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Exploring the Prevalence of Learning Disabilities in a Community Sample of Children Using the Greek Weschler Intelligence Scale for Children (WISC V^{GR})

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Laboratory of Health and Road Safety, Dept of Social Work, School of Health Sciences, Hellenic Mediterranean University
* Correspondence: slioliou@hmu.gr

Abstract: This study aimed to explore the prevalence of learning disabilities (LDs) and the emotional-behavioral difficulties in 208 children from Crete region in Greece, who voluntarily presented and evaluated by a university-based interdisciplinary team of mental health professionals. Wechsler Intelligence Scale for Children–Fifth Edition (WISC-V) was used with its 5 primary index scores and the Full scale IQ (*Verbal Comprehension Index, VCI; Visual Spatial Index, VSI; Fluid Reasoning Index, FRI; Working Memory Index, WMI; Processing Speed, PCI*). Five diagnostic categories were established for the purpose of analysis: *(a) no LDs (TD group), (b) Attention Deficit Hyperactivity Disorder (ADHD), (c) Specific Learning Disabilities (SLDs), (d) Extremely Low IQ (below 79), and (e) Emotional/Behavioral difficulties.* The results revealed 25.5% prevalence of SLDs, 18.75% ADHD, 8.65% severe LDs, 5.29% emotional/behavioral problems, suggesting that 58% of the study population struggle with some kind of difficulty. Statistically significant differences were observed between the "Extremely Low FSIQ" group and the "SLD", the "ADHD" and the "TD" diagnostic groups in terms of the "VCI", "FRI" and the "FSIQ" scale ($p<.001$). Likewise, the "Extremely Low FSIQ" group differed significantly from the "SLD", and the "TD" groups in terms of the "VSI", the WMI and the "PSI" ($p<.001$). "Behavioural/emotional" and "SLD" groups differed in terms of "VCI" and "Full scale IQ" ($p<.001$). The analysis indicates that children with severe learning difficulties differ from other groups in terms of their cognitive profiles and they need tailor-made educational programs and interventions in the typical classroom. The study offered comparative data from a community sample of children as well as generated initial evidence on the usability and the diagnostic accuracy of Wechsler Intelligence Scale for Children–Fifth Edition (WISC-V) from non-clinical settings. Further research is suggested. The present study was funded by the Crete Region; MIS 5162111.

Keywords: learning disabilities; WISC V^{GR}; community setting; SLD; ADHD; children; emotional problems; behavioral problems; intelligence

1. Introduction

Learning disabilities (LDs) are classified within the broader category of neurodevelopmental disorders, with early onset and varying impairments in the social and cognitive skills of those affected and their overall functioning [1]. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) [1], the prevalence of LDs is particularly high among school-age children with the Specific Learning Disorder (SLD) affecting 5-15% and the Attention-Deficit/Hyperactivity Disorder (ADHD) nearly 5% of this population. Both the diagnostic process and the treatment plan remain complex and challenging due to the multiple subtypes and definitions, the co-occurring conditions and the lack of standardized criteria and measurements [2,3]. For example, research indicates that a substantial percentage of individuals with one neurodevelopmental disorder often exhibit symptoms of another and this overlap poses considerable challenges for healthcare professionals, particularly in terms of accurate differential diagnosis and treatment strategies tailored to address the complex

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interplay of symptoms [4,5]. A comprehensive epidemiological study on ADHD revealed that 13% of youth also had a comorbid Autism Spectrum Disorder (ASD) diagnosis [6], aligning with the findings of prior research indicating that roughly one in eight young individuals with ADHD also have ASD [7–9]. The relationship is even more pronounced in the reverse scenario, with ADHD being the most prevalent comorbidity among children with ASD, occurring in 40-70% of cases [10] .

Apart from the complexity deriving from the co-occurring conditions, the lack of reliable diagnostic tools and the inconsistent diagnostic practices have been assumed to significantly contribute to the misclassification and underdiagnosis of individuals with LDs. In fact, studies indicate that only a fraction of children with learning disabilities are accurately diagnosed and receive the necessary support [11]. Different tests have been found to yield varying results in terms of prevalence, comorbidity, and severity. For example, a study in India found that 10% of the children screened positive for SLD, but only 3.08% were positive when more detailed assessment tools were utilized [12]. In other cases, children have been erroneously labeled with emotional issues, rather than SLD ([13]) with such misdiagnosis exacerbating educational challenges and emotional distress for children affected. Younger students in a class are sometimes erroneously labeled with learning disabilities when their behavior actually reflects normal developmental immaturity compared to older classmates [14] while in other cases ADHD is classified as mood disorder, especially in girls [13]. Consequently, research in this domain has been seen as pivotal for developing standardized and comprehensive assessment diagnostic tools that can accurately identify LDs and prevalence estimates and inform appropriate interventions [15] .

What seems most alarming is the emotional sequelae presented by the children with unrecognized LDs [16], who often experience frustration, low self-esteem, anxiety, depression and academic failure [17–20]. Research even indicates that the psychological consequences persist into adulthood and can significantly impact quality of life and the general well-being of young adults [18]. Children with comorbid conditions are even at a higher risk of long-term consequences with a tendency towards experiencing heightened feelings of loneliness, increased victimization, and lower satisfaction with their social interactions [21].

Interestingly, the COVID-19 pandemic has worsened the problems faced by children affected with LDs with the unprecedented disruptions to educational systems and the significant implications for the diagnosis of LDs. Colvin et al. ([22]) posit that the protracted interruption of conventional educational practices, especially in the Greek context, has potentially rendered traditional diagnostic criteria for LDs inadequate or inapplicable. The ramifications of remote learning modalities on students, particularly those at elevated risk for LDs, remain a subject of ongoing scholarly inquiry. The absence of traditional in-person instructional environments may have obscured LDs that would otherwise be more readily identifiable in conventional educational settings. Despite the resumption of classroom-based instruction, the long-term effects of this disruption to normative teaching experiences on student learning and development remain to be fully elucidated.

In light of the aforementioned challenges, gaining a better understanding of the prevalence, manifestations and trajectories of LDs has been seen as pivotal for improving diagnosis and treatment of LDs and the overall well-being of affected children [23–26]. Standardized criteria for assessing co-occurring neurodevelopmental disorders and comprehensive assessments that account for multiple symptoms across different disorders have been warranted in an attempt to reduce variability in diagnoses across practitioners and facilitate early intervention ([27,28]). This knowledge is also essential for informing policy decisions, allocating resources, and implementing targeted interventions to improve outcomes for individuals with LDs across diverse settings.

Currently, the Wechsler Intelligence Scale for Children–Fifth Edition (WISC-V) [29], provides a comprehensive evaluation framework that is widely employed in both clinical and educational settings, particularly for diagnosing LDs [30]. Despite the fact that LDs' diagnosis can't solely derive from cognitive assessment instruments and intelligence scores, it is anticipated that the WISC-V will further enhance the ability of clinicians and educators to develop targeted interventions and

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support strategies for children with diverse learning needs. To further enhance its accuracy, refinement and validation is warranted in non-clinical samples. The Greek adaptation of the WISC-V GR was introduced in 2017 [31] , providing a culturally relevant instrument for assessing cognitive abilities in Greek children and enabling practitioners to identify potential LDs with enhanced accuracy. However, the implementation and testing of the WISC-V in Greece have been absolutely lacking, raising concerns about the adequacy of available evidence for effective diagnosis and intervention.

The present study is a part of a 4-year project called "Personalized psychosocial support and counseling for learning disabilities", funded by the Crete Region [32–34]. It aimed at applying the WISC-V GR to explore the prevalence of LDs in a community sample of children. Emphasis is placed on ADHD and SLDs due to their high prevalence among school-aged children as well as on the emotional and behavioral difficulties recorded as the primary diagnosis among this population [1]. By examining initial data from non-clinical settings in Greece, this research seeks to provide insights into the cognitive profiles of Greek children and the prevalence of LDs within this population. The current research will further offer useful insights on WISC V GR application in a community setting.To the best of our knowledge, this is the first study reporting on the LD prevalence in a community sample of school-aged children in Greece and Europe-wide. Such information is vital for educators, psychologists, and policymakers to further improve diagnostic procedures but also to develop targeted interventions and support systems that address the specific needs of children with LDs. The implementation of early screening strategies in community settings for the general population remains critically important to mitigate the additional psychological burden associated with severe learning disabilities and late diagnosis.

2. Materials and Methods

2.1. Procedures

This study employed a cross-sectional design to examine the prevalence of learning disabilities in Greece using WISC V GR funded by the Region of Crete (MIS 5162111). Study participants were selected from a group that utilized a unique community-based mobile assessment service, the interdisciplinary Mobile Unit of the Hellenic Mediterranean University in the Crete Region of Greece. This service, through local municipal Social Services Departments, evaluates children for learning disabilities at no cost. The multidisciplinary team comprised school psychologists, social workers, special education teachers, and speech therapists, who conducted assessments by appointment across all municipalities in Crete from 2020 till 2023. Families can voluntarily request an evaluation for their children. It is the only such unit of its kind in Greece.

Upon obtaining written parental consent, the team conducted educational and psychological assessments of the child. Parents and family hisotry were assessed by a social worker. Each assessment session lasted approximately 90 minutes, conducted one-on-one and in person. Following the assessments, the multidisciplinary team convened to integrate test results, clinical observations, and developmental history to establish a diagnosis.

The study's inclusion criteria were as follows: Eligible participants were children between the ages of 4 and 12 years who had not undergone an evaluation for learning disabilities within the past two years. Additionally, the children were required to be residents of the Crete region and fluent in Greek. Finally, both the availability and willingness of the children and their families to participate in the study were essential for inclusion.

2.2. Research Instruments

For the purposes of this study, the Wechsler Intelligence Scale for Children (WISC-V GR) [31] was administered by a trained school psychologist to assess cognitive abilities. WISC-V comprises the following 5 Primary Index scores and a Full Scale IQ as key components designed to evaluate various cognitive abilities in children: a) Verbal Comprehension Index (VCI), includes the Similarities and Vocabulary subtests, which assess a child's verbal reasoning capabilities. b) Visual Spatial Index

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(VSI) is formed by the Block Design and Visual Puzzles subtests, measuring a child's visuospatial reasoning skills, c) Fluid Reasoning Index (FRI) consists of the Matrix Reasoning and Figure Weights subtests, providing an assessment of inductive and quantitative reasoning abilities, d) Working Memory Index (WMI) incorporates the Digit Span and Picture Span subtests, which evaluate the child's working memory capacity e) Processing Speed Index (PSI) comprises the Coding and Symbol Search subtests, assessing both cognitive processing speed and motor speed. WISC [35] has long been a foundational tool in assessing children's cognitive abilities [36,37]. Its most recent edition, the WISC-V [29], provides a comprehensive evaluation framework that is widely employed in both clinical and educational settings, particularly for diagnosing learning disabilities[30]. Additionally, the child's reading-writing skills and psycho-emotional state was evaluated during a clinical interview using standardised assessments (e.g Test Alpha; [38] and the Psychometric Criterion of Mathematical Proficiency for Children and Adolescents [39]).

2.3. Statistical Analysis

The statistical analysis was performed utilizing the IBM SPSS, version 24 for Windows. One-Way Anova and Tukey's HSD Test for multiple comparisons were conducted. Five diagnostic categories were established: (a) Typically Developing (TD group), consisting of children without significant difficulties; (b) the ADHD group, including children whose primary diagnosis was ADHD; (c) the SLD group, comprising children with Specific Learning Disabilities; (d) the Extremely Low IQ group, including children with an IQ below 79; and (e) the Emotional/Behavioral group, encompassing children primarily diagnosed with emotional or behavioral challenges.

One-Way ANOVA was conducted to compare the performance of the groups in Primary Index Scores, Full Scale IQ Scores and Subtest Scores in WISC-V GR. The Tukey's HSD Test for multiple comparisons was used for post-hoc analysis to determine specific group differences in Primary Index Scores, Subtest Scores and Full Scale IQ Scores.

3. Results

A total of 208 children, all fluent in Greek, participated in the assessment process (Mean age = 9.23 years, SD = 1.565). Some children were unable to complete the WISC V GR assessment due to technical difficulties, medical issues, time constraints, or other unforeseen circumstances. A total of 208 children, all fluent in Greek, participated in the assessment process (Mean age = 9.23 years, SD = 1.565). Some children were unable to complete the WISC V GR assessment due to technical difficulties, medical issues, time constraints, or other unforeseen circumstances.

The assessment process yielded the following diagnostic outcomes: 76 children exhibited no or minor learning or developmental difficulties and were categorized as the "Referral" group. A total of 39 children were diagnosed with ADHD, forming the "ADHD" group. Fifty three children were identified with Specific Learning Disabilities (SLD), comprising the "SLD" group. Eighteen children with an IQ below 79 were classified in the "Extremely Low FSIQ" group, while 11 children with primary diagnoses of emotional or behavioral difficulties were assigned to the "Emotional/Behavioral" group. Of the participating children, 63.5% were male and 36.5% were female. Additionally, 187 parents participated in the study (Mean age = 41.9 years, SD = 5.3), with a gender distribution of 7.0% male and 93.0% female.In terms of parental occupations, the most common sectors were public sector employment (29.0%) and private sector employment (31.8%). The majority of children resided in rural or semi-urban areas (65.8%), while a smaller proportion lived in urban areas (34.2%). Regarding educational attainment, parents exhibited diverse backgrounds: 3.9% had completed elementary education, 33.5% had a secondary education, and 62.6% had attained a university-level education. Family structure data revealed that most families were married (83.4%), while smaller proportions were divorced (13.8%), single (1.1%), or in other family arrangements (1.1%). Financial satisfaction among parents varied; 8.7% reported being extremely satisfied with their financial situation, while 6.8% reported being extremely

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dissatisfied. These demographic characteristics provide an overview of the children and their families included in the dataset, as summarized in Table 1.

Table 1. Sociodemographics Characteristics of Participants.

Children	
Age	M=9.23 (SD=1.5, min/max 4-12)
Gender (Male)	132 (63.5%)
Residence	
Rural/ semi-urban	123 (65.8%)
Urban	64 (34.2%)
Parents' Family Status	
Married	151 (83.4%)
Divorced	25 (13.8%)
Single	2 (1.1%)
Other	2 (1.1%)
Widow/er	1 (0.6%)
Missing	6
Parents	
Age	M=41.9 (SD=5.3, min=29, max=59)
Gender (Female)	174 (93.0%)
Diagnosis	
ADHD	39 (18.75%)
SLD	53 (25.5%)
Extremely Low FSIQ	18 (8.65%)
Emotional/Behavioral	11 (5.29%)
Typically Developing (TD)	76 (36.5%)
Missing	11 (5.29%)

A One-Way ANOVA was conducted to compare the performance of the groups in Primary Index Scores, Full Scale IQ Scores and Subtest Scores in WISC VGR . The ANOVA revealed a statistically significant difference in mean score between at least two groups in the Verbal Comprehension Index $F(4,186)=7.24$, $p < .001$, the Visual Spatial Index $F=4,69$, $p=.001$, the Fluid Reasoning Index $F=5.79$, $p<.009$ and the Full Scale IQ $F=8.97$, $p<.001$. Significant differences are also shown in five Subtests: Similarities $F(4,185)=6.41$, $p<.001$, Digit Span $F=3.85$, $p=.005$, Visual Puzzles $F(4,184)=5.26$, $p<.001$, Matrix Reasoning $F=4.51$, $p=.002$ and Vocabulary $F=4.85$, $p=.001$.

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Table 2. Means, Standard Deviations, and One-way Analyses of Variance in WISC V^{GR} (Primary Index Scores, FSIQ and Subtests)

	TD	ADHD	SLD	Extremely Low FSIQ	Behavioral/Emotional		
N	75	39	50	17	10		
			M(SD)			F	P
Index Scores							
VCI	99.43 (12.6)	95.03 (11.8)	101.84 (12.6)	84.65 (12.72)	91 (17.26)	7.241	<.001
VSI	98.28 (16.82)	95.18 (12.18)	103.04 (13.39)	86.18 (10.32)	97 (15.74)	4.685	.001
FRI	96.48 (13.39)	93.85 (14.78)	98.60 (14.53)	81.29 (15.43)	88 (15.03)	5.79	<.001
WMI	87.47 (12.42)	84.56 (10.76)	86.14 (13.07)	75.94 (14.06)	80.10 (12.92)	3.481	.009
PSI	94.43 (13.37)	92.62 (16.49)	94.74 (10.26)	82 (14.19)	86.60 (14.40)	3.625	.007
FSIQ	95.08 (11.39)	90.44 (12.49)	96.36 (11.46)	78.41 (14.33)	85.40 (15.49)	8.969	<.001
N	74	39	51	16	10		
			M(SD)			F	P
Subtests							
Block Design	10.05 (2.33)	9.13 (2.52)	10.31 (2.54)	8.00 (1.96)	9.50 (2.79)	3.708	.006
Similarities	10.35 (3.24)	8.77 (2.86)	10.57 (2.85)	6.94 (2.99)	8.40 (3.77)	6.414	<.001
Digit Span	7.93 (2.45)	7.15 (2.31)	7.63 (2.30)	5.44 (3.36)	6.60 (2.36)	3.847	.005
Coding	8.86 (3.19)	8.38 (3.36)	8.86 (2.45)	6.69 (3.61)	7.00 (3.19)	2.318	.050
Figure Weights	9.59 (2.64)	9.03 (3.00)	9.86 (2.72)	7.19 (2.56)	8.20 (2.44)	3.652	.007
Symbol Search	9.25 (2.88)	8.67 (3.12)	9.22 (2.31)	6.60 (2.87)	8.30 (2.86)	3.157	.015
Picture Span	7.82 (2.69)	7.36 (2,40)	7.63 (2.92)	6.25 (2.40)	6.50 (2.95)	1.516	.199
Visual Puzzles	9.88 (3.16)	9.08 (2.70)	10.73 (2.85)	7.06 (2.72)	9.40 (3.06)	5.259	<.001
Matrix Reasoning	9.27 (2.74)	8.82 (2.79)	9.73 (3,01)	6.44 (3.54)	7.70 (3.36)	4.513	.002
Vocabulary	9.39 (2.07)	9.38 (2.46)	9.75 (2.13)	7.25 (2.59)	7.80 (2.86)	4.852	.001

* There was homogeneity of variances between groups, as assessed by the Levene's test for equality of variances (p > .05).

Tukey's HSD Test for multiple comparisons found that the mean value of Verbal Comprehension Index (VCI) was significantly statistically different between the Extremely Low FSIQ group (M=84.65, SD=12.72) and the SLD group (M=101.84, SD=12.6), the ADHD group (M=95.03, SD=11.8) and the Referral group (M=99.43, SD=12.6), p< .001, F=7.24. There was also a significant statistical difference between the SLD group and the Emotional/Behavioral group (M=91, SD=17.26). In the Visual Spatial Index (VSI), the Extremely Low FSIQ group (M=86.18, SD=10.32) differs statistically significantly from the SLD group (M=103.04, SD=13.39) and the TD group (M=98.28, SD=16.82), p= .001, F=4.68. In the Fluid Reasoning Index (FRI), the Extremely Low FSIQ group (M=81.29, SD=15.43) is significantly statistically different from the SLD (M=98.60, SD=14.53), ADHD (M=93.85, SD= 14.78) and TD group (M=96.48, SD=13.39), F=5.58, p< .001. In the Working Memory Index (WMI), the Extremely Low FSIQ group (M=75.94, SD=14.06) is significantly statistically different from the SLD group (M=86.14,

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SD=13.07) and the TD group (M= 87.47, SD=12.42). In the Processing Speed Index (PSI) the Extremely Low FSIQ group (M=82, SD=14.19) is significantly statistically different from the SLD group (M=94.74, SD=10.26) and the TD group (M= 94.43, SD=13.37).

Significant statistical differences are also being observed in the Full Scale IQ Score (F=8.97, p< .001) between the Extremely Low FSIQ group (M=78.41, SD=14.33) and the SLD group (M=96.36, SD=11.46), the Referral group (M=95.08, SD=11.39) and the ADHD group (M=90.44, SD=12.49). There is also a significant difference between the SLD group and the Emotional/Behavioral group (M=85.40, SD=15.49).

The Tukey's HSD Test for multiple comparisons in Subtest Scores found statistically significant differences in Similarities (F6.41, p< .001) between the Exremely Low FSIQ group (M=6.94, SD=2.99) and the SLD group (M=10.57, SD=2.85) and Referral group (M=10.35, SD=3.24). In the Digit Span subtest (F=3.84, p= .005), there is a difference between the the Exremely Low FSIQ group (M=5.44, SD=3.36) and the SLD group (M=7.63, SD=2.30) and Referral group (M=7.93, SD=2.45). In the Visual Puzzles subtest (F=5.26, p< .001) there are statistically significant differences between the Exremely Low FSIQ group (M=7.06, SD=2.72) and the SLD group (M=10.73, SD=2.85) and Referral group (M=9.88, SD=3.16). A similar pattern is followed in the Matrix Reasoning subtest (F=4.51, p= .002). More specifically, statistically significant differences are observed between the Exremely Low FSIQ group (M=6.44, SD=3.54) and the SLD group (M=9.73, SD=3.01) and Referral group (M=9.27, SD=2.74). In the Vocabulary subtest (F=4.85, p= .001), the following differences between groups are observed: the Exremely Low FSIQ group (M=7.25, SD=2.59) and the SLD group (M=9.75, SD=2.13) and Referral group (M=9.39, SD=2.07).

Table 3. Post Hoc Tukey for Primary Index Scores and Full Scale IQ in WISC V^{GR}

N	GROUPS	VCI	VSI	FRI	WMI	PSI	FSIQ
75	TD	bc	b	b	b	b	bc
39	ADHD	bc	ab	b	ab	ab	bc
50	SLD	c	b	b	b	b	c
17	Extremely Low FSIQ	a	a	a	a	a	a
10	Behavioral/ Emo- tional	ab	ab	ab	ab	ab	ab
	F	7.24	4.68	5.58	3.49	3.62	8.97
	p	<.001	.001	<.001	.009	.007	<.001

*Different letters show differences between the corresponding groups of children according to Post Hoc Tukey test.

Table 4. Post Hoc Tukey for Subtest Scores in WISCV^{GR}

	TD	ADHD	SLD	Extremely Low FSIQ	Behavioral/ Emotional		
Subtests	75	39	50	16	10	**F**	**p**
Block Design	b	ab	b	a	ab	3.70	.006
Similarities	b	ab	b	a	ab	6.41	<.001
Digit Span	b	ab	b	a	ab	3.84	.005
Coding	a	a	a	a	a	2.41	.050
Figure Weights	b	ab	b	a	ab	3.65	.007
Symbol Search	b	ab	b	a	ab	3.15	.015
Picture Span	a	a	a	a	a	1.51	.199
Visual Puzzles	b	ab	b	a	ab	5.26	<.001
Matrix Reasoning	b	ab	b	a	ab	4.51	.002
Vocabulary	bc	bc	c	a	ab	4.85	.001

*Different letters show differences between the corresponding groups of children according to Post Hoc Tukey test.

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4. Discussion

Our study reveals several significant findings regarding the prevalence and identification of LDs in the Greek educational context. Strikingly, 58% of the students assessed were identified with some kind of learning difficulties, a finding that demands careful interpretation given the context of the COVID-19 pandemic and its disruptions to Greek education. This result underscores the critical need for comprehensive learning disability screening protocols and educational policy reforms.

Firstly, the study indicates that approximately 25% of the sampled population exhibits some form of SLD, a rate substantially higher than international estimates [1]. This discrepancy warrants further examination and may be elucidated by the research of Anastasiou and Polychronopoulou [40], which suggests a disproportionate prevalence of SLD in reading and writing among Greek secondary school students compared to their elementary counterparts.

Several factors may contribute to the observed discrepancies in SLD prevalence, including the lack of standardized evaluation procedures, insufficient training of professionals in SLD identification, and the influence of cultural and educational factors of diagnosis [41]. These findings underscore the imperative for a comprehensive, standardized approach to SLD identification and intervention across all educational levels.

The Centers for Interdisciplinary Assessment, Counseling and Support (KE.DA.SY.) play a crucial role in the diagnosis of learning disabilities in Greece. Established in 2018 and subsequently reorganized under Law 4823/2021 (Article 11, Section 1 - 1 - https://search.et.gr/el/fek/?fekId=603011)), these centers are responsible for the timely diagnosis of learning disabilities in children upon referral by their teachers, with parental consent. However, the current operational framework of KE.DA.SY. presents significant challenges in the early identification and intervention for students with SLD. These centers face substantial limitations in both financial and human resources, impeding the implementation of universal screening protocols across the student population. In fact, the primary responsibility for identifying students at high risk for learning disabilities falls predominantly on classroom teachers, potentially resulting in a considerable number of students remaining undiagnosed. Consequently, some students may only be referred for assessment upon entering secondary education, where their academic impairments become more pronounced and thus easier to detect [40]. The systemic limitations in early identification have profound implications for students' prognosis and academic trajectory. The prolonged period without appropriate intervention often leaves affected individuals with coexisting psychological consequences, including persistent feelings of frustration, disappointment, and diminished self-esteem [17]. These findings highlight the critical need for improved early identification and intervention strategies for students with LDs in the Greek educational system.

Recent research in Greece has shifted focus towards examining teachers' knowledge gaps regarding Attention Deficit Hyperactivity Disorder (ADHD). The same findings are being observed in studies at university level [42]. While some studies have reported improvements in teachers' understanding of ADHD, overall knowledge levels remain moderate, potentially leading to under-referral of children with the disorder. Giannopoulou et al. [43] observed enhanced teacher knowledge compared to earlier investigations by Kakouros et al. [44,45]. However, this improvement may not be sufficient to ensure accurate identification and referral of students with ADHD.

Interestingly, another finding of this study identified a relationship between emotional/behavioral challenges and cognitive functioning. Research on this matter is still scarce. Individuals in the Emotional/Behavioral group in our study demonstrated specific cognitive vulnerabilities, particularly in verbal comprehension and overall intellectual functioning. These cognitive impairments may be associated with their emotional or behavioral difficulties [46]. This finding emphasizes the importance of distinguishing between cognitive profiles in various neurodevelopmental and emotional-behavioral conditions, as it may have implications for assessment, diagnosis, and intervention strategies [16].

Additionally, no statistically significant disparities were found in Full Scale Intelligence Quotient (FSIQ) scores among the SLD, the ADHD and the TD group. This finding aligns with both historical

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research [47] and recent studies utilizing WISC-V [48]. However, it stands in contrast to a 2020 Greek study [49] employing the WISC-III GR, which reported statistically significant differences between children with ADHD and both TD children and those with SLD in writing or reading across the majority of subtests.

The inconsistencies observed across these studies potentially underscore the intricacy of cognitive profiles in neurodevelopmental disorders. They also highlight the potential influence of assessment tools, cultural contexts, and sample characteristics on research outcomes. A more comprehensive statistical analysis could have yielded different results. For instance, a study examining WISC-IV cognitive profiles of children with SLD compared to TD children suggested that merely comparing FSIQ scores may be insufficient to detect cognitive discrepancies between groups [50]. The researchers proposed that analysis of the General Ability Index (GAI) was additionally necessary to inform diagnosis.

These findings collectively emphasize the importance of employing multiple measures and indices when assessing cognitive profiles in neurodevelopmental disorders. They also suggest that reliance on a single composite score, such as FSIQ, may not fully capture the nuanced cognitive differences that exist between these groups. Future research in this area may benefit from incorporating more comprehensive assessment strategies and considering a wider range of cognitive indices to better elucidate the complex cognitive profiles associated with SLD and ADHD.

4.1. Limitations and Strengths of the Study

This study has several limitations that should be considered when interpreting the results. The primary limitation is the small sample size, which may have reduced the statistical power of the study to detect significant effects potentially limiting the generalizability of the findings. Additionally, the study was conducted in a single region, which may differ from other country regions with potential influence in the generalizability of results. The regional focus may have introduced bias due to specific cultural, socioeconomic, or environmental factors unique to the area. Furthermore, a significant source of potential bias stems from the nature of the sample itself. Families who participated in the program were likely predisposed to consider the possibility of learning disabilities, as they voluntarily sought out the assessment services. This self-selection bias may have led to an overrepresentation of children with learning difficulties in the sample, potentially inflating the observed prevalence rates. These limitations suggest that the findings should be interpreted cautiously and may not be representative of broader populations or contexts.

This study marks the first community-based mapping of the prevalence of learning disabilities in Greece using the latest Greek version of the Wechsler Intelligence Scale for Children, Fifth Edition (WISC-V GR). Its novelty is multifaceted: it represents the initial attempt to establish learning disabilities' prevalence rates within a community sample, employs current, standardized, and accurate diagnostic tools often absent in public services, and adopts an innovative service delivery model. By bringing assessments directly to families, the study overcomes geographical barriers for those in remote areas and provides access to economically disadvantaged families who might otherwise be unable to afford such evaluations. This approach not only produces valuable data, but also addresses critical issues of accessibility and equity in the assessment of learning disabilities.

5. Conclusions

This research contributes to the growing body of evidence supporting more comprehensive diagnostic approaches in learning disabilities, particularly in the context of educational disruptions. It offers valuable data on the applicability of the WISC-V GR in diverse settings and helps bridge the gap between clinical and non-clinical research in understanding children's learning difficulties. Importantly, the current study generates evidence on the importance of implementing community-based studies using standardized instruments like the WISC-V GR for establishing accurate prevalence rates, identifying at-risk individuals, and developing targeted interventions for learning disabilities. Community studies offer a proactive approach to early detection, contrasting with the traditional

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reactive model of waiting for referrals. This method allows for screening for LDs among the general population of students, potentially uncovering difficulties in cognitive functions, academic skills, and neurodevelopmental disorders at earlier stages. The study concludes in suggesting that fundamental policy alterations are needed. Future research should aim to replicate these results with larger, more diverse samples across multiple regions, and employ strategies to mitigate self-selection bias to enhance the robustness and generalizability of the findings.

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Abbreviations

The following abbreviations are used in this manuscript:

LD	Learning Disability
SLD	Specific Learning Disorder
ADHD	Attention Deficit Hyperactivity Disorder
TD	Typically Developing
FSIQ	Full Scale Inteliigence Quotient
VCI	Verbal Comprehensionn Index
FRI	Fluid Reasoning Index
PSI	Processing Speed Index
WMI	Working Memory Index
VSI	Visual Spatial Index

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