

Prevalence of SSD in German-speaking primary school children

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Background

- Prevalence of speech sound disorders (SSD) in German-speaking children aged 3;0 to school entry (\approx age 6) is 16-20% (s-3 Clinical Guideline Intervention DLD, 2022) with similar numbers reported by school entry examinations (e.g. MSGJFS, 2019).
- To date, there is a lack of data on prevalence of persistent SSD in primary school children.
- Data from English-speaking children (McLeod & Baker, 2017) report prevalence of 3.8-13% for children with persistent SSD (P-SSD; 5.3%) or common clinical distortions (CCD; 7.9%) (Wren et al., 2021).
- Well-known influence of SSD on later academic and literacy outcomes (e.g. Wren et al., 2021).
- Study aim: To investigate prevalence of SSD in 1st (aged < 8 years) and 3rd graders (aged > 8 years). Further, teachers were asked to evaluate literacy competences of children assessed.

Methods

Participants 165 1st and 3rd Graders, excluding children with severe visual or cognitive impairment

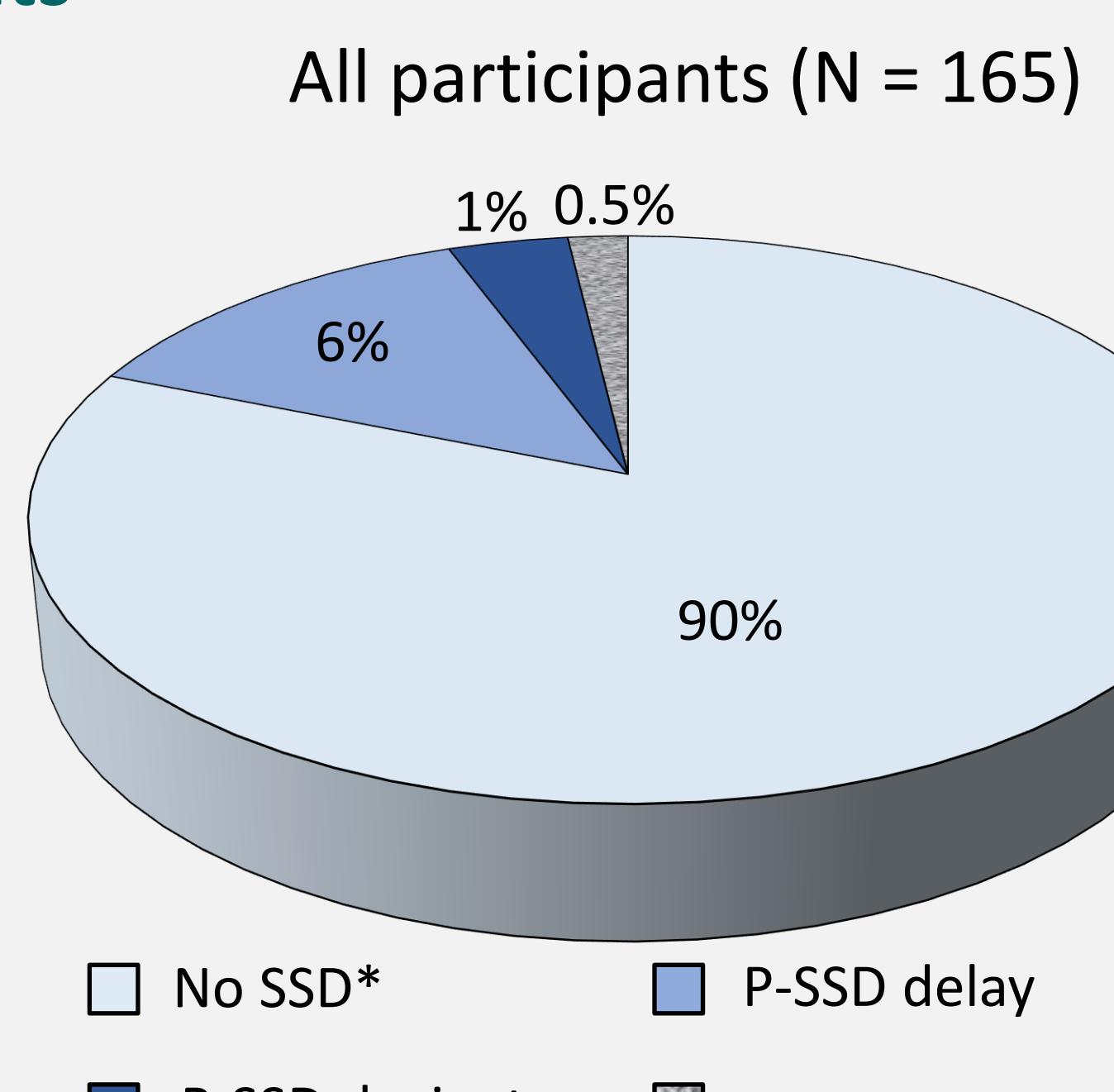
Material PLAKSS-Screening - picture naming task (Fox-Boyer, 2014) and production of 2 sentences, parental questionnaire (children's background), teacher questionnaire (literacy skills)

Procedure 1:1 testing in children's school

Analysis Investigation of phonetic and phonological patterns

	Total	< 8 years	> 8 years
N	165	73	92
age \bar{x} (min-max)	8;1 (6;1-10;4)	6;11 (6;1-7;11)	8;11 (8;0-10;4)
Monolingual	135	60	75
Multilingual	30	13	17
Special educational needs (SEN)	10	2	8
Developmental problems	13	3	10

Results



- Children with isolated interdental production of /s z ts/ were considered as having no SSD as 20-40% of TD children (2;0-10;0) show this sibilant variation (Fox-Boyer, 2023).
- No difference between mono- and multilingual children
- No difference between boys and girls
- Prevalence: P-SSD = 9% CCD = 0.5% Total = 9.5%
- Prevalence P-SSD reduces with age, 11% (<8y) > 7.5% (>8y)
- Children with SEN at higher risk for SSD
- Children with SSD at higher risk for literacy difficulties
- 1/3 children with literacy difficulties had received prior treatment for SSD

Table 1: Distribution of speech skills across children

Speech skills	total (N = 165)	< 8 years (n = 73)	> 8 years (n = 92)
No SSD	90% (n = 149)	88% (n = 64)	92% (n = 85)
P-SSD delay	8% (n = 13)	9.6% (n = 7)	6.5% (n = 6)
P-SSD disorder	1% (n = 2)	1.4% (n = 1)	1% (n = 1)
CCD	0.5% (n = 1)	1.4% (n = 1)	-

Table 2: Speech skills in children with and without SEN

Speech skills	Total (N = 165)	No SEN (n = 152)	SEN (n = 13)
No SSD	90% (n = 149)	95% (n = 144)	38% (n = 5)
P-SSD delay	8% (n = 13)	4% (n = 6)	54% (n = 7)
P-SSD disorder	1% (n = 2)	1% (n = 1)	8% (n = 1)
CCD	0.5% (n = 1)	0.7% (n = 1)	-

Table 3: Speech and literacy skills

	No Literacy difficulties	Literacy difficulties
No SSD	125	27
SSD	6	8

n = 11
prior SLT due
to SSD

Discussion and Conclusion

The prevalence of children with SSD in primary school was in the lower range of percentages described for school entry examinations in Germany. With older age (>8y) the prevalence reduced from 11% to 7.5%, which is lower than described for English. However, the percentage of children with P-SSD at around 8 years was higher or similar compared to English (Wren et al, 2021), when children with SEN or developmental problems were excluded, even though the age of completion of the phonological system is younger in German (4;11-5;5 years; Fox-Boyer, 2023). This challenges the definition of the age of phonological completion for P-SSD. The previously reported risk of children with a current or earlier SSD-diagnosis to struggle with literacy acquisition was confirmed for German, which indicates the need for more collaboration with and information for teachers on this topic. The similarity between skills in mono- and multilingual children specifically in the younger group was surprising in comparison with studies on school entry examination results and most likely an artefact due the low number of multilingual children assessed.

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