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A COMPARATIVE ANALYSIS OF THE HUNGARIAN DYSLEXIA ASSESSMENT TOOLKIT IN RELATION TO INTERNATIONAL DISCOURSE

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ABSTRACT
Hungarian dyslexia testing procedures possess a substantial historical background; however, they have not maintained parity with international advancements in neurocognitive diagnostic methods, partially due to the distinctive characteristics of the Hungarian language. This study investigated the feasibility of aligning Hungarian screening procedures with the DSM-5 and ICD-11 criteria. Such alignment would facilitate comparisons between Hungarian tests and contemporary international frameworks. This comparative analysis could potentially modernise Hungary's diagnostic tools, thereby enhancing both diagnostic accuracy and therapeutic outcomes. Furthermore, it could simplify assessments for multilingual students, as the language of test administration may become less significant. Subsequent research could compare the test results across various languages for bilingual and multilingual children.

KEYWORDS
dyslexia, diagnosis, DSM-5, ICD-11, assessment

INTRODUCTION

The precise delineation of the concepts of dyslexia and reading disorders is a crucial research issue, as their proper understanding and diagnosis will have a profound impact on the educational and therapeutic interventions for affected individuals. This issue is also relevant at the international level, as reading disorders encompass language-independent factors that may be significant not only in a particular country but also at the global level. The Hungarian education and healthcare system under investigation, although utilising the ICD-11 diagnostic system, does not employ a testing system that fully aligns with the conceptual framework of the ICD-11.

In this study, we employed desk research (Topolewski et. al., 2023; Mrázik, 2021) and a comparative analysis to investigate the disparities between an internationally utilised general diagnostic tool and the measurement instrument employed in the Hungarian education system. The exploration of these differences elucidates that while knowledge and application of international systems is of paramount importance, it may be worthwhile to consider how they can be complemented by elements or interpretative frameworks adapted to national specificities. This approach will enable diagnostic methods not only to be generalised but also to reflect the Hungarian context, thus providing more efficacious assistance to those concerned.

THEORETICAL BACKGROUND

A neuropsychological-cognitive classification of reading disorders has been established for some time, distinguishing phonological, developmental, surface, mixed, profound,

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and acquired dyslexia (Feifer et al., 2001). A comprehensive discussion of these categories is beyond the scope of this study; however, their mention is pertinent as phonological dyslexia remains the predominant diagnostic group in the educational and diagnostic system under examination. The reference to phonological dyslexia (Dysphonetic Dyslexia) (Blomert et al. 2004) is relevant, among the numerous theories, because all European educational systems, irrespective of language, require confident diagnosis of learning difficulties resulting from phonological dyslexia. In the Hungarian educational system, phonological dyslexia is of particular significance (Gyarmathy, 2018) as the specificity of the Hungarian language may be associated with a lack of phonological awareness as the primary source of reading disorders (Csépe, 2014). al. 1993) represents another significant group of disorders, as Hungarian diagnostic procedures currently emphasise letter substitution, some causes of which may be related to visual abilities, a more precise description of which can be found in the cited source. In the case of dyseidetic dyslexia, the aetiology of the problem lies less in the linguistic domain and more in the visual domain. All of these are therefore present in the test procedures under consideration, and it has been deemed appropriate to enumerate them at the level of mention in the conceptual delineation. It is also evident that in differential diagnosis, it is justified to distinguish dyslexia from other problem areas, such as dyspraxia or ADHD (Moody, 2013), as there is overlap between several problem areas, and dyslexia can be conceptualised as a visual-attentive problem (Bellocchi et al. Furthermore, in the diagnostic system under study, the detection of reading difficulties is associated with the diagnosis of writing difficulties, a phenomenon recognised in scientific definitions; that is, that reading and writing disorders overlap. This condition is known as cross-orthographic dyslexia (Moore et. al. 2023).

It is evident that one can enumerate a multitude of definitions of dyslexia, such as inhibitory dysfunction (Colangelo & Buchanan, 2007), which is the "failure of the inhibition hypothesis", which posits that the presentation of a target word activates the semantic memory of the word, along with the memory of other semantically related words, thus causing interference. This condition is strongly associated with profound dyslexia. The theory of phonological and procedural dyslexia focuses on the process itself (Macoir et al., 2012), a model based on cognitive process abnormalities in reading (Glosser and Friedman, 1996). A more recent and contemporary correspondence is dyslexia, based on the temporal hypothesis (Habib, 2021). Although not specifically relevant to the focus of our study, it is worth noting a theory of dyslexia that demonstrates a chromosomal abnormality underlying the problem (Chapman at. al 2023). In summary, if we attempt to delimit the definition of dyslexia-reading disorder based on scientific theories, even from the perspective of the diagnostic tools under investigation, our efforts will prove unsuccessful. This is due to the fact that the discourse on reading problems is so diverse and involves numerous disciplines that a single concept cannot be formulated. Therefore, in the subsequent discussion, we will utilise the ICD11 system as a foundation, the rationale being that the educational and diagnostic system under study employs the ICD11 cluster to describe and define learning disabilities. The extent to which diagnostic tools correspond to this is a separate matter for consideration.

Diagnostic criteria for developmental learning disability based on the ICD11:

- The presence of significant limitations in the acquisition of reading, writing, or numeracy skills, resulting in a proficiency level significantly below the age-appropriate level. Impediments to learning persist despite appropriate instruction in the areas concerned. These impediments may be limited to a single component of a particular skill (e.g. the inability to acquire basic numeracy skills or decode certain words accurately and fluently) or may affect the entire range of literacy and numeracy performance. Ideally, the degree of disability can be measured using standardised tests.
- The onset of limiting factors typically occurs in early school years but may not manifest until later in life, even in adulthood, when the demands of learning performance exceed the level of limited ability.
- The impediments are not attributable to external factors, such as economic or environmental disadvantages or lack of access to educational opportunities.
- Learning disabilities are not better explained by intellectual disability or other neurodevelopmental disorders, or by other conditions such as motor, visual or auditory sensory impairments.
- Learning disabilities can result in significant impairment in an individual's academic, occupational, or other important areas of functioning. If functional ability is maintained, significant effort is required.

Subgroups and Delimitation of Learning Disabilities.

- Based on BNO11, a given code in the application of diagnostic assessment can only be used to indicate severely impaired learning skills at the time of assessment, referring to the specificity of a given problem area. In the case of multi-skill impairment, multiple codes can be utilised, which represents a significant departure from the previous use of summary grouping (e.g. mixed school skills disorder (BNO10: F81.3).

6A03.0 Reading disorder (ICD11)
This is defined as a learning difficulty that manifests as impairment in reading skills, such as word reading accuracy, reading fluency, and comprehension, but does not reach the level of dyslexia or alexia.

6A03.Z Developmental learning disorder, unspecified (the aetiology is unknown) additional clinical features:

- phonological processing
- orthographic processing,
- memory (including working memory)
- executive functions (including inhibitory control, decoupling, planning)
- learning and automation of symbols (e.g. visual, alphanumeric)
- perceptual-motor integration
- speed of information processing

Furthermore, the ICD11 utilises the definition of dyslexia/alexia in group MB4B.0 for verifiable morphological and/or functional neurological abnormalities:

“Dyslexia and alexia refer to the loss, usually in adulthood, of a previous ability to read fluently and to accurately comprehend written material that is inconsistent with general level of

intellectual functioning and is acquired after the developmental period in individuals who had previously attained these skills, such as due to a stroke or other brain injury. (ICD11)[2]"

RESEARCH METHODOLOGY

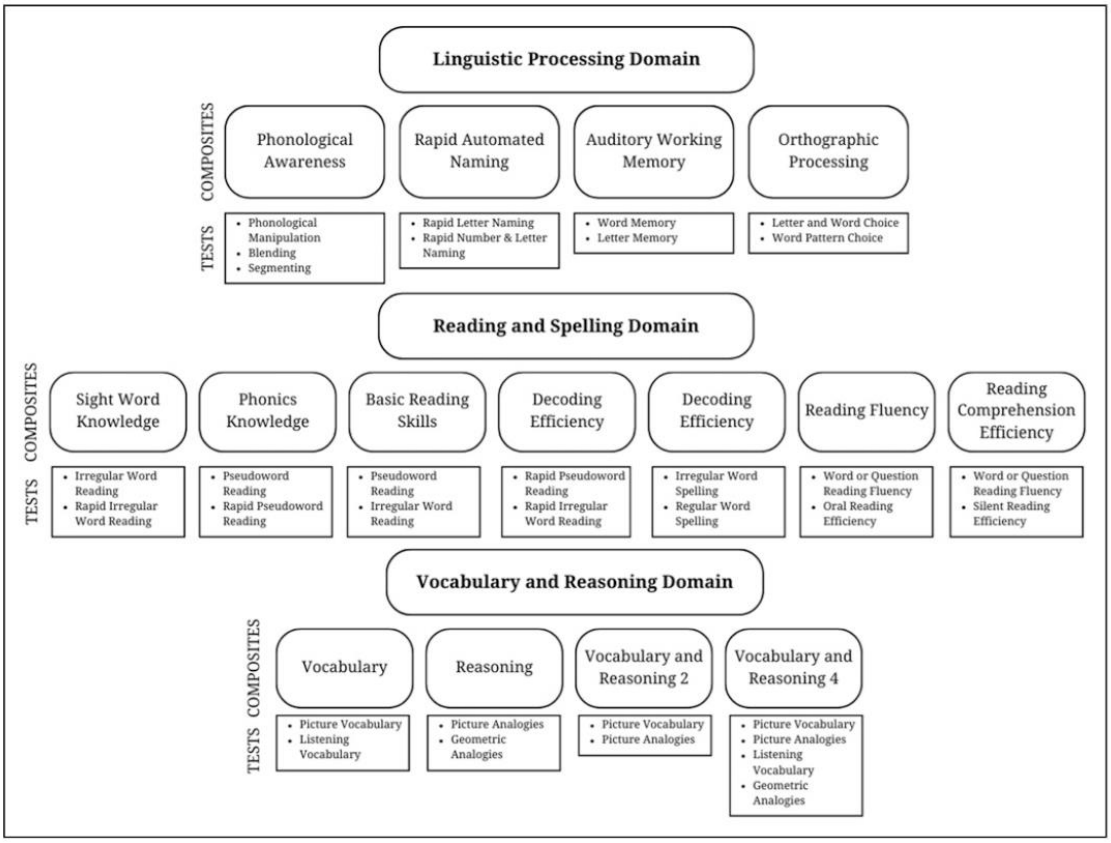
The desk research methodology employed in the present study is particularly efficacious for examining dyslexia tests in Hungary, as it focuses on comparing existing validated data from multiple sources. This method facilitates a detailed analysis of both internationally recognised diagnostic tools and those utilised specifically in the Hungarian education system. Utilising this approach, we can elucidate the differences between the ICD-11 classification system and the locally used assessment tools, and the discrepancies in the Hungarian context. The literature search encompasses literature review, analysis, synthesis, and comparison, rendering it an optimal choice for studies where primary data collection is not feasible, and where various existing studies and reports can provide valuable insights into diagnostic frameworks.

This method not only collates but also critically evaluates existing studies, comparing them on a theoretical and practical basis to ensure that both international standards and national specificities are considered. The literature review will facilitate an understanding of the wider, language-independent determinants of reading disorders, while the comparative analysis will aid in identifying key differences between internationally used and Hungarian-adopted tools. As noted by Feifer and De Fina (2000), dyslexia has a neuropsychological basis that transcends national boundaries, reinforcing the necessity for diagnostic tools adapted to both global standards and local educational requirements. Thus, desk research provides a nuanced, multifaceted approach, ensuring that the analysis is comprehensive and considers both international perspectives and national specificities.

As previously noted, whilst certain characteristics of dyslexia are adapted to linguistic and national specificities (Deacon et al., 2016), from the perspective of domains of language function (Peña & Villarreal, 2024), the justified domains and foci of measurement can be standardised, notwithstanding the necessity for diagnostic test design to consider specific and individual features.

Consequently, in our investigation, we compared the TOD-C test (Mather et. al., 2023) procedure with Lőrik's LOV procedure (Lőrik, 2012) and Meixner's reading sheets (Juhászné, 2003) to ascertain whether and how the general and cross-domain testing aspects of TOD-C are reflected in Hungarian testing procedures.

[2] https://icd.who.int/browse/2024-01/mms/en#724140102 2024.10.28.



1. *Figure: TOD-C composites (organized by domain) and required tests per composite, (Peña & Villarreal, 2024:4)*

The Dyslexia-Comprehensive (TOD-C) tests and *Hungarian instruments such as the Manual of Speech and Language Therapy Tests + Annex to Speech and Language Therapy Tests* (Juhászmé, 2003) and the Lőrik J., Májercsik E. (2015) tests exhibit significant differences in their scope, structure, and specific assessment items, particularly in relation to reading and writing disorders such as dyslexia.

The Test of Developmental Competencies (TOD-C) model, developed by Peña and Villarreal (2024) *Figure 1.*, is a framework for the comprehensive assessment of children's development, which aims to objectively evaluate their competencies and needs across various developmental domains (e.g. cognitive, communication, social, and motor skills). This assessment facilitates the identification of areas requiring specific support by professionals and educators.

In the diagrammatic representation, the primary domains are depicted as 'composites', which represent distinct categories of skills measured through a series of assessments or tasks. Each composite necessitates different subtests and measurement methodologies designed to provide a comprehensive evaluation of the various aspects of child development. For instance, within the 'cognitive ability' composite, multiple assessments are employed to measure attention, memory, and problem-solving skills.

The figure elucidates that all composites are interrelated, thus providing a coherent representation of the child's development that can serve as a foundation for individualised education and development plans. The objective is for the diagnostic process to focus not solely on discrete skills, but to comprehensively map the child's full spectrum of competencies, thereby providing substantive, practical support to address developmental needs.

The comparison of the TOD-C model with the Hungarian dyslexia assessment is particularly significant because of its complex, integrated approach that transcends screening for individual skills and delineates the child's overall developmental profile. In numerous instances, dyslexia diagnostics in Hungary concentrates on the assessment of reading and writing skills; however, dyslexia is frequently underpinned by additional cognitive or motor skill-related issues, such as attention or working memory deficits. The TOD-C methodology can serve as an example for diagnosing dyslexia in an integrated manner, utilising multidisciplinary tests, and considering the comprehensive profile of an individual's abilities.

Another substantial benefit of the international perspective is that knowledge of globally applied diagnostic procedures and standards can facilitate the enhancement of Hungarian practice. TOD-C provides a model that emphasises children's needs and developmental potential rather than focusing solely on their learning difficulties. This approach mitigates the one-dimensional categorising diagnosis of dyslexia, which can often result in stigmatisation. Instead, the adaptation of international practices can promote the consideration of children's strengths during diagnosis, thereby providing a valuable foundation for designing development plans.

International comparison is, therefore, not only pertinent for enriching professional knowledge, but can also contribute to the development of an inclusive diagnostic model that supports the development of children with dyslexia through a non-stigmatising, multifaceted approach.

Scope and purpose:

- TOD-C: This comprehensive, multi-item system is designed to diagnose dyslexia from first grade through adulthood. It offers a wide range of assessments that focus on phonological awareness, spelling, reading fluency, and language processing. The structured indices (Dyslexia Diagnostic Index, Reading and Spelling Index, Language Processing Index) facilitate detailed comparisons of reading-related skills.
- Hungarian instruments: The Lőrik & Májercsik guide specifically assesses the fundamental reading and writing skills of children entering school, although testing procedures for higher grades are also available. This is particularly evident in speech and language therapy assessment instruments based on the Meixner method (Juhászné, 2003), which provides reading and writing assessments for upper grades.

Target group:

- TOD-C: This instrument is utilised across a broad age spectrum, ranging from early primary school years to adulthood, rendering it highly versatile for monitoring dyslexia. The assessment of complex language and cognitive skills is particularly efficacious in diagnosing dyslexia in older children and adults.
- Hungarian instruments: The Logopedic Tests and the Lőrik and Májercsik tests are highly effective for evaluating the initial stages of reading development; however, they demonstrate limited correlation with specific language functions, at least, as indicated in the manuals for interpreting test results. Consequently, the conceptual diversity of dyslexia may confound both the test-taker and the assessor regarding the precise implications of the test results. In this regard, the Lőrik test exhibits some advancement, whereas the Meixner test, despite its expeditious and straightforward administration, demonstrates less focus.
- These findings suggest that both Hungarian tests are more suitable for reliable screening of phonological dyslexia, although the Lunk rik test may also indicate a

two-way model of dyslexia and inhibitory dysfunction (Colangelo & Buchanan, 2007).

Diagnostic focus:

- TOD-C: This assessment provides a comprehensive evaluation of dyslexia by examining reading and spelling skills as well as phonological processing, orthographic processing, and working memory. The test identifies the strengths and weaknesses across several domains of dyslexia.
- Hungarian instruments: These are diagnostically limited in scope. The Speech and Language tests primarily assess basic speech and language skills, while the Lőrik test focuses on fundamental reading and writing skills and is thus less comprehensive in terms of the broader cognitive and language dimensions evaluated in the TOD-C.

Psychometric properties:

- TOD-C: Renowned for its robust psychometric properties, the TOD-C demonstrates high reliability and validity with comprehensive data on standardisation, sensitivity, and specificity. It was designed to minimise biases associated with gender, ethnicity, and socioeconomic status.
- In Hungarian instruments, psychometric data from the Speech and Language tests and the Lőrik tests may be less extensively validated compared to the TOD-C. These tests are more focused on practical applications in Hungarian educational settings and may not be subject to the same level of detailed psychometric evaluations. Consequently, they are likely to emphasise a better understanding of academic underperformance rather than definitively identifying a particular type of dyslexia.

International versus national focus:

- TOD-C: As the TOD-C was developed in the United States with English-speaking populations in mind, it has been standardised on a large, diverse sample and is therefore well suited for international comparisons. However, it is not yet available in languages other than English, limiting its direct applicability in Hungarian contexts without translation or adaptation.
- Hungarian instruments: These tests are specifically tailored to Hungarian language and context, making them highly relevant for national use. They reflect the specific phonological and orthographic features of the Hungarian language but may not be easily comparable with international standards.

POSSIBILITY OF DIFFERENTIAL DIAGNOSIS

Hungarian adaptation of the TOD-C can facilitate differential diagnosis. One of the primary strengths of the TOD-C is its capacity to assess the underlying cognitive processes associated with dyslexia. Research indicates that dyslexia can manifest through distinct cognitive deficits such as phonological processing difficulties, which are prevalent in phonological dyslexia (Zagata, 2024). The TOD-C evaluates phonological awareness, which is critical for identifying phonological dyslexia, and is characterised by challenges in decoding and encoding words due to deficits in phonemic awareness (Zagata, 2024). Additionally, the TOD-C incorporates tasks that assess visual processing and attentional mechanisms, which are essential for diagnosing forms, such as visual dyslexia and attentional dyslexia (Premeti, 2024).

Furthermore, the comprehensive nature of TOD-C enables the identification of mixed dyslexia, in which individuals may exhibit characteristics of both phonological and visual dyslexia. This is supported by findings suggesting that dyslexia is a multifactorial disorder, with both visual and phonological impairments contributing to reading difficulties (Premeti, 2024). The capacity of TOD-C to evaluate these overlapping domains renders it particularly effective in distinguishing mixed forms of dyslexia. Moreover, TOD-C can also be instrumental in identifying acquired dyslexia, which occurs due to brain injury or neurological conditions. This assessment encompasses components that can detect specific deficits in reading and language processing that may arise from these conditions (Casani, 2020). This is particularly relevant in clinical settings, where understanding the nature of dyslexia is crucial for tailoring appropriate interventions.

In addition to its diagnostic capabilities, TOD-C provides a framework for understanding the severity of dyslexia, which can be categorised into superficial and profound dyslexia. Superficial dyslexia is often characterised by difficulties with irregular words and reliance on phonetic decoding, whereas profound dyslexia involves more severe impairments across multiple reading domains (Casani, 2020). Detailed scoring and analysis of TOD-C can assist clinicians in determining the specific type and severity of dyslexia and guide effective intervention strategies.

In conclusion, the TOD-C is a versatile and comprehensive tool that facilitates the differential diagnosis of dyslexia by assessing phonological, visual, and attentional processes. Its capacity to identify various forms of dyslexia, including developmental, superficial, profound, phonological, mixed, and acquired dyslexia underscores its significance in educational and clinical settings. The integration of cognitive assessments within the TOD-C aligns with current research emphasising the multifaceted nature of dyslexia, thereby enhancing the accuracy and efficacy of dyslexia identification and intervention.

CONCLUSION

TOD-C provides a comprehensive, international, standard-compliant assessment encompassing a wide range of dyslexia-related skills, rendering it suitable for in-depth diagnoses and cross-language comparisons. In contrast, the Manual of Logopedic Testing and the Lőrik Test (2015) focused on early reading and writing skills in Hungarian children and offered practical tools for school-based assessments but lacked the breadth and psychometric sophistication of the TOD-C. However, Hungarian tools are well-adapted to the national context, particularly for the early identification of reading difficulties. Several key points can be highlighted in the conclusion of the comparison between the Dyslexia-Comprehensive (TOD-C) tests and Hungarian instruments (Handbook of Logopedic Tests and Lőrik and Májercsik, 2015).

TOD-C is distinguished by its broad coverage of dyslexia-related skills, including cognitive and linguistic processes, that extend beyond basic reading and writing assessments. This may be advantageous in the Hungarian language area, as it would facilitate deeper analysis and enhance the developmental utilisation of the measurement results. This renders the TOD-C highly effective for diagnosing dyslexia across a wide age range, from childhood to adulthood, which is absent in the repertoire of Hungarian testing instruments.

Hungarian tests, although narrower in scope, are specifically designed for the Hungarian language and educational system. This renders them effective in terms of early diagnosis and intervention in a national context, particularly for identifying basic reading and writing difficulties in young children. In other words, it is considerably more adapted to Hungarian educational practice and to what is problematic for teachers in the classroom, but in doing so, it loses focus and a substantial amount of data (Pribék, 2022). The possibility also arises that,

in fact, due to missing data, the learning problem can only be detected by inductive or deductive inference with Hungarian tools, despite the fact that the effectiveness of abduction has already been demonstrated in the field of remedial education diagnostics (Sántha & Gyeszli, 2022; Vida & Sántha, 2024). Prior to commencing any work, action research should be conducted (Zank, 2022), which may delineate the focus areas along which it may be beneficial to initiate adaptation.

Although the TOD-C provides a standardised, international approach to diagnosing dyslexia, it has not yet been adapted for non-English-speaking populations, which limits its direct application in Hungary. In contrast, Hungarian tools, although more limited in their diagnostic depth, are highly relevant for local use and can be directly applied in the national education system.

One potential future direction is to integrate the broader diagnostic framework of TOD-C into the specific language needs of Hungarian learners. This would enable a more comprehensive assessment that meets both the international and local standards. This conclusion underscores the importance of both tools, each of which serves a specific purpose, and suggests the adaptation or integration of international tools, such as TOD-C in Hungary, to enhance dyslexia diagnosis and intervention.

COMPLETION

These proposals can initially be formulated in relation to the Hungarian legal framework. According to Hungarian legislation (for example, Act CXC of 2011 on Public Education), all students are entitled to appropriate education, including those with special needs, such as dyslexia. However, the current diagnostic system for dyslexia and/or reading disorders is not fully aligned with international classification systems such as the ICD-11 (Trembulyák et. al., 2024). Consequently, the results and diagnostic conclusions are incomprehensible from an international or even national perspective, as there is no regulation on the diagnostic tools and nodes utilised to diagnose reading disorders or dyslexia. The previous conceptual distinction has demonstrated that ICD11 makes a clear distinction between concepts, each with a specific set of criteria.

The disparities between the TOD-C and the tests of the Speech and Language Therapy tests and Lőrik's test (2015) underscore that the Hungarian diagnostic tools are primarily relevant in the early stages of primary education and focus on fundamental skills. While useful for assessing children entering school, they do not provide a comprehensive assessment of the broader, language-independent, cognitive, and linguistic aspects of dyslexia, as in the TOD-C, which is based on international standards.

In conclusion, legal and diagnostic consistency may be necessary. Achieving coherence between educational laws and diagnostic procedures is crucial for effective management of dyslexia. International systems such as TOD-C should be considered and adapted to align the Hungarian system with the ICD-11 diagnostic system and the latest international research on dyslexia. This would ensure congruence between legal requirements and diagnostic practices, thus safeguarding the rights of the pupils concerned.

Therefore, tests such as the TOD-C should be incorporated into the current Hungarian diagnostic system to enhance the accuracy and comprehensiveness of dyslexia diagnoses. This would not only facilitate compliance with international standards, but would also enable the Hungarian system to better address the needs of children with dyslexia. Hungarian adaptation of the TOD-C test package should also be considered.

REFERENCES

[1] Bellocchi, S., Muneaux, M., Bastien-Toniazzo, M., & Ducrot, S. (2013). I can read it in your eyes: What eye movements tell us about visuo-attentional processes in developmental dyslexia. *Research in Developmental Disabilities, 34*(1), 452-460. https://doi.org/10.1016/j.ridd.2012.09.002

[2] Blomert, L., Mitterer, H., & Paffen, C. (2004). In search of the auditory, phonetic, and/or phonological problems in dyslexia: Context effects in speech perception. *Journal of Speech, Language, and Hearing Research, 47*(5), 1030–1047. https://doi.org/10.1044/1092-4388 (2004/077)

[3] Casani, E. (2020). Distinguishing dd from sli. language profiles of italian dyslexic children with and without specific language impairment. *Pragmalinguistica, (Monográfico 2),* 45-69. https://doi.org/10.25267/pragmalinguistica.2020.iextra2.03

[4] Chapman, N. H., Navas, P., Dorschner, M. O., Mehaffey, M., Wigg, K. G., Price, K. M., Naumova, O. Y., Kerr, E. N., Guger, S. L., Lovett, M. W., Grigorenko, E. L., Berninger, V., Barr, C. L., Wijsman, E. M., & Raskind, W. H. (2023). Dyslexia and genetic factors. *bioRxiv*. https://doi.org/10.1101/2023.08.01.551585

[5] Colangelo, A., & Buchanan, L. (2007). Implicit and explicit processing in deep dyslexia: Semantic blocking as a test for failure of inhibition in the phonological output lexicon. *Brain and Language, 99*(3), 258-271. https://doi.org/10.1016/j.bandl.2005.07.048

[6] Deacon, S. H., Tong, X., & Mimeau, C. (2019). Morphological and semantic processing in developmental dyslexia. In L. Verhoeven, C. Perfetti, & K. Pugh (Eds.), *Developmental dyslexia across languages and writing systems* (pp. 327-349). Cambridge University Press.

[7] Feifer, S. G., & De Fina, P. A. (2000). *The neuropsychology of reading disorders: Diagnosis and intervention*. School Neuropsych Press.

[8] Glosser, G., Friedman, R. B., & Roeltgen, D. P. (1996). Clues to the cognitive organization of reading and writing from developmental hyperlexia. *Neuropsychology, 10*(2), 168-175. https://doi.org/10.1037/0894-4105.10.2.168

[9] Griffin, J. R., Birch, T. F., Bateman, G. F., & De Land, P. N. (1993). Dyslexia and visual perception: Is there a relation? *Optometry and Vision Science, 70*(5), 374-379. https://doi.org/10.1097/00006324-199305000-00006

[10] Habib, M. (2021). The neurological basis of developmental dyslexia and related disorders: A reappraisal of the temporal hypothesis, twenty years on. *Brain Sciences, 11*(6), 708. https://doi.org/10.3390/brainsci11060708

[11] Juhász, Á. (2003). *Logopédiai vizsgálatok kézikönyve + Logopédiai vizsgálatok melléklete* [Handbook of speech therapy assessments + speech therapy assessment appendix]. Logopédia Kiadó KKT.

[12] Lőrik, J. (2015). *A 2. osztályos gyermekek olvasástechnikájának és mondatmegértésének vizsgálata: Lőrik-féle olvasásvizsgálat - LOV* [Evaluation of reading technique and sentence comprehension of second-grade children: Lőrik's reading test - LOV]. Educatio Társadalmi Szolgáltató Nonprofit Kft.

[13] Lőrik, J., & Májercsik, E. (2015). *Iskolába lépő és 1. osztályos gyermekek néhány olvasási-írási alapkészségének vizsgálata: Tesztfelvételi, pontozási és értékelési útmutató* [Examination of some basic reading and writing skills of children entering school and in the first grade: Test administration, scoring, and evaluation guide]. Educatio Társadalmi Szolgáltató Nonprofit Kft.

[14] Macoir, J., Fossard, M., Saint-Pierre, M.-C., & Auclair-Ouellet, N. (2012). Phonological or procedural dyslexia: Specific deficit of complex grapheme-to-phoneme conversion. *Journal of Neurolinguistics*, *25*(3), 203-215.

[15] Mather, N., McCallum, R. S., Bell, S. M., & Wendling, B. J. (2023, February 28). *Tests of Dyslexia (TOD) Webinar* [Webinar]. Western Psychological Services. https://4813430.fs1.hubspotusercontent-na1.net/hubfs/4813430/D0682_TOD_Author_Webinar_022823_Final%20Draft_Links.pdf

[16] Moody, S. (2014). Dyslexia, dyspraxia, and ADHD in adults: What you need to know. *British Journal of General Practice*, *64*(622), 252. https://doi.org/10.3399/bjgp14X679859

[17] Moore, K. A., Lai, J., Quinonez-Beltran, J. F., et al. (2023). Correction to: A cross-orthographic view of dyslexia identification. *Journal of Cultural Cognitive Science*, *7*, 355-356. https://doi.org/10.1007/s41809-023-00133-3

[18] Mrázik, J. (2022). *Kiürülnek az iskolák! Átrendeződés a köznevelésben - egy kutatás folytatása öt év múltán* [Schools are emptying! Restructuring in public education – a follow-up study five years later]. In R. Kattein-Pornói, J. Mrázik, & M. Pogátsnik (Eds.), *Tanuló társadalom: Oktatáskutatás járvány idején* [Learning society: Educational research during the pandemic] (pp. 228-240). Debreceni Egyetemi Kiadó, Magyar Nevelés- és Oktatáskutatók Egyesülete (HERA).

[19] Poole, J. (2019). *Decoding Dyslexia*. Troubador Publishing.

[20] Premeti, A. (2024). Visuo-attentional and phonological deficits explored in french students with dyslexia: eye movements recorded during a phonological lexical decision task. *Neurology International*, *16*(2), 312-326. https://doi.org/10.3390/neurolint16020022

[21] Pribék, L. (2022). A leltárazás folyamatának koncepcionális modellálása a kvalitatív tartalomelemzésben [Conceptual modeling of the inventory process in qualitative content analysis]. In K. Kéri, R. Kissné Zsámboki, D. K. Németh, & E. Pásztor (Eds.), *Egy nyelvet beszélünk? Gyermeklét és pedagógia a nyelvi, kulturális és társadalmi terek kontextusában - 15. Képzés és Gyakorlat Nemzetközi Neveléstudományi Konferencia (2022. április 28.) : Program és Absztraktok* [Do we speak the same language? Childhood and pedagogy in the context of linguistic, cultural, and social spaces – 15th Training and Practice International Education Science Conference (April 28, 2022): Program and Abstracts] (pp. 134-135). Soproni Egyetemi Kiadó.

[22] Sántha, K., & Gyeszli, E. (2022). Abduction in teaching: Results of a qualitative research. *The New Educational Review*, *68*, 173-185. https://doi.org/10.15804/tner.2022.68.2.14

[23] Trembulyák, M., Szabóné, P. P., & Balogh, R. (2024). *Jogok, kötelességek, anomáliák az együttnevelésben és a sajátos nevelési igényű tanulók oktatásában* [Rights, duties, and anomalies in inclusive education and the education of students with special needs]. In J. Langerné Buchwald, I. Koós, & G. Velics (Eds.), *Az oktatás határdimenziói* [The border dimensions of education] (pp. 51-61). Debreceni Egyetemi Kiadó, Magyar Nevelés- és Oktatáskutatók Egyesülete (HERA).

[24] Vida, G., & Sántha, K. (2024). Abduction in the assessment of special educational needs - Learning disability. *Különleges Bánásmód*, *10*(2), 31-44. https://doi.org/10.18458/KB.2024.2.31

[25] World Health Organization. (2024). *International classification of diseases for mortality and morbidity statistics (11th ed.)*. Retrieved October 28, 2024, from https://icd.who.int/browse/2024-01/mms/en#724140102

[26] Zagata, E. (2024). Dld policy brief: a synopsis of federal-level dyslexia law. *Learning Disabilities Research and Practice*, *39*(2), 57-59. https://doi.org/10.1177/09388982241230759

[27] Zank, I. (2023). *A beágyazott elemzés relevanciája hallgatói énkép vizsgálata során* [The relevance of embedded analysis in examining student self-concept]. In E. Juhász & R. Kattein-Pornói (Eds.), *Az oktatás határdimenziói: Absztraktfüzet* [The boundary dimensions of education: Abstract book]: Hungarian Conference on Educational Research HuCER 2023 (p. 263). Szombathely, Hungary: ELTE Savaria University Center.