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Reading Comprehension and Linguistic Abilities of Children with and without Specific Learning Difficulties: Theoretical and Educational Implications

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Abstract: The aim of the present study has been to investigate reading comprehension (RC) of children with specific learning difficulties (SLD), considering linguistic factors, such as receptive vocabulary, morphosyntax, and pragmatics (i.e., figurative language). Participants included 90 students (9–12 years old; M_{years} = 10.8, SD = 0.95), 45 with SLD and 45 typically developing (TD) controls, matched on age, gender, and non-verbal cognitive ability. Results indicated that students with SLD had significantly lower performance on RC and across all linguistic measures compared to TD peers. Scores of the figurative language comprehension task predicted RC for TD children, whereas morphosyntactic ability emerged as a unique predictor of RC for SLD children. The two groups utilize distinct linguistic resources in their effort to extract meaning from written texts. The differentiated language profile of children with SLD suggests the implementation of differentiated educational assessment and intervention practices, which are discussed.

Keywords: specific learning difficulties; reading comprehension; structural language skills; figurative language

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1. Introduction

Many researchers emphasize the importance of structural and pragmatic language skills in reading comprehension (RC) for both typical and atypical development. It has been argued that impairments in broader linguistic abilities (including vocabulary, grammar, syntax, and pragmatics) could impede text understanding [1–3]. Reading difficulties pertain to deficits in accuracy, fluency, and comprehension. Problems in RC may arise from weaknesses either in word-level reading or in linguistic comprehension which encompasses cognitive and linguistic parameters related to RC, or in both dimensions simultaneously, as proposed by The Simple View of Reading [4,5].

Therefore, the need for a multifaceted examination of the variables that may be associated with the level of RC in individuals with typical and atypical development and from diverse linguistic systems is highlighted. Most findings regarding RC development, and the prime linguistic factors linked to it, originate from studies carried out using the English language. The difference of the English language from other languages in terms of orthographic and morphosyntactic complexity has been acknowledged [6–9]. Moreover, the relationship between morphosyntactic ability and RC has not been thoroughly investigated, especially when considering the contribution of other linguistic factors, such as vocabulary, among participants with different reading profiles [8,9].

Similarly, further examination of pragmatic competence in relation to RC of individuals with specific learning difficulties (SLD) is considered essential due to the scarcity of research findings [10,11]. The assumption is based on the hypothesis of a bidirectional relationship between pragmatic skills, particularly in the area of figurative language, and text comprehension [12].

2. Literature Review

2.1. Theoretical Framework

RC theories converge on the substantial contribution of broader language skills to extracting meaning from texts. Language comprehension, an integral part of RC development, depends on the interaction of core language skills (i.e., phonology, semantics, and syntax) and pragmatic abilities (i.e., inference capacity and background knowledge), which enhance the retrieval of both literal and implied textual meaning (the Cognitive Foundations Framework [13]; Triangle Model Extended [14]). Especially, semantic and morphosyntactic knowledge, embedded in the lexicon, are crucial factors in effective RC, acting as the connecting link between word-identification and comprehension systems in the Framework for Comprehension Model [15]. Foundational linguistic parameters (vocabulary and morphosyntax) as well as higher-order language and cognitive skills (such as inference ability and reasoning) may also develop a direct or indirect relationship with RC (the Direct and Indirect Effects Model of Reading [16]).

From a developmental perspective, comprehension relies more on decoding skills at a younger age. However, as children grow older (especially between 8 and 10 years), the relationship between reading and linguistic comprehension, involving structural linguistic skills like vocabulary and grammar, becomes more robust (e.g., [17,18]). Empirical evidence from studies conducted across diverse linguistic systems involving typically developing (TD) participants at preschool, middle school, and pre-adolescent ages underscore the strong connection between text comprehension and knowledge of both vocabulary and morphosyntactic rules [9,19–22]. During the preschool years, linguistic skills, beyond code-related abilities, have been identified as one of the most critical, robust, and stable predictors of later RC level [23]. Similarly, listening comprehension (involving vocabulary and morphosyntactic ability) has emerged as a powerful predictor of both early and later RC growth, as shown in a longitudinal study which examined RC development from 7.5 years old to the middle of 7th grade [21]. Furthermore, vocabulary and syntax accounted for a significant portion of the variance in RC from 3rd to 10th grade [18].

In addition, grammatical skills predict RC both concurrently and longitudinally, evident across middle school, pre-adolescent, and adolescent TD students (e.g., [22,24–30]). Syntax is a comparatively under-researched factor impacting the development of reading comprehension (RC) [31]. It predicts, however, RC of TD children, concurrently in middle and upper elementary school, sometimes above and beyond vocabulary and/or other variables such as age, gender, non-verbal cognition, word reading, etc. (e.g., [9,22,29]). These conclusions are further supported by the findings of a recent meta-analysis, investigating the role of grammatical knowledge in RC. Overall, the results from 62 articles and 86 studies in first and second languages (published between 1998 and 2021), showed that there was a strong correlation between the two variables, irrespective of language [32].

Yet, another essential component of RC involves the reader's capacity to make inference, particularly in cases of ambiguity or when deciphering the implicit meaning of sentences, by utilizing either contextual cues or prior knowledge [33,34]. More precisely, the skill of inferring meaning from context is crucial for broader pragmatic competence (i.e., figurative competence, that is the ability to effectively comprehend and use figurative language, e.g., idiomatic expressions, metaphors, proverbs, etc.) [35,36]. Figurative competence involves the ability to go beyond the literal meaning of an utterance [37]. The development of figurative competence in TD is considered by some researchers to be a gradual process extending from childhood into adulthood [38,39]. It reaches a sudden peak around the age of 10–11, while slower developmental rates follow in subsequent stages [40,41].

The bidirectional nature of the relationship between broader pragmatic (i.e., inference ability, that is the capacity to process and integrate contextual cues, ambiguity resolution, etc.) and structural language skills (semantics and morphology–syntax) has been emphasized [42]. The strong association between core language skills and figurative competence in TD children is well documented (e.g., [36,39,43,44]). The accurate interpretation

of figurative language is determined by comparable cognitive and metacognitive skills that govern comprehension during reading (see Global Elaboration Model [45,46]), thereby strengthening the hypothesis of a bidirectional relationship between them [12]. These findings are further corroborated by research conducted across different languages (e.g., English, Italian, Polish, etc.), revealing a close connection between the ability to adequately understand figurative language in TD children aged 6–12 and their level of RC (e.g., [47–52]).

2.2. Reading Comprehension and Language Skills in Children with Specific Learning Difficulties

Specific Learning Difficulties (SLD) involve a range of specific conditions of heterogenous character varying inter- as well as intra-individually. These conditions vary significantly in terms of symptom manifestation and severity. SLD are characterized by deficits in specific aspects of literacy skills. Impairments are observed in reading (i.e., accuracy, fluency, and comprehension) and in writing (e.g., spelling, punctuation, morphosyntactic structure). The primary cause is related to phonology, affecting word-level literacy skills. However, reading comprehension and other language skills, such as vocabulary, are affected secondarily. Difficulties are usually unexpected and remain unnoticed, are persistent and cannot be attributed to intelligence, sensory or neurological problems, social or psychological adversities, or inadequate schooling [53,54].

According to the Simple View of Reading, four distinct groups with varying RC abilities are recognized. Gough and Tunmer [4] (see also [55] (p. 51)) categorize individuals as typical readers with age-appropriate decoding and language comprehension, those with 'dyslexia' who have weak decoding but sufficient language comprehension, individuals with 'hypelexia', or 'poor comprehenders' with sufficient decoding but weak language comprehension, and 'garden-variety' poor readers with impairments in both areas. Snowling and Stackhouse [56] (p. 322) further classify these groups based on good/poor semantics and phonology. They describe typical readers as having good skills in both, dyslexic readers as having poor phonology but good semantics, poor comprehenders as having good phonology but poor semantics, and those with generalized reading difficulties as having deficits in both linguistic dimensions.

However, children with SLD (i.e., dyslexia) appear to have significant difficulties in RC that cannot be attributed solely to deficits in phonological processing skills or reduced reading experience. These factors are insufficient to fully explain their RC issues [55]. Additionally, it is not unusual for children with dyslexia to concurrently face challenges in both RC and core language skills (e.g., [55,57,58]), and this combination seems to intensify the severity of their RC impairments [59]. A meta-analytic review of 76 studies by Georgiou and colleagues [60] examined RC in individuals with dyslexia compared to chronological-age-matched and reading-age-matched peers. Their difficulties were attributed to combined deficits in decoding and oral language skills. Additionally, differences between groups were moderated by orthographic consistency and vocabulary matching. RC disparities were more pronounced in language systems with low orthographic consistency, and differences were greater in studies lacking vocabulary matching between samples. Other parameters examined, such as grade level, writing system (alphabetic or non-alphabetic), response format, and reading mode (whether participants read the RC tasks aloud or silently), could not explain the findings.

The linguistic profile of poor decoders is marked by variability in structural language skills. Vocabulary knowledge may range from intact to impaired in both children and adults with dyslexia. It is well documented that individuals with dyslexia often exhibit difficulties in learning new words (e.g., [61]).

Although empirical evidence regarding vocabulary knowledge has produced mixed results, a growing body of research indicates persistent difficulties in grammatical skills, morphology, or syntax, using tasks measuring morphosyntactic phenomena of varying levels of difficulty and complexity (e.g., subject–verb agreement, passive construction, subordinate relative clauses, etc.) (e.g., [62–64]; see [65] for an overview).

It is estimated that approximately 50–58% of dyslexic individuals have poor performance in measurements of oral language abilities (vocabulary and morphosyntax) (e.g., [55,66,67]). Research findings from concurrent, longitudinal, and at-risk studies have confirmed the correlational nature of these relationships (e.g., [59,68–74]).

Oral language skills interact with pragmatic language rules in order to support adequate comprehension of texts [13]. Research demonstrates that individuals with SLD (i.e., dyslexia) encounter challenges at the pragmatic level of language. In fact, pragmatic deficits are identified either in broader pragmatic competence (e.g., conversational skills, processing contextual information for meaning extraction, scalar implicatures, etc.) [11,12] or in the ability to correctly interpret figurative language in its conventional aspects (i.e., conventional metaphors) (e.g., [75,76]). More precisely, difficulties in figurative competence have been associated with factors such as inference ability or the capacity to process language within context [70,77], executive functions (e.g., the ability to suppress the literal interpretation of metaphorical expressions), core language abilities, as well as reading skills, albeit moderately (e.g., [10,70,75,76]). However, pragmatic abilities and their interactions with reading among children with SLD are subjects underexplored [78].

Impairments in structural language skills are noted in school-aged children with Greek as their first language. Greek is characterized by a transparent orthography system with rich morphology. Children with dyslexia and broader comprehension difficulties (approximately 8–10 years old) exhibited impairments in receptive vocabulary and morphosyntactic abilities when compared to age-matched TD peers (e.g., [79–81]). Furthermore, findings from a longitudinal study among Greek-speaking students in grades 1 and 2 indicated that children with reading difficulties significantly differed from their TD peers in all measurements of oral language skills, as well as in reading fluency and RC [82]. In the same research, vocabulary and phonological awareness together predicted specific reading comprehension difficulties.

2.3. Current Study

The aim of the present study has been to explore the relationship of RC and broader language skills among students with SLD (i.e., dyslexia). It is examined whether their reading and linguistic profile deviates from their TD peers and which components contribute most to the RC of each group. Based on Lyon and colleagues' definition [53], it is assumed that both RC and vocabulary may be affected particularly at the late stages of primary school. However, there is likelihood that children with SLD do not approach typical linguistic development, evident across the full spectrum. If this is the case, the current study targeted to identify those indicators predicting RC performance for each group.

3. Materials and Methods

3.1. Participants

A sample of 90 native Greek-speaking children participated in the present study. There were 45 children with SLD (25 boys and 20 girls; M_{years} = 10.7 years, SD = 0.97) and 45 TD controls (25 boys and 20 girls; M_{years} = 10.8, SD = 0.95). The two groups were matched for chronological age, gender, and non-verbal cognitive ability (see Table 1).

Table 1. Comparisons of SLD and TD groups for age and non-verbal ability.

Variables	SLD Group (n = 45)		TD Group (n = 45)		t	p
	M	SD	M	SD		
C. A.	10.7	0.95	10.8	0.95	−0.44	0.662
R. C. P. M. (max. = 36)	29.02	3.36	29.80	2.94	1.15	0.250

Note 1. SLD = Specific Learning Difficulties, TD = Typical Development, C. A. = Chronological Age, R. C. P. M. = Raven's Coloured Progressive Matrices test. Note 2. max. = maximum variable value.

All participants were recruited from public primary schools located in Athens and Heraklion city. Children with SLD have been receiving support by a special education teacher in integration classes, which operate inside the mainstream school. Students with SLD had been formally diagnosed by a multidisciplinary team of authorized state services, and none of them had comorbidity with attention deficit/hyperactivity disorder, autism spectrum disorder, or other neurological or sensory disorders.

3.2. Measures

3.2.1. Reading Comprehension

Reading Comprehension was measured with Test-A [83]. Test-A is standardized, consists of 10 sub-scales, and examines the three main aspects of reading ability (decoding, fluency, and comprehension). Two short texts of 250 words each from the RC sub-scale were administered. Each student had to read the texts silently or aloud and then answer seven multiple-choice questions. The questions evaluated a range of RC skills, such as inference ability, vocabulary knowledge, the ability of appropriately interpreting the literal meaning, or grasping the main idea of the text, etc. The total score of RC was the sum of correct answers from both texts. Cronbach's alpha for the present sample was 0.71.

3.2.2. Receptive Vocabulary

Semantic ability was assessed by the 4th edition of the Peabody Picture Vocabulary Test (PPVT-4) [84]. It is a standardized test which measures receptive vocabulary. The tasks for children 9–12 years old were used. Participants had to select one out of four pictures in the same page, which best matched with the meaning of the word orally pronounced by the examiner. Total correct raw scores were obtained, and Cronbach's alpha for the present sample was 0.70.

3.2.3. Morphosyntactic Ability

A multiple-choice test with 20 items of increasing difficulty was constructed after a pilot study. It covers a variety of morphosyntactic phenomena, the selection of which was strictly based on the Language Curriculum of the last four grades of elementary school. These morphosyntactic phenomena involve, for example, possessive case, adjective–noun conjunctions, morphosyntactic markers of verbs and nouns, prepositions, passive voice, subordinate clauses, indirect speech, etc. For each item, four possible answers were presented (e.g., The man stands in front, is my coach: (a) whoever, (b) with whom, (c) where, (d) who). Total correct raw scores were obtained, and Cronbach's alpha for the present sample was 0.76.

3.2.4. Figurative Language Comprehension

After a pilot study, a test measuring the ability to comprehend figurative language was developed. In its final version, the test consisted of two sub-scales: (a) Idioms (23 items); and (b) Proverbs (15 items). The selection of items was based on the Language Curriculum of the last four grades of elementary school. The figurative utterances were presented in an isolated manner without context, followed by four options of possible answers in a multiple-choice format (e.g., The apple doesn't fall far from the tree: (a) Children often resemble their parents, (b) Children should eat healthily, (c) The fruits should be gathered before winter comes, (d) The apple doesn't fall away from the tree). Cronbach's alpha for the present sample was 0.84.

3.2.5. Non-Verbal Cognitive Ability

The Raven's Coloured Progressive Matrices test (Greek standardized version) [85] was used to evaluate non-verbal cognitive ability. It consists of 36 items (3 sets of 12 items each of graded difficulty). It is appropriate for children between 4 and 12 years old. The child is asked to apply analogical reasoning to identify the correct item out of six options to better fit a colored geometric figure. Cronbach's alpha for the present sample was 0.70.

3.3. Data Collection and Ethics

The data collection was carried out after having received approval from the responsible Research Board and parents' consent. A pilot study was carried out first to identify the best items for inclusion in the experimental (morphosyntactic and pragmatic) tasks. Assessment was held individually in a separate room, during school hours. The time required for assessment did not exceed two hours. All tests measuring language ability were presented orally, and each student was asked to mark the correct answer. The tasks used in the study had no time limit. Students were informed about the anonymous character of the procedure and about their opportunity to withdraw from the research at any time.

4. Results

To compare scores between the SLD and TD groups on the examined variables (RC, receptive vocabulary, morphology–syntax, and figurative language), four independent sample t-tests were conducted. The results are presented in Table 2. As can be seen from Table 2, these differences revealed that students with SLD had significantly lower performance than their TD peers, in all measures. The larger difference between the two groups was observed for figurative language in favor of TD (M = 28.3, SD = 5) over SLD (M = 18.9, SD = 5). At the bottom of Table 1, intercorrelations between the target variables are presented. The pattern of results in the TD group indicates that figurative language has produced a series of connections with other linguistic variables and reading.

Table 2. Comparisons and correlations of SLD and TD groups in the examined variables.

Variables	SLD Group (n = 45)				TD Group (n = 45)				t	p
	M	SD			M	SD				
R. C. (max. = 14)	9.5	2.5			12.3	1.3			6.9	0.000
R. V. (max. = 36)	29.2	3			33	2.4			6.7	0.000
M.–S. (max. = 20)	10.1	2.7			14.3	2.5			7.7	0.000
F. L. (max. = 38)	18.9	5			28.3	5.3			8.6	0.000
	1	2	3	4	1	2	3	4		
1. R. C.	-				-					
2. R. V.	0.11	-			0.29	-				
3. M.–S.	0.55 **	0.22	-		0.40 *	0.21	-			
4. F. L.	0.27	0.15	0.54 **	-	0.52 **	0.33 *	0.46 **	-		

Note 1. SLD = Specific Learning Difficulties, TD = Typical Development, R. C. = Reading Comprehension, R. V. = Receptive Vocabulary, M.–S. = Morphology–Syntax, F. L. = Figurative Language. Note 2. max. = maximum variable value. Note 3. * $p < 0.05$; ** $p < 0.01$.

To test which independent variable best predicted RC for the two samples, a set of two hierarchical regression analyses was used. For each regression model, the two non-linguistic variables (chronological age and Raven's Coloured Progressive Matrices test) were entered first, then the scores of the three linguistic variables (receptive vocabulary, morphology–syntax, and figurative language) followed. The results are presented in Table 3.

As regards the SLD sample, chronological age and Raven's Coloured Progressive Matrices scores accounted for 9.1% of the variance in RC ($F(2, 42) = 2.11$, $p = 0.134$). At the second step, the three linguistic variables (receptive vocabulary, morphology–syntax, and figurative language) accounted for a significant proportion of the variance in RC ($R^2 = 31.8\%$, $F(5, 39) = 3.64$, $p = 0.008$), adding 22.7% to the explained variance in the dependent variable. The findings revealed that morphology–syntax positively predicted RC ($\beta = 0.54$, $p = 0.003$).

Table 3. Hierarchical regression analyses predicting RC for the two groups.

SLD Group (n = 45)						TD Group (n = 45)					
Independent Variables	**ΔR^2**	**B**	**SE B**	**t**	**β**	**Independent Variables**	**ΔR^2**	**B**	**SE B**	**t**	**β**
Step 1	0.091					Step 1	0.112				
C. A.		−0.26	0.40	−0.64	−0.10	C. A.		−1.3	0.21	−0.61	−0.09
R. C. P. M.		0.23	0.11	2.1	0.32 *	R. C. P. M.		1.6	0.07	2.3	0.36 *
Step 2	0.227 *					Step 2	0.261 **				
C. A.		−0.23	0.36	−0.66	−0.09	C. A.		−0.38	0.19	−1.9	−0.28
R. C. P. M.		0.08	0.11	0.76	0.11	R.C.P.M.		0.01	0.71	1.6	0.03
R. V.		−0.01	0.11	−0.06	−0.01	R. V.		0.08	0.07	1.1	0.15
M.–S.		0.49	0.15	3.2	0.54 **	M.–S.		0.10	0.07	1.3	0.20
F. L.		−0.02	0.08	−0.23	−0.04	F. L.		0.12	0.04	2.7	0.48 **
Total R^2	0.318 *					Total R^2	0.373 **				

Note 1. C. A. = Chronological Age, R. C. P. M. = Raven's Coloured Progressive Matrices test, R. V. = Receptive Vocabulary, M.–S. = Morphology–Syntax, F. L. = Figurative Language. Note 2. * $p < 0.05$; ** $p < 0.01$.

Considering the TD sample, chronological age and Raven's Coloured Progressive Matrices scores accounted for 11.2% of the variance in RC ($F(2, 42) = 2.67$, $p = 0.082$). At the second step, the three linguistic variables (receptive vocabulary, morphology–syntax, and figurative language) accounted for a significant proportion of the variance in RC ($R^2 = 37.3\%$, $F(5, 39) = 4.64$, $p = 0.002$), adding 26.1% to the explained variance in the dependent variable. The findings revealed that figurative language positively predicted RC ($\beta = 0.48$, $p = 0.009$).

5. Discussion and Conclusions

The present study investigated the RC of upper elementary school children with SLD compared to TD controls, in relation to linguistic factors. The study also accounted for extraneous variables such as chronological age and non-verbal cognitive ability. Statistically significant differences were found between the groups in RC and across the entire spectrum of language components. According to theory (see definition [53]), these differences indicate that difficulties in this area are manifestations of SLD students' original reading problems.

The current findings align with a recent meta-analytic review which demonstrated that RC is a weakness among participants with SLD (ages 6–17) [60]. The RC impairments were larger when SLD individuals were compared to chronological-age-matched controls (g = 1.43) and smaller when compared to reading-level-matched controls (g = 0.64). Similar results have been found by a study on Greek-speaking children with deficits in reading accuracy and reading speed, which confirmed the pattern of differences both in terms of reading age (RAC) and chronological age (CAC) [86].

However, it is worth mentioning that few studies have directly and thoroughly explored RC in poor decoders with the majority of them being based on family risk recruitment [55]. Notably, research in Greek focusing on individuals with SLD has used RC measurement as an additional variable. These studies, often involving a small number of participants, have not directly sought to clarify the extent of potential strengths and weaknesses in RC, or the associated factors, especially those beyond the phonological level (see [87] for a discussion). Therefore, the present findings call for a reorientation of research goals, emphasizing the importance of gaining further insights specifically into the RC profile of poor decoders.

Considering semantic knowledge, students with SLD showed statistically significant differences in receptive vocabulary compared to TD controls. This result is not necessarily anticipated due to the variability among children with dyslexia, especially concerning differences between receptive and expressive vocabulary skills. Studies using receptive vocabulary measures have reached inconsistent conclusions, reporting either comparable performance (e.g., [61,88,89]) or significantly lower performance (e.g., [90–92]) than age-

matched TD peers, with the same pattern observed in adults (see [93] for an overview). These contradictory results emphasize the need for further research to validate vocabulary knowledge differences in poor readers, as well as to explore their semantic abilities across various linguistic systems [94].

Therefore, the current study provides empirical evidence underscoring the challenges encountered by upper elementary dyslexic students in vocabulary breadth. Our data are consistent with previous studies measuring receptive vocabulary skills of Greek-speaking elementary school participants with dyslexia (e.g., [80,95]).

In addition to impairments in semantic knowledge, children with SLD exhibit weaknesses in comprehending morphosyntactic rules governing sentence construction compared to TD controls. This finding is consistent with other studies indicating poor language skills in children with SLD, particularly in morphosyntactic abilities, when compared to age-matched peers. These studies, which have used measures of graded difficulty and complexity across alphabetic languages (e.g., [96]), have shown similar results in Greek (e.g., [62–64,81]).

The most marked differences between the two groups were identified in the test measuring figurative language comprehension. Participants with SLD (M = 18.9, SD = 5) lagged two standard deviations behind their TD peers (M = 28.3, SD = 5.3). Students with SLD in the present study appear to develop figurative competence at a slower rate compared to the TD group, revealing significant difficulties in interpreting figurative language in its conventional form. Children with language difficulties face similar challenges in effectively comprehending figurative expressions, as they tend to process language locally, focusing on individual words rather than integrating them into a coherent whole [48].

These suggestions align with the main theoretical principles proposed by the Global Elaboration Model [45,46], which perceives figurative competence development as a prolonged process evolving alongside the level of linguistic and comprehension skills. The progression moves from a literal understanding of figurative language (ages 4–8) to recognizing nonliteral meanings with contextual cues (ages 9–10), reaching an advanced level in pre-adolescence (ages 11–12) and later years. There are implications for teaching. The National Curriculum for Greek Language prescribes systematic instruction in figurative language in the 3rd grade, but the development of broader pragmatic begins earlier through the learning of speech acts and narrative skills [97].

However, longitudinal studies are needed to further investigate figurative competence development in poor decoders.

A limited body of research, especially among elementary school students formally diagnosed with dyslexia, indicates that poor decoders struggle with accurately understanding figurative language [75,76]. Nevertheless, these studies have used a variety of tasks, primarily measuring metaphor comprehension (both conventional and novel metaphors) employing a small number of participants. The current findings extend these results, underscoring that students with dyslexia in upper elementary grades face considerable difficulties in effectively interpreting other aspects of figurative language, such as idioms and proverbs.

As the extent and nature of linguistic difficulties in individuals with dyslexia, beyond the phonological level, remain less clear [57], the present data may provide additional insights into this area. The pragmatic impairments observed among SLD students, coupled with their structural language difficulties, indicate a more complex linguistic profile than previously recognized. This confirms the idea that including participants already diagnosed with SLD in research samples increases the likelihood of identifying a wide range of deficits [98]. Therefore, the consensus on broader language skill weaknesses for children with reading difficulties is well-founded [11,12,55,57,59]. Regarding the language competences of children with SLD in relation to their RC status, it can be argued that their reading profile more closely resembles that of ‘garden-variety’ poor readers, as described by Gough and Tunmer [4].

In terms of the contribution of examined variables in RC, hierarchical regression analyses revealed that TD children's RC performance was uniquely and positively predicted by figurative competence. From a developmental perspective, this suggests that their RC abilities are not solely based on linguistic processes but are more closely connected to higher-order skills. Furthermore, RC and figurative language may develop a bidirectional relationship since they share common information processing skills and mechanisms [12]. This is epitomized in the case of inference ability, where the retrieval of meaning from contextual cues, suppression of unnecessary contextual information, and management of polysemous aspects of language are implemented to achieve comprehension monitoring [48].

The present findings for TD students support the theoretical framework of the Global Elaboration Model [45,46], which explains figurative competence within the context of reading and language comprehension. Consequently, RC skills could predict the ability for accurate interpretation of figurative language. This account has been validated by studies involving TD children of middle-school and pre-adolescent age, revealing a strong association between the two [47–52].

For students with SLD, morphosyntactic ability emerged as a unique and significant predictor of RC. This finding indicates that poor readers primarily depend on lower-order fundamental components of the linguistic mechanism in their attempt to grasp textual meaning. In this process, structural knowledge, such as knowledge of syntax and morphology, is quintessential for understanding words, sentences, and coherent texts [99]. Specifically, syntax is considered "the vehicle, even 'workhorse,' of meaning" [100] (p. 185), providing the contextual framework that facilitates the correct understanding of words, ideas, and utterances to achieve text comprehension [14,101,102]. It operates at the word level as well as within and across sentence levels and even higher, for the purpose of decoding and/or deducing the meaning of unknown words (syntactic bootstrapping effect) [30,101,103,104]. Although Greek is a transparent orthography, it has a rather complex morphosyntax, which increases the load of text processing and drives RC (e.g., see [87]).

The data from the current study align with the Triangle Model Extended [14], which emphasizes syntactic and discourse skills (e.g., inference ability) as crucial for effective comprehension of sentences and paragraphs within context. This model places these skills at the top of the pyramid, highlighting their significant contribution to comprehension. Additionally, our findings support the validity of the Framework for Comprehension Model [15]. This model posits that morphological and syntactic abilities are core aspects of language knowledge that directly contribute to RC by aiding in the construction of a coherent representation of text. Morphology and syntax, as integral parts of the lexicon, also indirectly facilitate RC by activating word meanings and enhancing overall comprehension processes.

Despite longitudinal research highlighting the significant effect of language skills on RC outcomes among children with family risk for dyslexia during preschool or early school years (e.g., [71]), the contribution of morphosyntax to RC achievement has not been adequately investigated for older poor decoders. The present findings provide evidence that RC is uniquely predicted by morphosyntactic skills for upper elementary school students with SLD. This challenges the common belief in the literature that vocabulary knowledge is the primary predictor of RC, suggesting instead that morphosyntactic abilities may directly facilitate or impede meaning retrieval from texts.

As noted, difficulties in processing morphosyntactic information conveyed by sentences can hinder comprehension of sentence and textual meaning, even if processing occurs at a slower pace [22,101]. Therefore, understanding syntax can significantly contribute to variations in individual language comprehension skills. This conclusion aligns with previous studies indicating that poor morphosyntactic knowledge could lead to inadequate comprehension [105–107]. Consequently, variations or difficulties in RC among students with SLD may be explained in the context of structural linguistic skills beyond decoding abilities [59,108]. Core language abilities have a substantial impact on RC and represent the primary source of challenges in this domain [109], as indicated by reading

models such as the Triangle Model Extended [14] and the Framework for Comprehension Model [15].

In light of the current study's findings and relevant contemporary empirical evidence, it is crucial for the development of reading research to refine and broaden the definition of dyslexia. This expanded definition should include additional oral language skills, such as morphosyntactic ability, which must be considered when constructing or applying models aimed at explaining difficulties in reading comprehension.

6. Implications of the Current Study

The findings outlined above have practical implications for diagnostic and educational purposes. Students who encounter broad linguistic difficulties are simultaneously at risk for reading deficits, particularly at the comprehension level [110]. Specialists in special education settings may not always be well-informed about the potential challenges in broader language skills for children diagnosed with dyslexia [57]. This lack of awareness can lead to these students' needs going unnoticed in the classroom.

Moreover, in cases where decoding skills fall within the average range, children with reading difficulties may not receive the support they require. As noted, "they can go unnoticed in the classroom, and their needs can go unmet" [33] (p. 35). This underscores the importance of comprehensive assessment that includes not only decoding skills but also broader language abilities such as morphosyntax and vocabulary, which play a crucial role in RC.

Educational interventions and support should therefore consider the holistic linguistic profile of students with dyslexia to effectively address their needs and promote RC. This approach ensures that all aspects of language that contribute to RC are evaluated and supported appropriately in educational settings.

Therefore, from a diagnostic perspective, a multifaceted assessment of RC abilities in children with SLD is recommended. This assessment should not only focus on decoding and phonological skills but also on evaluating strengths and weaknesses in semantic, morphosyntactic, and pragmatic aspects of language [57].

Regarding pragmatic ability, empirical evidence supports the use of assessment tools that measure figurative competence to distinguish children with SLD from other groups, such as those with non-verbal learning disabilities, as well as from TD participants [75]. Given the relationship between RC and pragmatic competence, particularly in the domain of figurative language, as evidenced by the present findings in TD participants, developing and administering appropriate tests that measure figurative competence could serve as an additional tool for assessing components of RC [10].

Incorporating assessments of figurative language comprehension into diagnostic protocols for children with SLD can provide deeper insights into their language abilities beyond traditional measures. This holistic approach ensures that all relevant linguistic skills contributing to RC are evaluated, thereby facilitating more targeted and effective educational interventions tailored to their specific needs.

The current results strongly support the implementation of interdisciplinary and intensive educational intervention programs aimed at improving RC in students with SLD [55]. These programs should prioritize direct instruction with the primary goal of enhancing broader oral language skills [57,98,110,111]. Specifically, there should be a focus on developing specialized educational interventions that strengthen morphosyntactic linguistic abilities.

Empirical evidence has validated the effectiveness of such interventions for middle-school-aged, pre-adolescent, and adolescent students with reading and language difficulties [111,112]. By targeting morphosyntactic skills through structured and intensive educational programs, educators can potentially improve RC outcomes for students with SLD. These interventions should be tailored to address the specific linguistic challenges identified in individual students, thereby promoting their overall language proficiency and comprehension abilities. Incorporating these targeted educational interventions into

school curricula can help bridge the gap in RC skills observed among students with SLD, providing them with the necessary support to achieve academic success.

As previously discussed, pragmatic abilities and RC skills are closely interconnected, and there is evidence indicating significant difficulties in understanding figurative language among poor decoders. Therefore, developing effective interventions to enhance pragmatic skills in children with language and comprehension difficulties is crucial.

These interventions should cover various aspects of figurative language, including idioms, metaphors, proverbs, and similes, and should be customized to fit the cognitive profiles, academic levels, and special interests of students with atypical development [113,114]. Given the strong associations between pragmatic competence and structural language skills [115], emphasis should be placed on language-based programs that indirectly foster figurative competence by strengthening core language abilities such as vocabulary and morphosyntax. This approach is particularly beneficial for children who struggle with pragmatic aspects [116].

By integrating interventions that target both structural language skills and pragmatic abilities, educators can provide comprehensive support to enhance not only RC but also broader language proficiency in students with SLD. These tailored interventions aim to improve overall communication skills and facilitate better understanding and utilization of figurative language in both academic and everyday contexts.

Additionally, classroom-based interventions are strongly recommended over computer-based ones, as they provide opportunities for natural conversations and interactions [117]. These interventions are particularly effective in improving figurative language comprehension abilities among students with RC and language weaknesses.

It has been suggested that the educational goal should focus on developing strategies for deciphering the meanings of unfamiliar figurative utterances embedded in appropriate written or spoken contexts [118]. This is especially important for students with RC deficits, as learning to infer nonliteral meanings from contextual cues can significantly enhance both RC and general language skills [119].

While this process may be challenging for children with RC deficits, providing them with opportunities to practice and refine their skills in understanding figurative language within meaningful contexts can lead to substantial improvements. Classroom settings offer the advantage of real-life scenarios, where students can engage in discussions, receive immediate feedback, and develop their abilities in a supportive environment. These interactions not only target figurative language comprehension directly but also foster overall language development through natural and interactive learning experiences.

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