

STRESS AWARENESS IN ITALIAN CHILDREN WITH DEVELOPMENTAL DYSLEXIA

Pagliarini, E.¹, Balsemin, T.²

¹University of Padova, ²Goethe-University Frankfurt

INTRODUCTION

- Developmental Dyslexia is characterised across languages by a deficit specific to segmental phonology (Snowling 2000; Ramus et al. 2003). Different studies analyse the difficulties arising in stress perception in DD children, in different languages (Dutch – De Bree et al. 2006; English – Goswami et al. 2013, Leong et al. 2009, Goswami et al. 2009; German – Barry et al. 2012; Spanish – Cuetos et al. 2018, Jiménez-Fernández et al. 2014) and also in Italian (Caccia et al. 2019, Caccia / Lorusso 2019, Cilibrasi et al. 2015, Paizi et al. 2010).
- In Italian, stress is related to another phonological characteristic, namely vowel length. As it is well known, in Italian a stressed vowel is long when it sits in an open syllable and that syllable is not the final one (though there is discussion about the antepenultimate position too) (Marotta / Vanelli 2021, Loporcaro 2015, Loporcaro / Bertinetto 2005). This means that stress position and vowel length will always be “connected”, a part from the final syllable of the word (note that here we are referring to the phonological characteristic of Italian long vowels, not to one of the phonetic correlate of stress (together with pitch and intensity), namely duration – a stressed vowel being longer than its unstressed counterpart –).

AIM OF THE PRESENT STUDY

- Investigate the perception of stress position in DD children compared to their TD peers (both in words and pseudowords).
- Investigate possible correlations between those difficulties and different stress position patterns (stress on final, penultimate, antepenultimate syllable).

PARTICIPANTS

13 participants with DD (mean age = 11;4).

13 controls (mean age = 11;4).

MATERIAL

- Spoonerism* (metaphonological competence) (Marotta et al. 2008).
- Reading words and non-words* (syll/sec) (Sartori et al. 2007).
- Non-words repetition* (phonological memory) (Bertelli / Bilancia 2006).
- Same – different stress perception task.**

SAME – DIFFERENT TASK

Same – different stress perception task

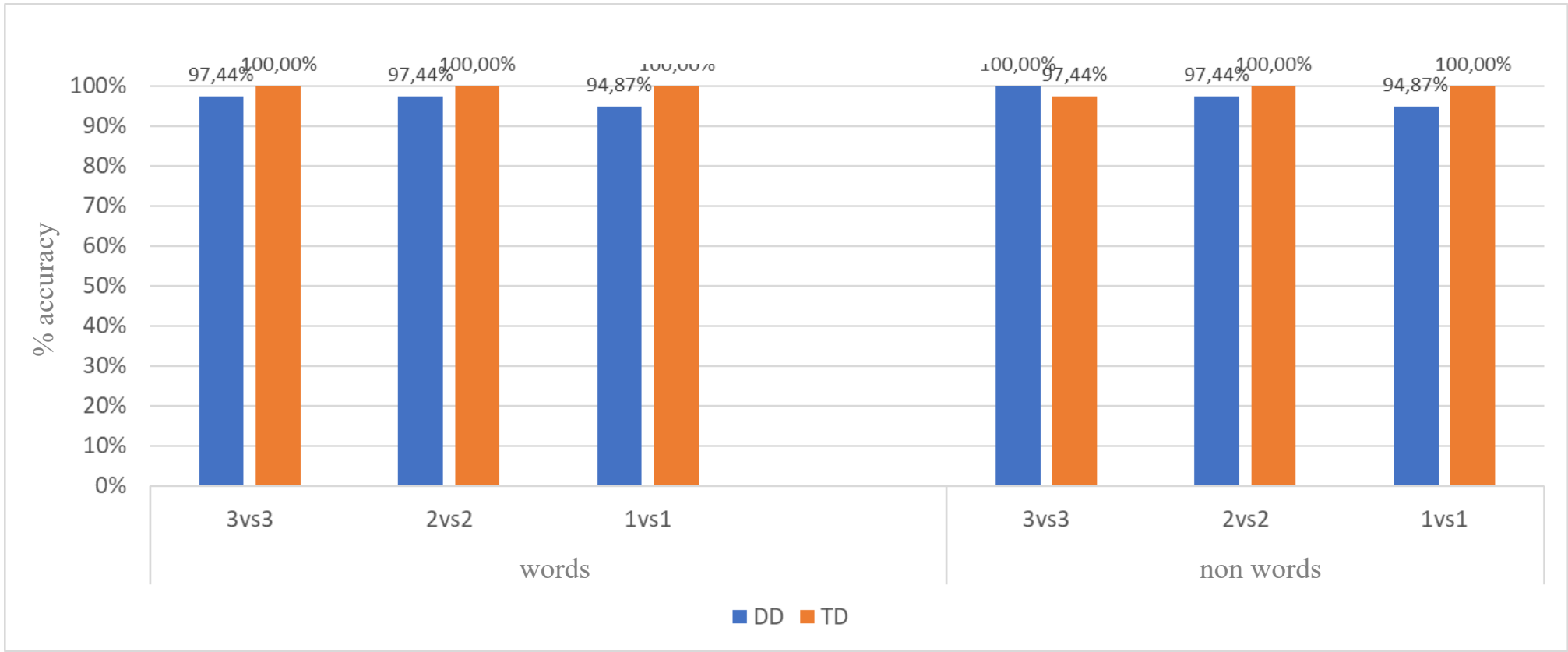
In the same-different task, children listened to word or pseudoword pairs, where two tokens were presented one after the other.

Children were told to make same-different judgments about the position of syllable stress in the pair. E.g.: words: bibita – bibita ‘drink’ [different]; tavolo – tavolo ‘table’ [same]; pseudowords: rùsali – rusàli [different]; bodesà – bodesà [same].

All tokens were trisyllabic words following a CVCVCV template (three open syllables), with an equal number of oxytonic, paroxytonic and proparoxytonic words selected. The pairs were presented in a randomized order (making sure the same condition – e.g. a pair of words with the same stress position - did not appear twice in a row).

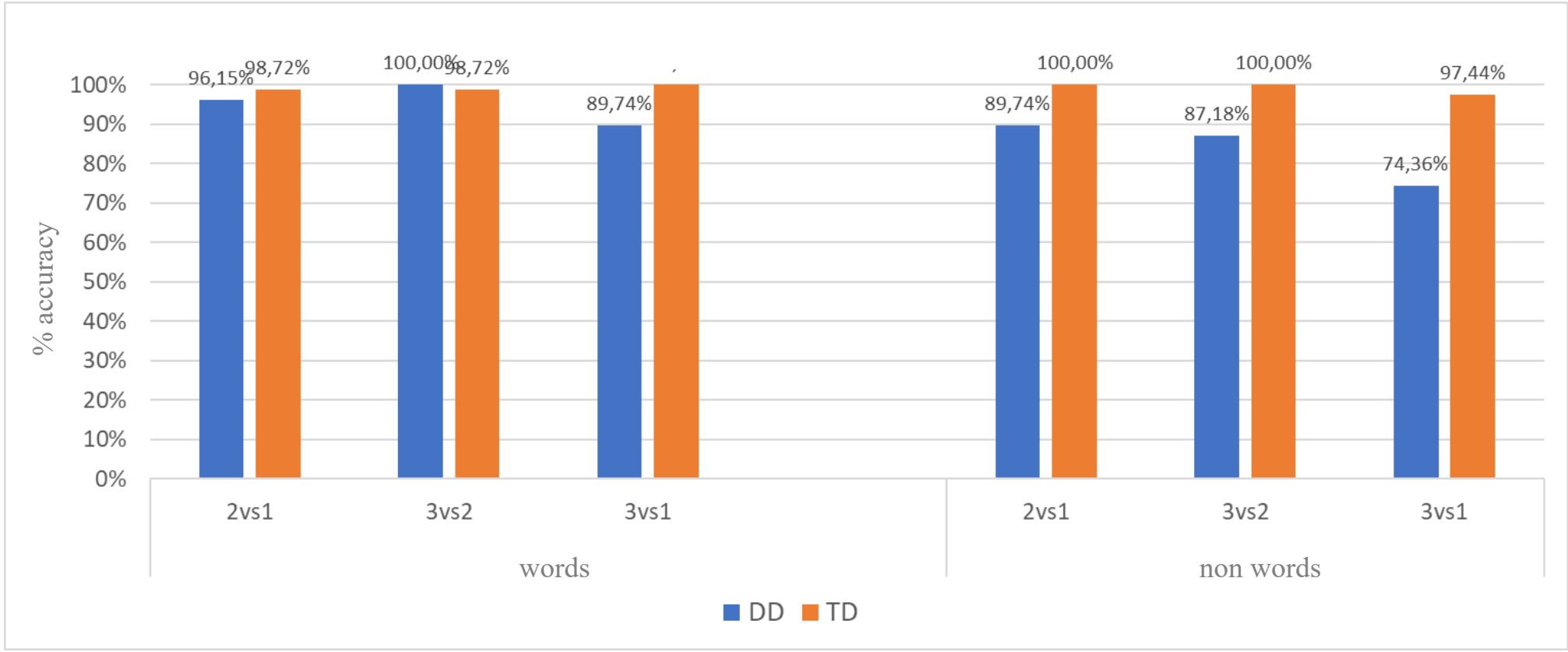
RESULTS

CONDITIONS AND ANSWERS - SAME



3 = antepenultimate stress 2 = penultimate stress 1 = final stress

CONDITIONS AND ANSWERS - DIFFERENT



3 = antepenultimate stress 2 = penultimate stress 1 = final stress

PRESENTATION ORDER

	Order	% correct answers DD	
		Words	Non words
Words	3vs1	100%	84,61%
	3vs1	92,30%	53,84%
	1vs3	84,61%	3vs1
	3vs1	84,61%	1vs2
	3vs1	92,30%	2vs1
	1vs3	84,61%	1vs2
	2vs1	92,30%	3vs2
	2vs1	100%	2vs1
	1vs2	100%	3vs2
	2vs1	100%	2vs3
	2vs1	100%	3vs2
	1vs2	84,61%	76,92%
Non words	3vs1	100%	84,61%
	3vs1	92,30%	53,84%
	1vs3	84,61%	3vs1
	3vs1	84,61%	1vs2
	3vs1	92,30%	2vs1
	1vs3	84,61%	1vs2
	2vs1	92,30%	3vs2
	2vs1	100%	2vs1
	1vs2	100%	3vs2
	2vs1	100%	2vs3
	2vs1	100%	3vs2
	1vs2	84,61%	76,92%

The underlined numbers represent the real word

OTHER TASKS

Spoonerism

	Primary	Secondary
DD	51,11%	62%
TD	90%	92,33%

Reading - error scores

	Primary		Secondary	
	words	non words	words	non words
DD	17,56%	34,03%	8,75%	26,46%
TD	1,79%	6,25%	0,27%	5,21%

Reading – speed (syll/sec)

	Primary		Secondary	
DD	1,27	0,99	2,29	1,45
TD	3,16	2,13	3,96	2,35

Non words repetition accuracy

	Primary	Secondary
DD	72,22%	77,50%
TD	91,67%	92,50%

DISCUSSION

- The results showed that DD children performed more poorly than their peers in all standardised tests (spoonerism; reading words and pseudowords; non words repetition) and in the same-different task (showing more difficulties with pseudowords than with words, where lexical retrieval is not possible).
- In the same-different task, DD showed greater difficulties with the pair that presented the stress on the final vs antepenultimate syllable. This is probably caused by the fact that the stressed syllable in final position is not characterised by a longer duration in Italian (probably together with a frequency effect, oxytones and proparoxytones being much less frequent in Italian than paroxytones).
- The presentation order of the stimuli also seems to play a role, with more difficulties arising when the first stimulus is an oxytone. This could be because the first word of a presented pair would function as an anchor for the stress recognition task. Word final stress seems to be the most difficult stress position to recognise.