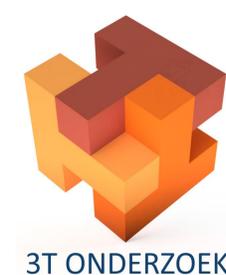


Grammatical skills of Dutch children with 22q11.2 Deletion Syndrome in comparison with children with Developmental Language Disorder: evidence from spontaneous language and standardized assessment



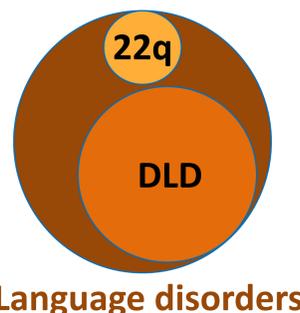
Background and Rationale

22q11.2 deletion syndrome (22q11DS) is a genetic condition
also known as *Velocardiofacial* or *DiGeorge syndrome*

- Speech and language difficulties
- Psychiatric and cognitive problems
- Physical abnormalities, incl. the palate
- Incidence 1:2000-4000
- Most prevalent after Down Syndrome

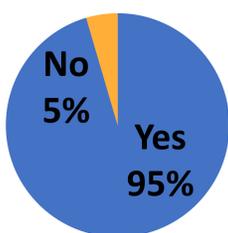
Why compare 22q11DS to DLD?

- Enhance understanding of the mechanisms underlying language problems, given the etiological differences between the groups
- Clinical and phenotypical overlap

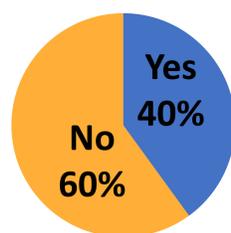


Language disorders

% children with 22q11DS who...



...receive speech-language therapy



...attend special education for children with DLD

Delayed onset first sentence?

	Yes	No
22q11DS	77%	23%
DLD	86%	14%

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Research question

As grammar is a hallmark deficit of DLD, what are the similarities and differences in the grammatical skills of children with 22q11DS compared to children with DLD?

Study 1: Preschool

Standardized language assessment: CELF Preschool-2-NL

	N	f/m	M age (SD)	M IQ (SD)
22q11DS	44	19/25	58 (12)	80 (12,0)
DLD	65	13/52	57 (10)	98 (12,9)
TD	78	44/34	56 (11)	106 (13,0)

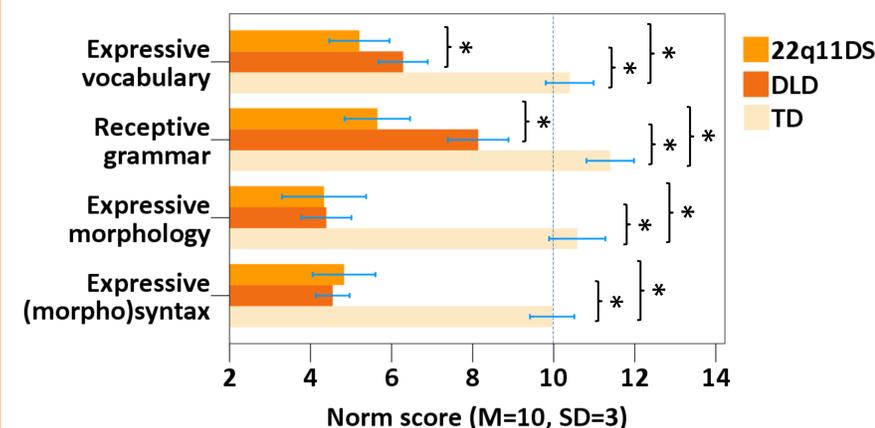
Spontaneous language

- Play observation

Matched subsample

N=27 per group (11 female)
M age (SD) = 54 months (11)

Standardized assessment^a



^aTask completion rates: 22q11DS = 85%, DLD = 98%, TD = 99%

Spontaneous language

	MLU (SD)	%Complex ^a (SD)	%Verb err ^a (SD)	%Other err ^a (SD)
22q11DS	3,0 (0,9)	1,2 (2)	22,2 (10)	16,8 (6)
DLD	3,0 (0,7)	1,5 (2)	22,4 (8)	20,1 (7)
TD	3,9 (0,6)	4,1 (3)	10,3 (7)	11,1 (6)

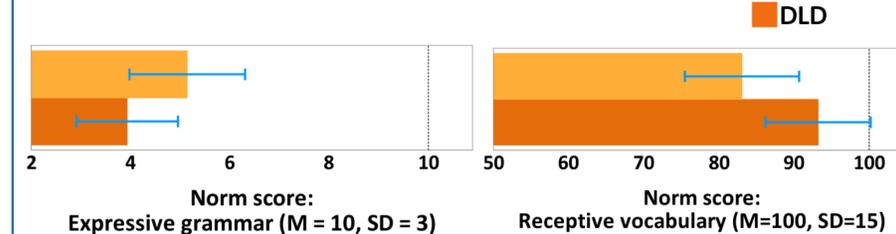
^arelative to the total amount of utterances

Study 2: School-age

Standardized language assessment: CELF-4-NL & PPVT
Spontaneous language: Semi-structured conversation & narrative task

	N	f/m	M age (SD)	M IQ (SD)
22q11DS	14	6/8	104 (19)	74 (8,6)
DLD	15	7/8	98 (21)	105 (15,7)

Standardized assessment



Spontaneous language

	MLU (SD)	%Complex ^a (SD)	%Verb err ^a (SD)	%Other err ^a (SD)
22q11DS	5,3 (0,7)	8,7 (5)	18,6 (6)	19,8 (7)
DLD	5,1 (1,2)	8,8 (8)	17,8 (9)	20,0 (8)

^arelative to the total amount of utterances

Discussion

Despite differences in etiology and intellectual ability, expressive grammatical skills of children with 22q11DS and children with DLD are not found to be different.

- Are children with 22q11DS a special subgroup of children with severe DLD who have both expressive and receptive problems, given lower scores of children with 22q11DS on receptive grammar and expressive vocabulary?
- Do children with 22q11DS benefit from similar interventions as children with DLD?