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INTELLECTUAL PROFILE OF AN ELEMENTARY SCHOOL CHILD WITH DYSLEXIA: A CASE STUDY

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Abstract :

*This study aimed to describe the intellectual profile of an elementary school child with dyslexia through a psychological case study. A qualitative case study approach was employed involving one third-grade elementary school student aged 8 years and 9 months who was referred for a psychological evaluation due to learning difficulties. Data were collected through clinical interviews, behavioral observations, and the Binet Intelligence Scale. The findings revealed that the participant obtained an IQ score of 119, indicating above-average intellectual functioning with a mental age of 10 years and 8 months. The child demonstrated strengths in reasoning, verbal comprehension, visual-motor abilities, and basic numerical concepts. However, weaknesses were identified in short-term memory, concentration, and vocabulary development. Clinically, the participant exhibited persistent difficulties in distinguishing visually similar letters, particularly **b** and **d**, during reading and writing activities, accompanied by limited expressive vocabulary. These characteristics were consistent with indicators of developmental dyslexia despite the child's above-average intellectual capacity. The findings emphasize that dyslexia is not associated with low intelligence but rather with specific deficits in language processing. Comprehensive psychological assessment is therefore essential to identify individual cognitive strengths and weaknesses and to support appropriate educational interventions for children with dyslexia.*

Keywords : *dyslexia, intelligence profile, Binet Intelligence Scale, elementary school children, case study*

Abstrak :

Penelitian ini bertujuan untuk mendeskripsikan profil intelegensi pada seorang anak sekolah dasar dengan disleksia melalui pendekatan studi kasus psikologis. Penelitian menggunakan metode kualitatif dengan desain studi kasus terhadap seorang siswa kelas III sekolah dasar berusia 8 tahun 9 bulan yang menjalani pemeriksaan psikologis karena mengalami kesulitan belajar. Data diperoleh melalui wawancara klinis, observasi perilaku, dan Tes Intelegensi Binet. Hasil pemeriksaan menunjukkan bahwa subjek memiliki skor IQ sebesar 119 yang berada pada kategori di atas rata-rata dengan usia mental 10 tahun 8 bulan. Subjek menunjukkan keunggulan pada kemampuan penalaran, pemahaman verbal, visual-motor, serta konsep hitung sederhana. Namun demikian, ditemukan kelemahan pada kemampuan memori jangka pendek, konsentrasi, dan perbendaharaan kosakata. Secara klinis, subjek mengalami kesulitan membedakan huruf yang memiliki bentuk serupa, terutama b dan d, baik saat membaca maupun menulis, disertai keterbatasan dalam kemampuan bahasa ekspresif. Temuan ini menunjukkan bahwa disleksia dapat ditemukan pada anak dengan intelegensi di atas rata-rata sehingga kesulitan membaca bukan disebabkan oleh rendahnya kecerdasan, melainkan oleh gangguan spesifik pada pemrosesan bahasa. Hasil penelitian menegaskan pentingnya asesmen psikologis komprehensif sebagai dasar penyusunan intervensi pendidikan yang tepat.

Kata Kunci: disleksia, profil intelegensi, Tes Intelegensi Binet, anak sekolah dasar, studi kasus

INTRODUCTION

Reading ability is one of the fundamental skills that serves as the foundation for academic success among elementary school children. Almost all school subjects require adequate reading skills to enable students to comprehend information, acquire knowledge, and achieve the expected academic competencies (’Iin & Yuliawati, 2025) . Reading difficulties during the elementary school years not only affect academic achievement but may also negatively influence children's social development, emotional well-being, and self-confidence (Fawaz et al., 2025).

One of the developmental causes of reading difficulties is dyslexia (Ardani et al., 2024). According to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision* (DSM-5-TR), Specific Learning Disorder with impairment in reading (dyslexia) is characterized by persistent difficulties in reading skills, including inaccurate or slow and effortful word reading, as well as difficulties with spelling. Reading ability is substantially below the level expected for the individual's chronological age and significantly interferes with academic achievement, occupational performance, or activities of daily living. The symptoms generally become evident during the early school years when academic demands related to reading increase. Furthermore, these difficulties cannot be better explained by intellectual disability, uncorrected visual or hearing impairment, neurological disorders, other mental disorders, psychosocial adversity, inadequate proficiency in the language of instruction, or insufficient educational instruction (American Psychiatric Association, 2022). These difficulties are primarily associated with deficits in language processing, which hinder children's ability to develop fundamental literacy skills.

In educational practice and psychological services, there remains a common misconception that children who experience reading difficulties have low intellectual ability (Martha & Raharjo, 2024). Such perceptions often lead to inaccurate identification because learning difficulties are more frequently attributed to intelligence rather than to specific learning disorders. Previous studies have consistently demonstrated that dyslexia is not directly associated with intellectual functioning (Mardalena & Shofiah, 2025; Raharjo & Wimbarti, 2020) Children with dyslexia may possess average or even above-average intellectual abilities while continuing to experience significant difficulties in reading and writing due to deficits in phonological and language processing (Islamiyah et al., 2025; Riskiyah & Harsono, 2024)

Psychological assessment plays a crucial role in distinguishing learning difficulties caused by specific learning disorders from those resulting from intellectual limitations. Through comprehensive assessment, psychologists can obtain a detailed understanding of children's overall intellectual functioning, cognitive strengths and weaknesses, and developmental characteristics underlying their learning difficulties. Such information provides an essential basis for developing appropriate educational recommendations and intervention

programs tailored to the individual needs of each child.

Previous studies in Indonesia have mainly focused on the early identification of dyslexia, instructional strategies, learning media, and the effectiveness of interventions for children with dyslexia. However, studies specifically describing the intellectual profile of children with dyslexia based on comprehensive individual psychological assessment remain limited. Most existing studies have adopted quantitative approaches with large samples, providing limited information regarding the unique cognitive characteristics of individual children. In fact, each child with dyslexia demonstrates a distinctive cognitive profile that requires individualized assessment and intervention.

The psychological assessment conducted in the present study revealed an interesting phenomenon. Based on the Stanford-Binet Intelligence Scale, the participant obtained an IQ score of 119, which falls within the above-average category, with a mental age of 10 years and 8 months, whereas the chronological age was 8 years and 9 months. During the assessment, the participant demonstrated well-developed reasoning ability, comprehension, visual-motor skills, and basic numerical concepts. Nevertheless, the participant experienced persistent difficulties in distinguishing the letters b and d during both reading and writing activities, showed weaknesses in short-term memory, particularly in recalling sequences of numbers, and demonstrated limited vocabulary development. Information obtained from the parents also revealed a history of delayed language development during the preschool years. Based on the overall psychological assessment, the participant demonstrated characteristics consistent with dyslexia.

These findings reveal a discrepancy between general intellectual ability and literacy performance. The participant's above-average intellectual functioning was not accompanied by age-appropriate reading and writing skills, supporting previous evidence that high intelligence does not necessarily correspond to optimal literacy achievement (Peterson & Bruce F, 2015; Snowling et al., 2020). Therefore, comprehensive psychological assessment is essential to ensure that learning difficulties are evaluated not only through academic performance but also through children's cognitive profiles. Such an approach enables psychologists and educators to design intervention programs that build upon children's strengths while addressing their specific learning needs.

This study is significant because it provides an in-depth description of the intellectual profile of an elementary school child with dyslexia based on a comprehensive psychological assessment using the Stanford-Binet Intelligence Scale. The findings are expected to contribute to the understanding of the intellectual characteristics of children with dyslexia and enrich the existing literature regarding variations in cognitive profiles among children with specific learning disorders. Furthermore, the results may provide valuable information for psychologists, teachers, and parents in developing appropriate educational strategies and intervention programs that support children's academic and developmental needs.

RESEARCH METHOD

This study employed a qualitative approach using a case study design to explore the intellectual profile of an elementary school child with dyslexia. A qualitative case study was considered appropriate because it facilitates an in-depth exploration of an individual case within its real-life context and provides a comprehensive understanding of complex psychological phenomena

The study was conducted at Rumah Bintang Ceria, Pangkalpinang, Indonesia, where the psychological assessment was administered. In qualitative research, the researcher served as the primary instrument responsible for collecting, interpreting, and analyzing the data (Cresswel & Poth, 2018).

The research participant was one male third-grade elementary school student aged 8 years and 9 months who had been identified as having dyslexia following a comprehensive psychological assessment. The participant was selected using purposive sampling because he met the inclusion criteria of the study, namely an elementary school student with dyslexia who had undergone a complete psychological evaluation

Data were collected using multiple techniques, including clinical interviews with the parents, behavioral observations during the assessment process, documentation review, and standardized psychological testing. The clinical interview was conducted to obtain information regarding developmental history, educational background, and learning difficulties experienced by the participant. Behavioral observation was carried out throughout the assessment to identify attention, responses to instructions, and learning behaviors. Intellectual functioning was assessed using the Stanford-Binet Intelligence Scale, which provided information regarding the participant's intellectual level and cognitive profile. The integration of multiple data sources enhanced the credibility of the findings through data triangulation

Data were analyzed using qualitative descriptive analysis based on the interactive model which consists of data condensation, data display, and conclusion drawing and verification (Miles et al., 2014). Findings from interviews, observations, psychological test results, and supporting documentation were systematically compared and interpreted to describe the participant's intellectual strengths and weaknesses associated with dyslexia.

The trustworthiness of the study was established through source triangulation by comparing information obtained from interviews, behavioral observations, psychological assessment results, and documentation. Ethical principles were maintained throughout the research process by obtaining informed consent from the participant's parents before the assessment and ensuring that the participant's identity remained confidential through anonymization of all personal information.

FINDINGS AND DISCUSSION

Psychological assessment was conducted through clinical interviews with the parents, behavioral observation, and administration of the Stanford-Binet Intelligence Scale to obtain a comprehensive understanding of the participant's

intellectual profile. The assessment revealed that although the participant demonstrated above-average intellectual functioning, several cognitive characteristics associated with dyslexia were identified

Table 1. Summary of the Participant's Psychological Assessment Results

Assessment Aspect	Findings	Interpretation
Chronological Age	8 years 9 months	Elementary school student
Mental Age	10 years 8 months	Higher than chronological age
IQ (Stanford-Binet)	119	Above Average
Reasoning Ability	Well developed	Cognitive strength
Visual-Motor Ability	Well developed	Cognitive strength
Basic Numerical Concepts	Good	Cognitive strength
Short-term Memory	Less developed	Cognitive weakness
Vocabulary	Limited	Cognitive weakness
Reading Ability	Difficulty distinguishing **b** and **d**	Dyslexia characteristic
Writing Ability	Frequent confusion between **b** and **d**	Dyslexia characteristic

The psychological assessment indicated that the participant obtained an IQ score of 119, which is categorized as above average. In addition, the participant's mental age (10 years and 8 months) exceeded his chronological age (8 years and 9 months), indicating that his general intellectual functioning had developed well. The participant demonstrated good reasoning ability, adequate visual-motor skills, and satisfactory performance in basic numerical concepts. These findings suggest that the participant possesses sufficient cognitive potential to support academic learning.

Despite these strengths, the participant continued to experience significant difficulties in reading and writing. During the assessment, he consistently confused the letters b and d, required additional time to read words containing visually similar letters, and frequently made errors when writing them. The participant also demonstrated weaknesses in short-term memory, particularly in recalling sequences of numbers, and showed limited vocabulary compared with expectations for his age. Information obtained from the parents further revealed a history of delayed language development during early childhood. These findings indicate that the participant's learning difficulties were related primarily to language processing rather than to intellectual functioning.

The findings of this study are consistent with the DSM-5-TR, which classifies dyslexia as a Specific Learning Disorder with impairment in reading. According to the DSM-5-TR, individuals with dyslexia experience persistent difficulties in word reading accuracy, reading fluency, spelling, and decoding despite having adequate learning opportunities and intellectual functioning . In the present case, the participant demonstrated above-average intelligence but continued to experience persistent difficulties in reading and writing, supporting the DSM-5-TR description that dyslexia is not caused by low intellectual ability.

The participant's difficulty distinguishing the letters b and d, together with weaknesses in vocabulary and short-term memory, is also consistent with the explanation provided by the International Dyslexia Association. The association explains that dyslexia is a neurobiological learning disorder characterized by deficits in phonological processing, word recognition, spelling, and decoding (International Dyslexia Association, 2023). These difficulties interfere with the development of fluent reading even when intellectual ability is within the normal or above-average range. Therefore, the participant's literacy problems are more appropriately explained by deficits in language processing than by limitations in cognitive ability.

Similarly, Shaywitz (2020) argues that dyslexia should not be viewed as a disorder of intelligence but rather as a disorder of language processing. Children with dyslexia often demonstrate strengths in reasoning, problem solving, creativity, and higher-order thinking while simultaneously experiencing persistent difficulties in reading and spelling. The participant in this study showed a similar profile. His reasoning ability, visual-motor performance, and numerical concepts were well developed, whereas literacy-related skills remained significantly below expectations. This discrepancy between intellectual ability and reading performance is considered one of the distinguishing characteristics of dyslexia.

The participant also demonstrated weaknesses in short-term memory, particularly in recalling sequences of numbers. Working memory is essential for temporarily storing and manipulating verbal information during reading. Deficits in this cognitive function may interfere with letter recognition, decoding, and reading fluency (Cowan, 2020). Therefore, the participant's reduced short-term memory may have contributed to the reading difficulties observed during the psychological assessment.

The participant also demonstrated limited vocabulary compared with his intellectual level. This finding is supported by Snowling and Hulme (2021), who explain that children with dyslexia frequently experience weaknesses in language development, including vocabulary acquisition, phonological awareness, and oral language skills. These language-related weaknesses may persist throughout childhood and influence reading comprehension and academic achievement if appropriate intervention is not provided.

Overall, the present findings demonstrate that intelligence alone cannot explain children's academic performance. Although the participant possessed above-average intellectual functioning, specific weaknesses in language processing, short-term memory, and literacy skills significantly affected his reading performance. Therefore, comprehensive psychological assessment remains essential for distinguishing dyslexia from learning difficulties associated with intellectual disability. The results of this assessment also provide valuable information for teachers and parents in designing interventions that focus on strengthening literacy skills while simultaneously maximizing the child's cognitive strengths.

CONCLUSION

This study describes the intellectual profile of an elementary school child with dyslexia based on a comprehensive psychological assessment using the Stanford-Binet Intelligence Scale, clinical interviews, and behavioral observations. The findings indicate that the participant demonstrated above-average intellectual functioning, as reflected by an IQ score of 119 and well-developed reasoning, visual-motor abilities, and basic numerical concepts. However, despite these cognitive strengths, the participant experienced persistent difficulties in reading and writing, particularly in distinguishing the letters **b** and **d**, accompanied by weaknesses in short-term memory and vocabulary development. These findings suggest that the participant's literacy difficulties were associated with deficits in language-related cognitive processes rather than limited intellectual ability.

The results emphasize the importance of comprehensive psychological assessment in differentiating dyslexia from learning difficulties caused by intellectual impairment. Evaluating children's intellectual functioning together with behavioral observations and developmental history enables psychologists and educators to identify both cognitive strengths and weaknesses, thereby facilitating the development of more appropriate educational interventions. Future studies are recommended to involve a larger number of participants and employ multiple cognitive assessment instruments to obtain a broader understanding of the intellectual profiles of children with dyslexia and to support the development of more effective intervention programs.

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