descriptive statistics for each of the five study sources organized by participants' speech-language status: Typical Speech-Typical Language; Speech Delay-Typical Language; Typical Speech-Language Impairment, and Speech Delay-Language Impairment. All participants spoke English as their only or primary language. Participants had no known cognitive, structural, sensory, motor, or affective problems other than (for three of the groups), speech and/or language impairments of unknown origin. As indicated in Table 1, Source A provides information on 3- to 17-year-old speakers with typical speech-language development. Source BCD is the combined data from three American study samples, B, C, and D. Source E provides SRT information from young speakers with Speech Delay from eight cities and towns in two different states of Australia. Cell sizes for each of the four speech-language status groups from each source ranged from 11 to 150 participants, including from 38-81% males in each sample. Shriberg, Lohmeier, et al. (2009) found no statistically significant gender effect on SRT Competence scores. Participant data on socioeconomic variables are not included in the present report.

Sections I-IV include graphic and tabular data for participants grouped by speech-language status. For the graphic data, the panel titles ending with an asterisk are the variables

used to complete the performance and processing scores report in Shriberg, Lohmeier, et al. (2011). Section I, which includes data from a total of 257 participants with typical speech and typical language, provides information that can be used to derive age-sex standardized scores for children from 3-18 years olds. To provide more stable means and standard deviations, data are also provided for combined ages, some of which have individual values per year and some of which do not. There are some differences in the values obtained on the same SRT values by participants in the different sources. The values from Source A are considered the 'standard' reference data for z-scores. SRT reference data for 20-70 year old speakers will be available in 2012. It is important to underscore that the validity of SRT scores requires that the task is administered and scored using procedures described in the Phonology Project technical report described above (No. 14). As noted, constraints on these reference data include small cell sizes for some ages, distributional restrictions, and the lack of sociodemographic diversity.

For ease of analyses of information from two sources of the same speech-language status and same ages, the graphic information was purposefully created to overlay the means and standard deviations. These comparative data are readily separated on a computer display or when printed in color, particularly the standard deviation bars. As indicated previously, the tabular data include findings at each sampled age, and aggregated over age groups, the latter providing more stable descriptive statistics, particular for ages with relatively small cell sizes.

Last, the reference data in this report are presented without comment. A thorough analyses of trends between and among the variables of age, sex, speech-language status, and study sample for each of the 23 SRT variables is beyond the scope of the present goal. Forthcoming papers will use subsets of the present findings to address substantive questions about speech processing in children with speech sound disorders, particularly, for subtypes of

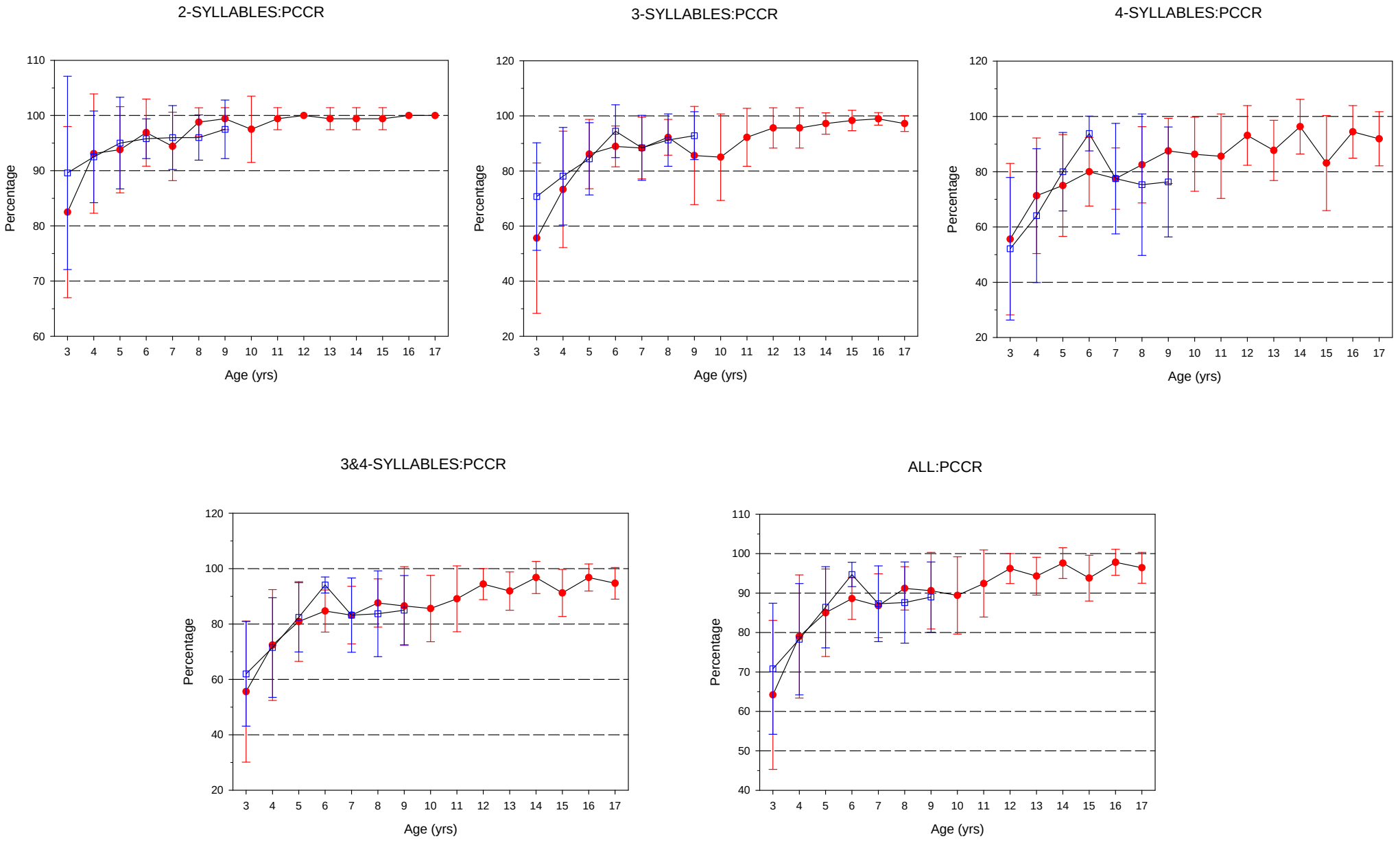
pediatric motor speech disorders (i.e., apraxia, subtypes of dysarthria, and motor speech disorders not otherwise specified: see Shriberg, Lohmeier, et al., 2011). However, readers who observe trends of interest for any clinical-research question are welcomed to reference this information, contacting the authors for additional information that may be needed or helpful.

Table 1. Descriptive statistics for study samples from five sources organized by participants' speech-language status.

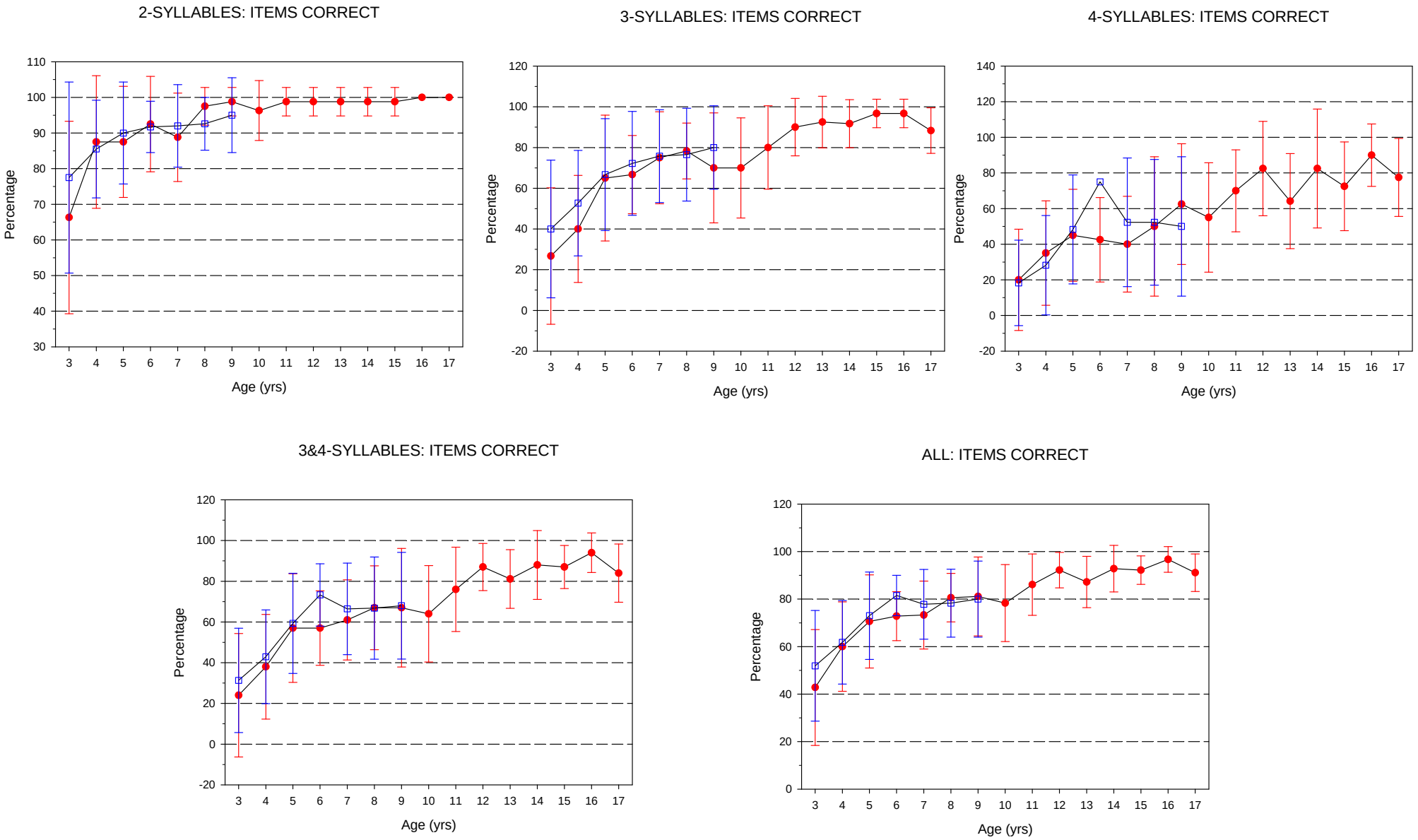
Group	Speech-Language Status	Source[a]	*n*	Age (yrs)	% Males	Speech Competence[b]			
						PCC		PCCR	
						M	*SD*	*M*	*SD*
1	Typical Speech-Typical Language	A	150	3-17	50.0	96.9	5.2	98.3	2.7
		BCD	107	3-9	38.0	93.4	5.8	95.6	4.0
2	Speech Delay-Typical Language	BCD	132	3-8	66.7	78.1	11.9	83.6	10.8
		E	68	4-5	68.6	–	–	–	–
3	Typical Speech-Language Impairment	BCD	11	4-5	63.6	90.3	3.8	93.1	2.3
4	Speech Delay-Language Impairment	BCD	63	3-7	76.2	71.4	14.3	75.8	14.2
		E	21	4-5	81.0	–	–	–	–

[a] Sources A-D are cities in the United States; Source E includes data collected from 8 cities and towns in 2 different states in Australia. Cities B-D were treated as one sample termed "BCD."
[b] PCC: Percentage of Consonants Correct; PCCR: Percentage of Consonants Correct-Revised.

IA1. SRT Performance Data: Percentage of Correctly Repeated Consonants

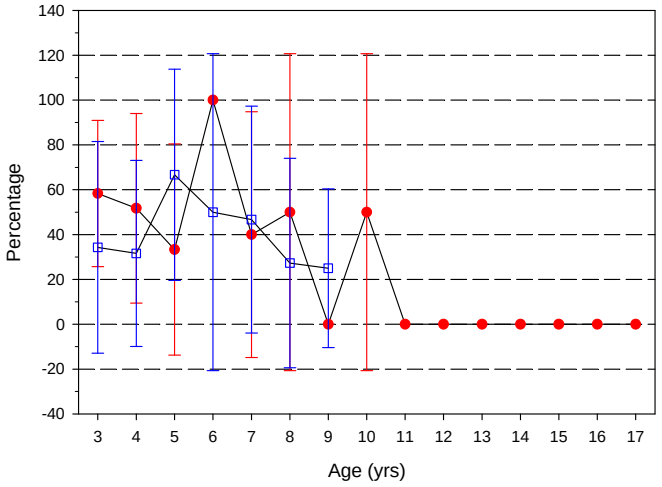


IA2. SRT Performance Data: Percentage of Correctly Repeated Items

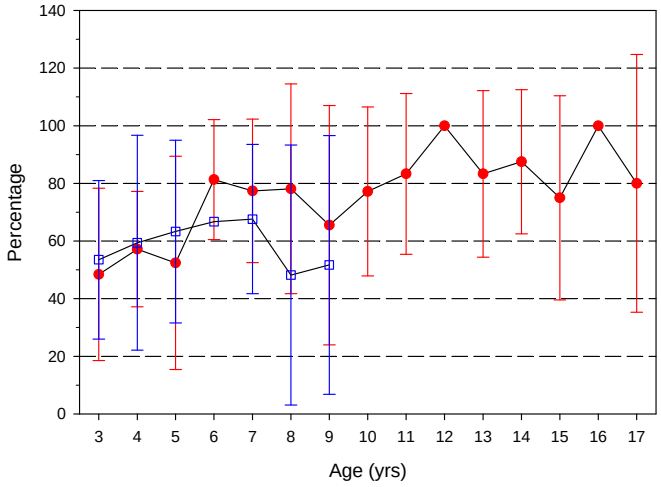


IA3. SRT Processes Data: Encoding

2-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



3-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



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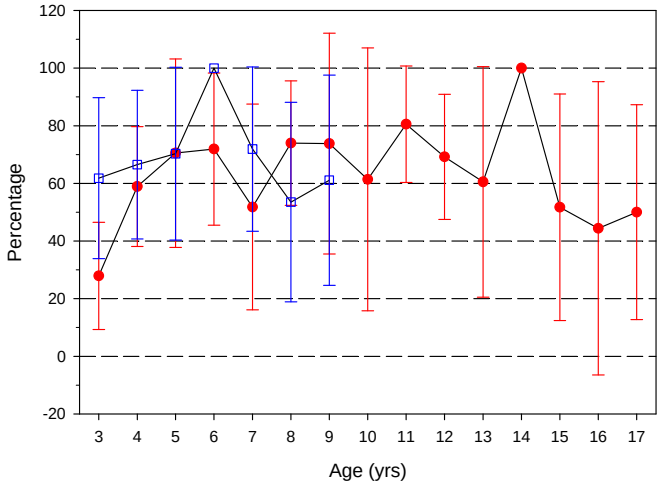
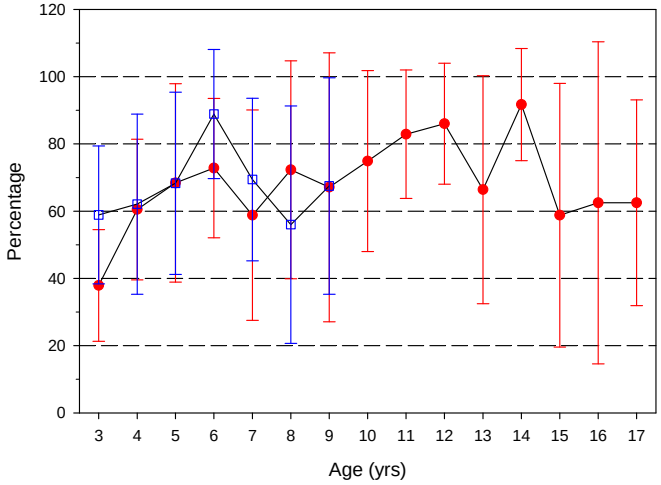
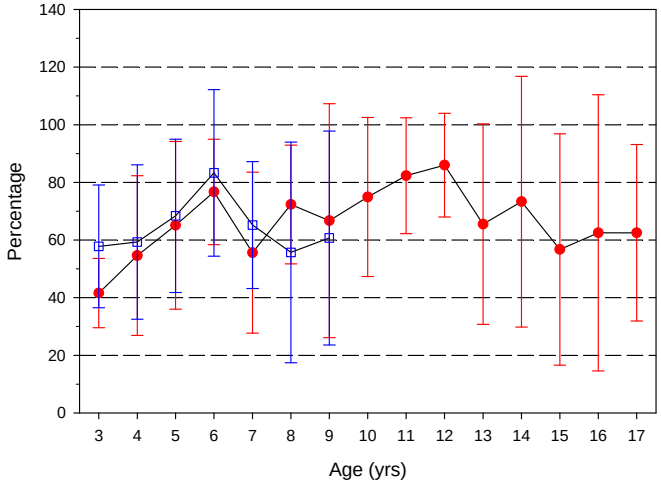


3&4-SYLLABLES: WITHIN CLASS SUBSTITUTIONS *



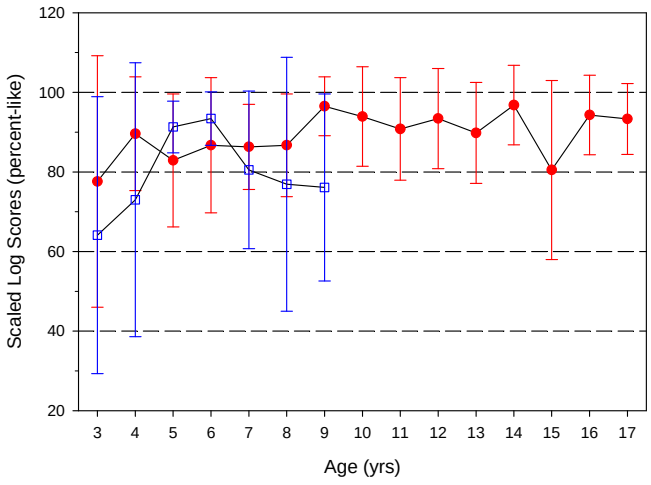
ALL: WITHIN CLASS SUBSTITUTIONS



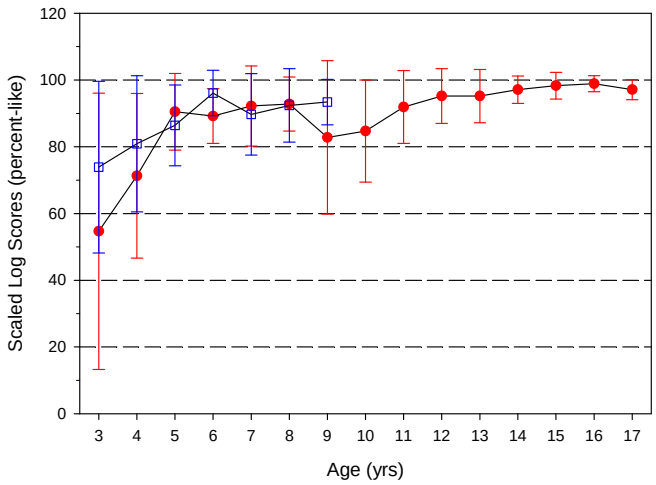
A
BCD

IA4. SRT Processes Data: Memorial

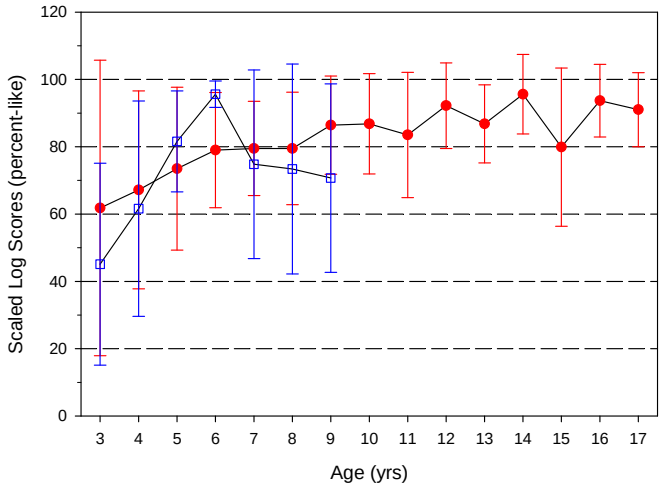
MEMORY: 4/3 SYLLABLES



MEMORY: 3/2 SYLLABLES*

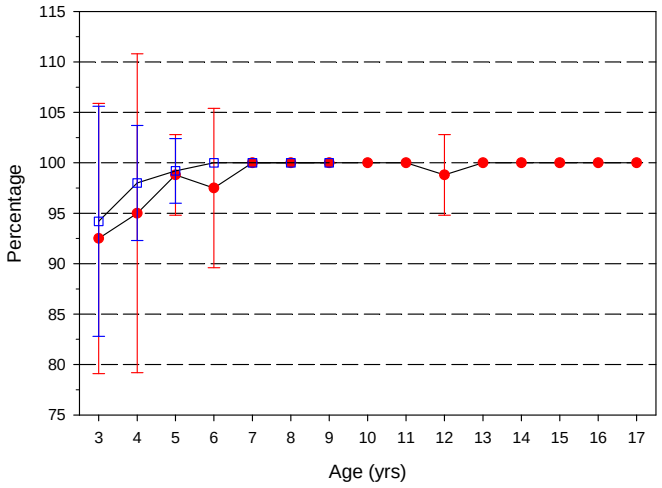


MEMORY: 4/2 SYLLABLES

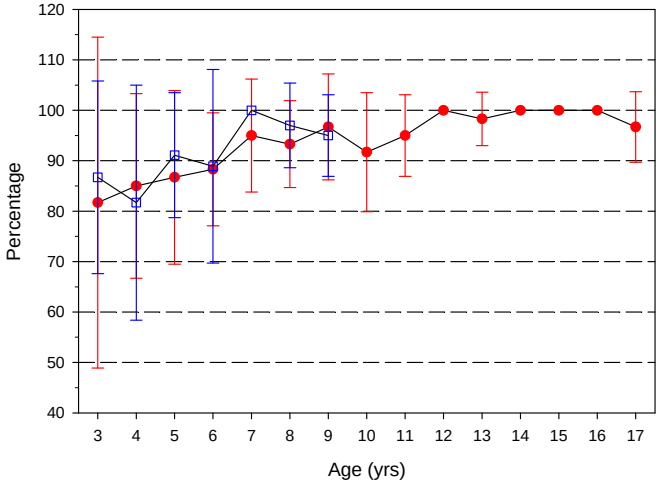


IA5. SRT Processes Data: Transcoding

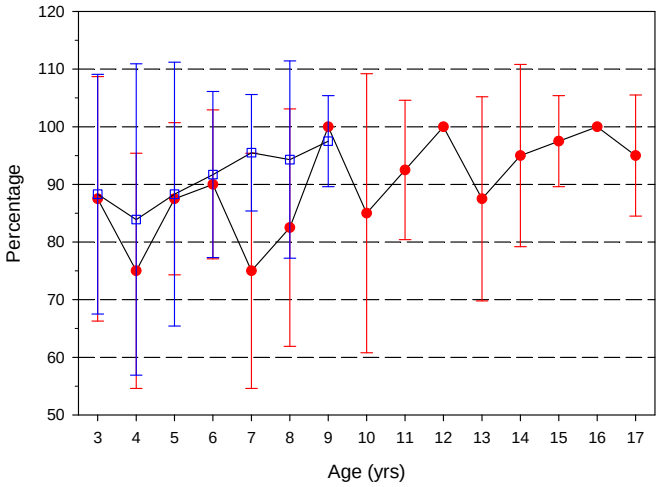
2-SYLLABLES: ITEMS WITHOUT ADDITIONS



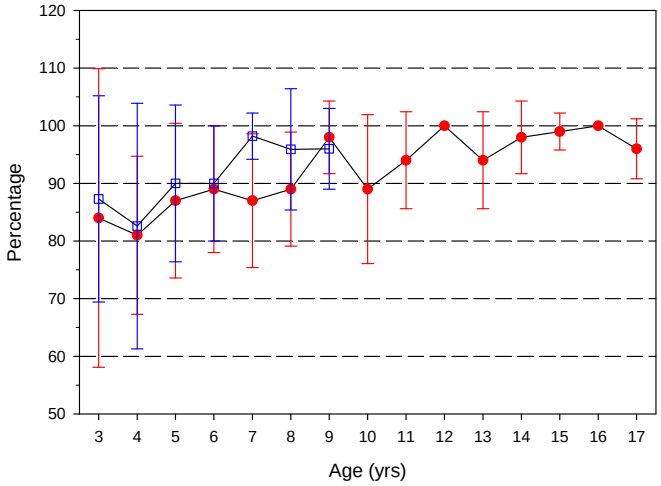
3-SYLLABLES: ITEMS WITHOUT ADDITIONS



4-SYLLABLES: ITEMS WITHOUT ADDITIONS



3&4-SYLLABLES: ITEMS WITHOUT ADDITIONS



ALL SYLLABLES: ITEMS WITHOUT ADDITIONS*

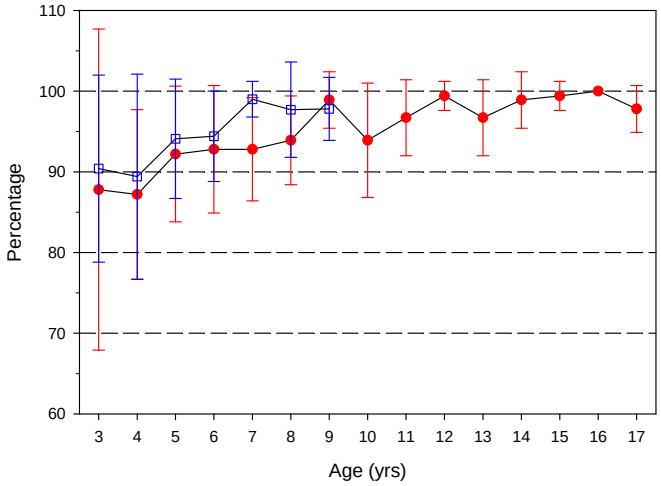


Table IB1 (Source A – Individual Ages). SRT Competence and Processing Scores for 150 participants with Typical Speech-Typical Language from ages 3 years to 17 years.

	TYPICAL SPEECH-TYPICAL LANGUAGE																													
Variable	3 Yrs (n=10)		4 Yrs (n=10)		5 Yrs (n=10)		6 Yrs (n=10)		7 Yrs (n=10)		8 Yrs (n=10)		9 Yrs (n=10)		10 Yrs (n=10)		11 Yrs (n=10)		12 Yrs (n=10)		13 Yrs (n=10)		14 Yrs (n=10)		15 Yrs (n=10)		16 Yrs (n=10)		17 Yrs (n=10)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll	82.5	15.5	93.1	10.8	93.8	7.8	96.9	6.1	94.4	6.2	98.8	2.6	99.4	2.0	97.5	6.0	99.4	2.0	100.0	0.0	99.4	2.0	99.4	2.0	99.4	2.0	100.0	0.0	100.0	0.0
3-syll	55.6	27.3	73.3	21.1	86.1	12.6	88.9	7.4	88.3	11.2	92.2	6.5	85.6	17.8	85.0	15.7	92.2	10.5	95.6	7.3	95.6	7.3	97.2	3.9	98.3	3.7	98.9	2.3	97.2	2.9
4-syll	55.6	27.4	71.3	20.9	75.0	18.4	80.0	12.4	77.5	11.1	82.5	13.8	87.5	11.8	86.3	13.4	85.6	15.3	93.1	10.8	87.7	10.9	96.3	9.9	83.1	17.2	94.4	9.5	91.9	9.8
3&4-syll	55.6	25.5	72.4	20.0	80.9	14.4	84.7	7.6	83.2	10.4	87.6	8.7	86.5	14.2	85.6	12.0	89.1	11.9	94.4	5.6	91.9	6.9	96.8	5.8	91.2	8.5	96.8	4.9	94.7	5.7
All	64.2	18.9	79.0	15.6	85.0	11.1	88.6	5.3	86.8	8.1	91.2	5.5	90.6	9.7	89.4	9.8	92.4	8.5	96.2	3.8	94.3	4.8	97.6	3.9	93.8	5.8	97.8	3.3	96.4	3.9
Items Correct																														
2-syll	66.3	27.0	87.5	18.6	87.5	15.6	92.5	13.4	88.8	12.4	97.5	5.3	98.8	4.0	96.3	8.4	98.8	4.0	98.8	4.0	98.8	4.0	98.8	4.0	98.8	4.0	100.0	0.0	100.0	0.0
3-syll	26.7	33.5	40.0	26.3	65.0	30.9	66.7	19.2	75.0	22.6	78.3	13.7	70.0	27.0	70.0	24.6	80.0	20.5	90.0	14.1	92.5	12.7	91.7	11.8	96.7	7.0	96.7	7.0	88.3	11.2
4-syll	20.0	28.4	35.0	29.3	45.0	25.8	42.5	23.7	40.0	26.9	50.0	39.1	62.5	33.9	55.0	30.7	70.0	23.0	82.5	26.5	64.2	26.7	82.5	33.4	72.5	24.9	90.0	17.5	77.5	21.9
3&4-syll	24.0	30.3	38.0	25.7	57.0	26.7	57.0	18.3	61.0	19.7	67.0	20.6	67.0	29.1	64.0	23.7	76.0	20.7	87.0	11.6	81.1	14.4	88.0	16.9	87.0	10.6	94.0	9.7	84.0	14.3
All	42.8	24.4	60.0	18.8	70.6	19.6	72.8	10.3	73.3	14.3	80.6	10.2	81.1	16.6	78.3	16.2	86.1	12.9	92.2	7.5	87.2	10.8	92.8	9.8	92.2	6.0	96.7	5.4	91.1	7.9
Processing																														
Encoding (w/in class subst)																														
2-syllable	58.3	32.6	51.7	42.3	33.3	47.1	100.0	0.0	40.0	54.8	50.0	70.7	0.0	0.0	50.0	70.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3-syllable	48.4	29.9	57.2	20.0	52.4	37.0	81.3	20.8	77.4	24.9	78.1	36.4	65.5	41.5	77.2	29.3	83.3	27.9	100.0	0.0	83.3	28.9	87.5	25.0	75.0	35.4	100.0	0.0	80.0	44.7
4-syllable	27.9	18.6	58.9	20.8	70.5	32.7	71.9	26.4	51.8	35.7	74.0	21.6	73.8	38.3	61.4	45.6	80.5	20.2	69.2	21.7	60.5	40.0	100	0.0	51.7	39.3	44.4	50.9	50.0	37.3
3&4-syllable	37.9	16.6	60.5	20.9	68.4	29.5	72.8	20.7	58.8	31.3	72.3	32.4	67.1	40.0	74.9	26.9	82.9	19.1	86.0	18.0	66.4	33.9	91.7	16.7	58.8	39.2	62.5	47.9	62.5	30.6
All	41.6	12.0	54.6	27.7	65.1	29.1	76.7	18.3	55.6	27.9	72.3	20.6	66.7	40.6	74.9	27.6	82.3	20.1	86.0	18.0	65.5	34.8	73.3	43.5	56.7	40.1	62.5	47.9	62.5	30.6
Memory																														
4/3	77.6	31.6	89.6	14.3	82.9	16.7	86.7	17.0	86.3	10.7	86.7	12.9	96.5	7.4	93.9	12.5	90.8	12.9	93.4	12.6	89.8	12.7	96.8	10.0	80.5	22.5	94.3	10.0	93.3	8.9
3/2	54.7	41.4	71.3	24.7	90.5	11.5	89.2	8.2	92.2	12.0	92.8	8.1	82.8	23.0	84.7	15.3	91.9	10.9	95.2	8.2	95.2	8.0	97.1	4.1	98.3	4.0	98.9	2.4	97.1	3.0
4/2	61.8	43.9	67.2	29.4	73.5	24.2	79.0	17.1	79.5	14.0	79.5	16.7	86.4	14.6	86.8	14.9	83.5	18.6	92.2	12.7	86.8	11.6	95.6	11.8	79.9	23.5	93.7	10.8	91.0	11.0
Transcoding (w/out additions)																														
2-syllable	92.5	13.4	95.0	15.8	98.8	4.0	97.5	7.9	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	98.8	4.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0
3-syllable	81.7	32.8	85.0	18.3	86.7	17.2	88.3	11.2	95.0	11.2	93.3	8.6	96.7	10.5	91.7	11.8	95.0	8.1	100.0	0.0	98.3	5.3	100.0	0.0	100.0	0.0	100.0	0.0	96.7	7.0
4-syllable	87.5	21.2	75.0	20.4	87.5	13.2	90.0	12.9	75.0	20.4	82.5	20.6	100.0	0.0	85.0	24.2	92.5	12.1	100.0	0.0	87.5	17.7	95.0	15.8	97.5	7.9	100.0	0.0	95.0	10.5
3&4-syllable	84.0	25.9	81.0	13.7	87.0	13.4	89.0	11.0	87.0	11.6	89.0	9.9	98.0	6.3	89.0	12.9	94.0	8.4	100.0	0.0	94.0	8.4	98.0	6.3	99.0	3.2	100.0	0.0	96.0	5.2
All	87.8	19.9	87.2	10.5	92.2	8.4	92.8	7.9	92.8	6.4	93.9	5.5	98.9	3.5	93.9	7.1	96.7	4.7	99.4	1.8	96.7	4.7	98.9	3.5	99.4	1.8	100.0	0.0	97.8	2.9

Table IB2 (Source A – Combined Ages). SRT Competence and Processing Scores for 150 participants with Typical Speech-Typical Language subgrouped from ages 3 years to 17 years.

	TYPICAL SPEECH-TYPICAL LANGUAGE																															
Variable	3-5 Yrs (n=30)		6-8 Yrs (n=30)		9-11 Yrs (n=30)		12-14 Yrs (n=30)		15-17 Yrs (n=30)																							
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																																
Consonants Correct																																
2-syll	89.8	12.6	96.7	5.4	98.8	3.8	99.6	1.6	99.8	1.1																						
3-syll	71.7	24.1	89.8	8.5	87.6	14.9	96.1	6.2	98.1	3.0																						
4-syll	67.3	23.4	80.0	12.2	86.5	13.1	92.4	10.8	89.8	13.2																						
3&4-syll	69.6	22.5	85.2	8.9	87.1	12.4	94.3	6.3	94.2	6.8																						
All	76.1	17.5	88.9	6.5	90.8	9.1	96.0	4.3	96.0	4.6																						
Items Correct																																
2-syll	80.4	22.7	92.9	11.2	97.9	5.8	98.8	3.8	99.6	2.3																						
3-syll	43.9	33.5	73.3	18.9	73.3	23.8	91.4	12.5	93.9	9.3																						
4-syll	33.3	28.9	44.2	29.9	62.5	29.2	76.4	29.4	80.0	22.2																						
3&4-syll	39.7	30.0	61.7	19.3	69.0	24.4	85.4	14.3	88.3	12.1																						
All	57.8	23.5	75.6	11.9	81.9	15.2	90.7	9.5	93.3	6.7																						
Processing																																
Encoding (w/in class subst)																																
2-syllable	49.4	38.4	60.0	51.6	25.0	50.0	0.0	0.0	0.0	0.0																						
3-syllable	52.5	28.4	79.0	27.0	75.4	32.2	90.9	20.2	83.3	35.4																						
4-syllable	53.1	30.4	65.0	30.0	71.9	35.4	69.2	33.5	49.7	37.9																						
3&4-syllable	55.4	25.9	67.8	28.2	75.0	29.3	79.6	26.3	60.8	36.3																						
All	53.8	25.3	68.0	23.8	74.6	30.0	75.1	31.9	59.9	36.8																						
Memory																																
4/3	83.4	22.0	86.6	13.3	93.7	11.1	93.3	11.8	89.3	15.9																						
3/2	72.1	31.4	91.4	9.4	86.5	17.0	95.8	6.8	98.1	3.2																						
4/2	67.5	32.7	79.3	15.4	85.6	15.6	91.5	12.2	88.2	16.8																						
Transcoding (w/out additions)																																
2-syllable	95.4	12.1	99.2	4.6	100.0	0.0	99.6	2.3	100.0	0.0																						
3-syllable	84.4	23.1	92.2	10.5	94.4	10.1	99.4	3.0	98.9	4.2																						
4-syllable	83.3	19.0	82.5	18.7	92.5	16.3	94.2	14.2	97.5	7.6																						
3&4-syllable	84.0	18.1	88.3	10.5	93.7	10.0	97.3	6.4	98.3	3.8																						
All	89.1	13.6	93.1	6.5	96.5	5.6	98.3	3.6	99.1	2.1																						

Table IB3 (Source BCD – Individual Ages). SRT Competence and Processing Scores for 107 participants with Typical Speech-Typical Language from ages 3 years to 9 years.

	TYPICAL SPEECH-TYPICAL LANGUAGE																													
Variable	3 Yrs (n=15)		4 Yrs (n=31)		5 Yrs (n=15)		6 Yrs (n=3)		7 Yrs (n=11)		8 Yrs (n=22)		9 Yrs (n=10)		10 Yrs		11 Yrs		12 Yrs		13 Yrs		14 Yrs		15 Yrs		16 Yrs		17 Yrs	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll	89.6	17.5	92.5	8.3	95.0	8.3	95.8	3.6	96.0	5.8	96.0	4.1	97.5	5.3																
3-syll	70.7	19.5	78.1	17.7	84.4	13.1	94.4	9.6	88.4	11.8	91.2	9.5	92.8	8.7																
4-syll	52.1	25.8	64.1	24.2	80.0	14.2	93.8	6.3	77.5	20.0	75.3	25.6	76.3	19.9																
3&4-syll	62.0	18.9	71.5	18.0	82.4	12.5	94.1	2.9	83.2	13.4	83.7	15.5	85.0	12.5																
All	70.8	16.6	78.3	14.1	86.4	10.3	94.7	3.1	87.3	9.6	87.6	10.3	89.0	8.9																
Items Correct																														
2-syll	77.5	26.8	85.5	13.7	90.0	14.3	91.7	7.2	92.0	11.6	92.6	7.4	95.0	10.5																
3-syll	40.0	33.8	52.7	25.9	66.7	27.5	72.2	25.5	75.8	22.8	76.5	22.8	80.0	20.5																
4-syll	18.3	24.0	28.2	27.9	48.3	30.6	75.0	0.0	52.3	36.1	52.3	35.3	50.0	39.1																
3&4-syll	31.3	25.6	42.9	23.0	59.3	24.6	73.3	15.3	66.4	22.5	66.8	25.1	68.0	26.2																
All	51.9	23.3	61.8	17.6	73.0	18.4	81.5	8.5	77.8	14.7	78.3	14.3	80.0	16.0																
Processing																														
Encoding (w/in class subst)																														
2-syllable	34.3	47.2	31.6	41.5	66.7	47.1	50.0	70.7	46.7	50.6	27.3	46.7	25.0	35.4																
3-syllable	53.5	27.5	59.4	37.3	63.3	31.7	66.7	*	67.6	25.9	48.2	45.1	51.7	44.9																
4-syllable	61.8	27.9	66.5	25.8	70.3	30.0	100.0	0.0	71.9	28.5	53.5	34.6	61.1	36.5																
3&4-syllable	58.9	20.5	62.1	26.8	68.3	27.1	88.9	19.2	69.4	24.2	56.0	35.3	67.5	32.2																
All	57.8	21.3	59.3	26.8	68.4	26.6	83.3	28.9	65.2	22.0	55.7	38.3	60.7	37.1																
Memory																														
4/3	64.1	34.8	73.0	34.4	91.3	6.5	93.4	6.7	80.5	19.8	76.9	31.9	76.1	23.5																
3/2	73.9	25.7	80.9	20.4	86.4	12.1	96.1	6.8	89.7	12.2	92.4	11.0	93.4	6.8																
4/2	45.1	30.0	61.6	32.0	81.6	15.0	95.6	3.9	74.8	28.0	73.4	31.2	70.7	28.0																
Transcoding (w/out additions)																														
2-syllable	94.2	11.4	98.0	5.7	99.2	3.2	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0																
3-syllable	86.7	19.1	81.7	23.3	91.1	12.4	88.9	19.2	100.0	0.0	97.0	8.4	95.0	8.1																
4-syllable	88.3	20.8	83.9	27.0	88.3	22.9	91.7	14.4	95.5	10.1	94.3	17.1	97.5	7.9																
3&4-syllable	87.3	17.9	82.6	21.3	90.0	13.6	90.0	10.0	98.2	4.0	95.9	10.5	96.0	7.0																
All	90.4	11.6	89.4	12.7	94.1	7.4	94.4	5.6	99.0	2.2	97.7	5.9	97.8	3.9																

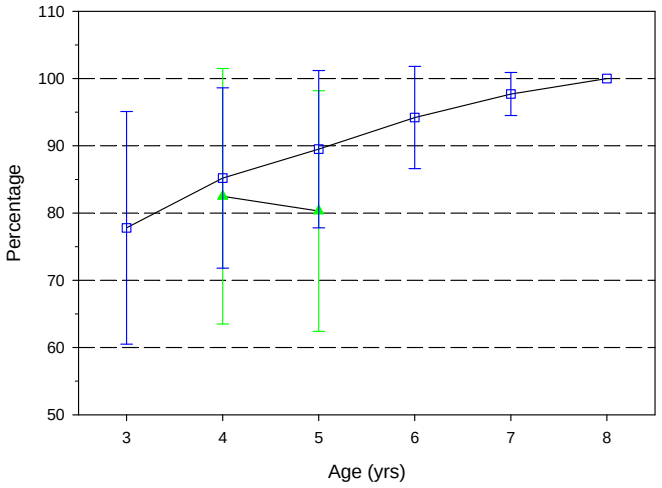
Table IB4 (Source BCD – Combined Ages). SRT Competence and Processing Scores for 101 participants with Typical Speech-Typical Language subgrouped from ages 3 years to 17 years.

	TYPICAL SPEECH-TYPICAL LANGUAGE																															
Variable	3-5 Yrs (n=61)		6-8 Yrs (n=36)		15&17 Yrs (n=4)																											
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																																
Consonants Correct																																
2-syll	92.4	11.2	96.0	4.5	100.0	0.0																										
3-syll	77.9	17.6	90.6	10.1	100.0	0.0																										
4-syll	65.1	24.4	77.5	23.2	95.3	6.0																										
3&4-syll	71.8	18.3	84.4	14.3	97.8	2.8																										
All	78.4	14.8	88.1	9.7	98.5	1.9																										
Items Correct																																
2-syll	84.6	18.2	92.4	8.6	100.0	0.0																										
3-syll	53.0	29.4	75.9	22.3	100.0	0.0																										
4-syll	30.7	29.4	54.2	34.1	81.3	23.9																										
3&4-syll	44.1	25.7	67.2	23.3	92.5	9.6																										
All	62.1	20.4	78.4	13.8	95.8	5.3																										
Processing																																
Encoding (w/in class subst)																																
2-syllable	39.6	44.8	35.2	47.8	*	*																										
3-syllable	58.8	33.5	55.2	39.2	*	*																										
4-syllable	66.3	27.0	62.8	33.7	100.0	0.0																										
3&4-syllable	62.8	25.3	63.3	32.0	100.0	0.0																										
All	61.2	25.4	60.8	33.9	100.0	0.0																										
Memory																																
4/3	75.3	31.4	79.4	27.3	95.1	6.4																										
3/2	80.5	20.4	91.9	11.0	100.0	0.0																										
4/2	62.5	30.7	75.7	29.1	95.1	6.4																										
Transcoding (w/out additions)																																
2-syllable	97.3	7.3	100.0	0.0	100.0	0.0																										
3-syllable	85.2	20.2	97.2	8.5	100.0	0.0																										
4-syllable	86.1	24.4	94.4	14.8	93.8	12.5																										
3&4-syllable	85.6	18.8	96.1	9.0	97.5	5.0																										
All	90.8	11.3	97.8	5.0	98.6	2.8																										

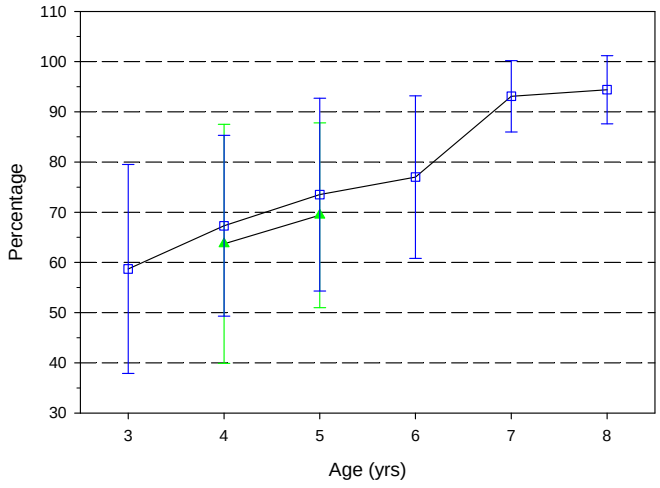
BCD
E

IIA1. SRT Performance Data: Percentage of Correctly Repeated Consonants

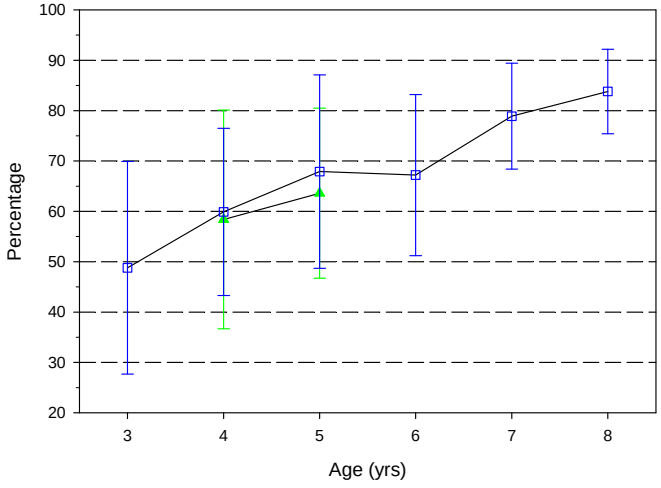
2-SYLLABLES:PCCR



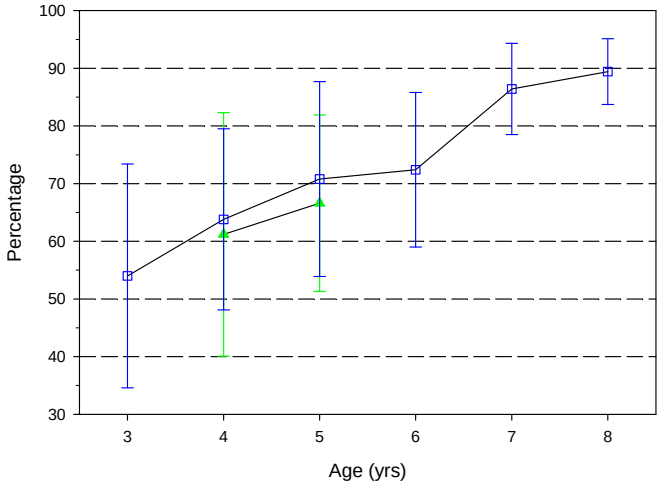
3-SYLLABLES:PCCR



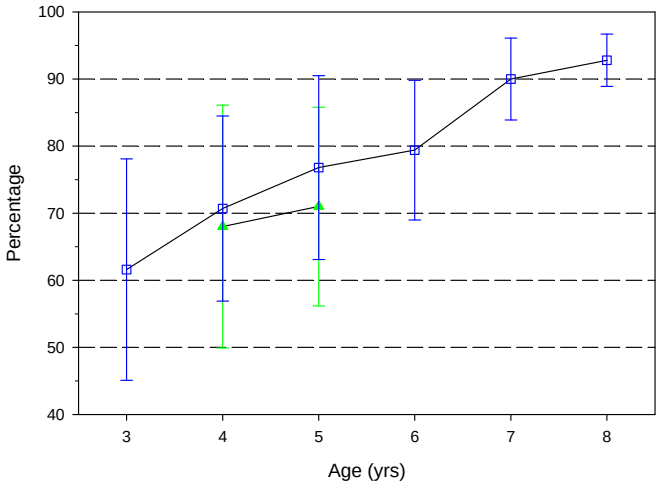
4-SYLLABLES:PCCR



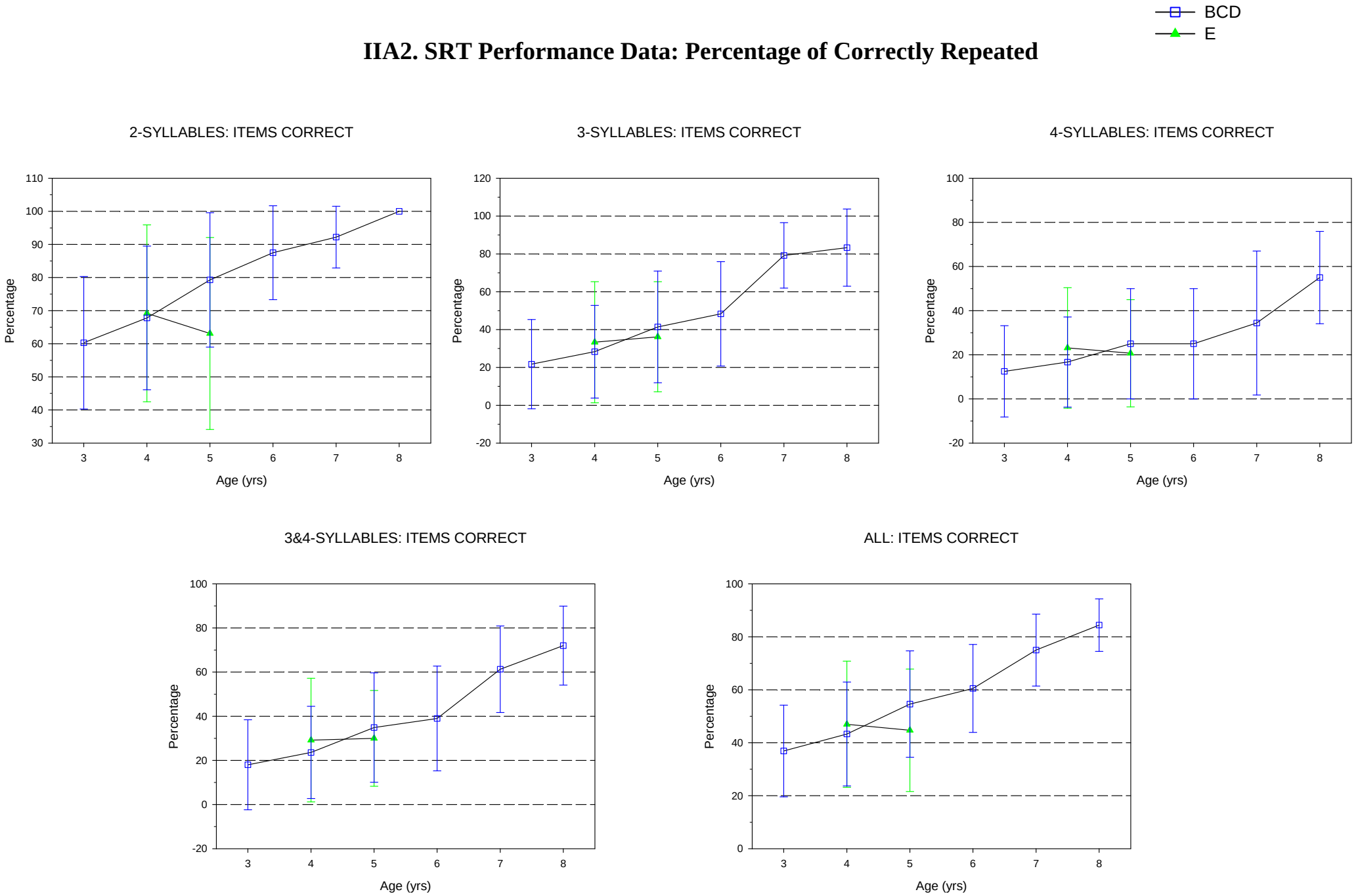
3&4-SYLLABLES:PCCR



ALL:PCCR



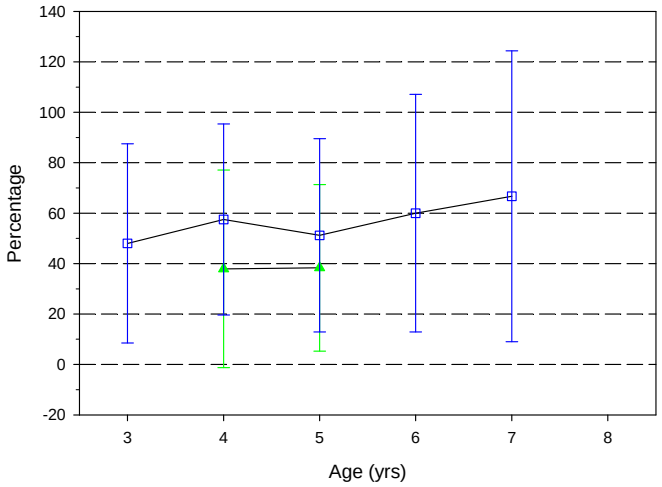
IIA2. SRT Performance Data: Percentage of Correctly Repeated



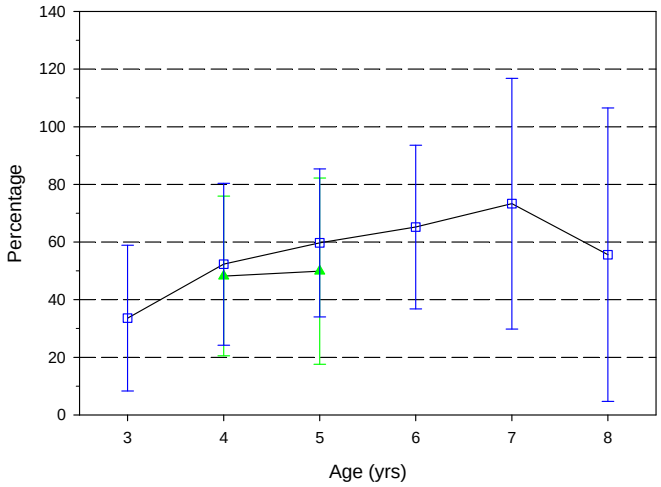
IIA3. SRT Processes Data: Encoding

BCD
E

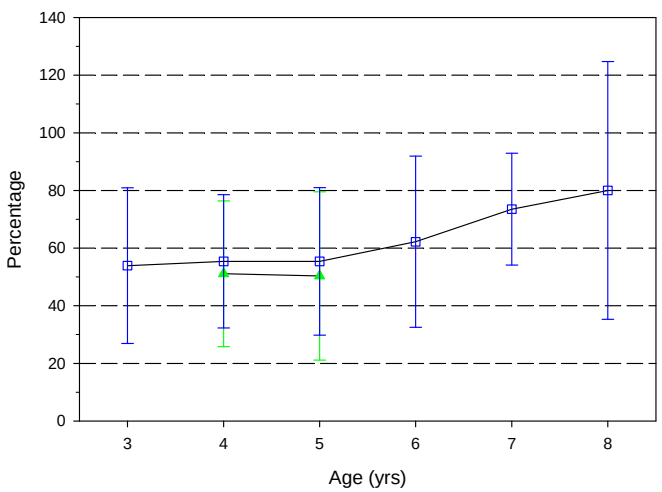
2-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



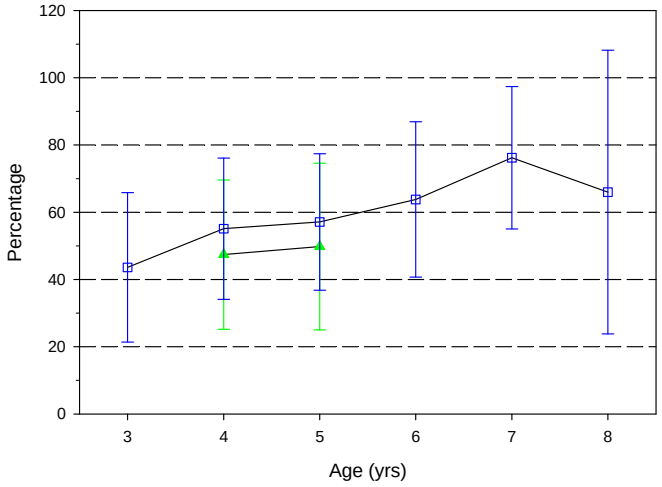
3-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



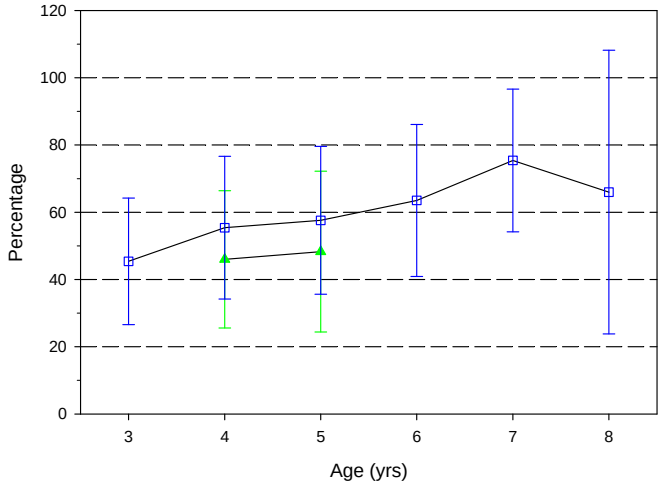
4-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



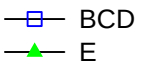
3&4-SYLLABLES: WITHIN CLASS SUBSTITUTIONS*



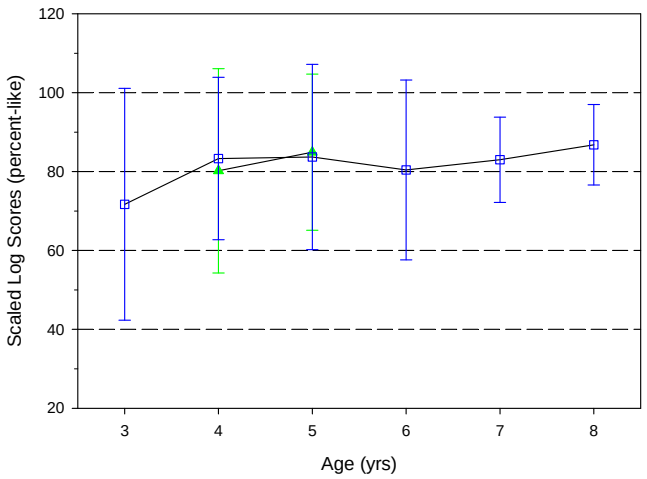
ALL: WITHIN CLASS SUBSTITUTIONS



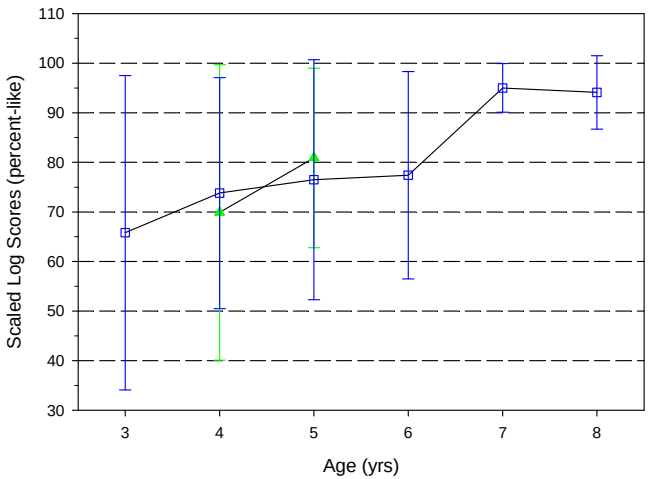
IIA4. SRT Processes Data: Memorial



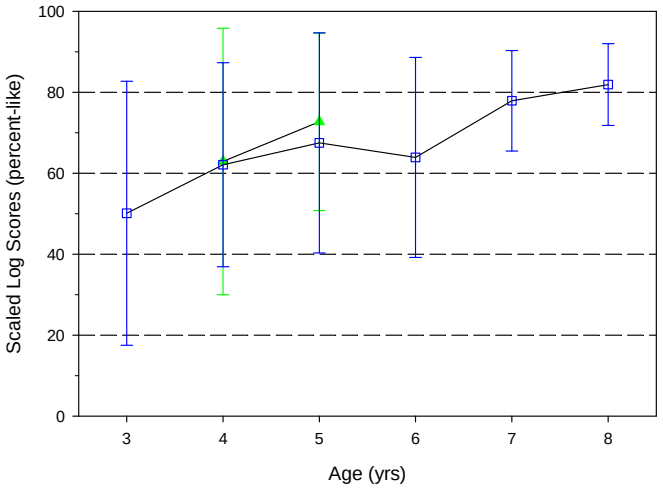
MEMORY: 4/3 SYLLABLES



MEMORY: 3/2 SYLLABLES*



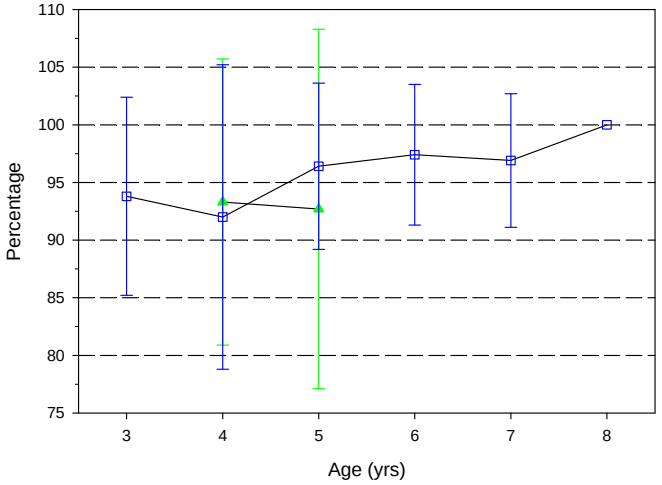
MEMORY: 4/2 SYLLABLES



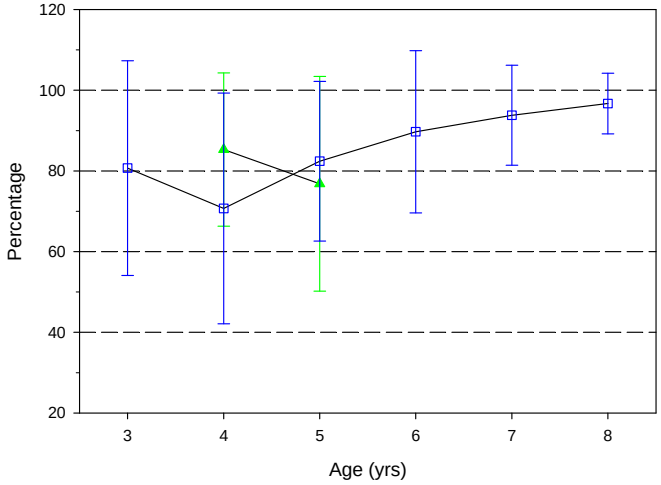
IIA5. SRT Processes Data: Transcoding

BCD
E

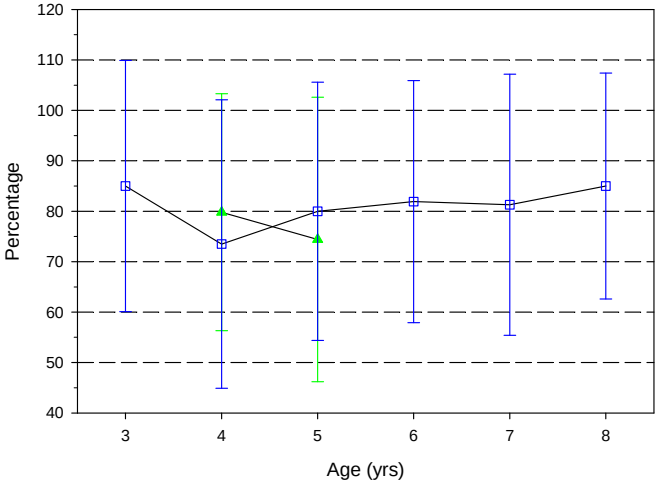
2-SYLLABLES: ITEMS WITHOUT ADDITIONS



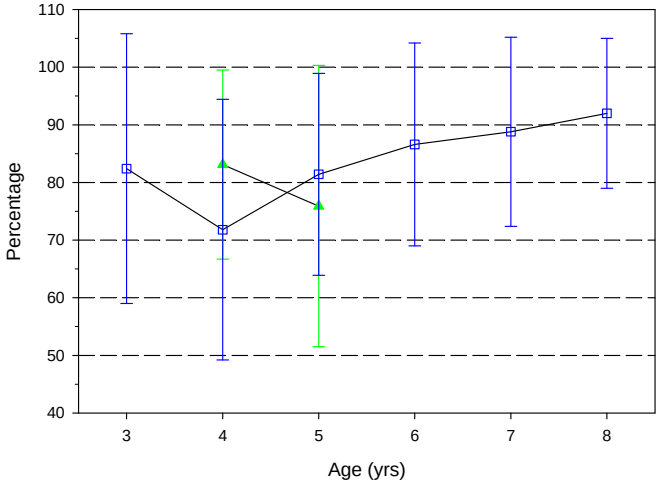
3-SYLLABLES: ITEMS WITHOUT ADDITIONS



4-SYLLABLES: ITEMS WITHOUT ADDITIONS



3&4-SYLLABLES: ITEMS WITHOUT ADDITIONS



ALL SYLLABLES: ITEMS WITHOUT ADDITIONS*

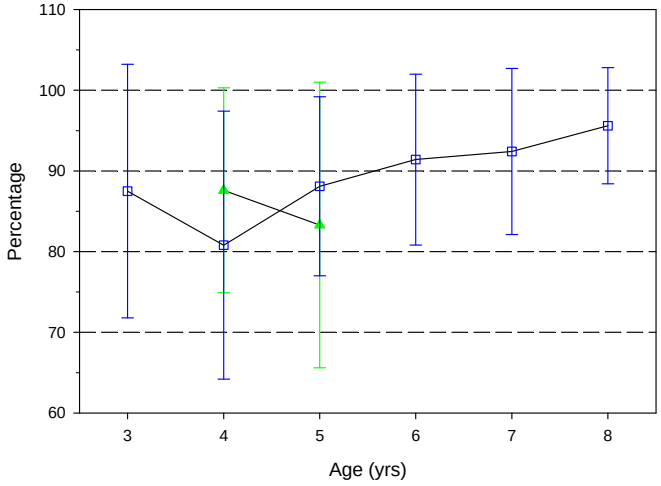


Table IIB1 (Source BCD – Individual Ages). SRT Competence and Processing Scores for 132 participants with Speech Delay-Typical Language from ages 3 years to 8 years.

	SPEECH DELAY-TYPICAL LANGUAGE																													
Variable	3 Yrs (n=20)		4 Yrs (n=34)		5 Yrs (n=36)		6 Yrs (n=29)		7 Yrs (n=8)		8 Yrs (n=5)		9 Yrs		10 Yrs		11 Yrs		12 Yrs		13 Yrs		14 Yrs		15 Yrs		16 Yrs		17 Yrs	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll	77.8	17.3	85.2	13.4	89.5	11.7	94.2	7.6	97.7	3.2	100.0	0.0																		
3-syll	58.7	20.8	67.3	18.0	73.5	19.2	77.0	16.2	93.1	7.1	94.4	6.8																		
4-syll	48.8	21.1	59.9	16.6	67.9	19.2	67.2	16.0	78.9	10.5	83.8	8.4																		
3&4-syll	54.0	19.4	63.8	15.7	70.8	16.9	72.4	13.4	86.4	7.9	89.4	5.7																		
All	61.6	16.5	70.7	13.8	76.8	13.7	79.4	10.4	90.0	6.1	92.8	3.9																		
Items Correct																														
2-syll	60.3	20.0	67.8	21.7	79.3	20.3	87.5	14.2	92.2	9.3	100.0	0.0																		
3-syll	21.7	23.6	28.3	24.5	41.4	29.5	48.3	27.6	79.2	17.3	83.3	20.4																		
4-syll	12.5	20.7	16.7	20.4	25.0	25.0	25.0	25.0	34.4	32.6	55.0	20.9																		
3&4-syll	18.0	20.4	23.6	20.9	34.9	24.8	39.0	23.7	61.3	19.6	72.0	17.9																		
All	36.9	17.3	43.3	19.6	54.6	20.1	60.5	16.6	75.0	13.6	84.4	9.9																		
Processing																														
Encoding (w/in class subst)																														
2-syllable	48.0	39.5	57.5	37.9	51.2	38.3	60.0	47.1	66.7	57.7	*	*																		
3-syllable	33.6	25.3	52.3	28.1	59.7	25.7	65.2	28.4	73.3	43.5	55.6	50.9																		
4-syllable	53.9	27.0	55.4	23.1	55.4	25.6	62.2	29.7	73.5	19.4	80.0	44.7																		
3&4-syllable	43.6	22.2	55.1	21.0	57.1	20.3	63.8	23.1	76.2	21.2	66.0	42.2																		
All	45.4	18.8	55.4	21.2	57.6	22.0	63.5	22.6	75.4	21.2	66.0	42.2																		
Memory																														
4/3	71.7	29.4	83.3	20.6	83.7	23.5	80.4	22.8	83.0	10.8	86.8	10.2																		
3/2	65.8	31.7	73.8	23.3	76.5	24.2	77.4	20.9	95.0	4.9	94.1	7.4																		
4/2	50.1	32.6	62.1	25.2	67.5	27.2	63.9	24.7	77.9	12.4	81.9	10.1																		
Transcoding (w/out additions)																														
2-syllable	93.8	8.6	92.0	13.2	96.4	7.2	97.4	6.1	96.9	5.8	100.0	0.0																		
3-syllable	80.7	26.6	70.7	28.6	82.4	19.8	89.7	20.1	93.8	12.4	96.7	7.5																		
4-syllable	85.0	24.9	73.5	28.6	80.0	25.6	81.9	24.0	81.3	25.9	85.0	22.4																		
3&4-syllable	82.4	23.4	71.8	22.6	81.4	17.5	86.6	17.6	88.8	16.4	92.0	13.0																		
All	87.5	15.7	80.8	16.6	88.1	11.1	91.4	10.6	92.4	10.3	95.6	7.2																		

Table IIB2 (Source BCD – Combined Ages). SRT Competence and Processing Scores for 132 participants with Speech Delay-Typical Language subgrouped from ages 3 years to 8 years.

	SPEECH DELAY-TYPICAL LANGUAGE																													
Variable	3-5 Yrs (n=90)		6-8 Yrs (n=42)																											
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll	85.2	14.3	95.5	6.8																										
3-syll	67.8	19.8	82.1	15.9																										
4-syll	60.5	19.9	71.4	15.6																										
3&4-syll	64.4	18.1	77.1	13.7																										
All	71.1	15.4	83.0	10.6																										
Items Correct																														
2-syll	70.7	21.9	89.9	13.0																										
3-syll	32.0	27.4	58.3	29.0																										
4-syll	19.0	22.7	30.4	27.4																										
3&4-syll	26.8	23.2	47.1	25.3																										
All	46.3	20.4	66.1	17.5																										
Processing																														
Encoding (w/in class subst)																														
2-syllable	52.8	38.0	61.1	47.1																										
3-syllable	50.5	28.1	65.5	32.0																										
4-syllable	55.1	24.7	66.6	30.1																										
3&4-syllable	53.2	21.5	66.5	25.3																										
All	54.0	21.3	66.1	25.0																										
Memory																														
4/3	80.8	24.2	81.7	19.7																										
3/2	73.1	25.8	82.7	19.3																										
4/2	61.5	28.3	68.7	22.5																										
Transcoding (w/out additions)																														
2-syllable	94.2	10.2	97.6	5.7																										
3-syllable	77.6	25.2	91.3	17.7																										
4-syllable	78.7	26.7	82.1	23.6																										
3&4-syllable	78.1	21.2	87.6	16.6																										
All	85.2	14.7	92.1	10.1																										

Table IIB3 (Source E – Individual Ages). SRT Competence and Processing Scores for 68 participants from Australia with Speech Delay-Typical Language from ages 4 to 5 years.

	SPEECH DELAY-TYPICAL LANGUAGE																													
Variable	3 Yrs		4 Yrs (n= 26)		5 Yrs (n=42)		6 Yrs		7 Yrs		8 Yrs		9 Yrs		10 Yrs		11 Yrs		12 Yrs		13 Yrs		14 Yrs		15 Yrs		16 Yrs		17 Yrs	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll			82.5	19.0	80.3	17.9																								
3-syll			63.7	23.8	69.4	18.4																								
4-syll			58.4	21.7	63.6	16.9																								
3&4-syll			61.2	21.1	66.6	15.3																								
All			68.0	18.1	71.0	14.8																								
Items Correct																														
2-syll			69.2	26.7	63.1	29.0																								
3-syll			33.3	32.0	36.2	29.1																								
4-syll			23.1	27.3	20.7	24.3																								
3&4-syll			29.2	28.0	30.0	21.7																								
All			47.0	23.8	44.7	23.1																								
Processing																														
Encoding (w/in class subst)																														
2-syllable			37.9	39.2	38.3	33.0																								
3-syllable			48.2	27.7	49.9	32.3																								
4-syllable			51.1	25.3	50.3	29.2																								
3&4-syllable			47.4	22.2	49.8	24.8																								
All			46.0	20.4	48.3	23.9																								
Memory																														
4/3			80.2	25.9	84.9	19.8																								
3/2			69.9	29.8	80.9	18.1																								
4/2			62.9	32.9	72.7	21.9																								
Transcoding (w/out additions)																														
2-syllable			93.3	12.4	92.7	15.6																								
3-syllable			85.3	19.0	76.8	26.6																								
4-syllable			79.8	23.5	74.4	28.2																								
3&4-syllable			83.1	16.4	75.9	24.4																								
All			87.6	12.7	83.3	17.7																								

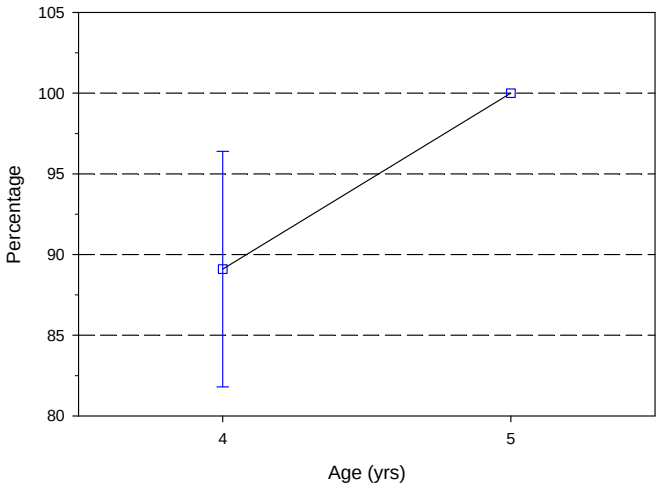
Table IIB4 (Source E – Combined Ages). SRT Competence and Processing Scores for 70 participants from Australia with Speech Delay-Typical Language for ages 4 years to 6 years combined.

	SPEECH DELAY-TYPICAL LANGUAGE																													
Variable	4-6 Yrs (n=68)																													
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll	81.4	18.1																												
3-syll	67.6	20.6																												
4-syll	61.6	18.7																												
3&4-syll	64.8	17.6																												
All	70.1	16.0																												
Items Correct																														
2-syll	65.9	28.0																												
3-syll	35.7	29.9																												
4-syll	21.7	25.3																												
3&4-syll	30.1	24.0																												
All	46.1	23.2																												
Processing																														
Encoding (w/in class subst)																														
2-syllable	38.0	34.9																												
3-syllable	50.9	31.2																												
4-syllable	51.8	28.2																												
3&4-syllable	50.3	24.7																												
All	48.7	23.4																												
Memory																														
4/3	82.7	22.1																												
3/2	77.0	23.6																												
4/2	68.7	26.5																												
Transcoding (w/out additions)																														
2-syllable	93.1	14.1																												
3-syllable	80.4	23.9																												
4-syllable	77.2	26.3																												
3&4-syllable	79.1	21.7																												
All	85.3	15.9																												

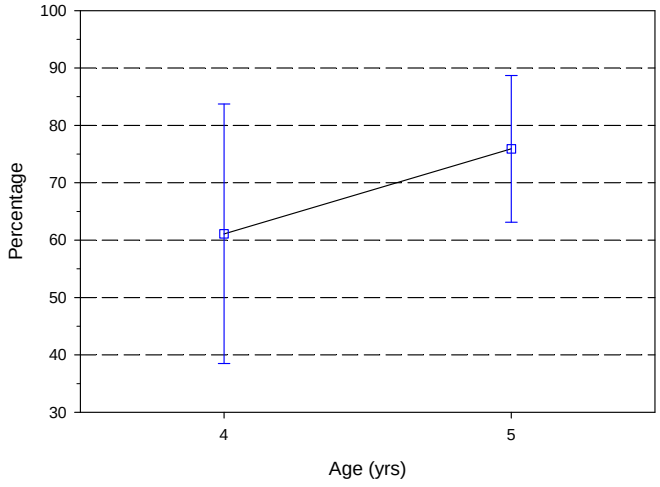
BCD

IIIA1. SRT Performance Data: Percentage of Correctly Repeated Consonants

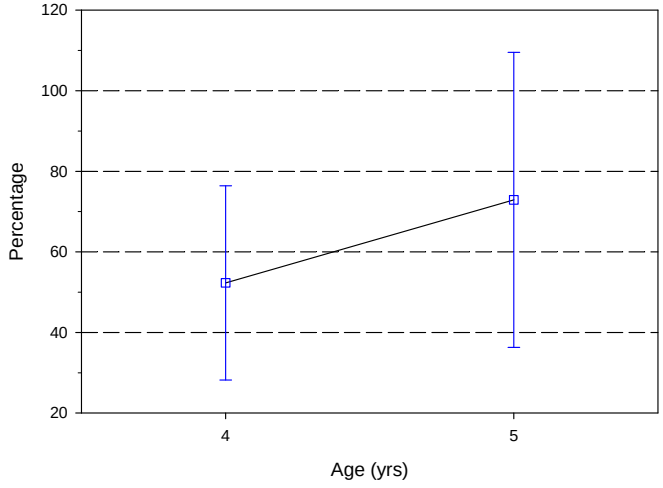
2-SYLLABLES:PCCR



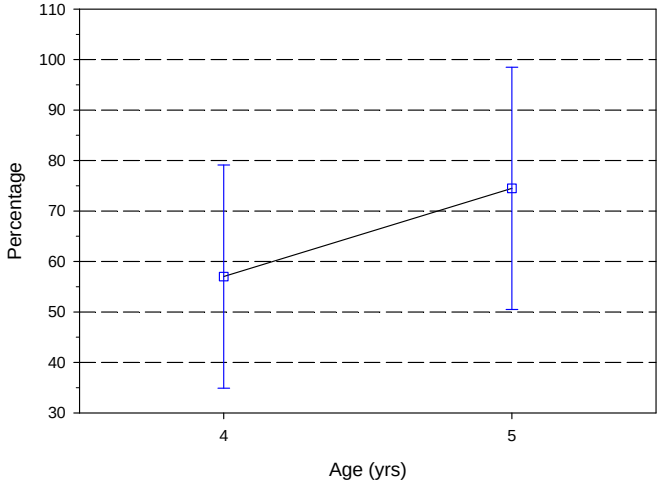
3-SYLLABLES:PCCR



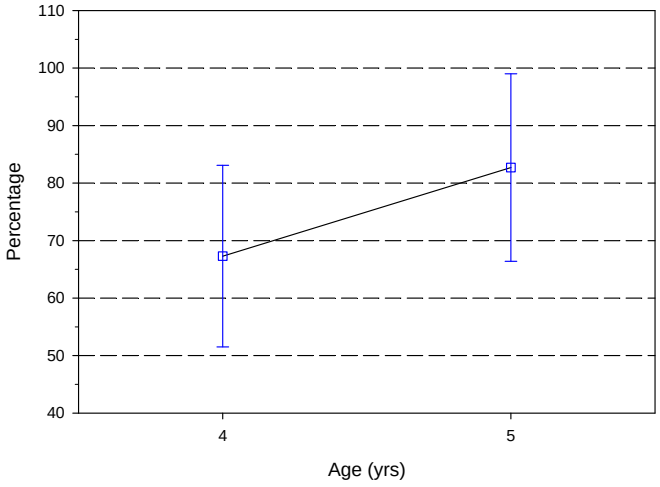
4-SYLLABLES:PCCR



3&4-SYLLABLES:PCCR



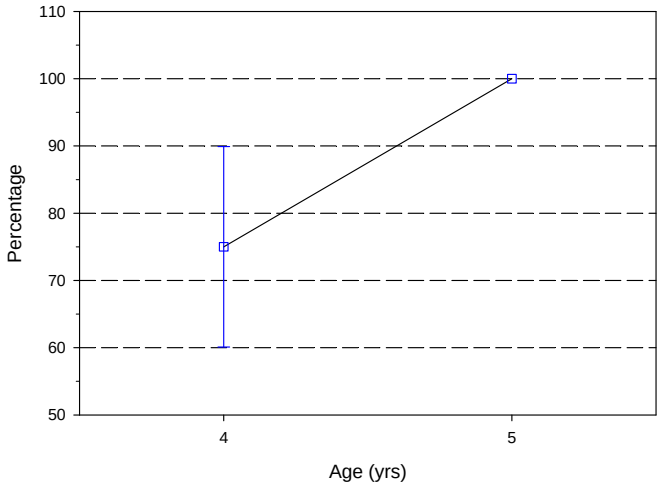
ALL:PCCR



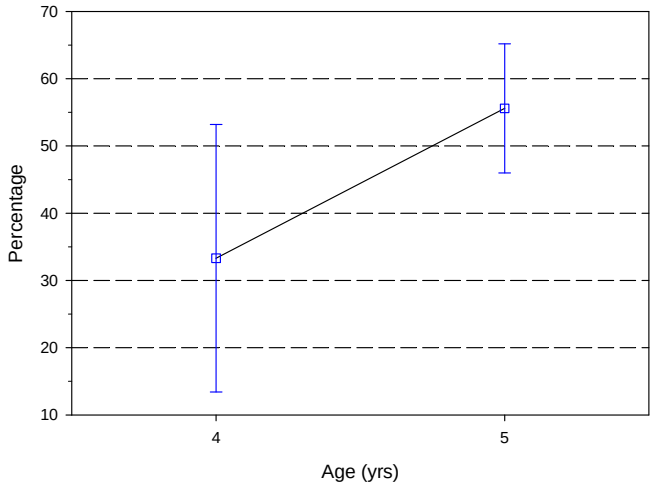
BCD

IIIA2. SRT Performance Data: Percentage of Correctly Repeated Items

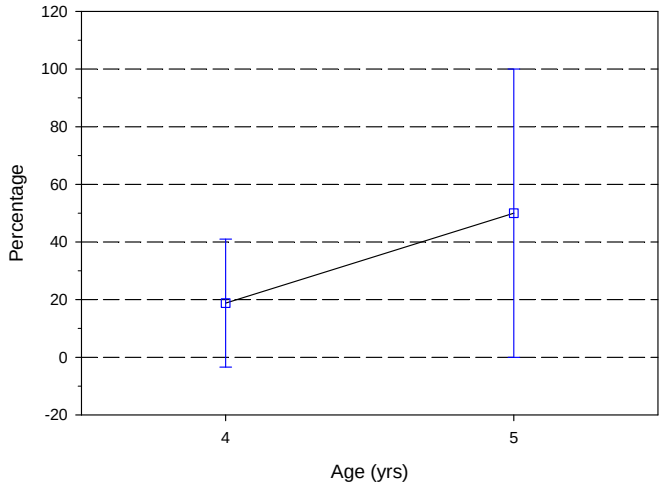
2-SYLLABLES: ITEMS CORRECT



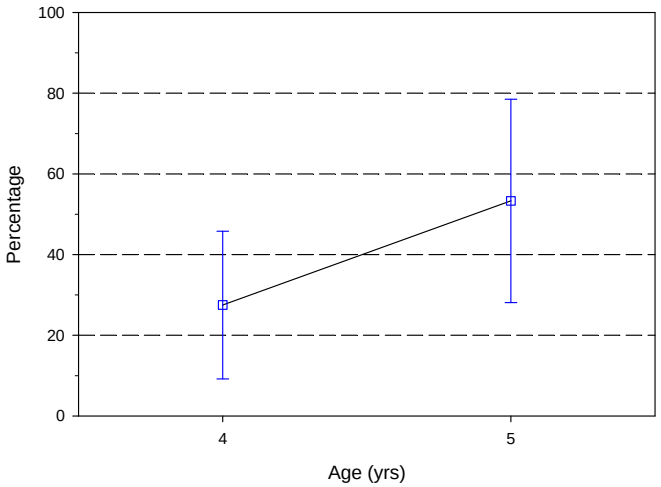
3-SYLLABLES: ITEMS CORRECT



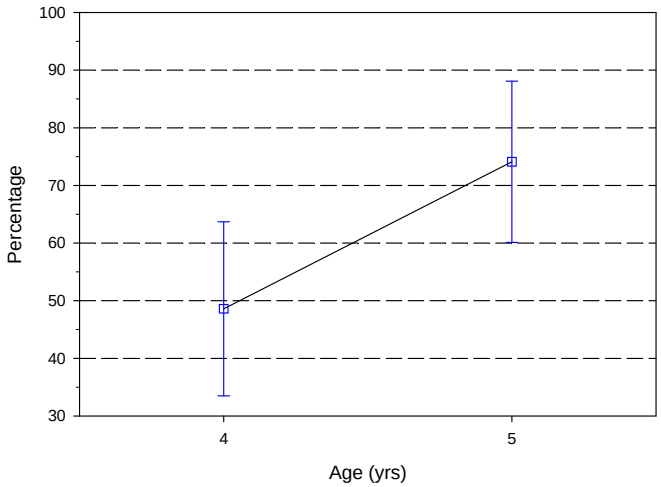
4-SYLLABLES: ITEMS CORRECT



3&4-SYLLABLES: ITEMS CORRECT



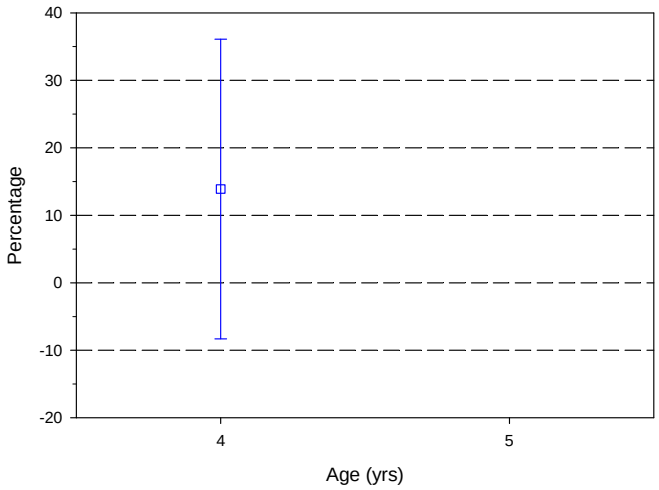
ALL: ITEMS CORRECT



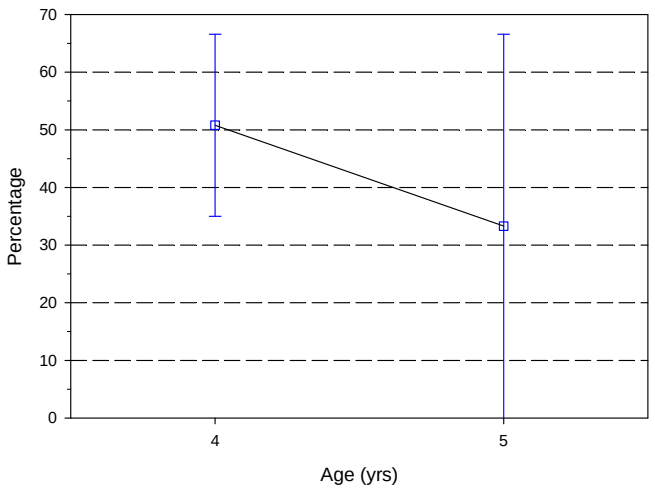
BCD

IIIA3. SRT Processes Data: Encoding

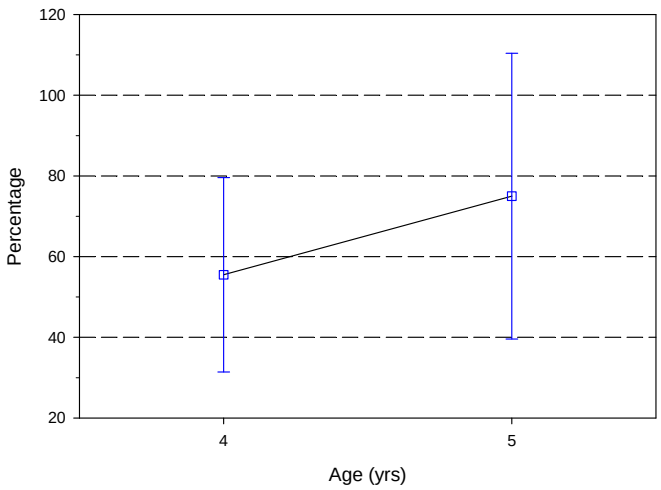
2-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



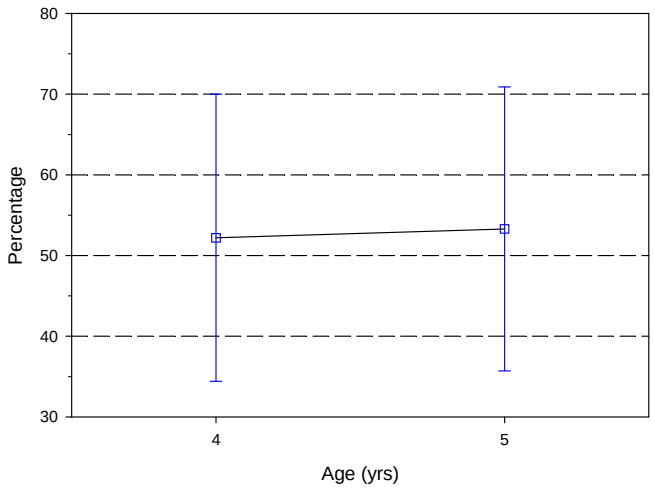
3-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



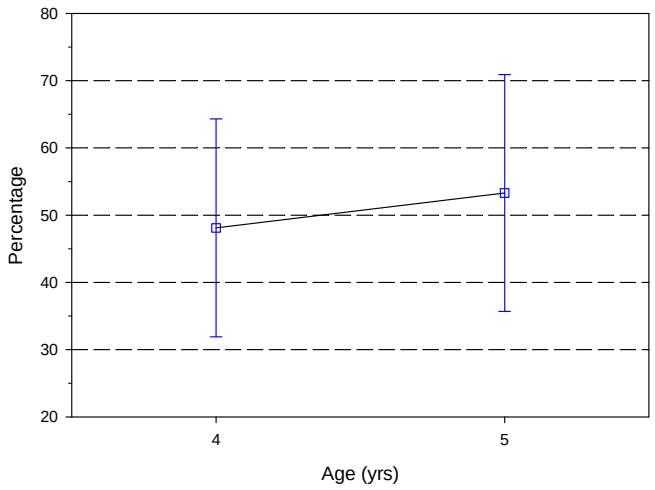
4-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



3&4-SYLLABLES: WITHIN CLASS SUBSTITUTIONS*



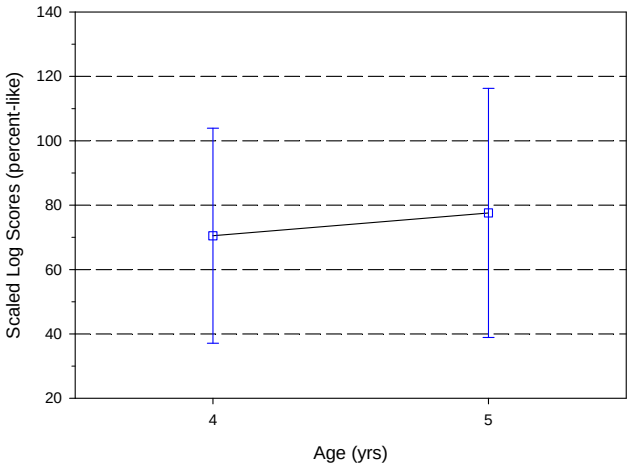
ALL: WITHIN CLASS SUBSTITUTIONS



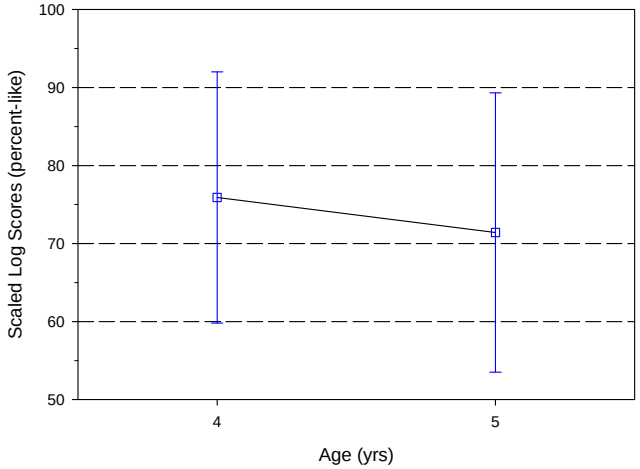
BCD

IIIA4. SRT Processes Data: Memorial

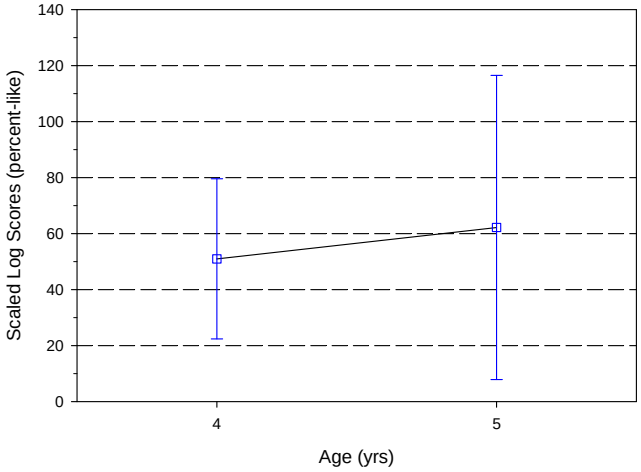
MEMORY: 4/3 SYLLABLES



MEMORY: 3/2 SYLLABLES*



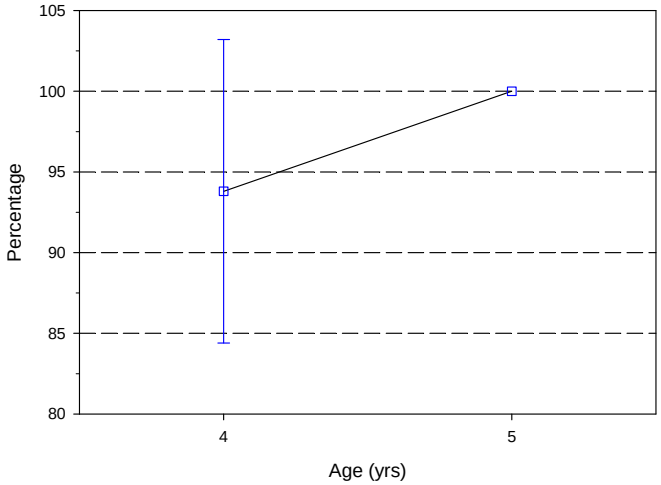
MEMORY: 4/2 SYLLABLES



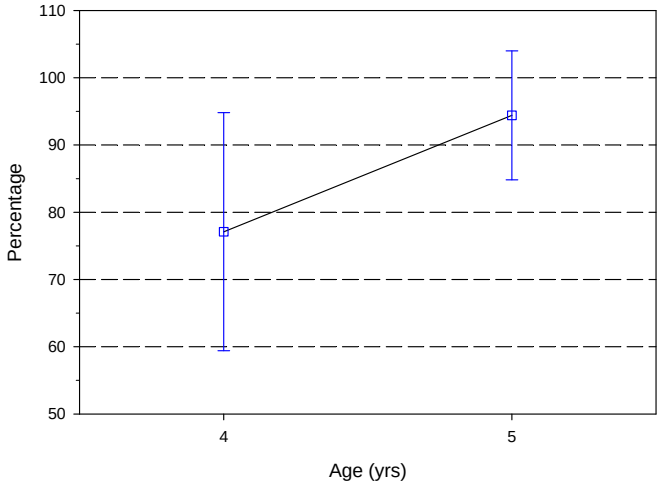
BCD

IIIA5. SRT Processes Data: Transcoding

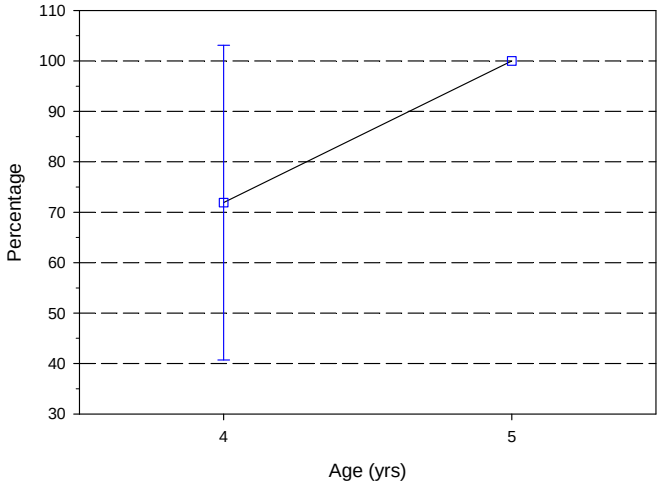
2-SYLLABLES: ITEMS WITHOUT ADDITIONS



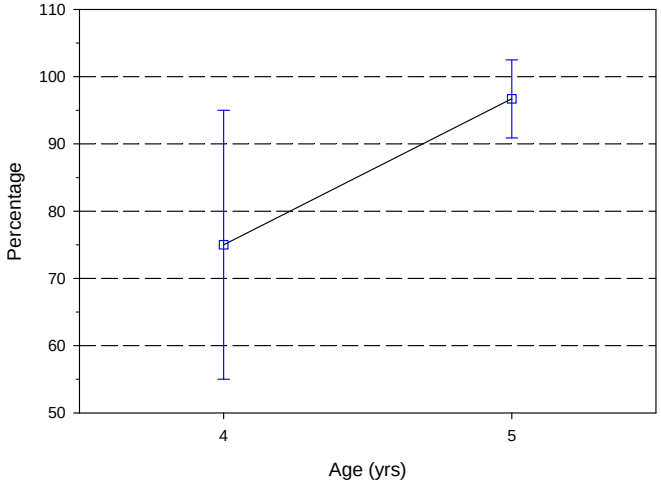
3-SYLLABLES: ITEMS WITHOUT ADDITIONS



4-SYLLABLES: ITEMS WITHOUT ADDITIONS



3&4-SYLLABLES: ITEMS WITHOUT ADDITIONS



ALL SYLLABLES: ITEMS WITHOUT ADDITIONS*

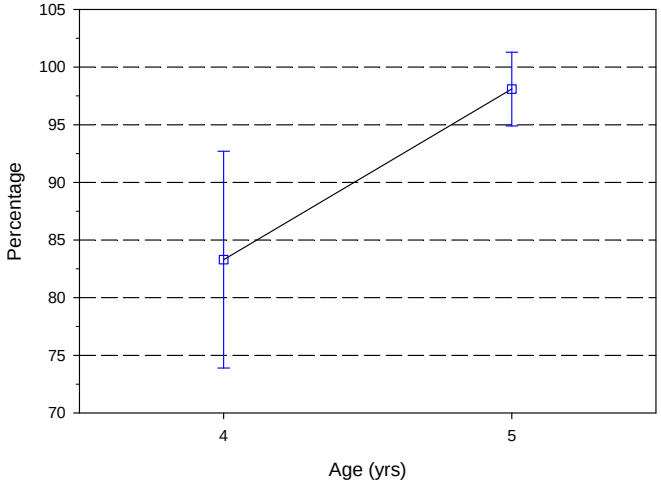


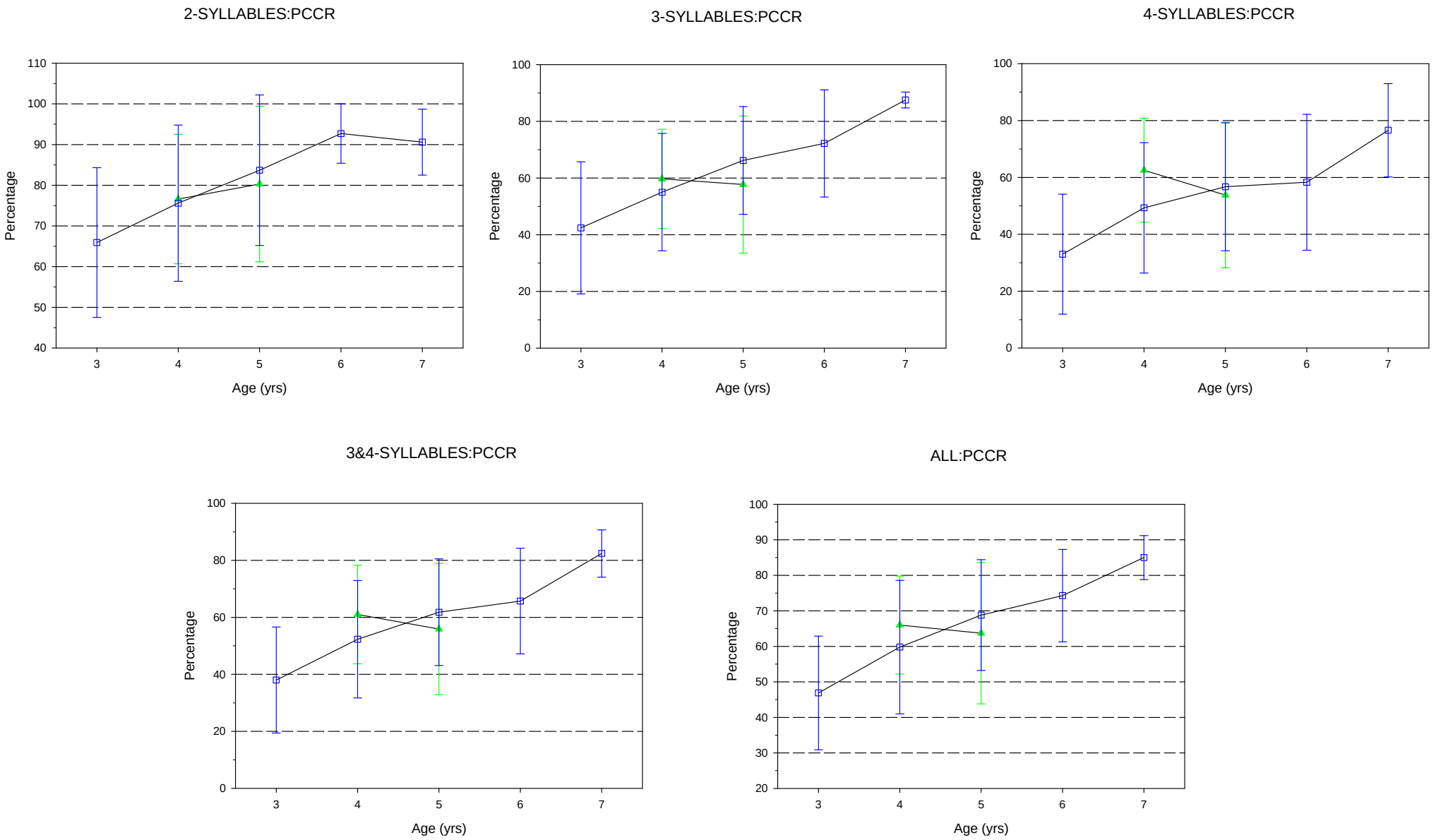
Table IIIB1 (Source BCD – Individual Ages). SRT Competence and Processing Scores for 11 participants with Typical Speech-Language Impairment from ages 4 to 5 years.

	TYPICAL SPEECH- LANGUAGE IMPAIRMENT																													
Variable	3 Yrs		4 Yrs (n=8)		5 Yrs (n=3)		6 Yrs		7 Yrs		8 Yrs		9 Yrs		10 Yrs		11 Yrs		12 Yrs		13 Yrs		14 Yrs		15 Yrs		16 Yrs		17 Yrs	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll			89.1	7.3	100.0	0.0																								
3-syll			61.1	22.6	75.9	12.8																								
4-syll			52.3	24.1	72.9	36.6																								
3&4-syll			57.0	22.1	74.5	24.0																								
All			67.3	15.8	82.7	16.3																								
Items Correct																														
2-syll			75.0	14.9	100.0	0.0																								
3-syll			33.3	19.9	55.6	9.6																								
4-syll			18.8	22.2	50.0	50.0																								
3&4-syll			27.5	18.3	53.3	25.2																								
All			48.6	15.1	74.1	14.0																								
Processing																														
Encoding (w/in class subst)																														
2-syllable			13.9	22.2	*	*																								
3-syllable			50.8	15.8	33.3	33.3																								
4-syllable			55.5	24.1	75.0	35.4																								
3&4-syllable			52.2	17.8	53.3	17.6																								
All			48.1	16.2	53.3	17.6																								
Memory																														
4/3			70.5	33.4	77.6	38.7																								
3/2			75.9	16.1	71.4	17.9																								
4/2			51.0	28.6	62.2	54.3																								
Transcoding (w/out additions)																														
2-syllable			93.8	9.4	100.0	0.0																								
3-syllable			77.1	17.7	94.4	9.6																								
4-syllable			71.9	31.2	100.0	0.0																								
3&4-syllable			75.0	20.0	96.7	5.8																								
All			83.3	9.4	98.1	3.2																								

Table IIIB2 (Source BCD – Combined Ages). SRT Competence and Processing Scores for 11 participants with Typical Speech-Language Impairment for ages 4 and 5 years combined.

	TYPICAL SPEECH–LANGUAGE IMPAIRMENT																													
Variable	4&5 Yrs (n=11)																													
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll	92.0	8.0																												
3-syll	65.2	20.9																												
4-syll	58.0	27.7																												
3&4-syll	61.8	22.9																												
All	71.5	16.7																												
Items Correct																														
2-syll	81.8	17.1																												
3-syll	39.4	20.1																												
4-syll	27.3	32.5																												
3&4-syll	34.5	22.5																												
All	55.6	18.4																												
Processing																														
Encoding (w/in class subst)																														
2-syllable	13.9	22.2																												
3-syllable	45.6	22.0																												
4-syllable	59.8	25.8																												
3&4-syllable	52.6	16.8																												
All	49.7	15.8																												
Memory																														
4/3	72.5	33.0																												
3/2	65.6	25.6																												
4/2	54.1	34.5																												
Transcoding (w/out additions)																														
2-syllable	95.5	8.4																												
3-syllable	81.8	17.4																												
4-syllable	79.5	29.2																												
3&4-syllable	80.9	19.7																												
All	87.4	10.6																												

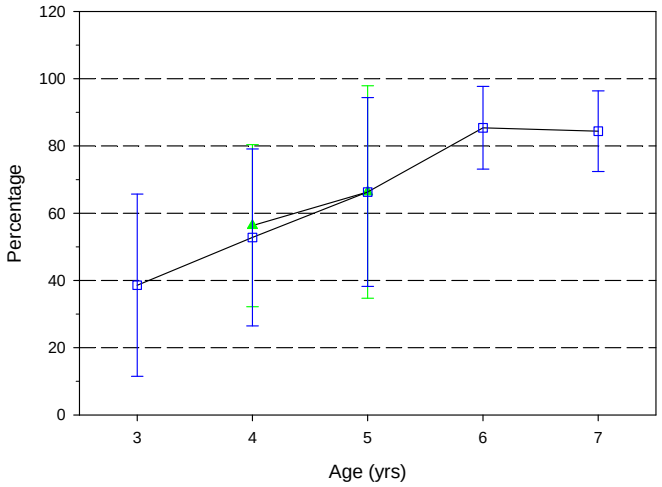
IVA1. SRT Performance Data: Percentage of Correctly Repeated Consonants



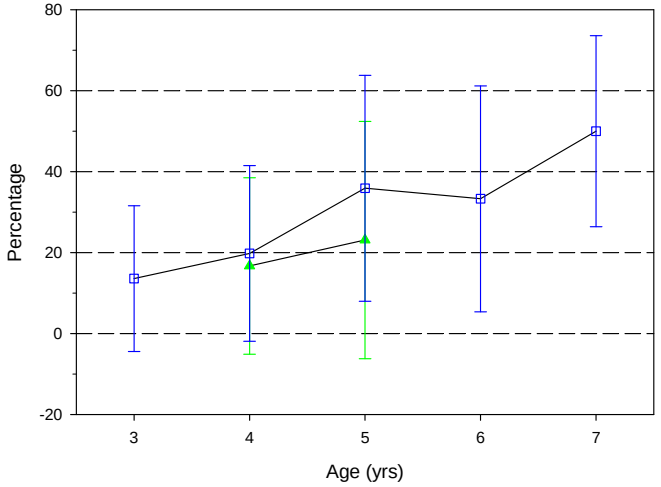
BCD
E

IVA2. SRT Performance Data: Percentage of Correctly Repeated Items

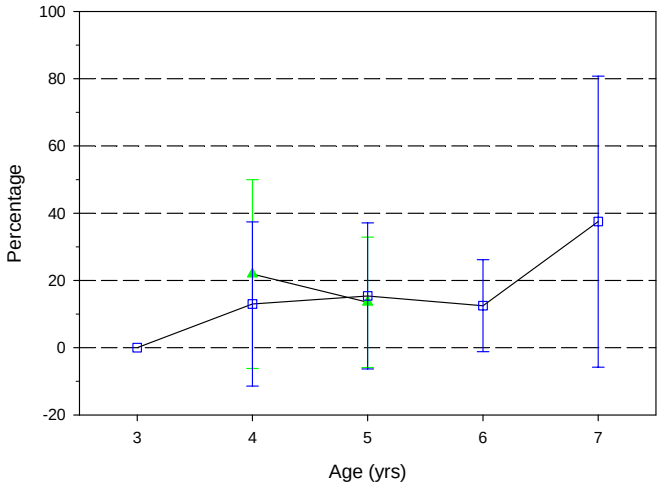
2-SYLLABLES: ITEMS CORRECT



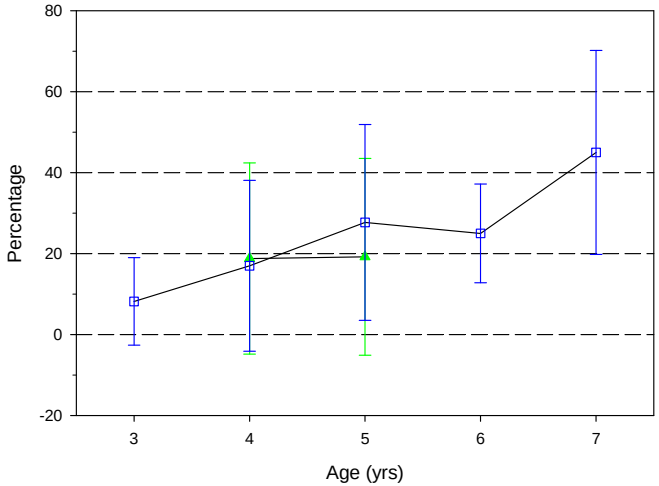
3-SYLLABLES: ITEMS CORRECT



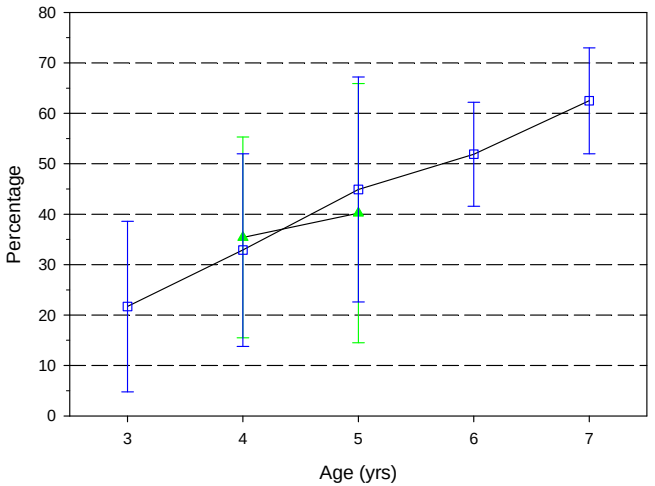
4-SYLLABLES: ITEMS CORRECT



3&4-SYLLABLES: ITEMS CORRECT



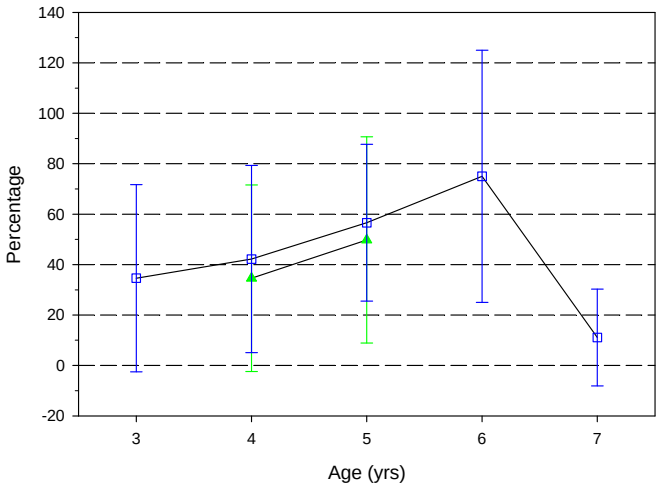
ALL: ITEMS CORRECT



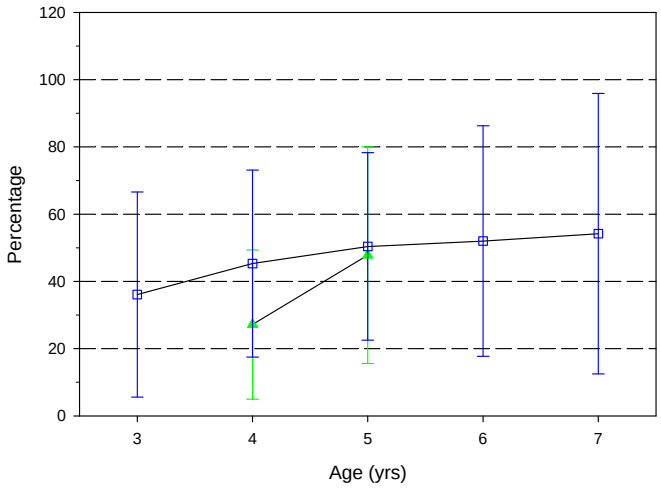
IVA3. SRT Processes Data: Encoding

BCD
E

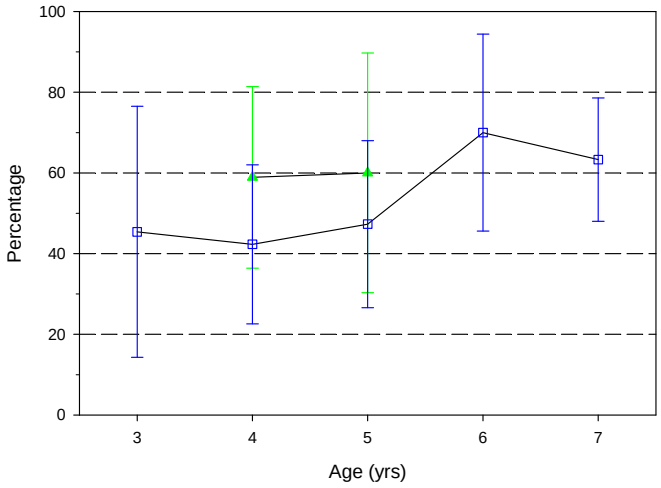
2-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



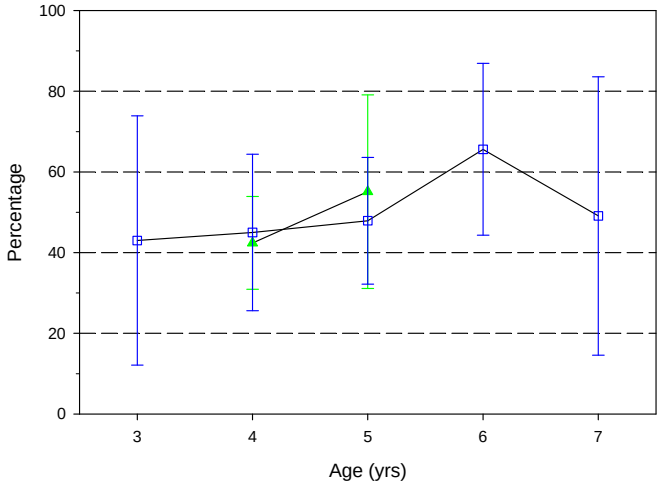
3-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



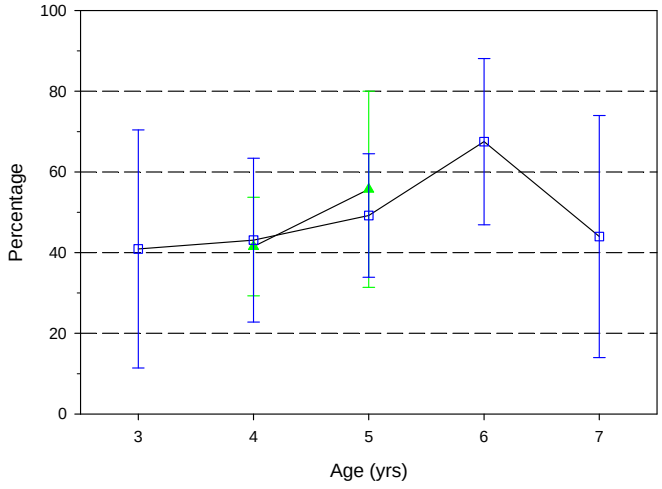
4-SYLLABLES: WITHIN CLASS SUBSTITUTIONS



3&4-SYLLABLES: WITHIN CLASS SUBSTITUTIONS *



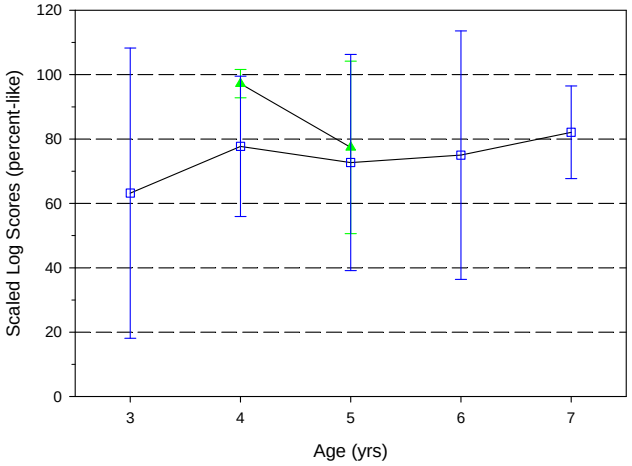
ALL: WITHIN CLASS SUBSTITUTIONS



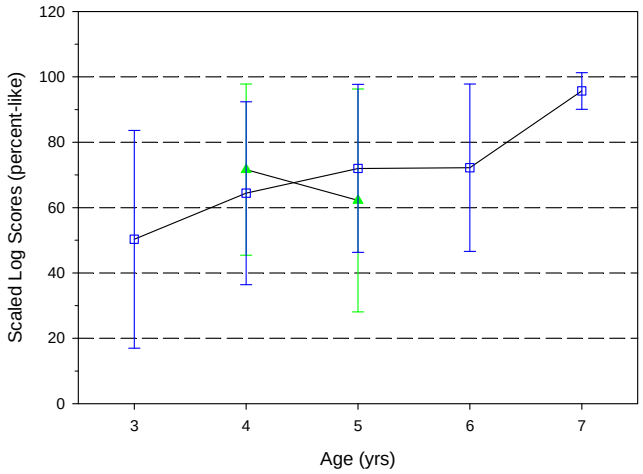
BCD
E

IVA4. SRT Processes Data: Memorial

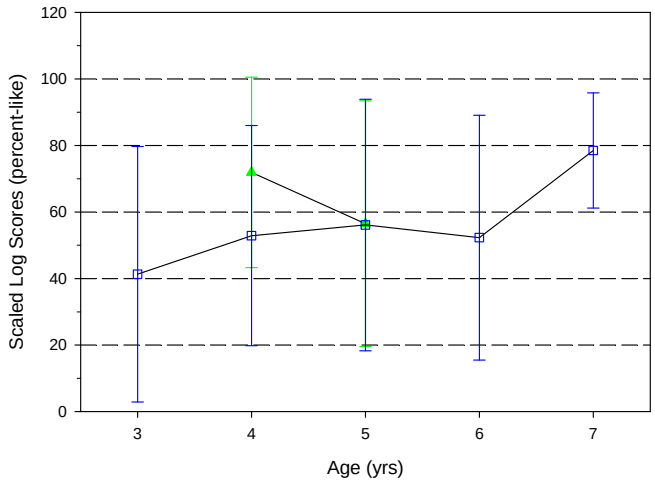
MEMORY: 4/3 SYLLABLES



MEMORY: 3/2 SYLLABLES*



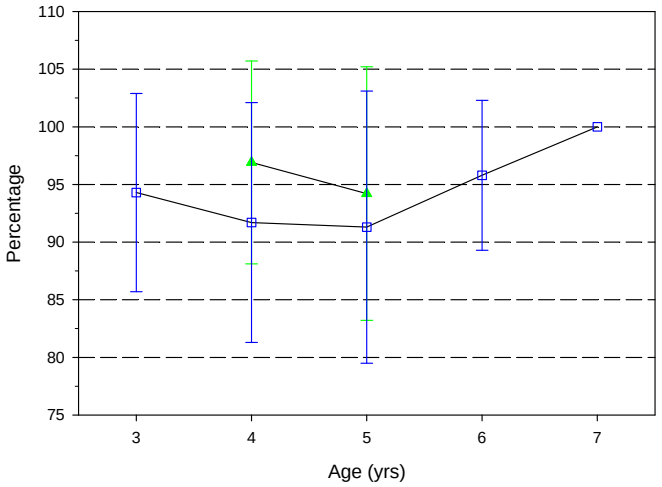
MEMORY: 4/2 SYLLABLES



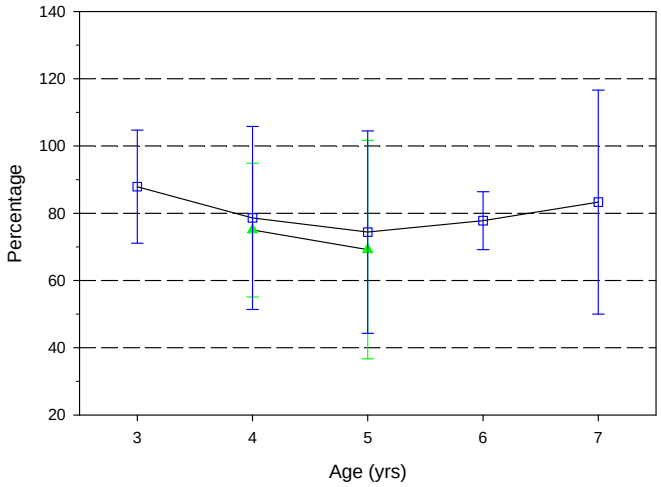
IVA5. SRT Processes Data: Transcoding

BCD
E

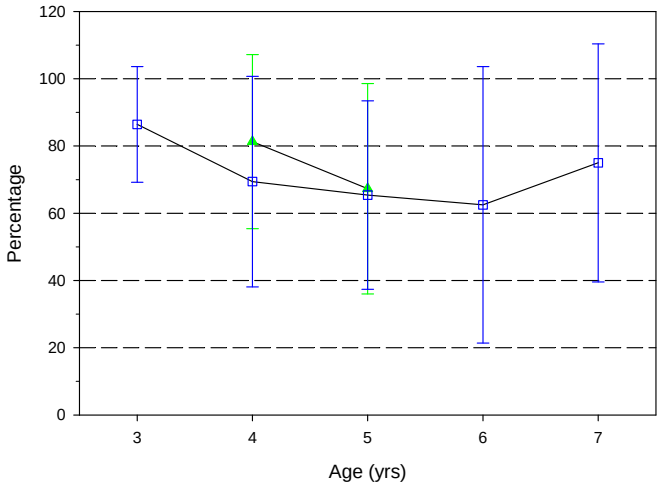
2-SYLLABLES: ITEMS WITHOUT ADDITIONS



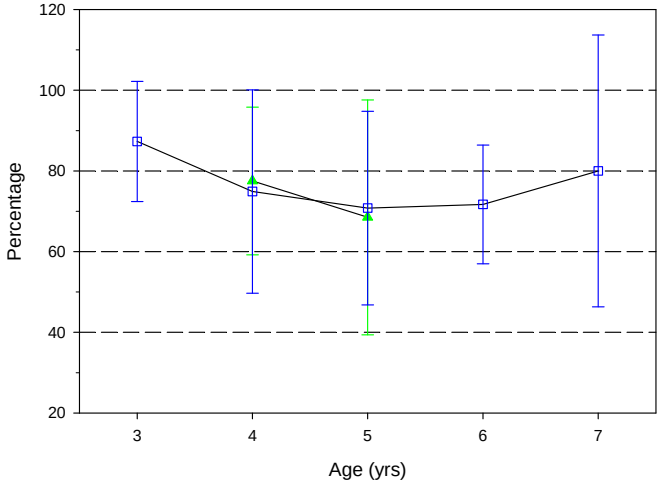
3-SYLLABLES: ITEMS WITHOUT ADDITIONS



4-SYLLABLES: ITEMS WITHOUT ADDITIONS



3&4-SYLLABLES: ITEMS WITHOUT ADDITIONS



ALL SYLLABLES: ITEMS WITHOUT ADDITIONS *

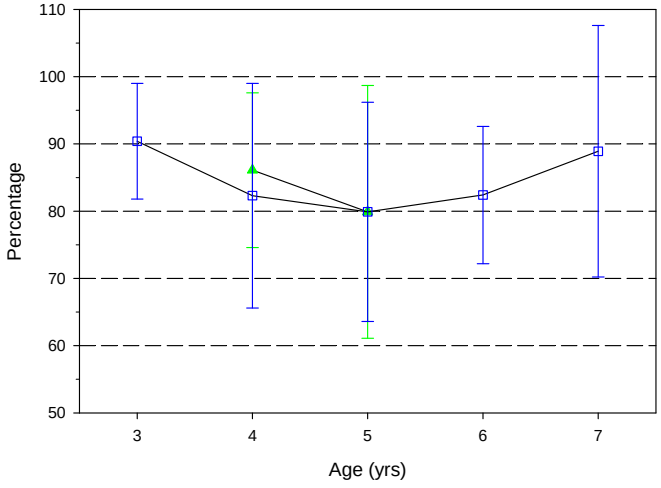


Table IVB1 (Source BCD – Individual Ages). SRT Competence and Processing Scores for 63 participants with Speech Delay-Language Impairment from ages 3 to 7 years.

	SPEECH DELAY- LANGUAGE IMPAIRMENT																													
Variable	3 Yrs (n=12)		4 Yrs (n=28)		5 Yrs (n=13)		6 Yrs (n=6)		7 Yrs (n=4)		8 Yrs		9 Yrs		10 Yrs		11 Yrs		12 Yrs		13 Yrs		14 Yrs		15 Yrs		16 Yrs		17 Yrs	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll	65.9	18.4	75.6	19.2	83.7	18.5	92.7	7.3	90.6	8.1																				
3-syll	42.4	23.3	55.0	20.7	66.2	19.0	72.2	18.9	87.5	2.8																				
4-syll	33.0	21.1	49.3	22.9	56.7	22.5	58.3	23.9	76.6	16.4																				
3&4-syll	38.0	18.6	52.3	20.6	61.8	18.7	65.7	18.5	82.4	8.3																				
All	46.9	16.0	59.8	18.8	68.8	15.6	74.3	13.0	85.0	6.2																				
Items Correct																														
2-syll	38.6	27.1	52.8	26.3	66.3	28.1	85.4	12.3	84.4	12.0																				
3-syll	13.6	18.0	19.8	21.7	35.9	27.9	33.3	27.9	50.0	23.6																				
4-syll	0.0	0.0	13.0	24.4	15.4	21.7	12.5	13.7	37.5	43.3																				
3&4-syll	8.2	10.8	17.0	21.1	27.7	24.2	25.0	12.2	45.0	25.2																				
All	21.7	16.9	32.9	19.1	44.9	22.3	51.9	10.3	62.5	10.5																				
Processing																														
Encoding (w/in class subst)																														
2-syllable	34.6	37.1	42.2	37.1	56.6	31.1	75.0	50.0	11.1	19.2																				
3-syllable	36.1	30.5	45.3	27.8	50.4	27.9	52.0	34.3	54.2	41.7																				
4-syllable	45.4	31.1	42.3	19.7	47.3	20.7	70.0	24.4	63.3	15.3																				
3&4-syllable	43.0	30.9	45.0	19.4	47.9	15.7	65.6	21.3	49.1	34.5																				
All	40.9	29.5	43.1	20.3	49.2	15.3	67.5	20.6	44.0	30.0																				
Memory																														
4/3	63.2	45.1	77.7	21.8	72.7	33.6	75.0	38.6	82.1	14.4																				
3/2	50.3	33.3	64.4	28.0	72.0	25.7	72.2	25.6	95.7	5.6																				
4/2	41.3	38.4	52.9	33.1	56.1	37.8	52.3	36.8	78.5	17.3																				
Transcoding (w/out additions)																														
2-syllable	94.3	8.6	91.7	10.4	91.3	11.8	95.8	6.5	100.0	0.0																				
3-syllable	87.9	16.8	78.6	27.2	74.4	30.1	77.8	8.6	83.3	33.3																				
4-syllable	86.4	17.2	69.4	31.3	65.4	28.0	62.5	41.1	75.0	35.4																				
3&4-syllable	87.3	14.9	74.9	25.2	70.8	24.0	71.7	14.7	80.0	33.7																				
All	90.4	8.6	82.3	16.7	79.9	16.3	82.4	10.2	88.9	18.7																				

TableIVB2 (Source BCD – Combined Ages). SRT Competence and Processing Scores for 67 participants with Speech Delay-Language Impairment subgrouped for ages 3 to 14 years.

	SPEECH DELAY–LANGUAGE IMPAIRMENT																													
Variable	3-5 Yrs (n=53)		6&7 Yrs (n=10)		13&14 Yrs (n=4)																									
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll	75.6	19.4	91.9	7.2	96.9	6.3																								
3-syll	55.2	22.1	78.3	16.2	77.8	17.6																								
4-syll	47.7	23.5	65.6	22.3	75.0	16.9																								
3&4-syll	51.6	21.1	72.4	16.9	76.5	15.6																								
All	59.3	18.7	78.6	11.7	83.0	10.5																								
Items Correct																														
2-syll	53.2	28.0	85.0	11.5	93.8	12.5																								
3-syll	22.5	23.8	40.0	26.3	54.2	28.5																								
4-syll	10.8	21.4	22.5	29.9	31.3	47.3																								
3&4-syll	17.8	21.0	33.0	20.0	45.0	31.1																								
All	33.6	20.8	56.1	11.3	66.7	18.7																								
Processing																														
Encoding (w/in class subst)																														
2-syllable	43.3	36.0	47.6	50.4	50.0	*																								
3-syllable	44.9	28.1	52.9	35.1	68.1	21.9																								
4-syllable	44.2	22.1	67.7	21.0	48.9	15.4																								
3&4-syllable	45.4	21.0	59.0	26.9	65.1	24.8																								
All	44.1	21.5	58.1	26.1	65.5	24.3																								
Memory																														
4/3	73.3	31.0	77.9	30.2	90.0	12.5																								
3/2	63.3	29.1	81.6	22.9	75.7	27.0																								
4/2	51.2	35.2	62.8	32.2	72.9	20.4																								
Transcoding (w/out additions)																														
2-syllable	92.2	10.3	97.5	5.3	100.0	0.0																								
3-syllable	79.5	26.1	80.0	20.5	100.0	0.0																								
4-syllable	72.1	28.6	67.5	37.4	93.8	12.5																								
3&4-syllable	76.5	23.4	75.0	22.7	97.5	5.0																								
All	83.4	15.5	85.0	13.6	98.6	2.8																								

Table IVB3 (Source E – Individual Ages). SRT Competence and Processing Scores for 21 participants from Australia with Speech Delay-Language Impairment from ages 4 years to 5 years.

	SPEECH DELAY-LANGUAGE IMPAIRMENT																													
Variable	3 Yrs		4 Yrs (n=8)		5 Yrs (n=13)		6 Yrs		7 Yrs		8 Yrs		9 Yrs		10 Yrs		11 Yrs		12 Yrs		13 Yrs		14 Yrs		15 Yrs		16 Yrs		17 Yrs	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll			76.6	15.9	80.3	19.1																								
3-syll			59.7	17.5	57.7	24.2																								
4-syll			62.5	18.3	53.8	25.6																								
3&4-syll			61.0	17.3	55.9	23.0																								
All			66.0	13.8	63.7	19.9																								
Items Correct																														
2-syll			56.3	24.1	66.3	31.6																								
3-syll			16.7	21.8	23.1	29.3																								
4-syll			21.9	28.1	13.5	19.4																								
3&4-syll			18.8	23.6	19.2	24.3																								
All			35.4	19.9	40.2	25.7																								
Processing																														
Encoding (w/in class subst)																														
2-syllable			34.6	37.0	49.8	40.9																								
3-syllable			27.2	22.2	47.8	32.2																								
4-syllable			58.9	22.5	60.0	29.7																								
3&4-syllable			42.4	11.5	55.1	24.0																								
All			41.5	12.2	55.7	24.3																								
Memory																														
4/3			97.2	4.4	77.4	26.8																								
3/2			71.6	26.2	62.2	34.1																								
4/2			71.9	28.6	56.5	36.9																								
Transcoding (w/out additions)																														
2-syllable			96.9	8.8	94.2	11.0																								
3-syllable			75.0	19.9	69.2	32.5																								
4-syllable			81.3	25.9	67.3	31.3																								
3&4-syllable			77.5	18.3	68.5	29.1																								
All			86.1	11.5	79.9	18.8																								

TableIVB4 (Source E – Combined Ages). SRT Competence and Processing Scores for 21 participants from Australia with Speech Delay-Language Impairment for ages 4 years and 5 years combined.

Variable	SPEECH DELAY- LANGUAGE IMPAIRMENT																													
	4&5 Yrs (n=21)																													
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Competence																														
Consonants Correct																														
2-syll	78.9	17.6																												
3-syll	58.5	21.4																												
4-syll	57.1	23.0																												
3&4-syll	57.8	20.7																												
All	64.6	17.5																												
Items Correct																														
2-syll	62.5	28.8																												
3-syll	20.6	26.3																												
4-syll	16.7	22.8																												
3&4-syll	19.0	23.4																												
All	38.4	23.2																												
Processing																														
Encoding (w/in class subst)																														
2-syllable	42.6	38.7																												
3-syllable	40.0	30.0																												
4-syllable	59.6	26.6																												
3&4-syllable	50.3	20.7																												
All	50.3	21.3																												
Memory																														
4/3	84.9	23.1																												
3/2	65.8	31.0																												
4/2	62.3	34.1																												
Transcoding (w/out additions)																														
2-syllable	95.2	10.1																												
3-syllable	71.4	28.0																												
4-syllable	72.6	29.5																												
3&4-syllable	71.9	25.4																												
All	82.3	16.4																												

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