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Evidence-based Psychological Interventions for Children with Dyslexia in India: A Rapid Review of Literature

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Abstract

Dyslexia, the most common specific learning disorder, affects around 8% of children in India and is marked by phonological deficits, difficulties in reading fluency, comprehension, and associated psychosocial challenges. This rapid review synthesizes evidence-based psychological interventions implemented for children with dyslexia in India between 2019 and 2024. The purpose of this review is to understand these interventions, their efficacy, and applicability in the Indian classroom setting. Studies were identified through academic databases and university repositories, focusing on interventions targeting cognitive, executive function, skills-based, and psychosocial domains. Interventions were grouped into four broad categories: (a) cognitive and phonological approaches, (b) executive function-based strategies, (c) multisensory and remedial teaching programmes, and (d) psychosocial/positive psychology interventions such as yoga and assertiveness training. Most studies demonstrated improvements in reading, spelling, writing, working memory, and psychosocial outcomes, although sample sizes were small and follow-up was rarely conducted. The disorder is known to have neuropsychological basis and therefore, cannot be entirely remediated with the help of psychological interventions; however, the children can be taught to manage some symptoms and improve their academic performance to some extent if early identification is done and interventions are properly implemented. Future research should employ rigorous designs with larger samples, follow-up assessments, bilingual considerations, and systematic reporting of effect sizes to guide policy and practice.

Keywords: dyslexia, India, intervention, specific learning disorder, psychological intervention

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INTRODUCTION

“Reading should not be presented to children as a chore or duty. It should be offered to them as a precious gift.” – Kate DiCamillo

Specific Learning Disorders (SLDs) are described in the DSM-5 as a group of neurodevelopmental disorders of biological origin, which underlie abnormalities at a cognitive level and are associated with behavioural manifestations (Nomsa, 2020). SLDs are marked by persistent difficulties in acquiring and applying academic skills, with symptoms lasting at least six months (DSM-5). Affected children may exhibit slow or inaccurate reading, require great effort when reading, and struggle to comprehend text (Giacheti et al., 2023). Other challenges include spelling, writing, numerical understanding, calculation, and mathematical reasoning (DSM-5).

The ICD-11 classifies these disorders under “specific developmental disorders of scholastic skills,” including conditions in which the typical acquisition of academic abilities is disrupted early in childhood.

Dyslexia, the most common SLD, is characterized by deficits in phonological awareness and related cognitive processes, with behavioural manifestations such as effortful, slow reading, poor comprehension, and difficulty retrieving words or organizing written expression (Lyon et al., 2003). In India, around 8% of children below 19 years of age have SLD, and dyslexia accounts for nearly 80% of these cases (Scaria et al., 2023). The condition is reported to be more common in boys than in girls (ICD-10).

Dyslexia often manifests in the early school years, when children are beginning to read and write. They may struggle with phonics, spelling, fluency, and comprehension. These problems are disproportionate to their intellectual ability and educational exposure and cannot be explained by poor teaching, brain injuries, or physical illness. Instead, they are linked to atypical cognitive processing with a neurobiological basis (Kohli et al., 2018).

Beyond academics, dyslexia can affect psychosocial wellbeing, leading to low self-esteem and feelings of inadequacy (Parshurami, 2015). Yet, children with dyslexia may also demonstrate creative thinking, problem-solving, and strong nonverbal reasoning skills (Snowling, 2019). This duality highlights the need for comprehensive intervention. Given the prevalence of dyslexia in India and its cognitive as well as psychosocial consequences, early identification and timely intervention are essential. Screening tools such as the Dyslexia Assessment for Languages of India (DALI) can be used from the age of 5 years (DALI, 2015), when cognitive strategies are still malleable. Training interventions targeting memory and writing abilities typically require the child to be at least 7 years old (Patel, 2024).

The best-researched cause for dyslexia is a deficit in phonological awareness and processing of spoken language (Norton, 2015). Due to this, interventions often focus on phonological training, reading fluency, and cognitive enhancement. Other interventions have addressed executive functions, metacognition, and psychosocial resilience. However, the long-term impact and comparative effectiveness of these approaches in the Indian context remain underexplored, highlighting the need for synthesis of the available evidence. This review summarises the kinds of interventions for dyslexia that have been applied in Indian classroom settings. This information can be used to plan academic interventions in the future according to their need and applicability.

METHOD OF REVIEW

The present review focused on psychological interventions for children with dyslexia in India published between 2019 and 2024. The search strategy included online databases such as Google Scholar, and university repositories for doctoral dissertations like Shodhganga. Studies were included if they:

- (a) were conducted in India,
- (b) focused on children or adolescents diagnosed with dyslexia or specific learning disorder with reading impairment,
- (c) implemented a psychological, cognitive, or psychosocial intervention, and
- (d) were published between 2019–2024.

Studies were excluded if they focused exclusively on diagnosis, pharmacological management, or teacher training without direct child intervention. 13 studies were selected from around 300 search results.

Cognitive and Phonological Interventions in India

A research study executed a cognitive intervention based on the PREP (Pass Reading Enhancement Programme), COGNET (Cognitive Enhancement Programme), and psychoeducation on students aged 8–12 in Delhi. The functional areas targeted by the intervention were academic achievement, school adjustment, home adjustment, peer adjustment, and social adjustment of the children. As a result of the combined intervention, there was improvement in the targeted domains (Prusty et al., 2019).

A single-subject intervention was designed for a 12-year-old child with dyslexia to target reading and writing skills in Hindi and English, arithmetic attention, and self-confidence. The intervention was 22 sessions long and included psychoeducation, behaviour modification, activity scheduling, and interactive reading. The results demonstrated better self-confidence and better academic performance in handwriting, reading, writing, and mathematics (Shabina & Raj, 2020).

In Coimbatore, a study was carried out to see the effect of cognitive strategies training on enhancing phonemic awareness of children with dyslexia. Sixty-five children of Grade IV were included. The study concluded that children with dyslexia use specific cognitive strategies to grasp phonemic awareness and comprehension of reading text. The selection and teaching of these depend on the learner and their condition so that they could make the most of these strategies (Thangarajathi & Menaha, 2020).

A comprehensive intervention programme was applied and tested on 30 Grade III students in Kerala (native Malayalam speakers) in a pre- and post- between group experimental design. The target of the intervention was overall management of symptoms of dyslexia through activities corresponding to phonemic awareness, letter identification, reading, rapid automatized naming, sound-symbol recognition, vocabulary training, and verbal and semantic fluency. The study concluded that word reading, vocabulary, verbal fluency, reading passage, comprehension, phonemic sound discrimination, and pseudo-word reading improved among the students (Thomas, 2020).

A comparative study of remedial and compensatory interventions was done with 25 primary school students with dyslexia in Chennai. The students were Tamil speakers and the intervention targeted their spelling skills, recognition of sound patterns, letter-sound association (phonics), and comprehensive understanding of spelling. The intervention was 20 weeks long with the initial four weeks dedicated to remedial activities in phonological and orthographic awareness. The latter 16 weeks expanded the intervention to include compensatory strategies to reinforce initial learning and develop a more comprehensive understanding of spelling. This phase included multimodal learning, task-based activities as well as play-based learning. Both the phases were found to have a positive impact on students' spelling skills, but the second (compensatory) phase resulted in more substantial outcomes due to building a more comprehensive understanding in the students. However, the intervention did not show unanimous improvement in all children (Mordecai & Nair, 2024).

Multisensory and Skill-based Interventions in India

Another study was done in Kerala to analyse the effects of remedial teaching on the scholastic performance of children with learning disability. The sample was made up of 45 children with dyslexia aged 6–15. The intervention included remedial teaching for 12 months, with modules that were made by special educators based on individual case formulations. Two to three sessions were held per week and brain gym exercises were held once a week. The researchers defined definite improvement as improvement in four or more domains among the following – reading, comprehension, spelling, written expression, arithmetic, copying, and attention. Significant improvement was observed in 33% of students in domains of attention, reading, copying, spelling, and arithmetic. Improvement was not found to be significant in comprehension and written expression of the students (Vincent et al., 2020).

In Chandigarh, a comparative study was done to see the effect of different methods of tutoring on reading motivation and reading comprehension of students with dyslexia. The sample was made up of 60 students of Grade V identified with dyslexia. Each experimental group was exposed to 30 sessions of any one of the teaching methods. According to the results, all three methods led to significant improvements; however, the most improvement was seen in the multimedia method, followed by cross-age tutoring and class-wide peer tutoring. The author notes that only English language was considered for the evaluation (Kumar, 2021).

In Odisha, a study was carried out to identify, assess and make a comprehensive intervention programme for children with dyslexia. The sample consisted of 220 students of Grades III and IV screened with the Dyslexia Assessment for Languages of India (DALI) for English. The children were native Odia speakers and therefore assessments for letter recognition, word reading, and reading comprehension were made in Odia by the author. The comprehensive intervention programme was developed on the basis of the reading errors made by the children. The intervention included 14 modules and 150 hours of training based on the Visual–Auditory–Kinaesthetic–Tactile (VAKT) method of remedial learning. The intervention improved letter and word recognition accuracy as well as speed; comprehension improved in a few participants (Mohanty, 2024).

Executive Function Interventions in India

A study was done in Delhi National Capital Region (NCR) to assess the cognitive function correlates and learning strategies among children with dyslexia. It was an intervention study with 20 students aged 8–12. The 12-week intervention programme included remedial teaching, the PASS Reading Enhancement Programme (PREP), and brain gym activities. The cognitive function was measured primarily using the Cognitive Assessment System (CAS). The results concluded that significant improvement was seen in study strategies, note-taking, listening skills, test-taking strategies, organization, time management, writing, reading, and comprehension. The author mentioned that a limitation of the study was a lack of follow-up test (Khurana, 2022).

An intervention to improve working memory for children with specific reading disorder was carried out in Mysore. The sample was made up of 10 students aged 8–9 years with average IQ and diagnosed with specific reading disorder. The study design was a between-group experiment. The experimental group had individualized intervention sessions of 30 minutes on alternate days, for 9 weeks. The results disclosed significant differences in the mean post-test scores of the control and experimental groups, showing improvement (Cohen's $d = 3.51$). The authors mention that future studies can study other variables not included in this study, like executive function, homework tasks, etc. that relate to reading ability (Haleemunnissa et al., 2024).

Positive Psychological (Psychosocial) Interventions in India

A positive psychological intervention was applied on 44 students aged 11–16 in Kerala to check its effect on resilience and well-being in adolescents with dyslexia. The study design was a pre- and post- between group experiment that tested the adolescents on their perceived resilience and well-being. The intervention comprised 16 sessions spread across 16 weeks. The activities centred around assertiveness and its impact on life, forgiveness, gratitude, self-regulation, hope and optimism. The adolescents with dyslexia were found to have low resilience, assertiveness, problem solving, and well-being which were improved with 3 months of positive psychological intervention. Although, the intervention's effects on the symptoms of dyslexia were not tested (Mailanchi, 2019).

Another positive psychological intervention was carried out in Vapi (Gujarat) to study the positive effects of yoga with specific reference to pranayama in learning disabilities like dyslexia, dysgraphia, and dyscalculia. The sample consisted of 200 students aged 3–14 with mild to moderate levels of dysfunction. The experimental groups were further divided into smaller age groups to make the study an age-based between group study. The intervention was 6 months long and consisted of workshops in counselling, behavioural therapies, academic and skill training for the control group and yoga and meditation, with emphasis on pranayama along with workshops for the experimental group. The results showed a significant impact of yoga (with special reference to pranayama) activities on the learning disabilities of school-going children. The most significant change was observed in the age group 11–14 (Patel, 2024).

AN OVERVIEW OF THE METHODS AND THEMES IN THE INTERVENTIONS

The studies reviewed here have implemented intervention programmes for children with dyslexia and testes their effectiveness with a pre-test and post-test comparison. Children were first screened to exclude intellectual disabilities with the help of intelligence tests like MISIC, SFBT and RPM. Following this, dyslexia screening was done using DALI and NIMHANS SLD Battery.

The study by Shabina and Raj (2020) uses a single-subject design while the other papers use within-group and between group comparisons. Table 1 outlines the summary of themes of intervention, sample, outcomes, limitations, and future directions of the studies reviewed.

Majority of children are bilingual in India. Therefore, the interventions need to focus on English as well as an Indian language, keeping in mind the phonological and orthographic composition of the language. Among the 12 studies reviewed in this paper, 1 included native Tamil speakers (Mordecai & Nair, 2024), 1 included native Odia speakers (Mohanty, 2024), 3 included native Malayalam speakers (Vincent et.al., 2020; Thomas, 2020; Mailanchi, 2019).

Interventions targeting phonological and orthographic awareness show improvement in recognition and understanding of spelling (Mordecai & Nair, 2024). Behaviour modification techniques like activity scheduling and interactive reading lead to better academic performance in domains of handwriting, reading, writing, and math (Shabina & Raj, 2020). Lack of phonemic awareness and reading comprehension is the primary complaint in children with dyslexia. One of the most efficient ways to deal with this is cognitive strategies training (Thangarajathi & Menaha, 2020).

Compensatory strategies are generally used to make the intervention holistic and easy to implement as they are designed to relate to the child's curiosity. These include multimodal learning and play based activities that have been shown to have substantial impact on intervention outcomes in primary school children with dyslexia (Mordecai & Nair, 2024).

A comprehensive intervention programme for native Malayalam speakers of Grade III was developed to improve phonemic awareness, letter identification, reading, rapid automated naming, sound-symbol recognition, vocabulary, verbal and semantic fluency. The intervention post-test showed significant improvements in the targeted areas (Thomas, 2020).

Some intervention themes target the underlying processes of cognition rather than the manifesting symptoms. These functions include attention, working memory, and learning strategies. Intervention for attention and working memory are based on individual case formulations. This allows the intervention to cater to the child's personalized needs and deficits to bring about efficient change (Haleemunnissa et.al., 2024; Vincent et. al., 2020). However, it would require massive amounts to resources and time to carry out individualized interventions for large populations and study them for more than one cognitive/executive function (Haleemunnissa et.al., 2024).

A popular intervention strategy for improvement in study strategies, listening, reading, writing, comprehension, and time management skills is remedial teaching programmes accompanied by Brain Gym exercises (Khurana, 2022; Vincent et.al., 2020). Brain Gym, also known as Educational Kinesiology, is a programme that uses simple physical movements to stimulate different areas of the brain, improve communication within the brain, and help children reach their academic potential. It draws on multisensory approach and includes 26 movements/exercises (like crawling, yawning, neck rolls, etc.) to develop healthy visual, auditory, and kinaesthetic skills as well as improve attention and memory in children aged 8-12 years (Dennison & Dennison, 1989; ILS Learning center, 2017; Khurana, 2022).

Another remediation programme used with Brain Gym is the PASS Reading Enhancement Programme developed by JP Das (1996), based on PASS theory of intelligence. It involves improving the information processing strategies (planning, attention,

Table 1. Overview of Reviewed Intervention Studies

Author (s)	Title	Location of Study	Sample	Assessment Used	Functions targeted for improvement	Themes of Intervention	Outcome	Limitations / Future Directions
Mailanchi (2019)	Positive psychological intervention on resilience and wellbeing among adolescents with dyslexia	Kerala, India	44 students (11-16 years); pre-post intervention between group experimental design (native Malayalam speakers)	Adolescent Resilience Scale, Adolescent Perceived Wellbeing Scale (developed by researcher)	Perceived resilience and wellbeing	Assertiveness and its impact on life, forgiveness, gratitude, self-regulation, hope and optimism (16 sessions; 1 session per week)	Adolescents with dyslexia found to have low resilience, assertiveness, problem solving and wellbeing which were improved with 3 months of positive psychological intervention	Effect of PPI on symptoms of dyslexia was not tested; study was limited to lower and upper primary students
Prusty, Gupta, & Raghavan (2019)	The Effect of Cognitive Intervention and Psycho Education on Academic Achievement and Social Adjustment of Children with Reading Disability	Delhi, India	34 students (public school; age 8-12) with reading disability	Diagnostic Test of Reading Disorder, Grade Level Assessment Device, Child Social Adjustment Scale	Reading ability, academic performance, social adjustment	Psychoeducation, PREP, COGNET (Cognitive Enhancement Program)	Significant improvement in reading and adjustment, no significant relationship between reading ability and academic achievement	Small sample size, no qualitative assessment and lack of follow up
Khurana (2020)	Cognitive function correlates and learning strategies among children with dyslexia, an intervention study	Delhi NCR, India	20 students (ages 8-12) diagnosed with dyslexia	Cognitive Assessment System (CAS) & School Motivation & Learning Strategies (SMALS)	Impaired cognitive functions in dyslexia, specifically learning strategies	Remedial programs PREP (PASS Reading Enhancement Program) and Brain Gym; focus on simultaneous processing on CAS (12 weeks)	Significant improvement in study strategies, note-taking, listening skills, test-taking strategies, time organization, management, reading and comprehension	Small sample and lack of follow up

Table 1. (Cont)Overview of Reviewed Intervention Studies

Author (s)	Title	Location of Study	Sample	Assessment Used	Functions targeted for improvement	Themes of Intervention	Outcome	Limitations / Future Directions
Shabina & Raj (2020)	Effect of psychological intervention on specific learning disorder: an intervention study	Delhi/ Uttar Pradesh, India	Single subject design (12-year old child with dyslexia)	MISIC, RSPM, GLAD, Psychological Assessment of children in the clinical setting	Reading & writing (Hindi and English), Arithmetic, attention, self-confidence	Psychoeducation, behaviour modification, activity scheduling, paired (interactive reading), personalized intervention (22 sessions)	Better academic performance (handwriting, reading, writing, math) and improved self-confidence	Single subject design
Thangarajathi & Menaha (2020)	Effect of cognitive strategies on enhancing phonemic awareness of children with dyslexia	Coimbatore, India	65 dyslexic children from 4th standard (primary schools)	Developed by investigator (reading comprehension, word formation, syllable activities)	Phonemic awareness and reading comprehension	Cognitive strategies, phonemic awareness of reading comprehension	significant difference between pre-test and post-test of phonemic awareness of Reading comprehension	Only focused on phonemic awareness and reading comprehension
Thomas (2020)	Dyslexia development and efficacy of a comprehensive intervention program for lower primary students in Kerala	Kerala, India	30 students (Grade III); pre-intervention between group experimental design (native Malayalam speakers)	Dyslexia Screening Checklist (Malayalam), SFBT, SLDDT-Reading Test, CBCL	Overall management of symptoms of dyslexia through comprehensive intervention program	Phonemic awareness, letter identification, reading, RAN, sound symbols, vocabulary training, verbal and semantic fluency	Word reading, vocabulary, verbal fluency, reading passage, comprehension, phonemic sound discrimination, pseudo word reading improved	Small sample size that could not be randomized
Vincent, Elenjickal, & Sukumaran (2020)	Effect of remedial teaching on the scholastic performance of children with learning disability	Kerala, India	45 children with dyslexia aged 6-15	NIMHANS SLD Battery, MISIC	Reading, comprehension and spelling, written expression, arithmetic, copying and attention	Remedial teaching for 12 months, based on individual case formulations by special educator (2-3 sessions per week, brain gym exercises once a week)	Definite improvement (improvement in 4 or more domains) was found in 33% students; attention, reading, copying, spelling, arithmetic	Improvement was not found to be significant in comprehension and written expression of the students

Table 1. (Cont) Overview of Reviewed Intervention Studies

Author (s)	Title	Location of Study	Sample	Assessment Used	Functions targeted for improvement	Themes of Intervention	Outcome	Limitations / Future Directions
Kumar (2021)	Effect of multimedia, cross age tutoring, and class-wide peer tutoring on reading motivation and reading comprehension of students with dyslexia	Chandigarh, India	60 students identified with dyslexia (Grade V); between groups design	SPM (screening), Reading Motivation Scale, two Reading Comprehension Tests (made by author)	Reading motivation and reading comprehension	Multimedia method, cross-age tutoring, class-wide peer tutoring (each experimental group exposed to one method; 30 sessions)	All three methods lead to significant improvements; most improvement seen in multimedia method, followed by cross-age tutoring and class-wide peer tutoring	Limited sample size; only English language was considered
Shivani (2023)	Efficacy of multisensory approach or VAKT for children with dyslexia	Bangalore, India	50 children (ages 8-12); between group design	NIMHANS SLD Index	Level of attention, language, spelling, reading, comprehension, and writing abilities	VAKT intervention (16 sessions over 2 months)	Significant improvement is shown in post-test in the targeted domains	Not explored dyscalculia, dysgraphia, and severe cases of dyslexia
Haleemunni ssa, Venkatesan , & Godbole (2024)	Working memory intervention for children with Specific Reading Disorder	Mysore, India	10 students (8-9 years) with average IQ and specific reading disorder diagnosis; between group experimental design	Test of memory for children by NIMHANS, RCPM (for IQ screening)	Working memory	Individualized interventions for working memory for 9 weeks; 30-minute sessions on alternate days	Significant difference in the mean post-test scores of the control and experimental groups (Cohen's d = 3.51), showing improvement	Future studies can study other variables not included in this study like executive function, homework tasks, etc. that relate to reading ability

Table 1. (Cont) Overview of Reviewed Intervention Studies

Author (s)	Title	Location of Study	Sample	Assessment Used	Functions targeted for improvement	Themes of Intervention	Outcome	Limitations / Future Directions
Mohanty (2024)	Identification assessment and intervention for children with dyslexia in Odisha	Odisha, India	220 students screened for dyslexia by DALI (Grade III and IV)	DALI, Letter Recognition, Word Reading, and Reading Comprehension Test in Odia (made by author)	Reading abilities and difficulties due to dyslexia	Comprehensive intervention program based on reading errors made by participants, VAKT method of remedial training (14 modules, 150 hours)	Improving letter and word recognition accuracy as well as speed; comprehension improved in few participants	Absence of control group, intervention not sufficient for significant improvement in reading comprehension
Mordecai & Nair (2024)	Enhancing spelling skills in dyslexic primary students: A comparative study of remedial and compensatory interventions in Chennai	Chennai, India	25 primary school students (Tamil speakers) with dyslexia	Rapid Automated Naming Test, DALI, LDDI, Phonological Assessment Batter, Orkids Screening App	Spelling, recognizing sound patterns, letter -sound association, comprehensive understanding of spelling	Initial phase - remedial (4 weeks) Phonological & orthographic awareness Compensatory phase (16 weeks) Compensatory strategies (multimodal learning, play-based activities)	Initial phase is helpful but required longer duration to sustain efficiency while latter phase resulted in faster, more substantial outcomes	Limited sample size; does not show unanimous improvement in all children
Patel (2024)	A Study of Positive Effects of Yoga with Specific Reference to Pranayama in Learning Disabilities like Dyslexia Dyscalculia and Study to Vapi Gujarat	Vapi, India	200 students (ages 3-14) (mild to moderate level of dysfunction); between group study	SLD Checklist, NIMHANS SLD Battery	Cognitive abilities, academic performance, psychosocial wellbeing, long-term impact	Workshops (counselling, behavioural therapies, academic and skill training) for control group and Pranayama along with workshops for experimental group (6 months)	Significant impact of Yoga (with special reference to Pranayama) activities on the learning disabilities of school going children; with the most significant change in age group 11-14	Administrative difficulties of permissions and managing young children in large scale intervention

simultaneous, and successive processing) that underlie reading, thereby improving reading performance (Khurana, 2022).

The multisensory teaching method (VAKT) is also a well-researched remediation programme that uses visual, auditory, kinaesthetic, and tactile senses to help students learn. This programme targets the reading skills of children with dyslexia with multisensory inputs, tactile aids, etc. (Mohanty, 2024; Shivani, 2023). The comprehensive intervention programme (CIP) developed by Mohanty (2024) was based on evaluating the reading errors made by the participants and developing a VAKT remedial programme targeting those errors.

Since dyslexia also leads to psycho-social problems in children, it is imperative to consider the psychological needs of the children in an effective intervention. It was found that in children of ages 11-16, assertiveness training, gratitude journaling, self-regulation training, and inculcating hope and optimism improved their perceived resilience and wellbeing (Mailanchi, 2019). Also, yoga and meditation intervention paired with counselling and behavioural therapy workshops showed improvement in many domains including reading, writing, spelling, attention and memory of children with learning disabilities like dyslexia, dysgraphia, and dyscalculia. The most significant change was observed in age group 11-14 (Patel, 2024).

A between group study assessed the effectiveness of multimedia method, cross age tutoring, and class-wide peer tutoring as opposed to regular classroom teaching on reading motivation and reading comprehension. Multimedia method proved to be the most effective, followed by cross-age tutoring, and class-wide peer tutoring (Kumar, 2021).

LIMITATIONS OF REVIEWED STUDIES

While the findings of these 13 studies are promising, several limitations were noted. First, most studies involved small sample sizes, often fewer than 50 participants, limiting generalizability. Only one study (Mohanty, 2024) attempted a large-scale intervention with over 200 participants, but it lacked a control group. Second, many studies did not conduct follow-up assessments, which restricts conclusions about long-term effectiveness (Khurana, 2022). Third, the designs were often limited to pre- and post-tests without randomized allocation or blinded assessment, raising concerns about internal validity. Although one study (Haleemunnissa et al., 2024) reported an effect size (Cohen's $d = 3.51$), which is exceptionally high compared to conventional benchmarks, most of the other studies reported qualitative improvements or descriptive outcomes without standardized measures of effect. Moreover, bilingualism was not adequately addressed in most studies, despite being the norm in Indian classrooms. Finally, interventions like brain gym, while popular, remain controversial in the wider literature, raising questions about their evidence base.

LIMITATIONS OF THE REVIEW

The presented studies give valuable insights but the number of studies is too small to generalize ($n = 13$). They are also heterogeneous in nature, employing a vast variety of methods and intervention strategies. Also, as a narrative review, this study aimed to summarize and synthesize existing interventions rather than statistically evaluate their effectiveness. Consequently, conclusions are interpretative and should be understood as indicative rather than definitive.

DIRECTIONS FOR FUTURE RESEARCH

Future research should address these limitations through more rigorous designs. Randomized controlled trials with larger and more diverse samples are needed to strengthen evidence. Interventions should ideally incorporate pre-test, post-test, and follow-up assessments to track long-term outcomes. Standardized reporting of effect sizes (e.g., Cohen's d) would allow comparison across studies and enhance their scientific value.

Given the bilingual and multilingual context of India, future interventions should be designed to include both English and local languages, with attention to phonological and orthographic differences. From a practical perspective, scalable and resource-efficient models are needed for use in government schools, where most children with dyslexia remain unidentified and unsupported. Incorporating psychosocial components such as resilience training and mindfulness alongside cognitive remediation may provide more comprehensive benefits.

CONCLUSION

Children with specific learning disorders (SLD) in general and dyslexia in particular face a myriad of challenges in their daily lives such as academic setbacks, lack of self-esteem and self-confidence because of not being able to perform at a typical, expected level (Parshurami, 2015). This leads to the feeling of academic underachievement and frustration in the learning environment, which can inevitably create a vicious cycle for the child. These challenges can be avoided to some extent with early identification and intervention so that the children affected can learn to overcome these difficulties and perform to their full potential.

Evidence from Indian studies between 2019 and 2024 shows that cognitive, multisensory, executive function, and psychosocial interventions can produce meaningful improvements when applied early and systematically. While sample sizes remain small and follow-up is rare, these findings highlight the importance of early screening, multimodal intervention, and integration of psychosocial support. Future research with larger, rigorously designed studies will be essential to guide policy and establish scalable, culturally relevant models of intervention in India.

REFERENCES

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>
- Dennison, G. E., & Dennison, P. E. (1989). *Brain Gym: Simple activities for whole brain learning*. Ventura, CA: Edu-Kinesthetics.
- Dyslexia Assessment for Languages of India. (2015), *National Brain Research Center, India*
- Giacheti, C. M., da Silva, N. C., & de Andrade Lindau, T. (2023). Differential Diagnosis of Specific Reading and Writing Disorders: Speech, Language and Hearing Sciences Contributions. In *Contributions of Behavioral Analysis to Reading and Writing Comprehension* (pp. 293-309). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-40868-7_13
- Haleemunnissa, S., Venkatesan, S., & Godbole, R. A. (2024). Working Memory Intervention for Children with Specific Reading Disorder. *International Journal of Indian Psychology, 12*(1). <https://doi.org/10.25215/1201.213>
- ILS Learning Corner. (2017). Brain Gym®: Simple Brain Gym exercises to awaken the brain for learning readiness.
- Khurana, U. (2022). *Cognitive function correlates and learning strategies among children with dyslexia: An intervention study* (Doctoral dissertation, University of Delhi, India).
- Kohli, A., Sharma, A., & Padhy, S. K. (2018). Profile of deficits on assessment battery in children with specific learning disorders. *Journal of Postgraduate Medicine, Education and Research, 52*(3), 120-127. <https://doi.org/10.5005/jp-journals-10028-1286>
- Kumar, A. (2021). *Effect of multimedia cross-age tutoring and class-wide peer tutoring on reading motivation and reading comprehension of students with dyslexia* [Doctoral dissertation, Panjab University, Chandigarh, India].
- Lyon, G.R., Shaywitz, S.E. & Shaywitz, B.A. A definition of dyslexia. *Ann. of Dyslexia 53*, 1-14 (2003). <https://doi.org/10.1007/s11881-003-0001->
- Mailanchi, A. A. (2020). *Positive psychological intervention on resilience and wellbeing among adolescents with dyslexia* [Doctoral dissertation, Kannur University, Kerala, India].
- Mohanty, S. (2024). *Identification, assessment, and intervention for children with dyslexia in Odisha* (Doctoral dissertation, Utkal University, Odisha, India).
- Mordecai, H. S., & Nair, B. M. (2024). Enhancing spelling skills in dyslexic primary students: A comparative study of remedial and compensatory interventions in chennai. *Multidisciplinary Reviews, 8*(2), 2025055. <https://doi.org/10.31893/multirev.2025055>
- Nomsa, M. M. (2020). *Public school teachers' perceptions of Educational Psychologists' services in Limpopo Province (Mamaila circuit)* (Master's thesis, University of the Witwatersrand, Johannesburg (South Africa)).
- Norton, E. S., Beach, S. D., & Gabrieli, J. D. (2015). Neurobiology of dyslexia. *Current opinion in neurobiology, 30*, 73-78.
- Parshurami, A. (2015). A study on self-esteem and adjustment in children with learning disability. *Indian Journal of Mental Health, 2*(3), 306-311.
- Patel, L. (2024). *A Study of Positive Effects of Yoga with Specific Reference to Pranayam in Learning Disabilities like Dyslexia Dysgraphia and Dyscalculia a Study to Vapi Gujarat* (Doctoral dissertation, Shyam University, Gujrat).
- Prusty, B. (2019). *The effect of cognitive intervention and psycho education on academic achievement and social adjustment of children with reading disability* (Doctoral dissertation, Indira Gandhi National Open University).
- Scaria, L. M., Bhaskaran, D., & George, B. (2023). Prevalence of specific learning disorders (SLD)

- among children in India: A systematic review and meta-analysis. *Indian Journal of Psychological Medicine*, 45(3), 213-219 <https://doi.org/10.1177/02537176221100128>
- Shabina, N., & Raj, P. (2020). Effect of psychological intervention on specific learning disorder: an intervention study. *International Journal of Indian Psychology*, 8(3). <https://doi.org/10.25215/0803.164>
- Shivani, P. S. (2023). *Efficacy of the multisensory Approach or VAKT from children with dyslexia* (Doctoral dissertation, Jain University, Bangaluru, India).
- Snowling, M. J. (2019). *Dyslexia: A Very Short Introduction*. Oxford University Press.
- Thangarajathi, S., & Menaha, P. (2020). Effect of Cognitive Strategies on Enhancing Phonemic Awareness of Children with Dyslexia. *Shanlax International Journal of Education*, 9(1), 133-137.
- Thomas, M. V. (2020). *Dyslexia: Development and efficacy of a comprehensive intervention program for lower primary students in Kerala* (Doctoral dissertation, Kannur University, Kerala, India).
- Vincent, A. C., Elenjickal, M. G., & U., S. T. (2020). Effect of remedial teaching on the scholastic performance of children with learning disability. *International Journal of Contemporary Pediatrics*, 7(3), 487-490. <https://doi.org/10.18203/2349-3291.ijcp20200213>
- World Health Organization. (2016). *International statistical classification of diseases and related health problems* (10th ed.). <https://icd.who.int/browse10/2016/en>
- World Health Organization. (2019). *International statistical classification of diseases and related health problems* (11th ed.). <https://icd.who.int/>