

9th Congress of
Baltic States SLTs'

Understanding each other

12-13 April, 2024



TARTU ÜLIKOO
haridusteaduste instituut



EESTI LOGOPEEDIDE ÜHING



LIETUVIŠI LOGOPEDU
ASOCIACIJA



Latvijas Logopēdu asociācija



baltic countries congress



EESTI
KLIINILISTE
LOGOPEEDIDE
SELTS

9th Congress of
Baltic States SLTs'

**Understanding
each other**

12-13 April, 2024



The Concept of Phonological Disorder:

Questionnaire-based Survey of Lithuanian SLTs

PhD Simona Daniute & assoc. prof. PhD Daiva Kairiene
Vytautas Magnus University, Education Academy, Lithuania



SHORT INTRODUCTION

Phonetic and phonological disorders are the most common disorders in pre-school (10–15%) and school age (6%) children (Enderby et al., 2009; Lof, 2015).

In the international context, an obvious progress in research on speech sound disorders of children in English is observed (Roddam, McCurtin, Murphy, 2019; Baker, McLeod, 2011). Despite that, cross-linguistic research studies still too little emphasise the highlight specific characteristics of phonological disorder of other language groups (e.g. Baltic, Slavic, Finno-Ugric etc.).

Moreover, relevance of this topic is substantiated by the situation of the recent decade of intensive search for common definitions of speech and language disorders throughout the European Union countries (Dokoza et al., 2015).





AIM(S) AND METHODS

- ***The research aim.*** To identify structural components of the concept of phonological disorder and manifestation of them.
 - ***Methods.*** An authentic online questionnaire-based survey designed by the researchers was used. Descriptive statistics, multi-dimensional statistical methods were employed: exploratory factorial analyses, second order factor analysis (Varimax rotation).
 - ***Research sample.*** SLTs from Lithuania (N=162) took part in the research. The research sample was formed by probability sampling; simple random sampling was applied.
-



RESULTS (1)

These results are prepared as a part of the doctoral dissertation research "*The Relationship Between Applied Phonological Disorder Treatment Approaches and Evidence-based Speech and Language Therapy Practice*", defended in 2022.

The first part of the questionnaire targeted at revealing the differential features that are typical to children with the phonological disorder from the SLTs' point of view. The respondents were asked to assess the presented 123 statements in scores of a range scale according to the following criteria: 1 – *absolutely not*, 2 – *seemingly not*, 3 – *neither yes nor no*, 4 – *seemingly yes*, 5 – *absolutely yes*.

Seeking to reduce the corpus of the obtained data and to reveal main differential features of the phonological disorder, second order factor analysis of the factors obtained after exploratory factorial analyses was carried out. The results demonstrated that the data suited the factor analysis: KMO = 0,857, o Bartlett's test of sphericity $p = 0,000$. The internal consistency coefficient Cronbach alpha (α) of separate factors varies from 0,692 to 0,886, which demonstrates that the factors are homogenous. To sum up the obtained research results, it was found out that the structure of the surveyed speech and language therapists' conception of the phonological disorder consists of 5 components, which are supplemented with 25 subscales.





RESULTS (2)

Table 1. Diagnostic features of phonological disorder: results of secondary factor analysis (KMO = 0,857, df = 0,300, $p = 0,000$)

Factor model matrix	L	MSA	%
Difficulties of phonological awareness M = 4,06			
Difficulties of blending, segmentation and manipulation with sounds	0,778	0,833	32,754
Difficulties of rhythm and rhyme awareness	0,775	0,900	
Difficulties of recognition and identification of sounds	0,775	0,923	
Difficulties of identification of sounds of a word	0,714	0,854	
Difficulties of awareness of linguistic units	0,697	0,855	
Difficulties of auditory awareness	0,695	0,917	
Difficulties of differentiation between similar sounds	0,642	0,925	
Distortion of sound syllable structure	0,454	0,900	

Note: L – factor weight coefficient; MSA – Measure of Sampling Adequacy; % – factor descriptive power.



RESULTS (3)

Table 1 (continued).

Factor model matrix	L	MSA	%
<i>Difficulties of speech and adjacent education M = 3,40</i>			
Difficulties of spoken language and communication	0,841	0,851	12,715
Underdevelopment of motor skills, lack of processing visual information, motivation and self-regulation	0,784	0,826	
Lack of processing auditory information and attention	0,697	0,809	
Alterations in pace, fluency of speaking and bilingualism (multilingualism)	0,607	0,840	
Difficulties of speech alteration, initiation and intelligibility	0,511	0,840	
Difficulties of written language (learning of reading and writing)	0,471	0,883	

Note: L – factor weight coefficient; MSA – Measure of Sampling Adequacy; % – factor descriptive power.



RESULTS (4)

Table 1 (continued).

Factor model matrix	L	MSA	%
<i>Consistent errors of substitutions, omissions and assimilation M = 3,66</i>			
(De)nazalization and stopping	0,694	0,797	8,727
Backing and fronting	0,686	0,800	
Severe and consistent errors of sound pronunciation	0,642	0,767	
Omissions of sounds, syllables,	0,558	0,860	
Consonant assimilation	0,390	0,886	
Errors in substitution of sounds (e.g. [s] and [š] group sounds)	0,366	0,812	

Note: L – factor weight coefficient; MSA – Measure of Sampling Adequacy; % – factor descriptive power.



RESULTS (5)

Table 1 (continued).

Factor model matrix	L	MSA	%
<i>Alterations of speech motor skills M = 2,36</i>			
Alterations breathing, voice, phonation and prosody	0,827	0,720	4,692
Alterations of the structure and functions of the articulatory mechanism	0,667	0,717	
<i>Errors of using sounds in speech and repetition of syllables, words M = 4,15</i>			
Errors of sound usage in fluent speech	0,719	0,892	4,385
Pronunciation of sounds, imitation and compliance with language rules	0,505	0,905	
Repetition of syllables, words and rapid automatized naming	0,466	0,883	

Note: L – factor weight coefficient; MSA – Measure of Sampling Adequacy; % – factor descriptive power.



CONCLUSION

- 1. When differentiating and identifying the phonological disorder, the following features are significant by opinion of Lithuanian SLTs:**
 - difficulties of the phonological awareness;
 - difficulties of speech and adjacent education;
 - consistent errors in substituting, omitting, assimilating sounds;
 - alterations in speech motor skills;
 - difficulties in the use of sounds in speech and syllables, repetition of words.
 - 2. To sum up manifestation of them,** the respondents assessed errors of using sounds in speech and repetition of syllables, words and difficulties of the phonological awareness *in highest scores*. *The lowest scores* were given to speech motor skills, i.e. alterations of breathing, voice, phonation and prosody as well as structure and functions of the apparatus of articulation.
-

Understanding each other

12-13 April, 2024



REFERENCES

1. Daniutė, S. (2022). *Taikomų fonologinio sutrikimo įveikimo strategijų ir įrodymais grįstos logopedinės praktikos sąsajos // The Relationship Between Applied Phonological Disorder Treatment Approaches and Evidence-based Speech and Language Therapy Practice* [Doctoral dissertation, Vilnius University]. Vilnius universiteto leidykla. <https://doi.org/10.15388/vu.thesis.375>
2. Daniutė, S. (2022). *The Relationship Between Applied Phonological Disorder Treatment Approaches and Evidence-based Speech and Language Therapy Practice* [Summary of Doctoral dissertation, Vilnius University]. Vilnius.
3. Dokoza, K. P., Bucik, K., Coets, M. C., D'Hondt, M., Astier, J. L., Tubele, S., Havelkova, O., Buntova, D., Kairiene, D., Hategan, C. B., Kas, B. (2015). *Diversity in terminology: In Quest of a Common Denominator* [Conference presentation abstract]. 9th CPLOL Congress Open the Doors to Communication. Italy, Florence.
4. Enderby, P., Pickstone, C., John, A. ir kt. (2009). *Resource Manual for Commissioning and Planning Services for SLCN*. http://www.rcslt.org/speech_and_language_therapy/commissioning/mental_health_plus_into.
5. Lof, G. L. (2015). *An Update on Some Clinical Practices for Speech Sound Disorders* [Conference presentation abstract]. OSSPEAS 2015 Conference: New Frontiers in Communications. Columbus, OH. <http://www.osspeac.org/wp-content/uploads/2015/08/Clinical-Practice-Handout.pdf>.
6. Roddam, H., McCurtin, A., Murphy, C. A. (2019). Moving Beyond Traditional Understandings of Evidence-Based Practice: A Total Evidence and Knowledge Approach (TEKA) to Treatment Evaluation and Clinical Decision Making in Speech-Language Pathology. *Seminars in Speech and Language*, 40(5), 370–393. DOI: 10.1055/s-0039-1694996
7. Baker, E., McLeod, S. (2011). Evidence-Based Practice for Children With Speech Sound Disorders: Part 2 Application to Clinical Practice. *Language, Speech, and Hearing Services in Schools*, 42(2), 140–151. DOI: 10.1044/0161-1461.

9th Congress of
Baltic States SLTs'

Understanding each other

12-13 April, 2024



CONTACT DETAILS

- **Simona Daniute** simona.daniute@vdu.lt
- **Daiva Kairiene** daiva.kairiene@vdu.lt

9th Congress of
Baltic States SLTs'

Understanding each other

12-13 April, 2024



Thank you for your attention!