

Effect of Socio-Emotional Support Intervention on Reducing Anxiety and Improving Self-Esteem of Dyslexic Children

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Abstract:

Background: Language skills, retained information, and organizational abilities are the main areas impacted by dyslexia, which has been identified as a neurological problem. Studies on children with dyslexia have shown that socio-emotional support intervention reduces anxiety and boosts self-esteem. **Aim:** The current study aimed to investigate the effectiveness of socio-emotional support intervention in reducing anxiety and improving self-esteem among dyslexic children. **Research design:** To meet the goal of this study, a quasi-experimental research methodology was employed (pre and post-intervention). **Subjects:** A purposive sample was utilized in the study consisted of 40 dyslexic children (pre and post-test). **Tools:** Structured interview questionnaire, Screen for Child Anxiety Related Emotional Disorders and Hare self-esteem scale. **Results:** The current results showed that less than three-quarters of the children have an indication of anxiety disorder presence at the pretest, while it decreased to be just (15%) at the post-test. There was a highly significant difference between the pre and post-test as regarding to Hare Self-Esteem subscales' levels. **Conclusion:** there was a negative significant correlation between the Child Anxiety disorder and all Hare Self-Esteem subscales' levels. **Recommendations:** Research on comparative effectiveness might help in determining the best intervention strategies that promote evidence-based practices.

Keywords: Anxiety, Dyslexia, Socio-Emotional Support & Self-Esteem.

Introduction:

The language-related learning disorder known as dyslexia has an impact on a person's ability to learn and read (accuracy and fluency), as well as how well the persons can spell. Due to their deficiencies in phonological awareness, dyslexics find it difficult to translate spoken language into written words. A person's vocabulary and comprehension grow while reading before they decode words accurately and fluently (Snowling, 2019). According to the American Psychiatric Association (APA, 2018), one of the main characteristics of dyslexia is a deficit in the processing of sounds, or the inability to associate written letters with their sounds. Also, there are two types: developing or acquired (the latter is sometimes referred to as alexia). It is not caused by a lack of desire, sensory processing disorders, poor learning or environmental potential, psychological problems, or similar reasons. It is also unrelated to intellectual capacity and disconnected with language and visual abnormalities that might be present. There is no widely recognized categorization scheme for the many acquired and developmental forms and subtypes of dyslexia that have been proposed.

Meanwhile, dyslexia is an unexpected reading difficulty for someone who is intelligent enough to read much more fluently. It is typically caused by a

problem with phonological processing, or the inability to recognize the distinct sounds in spoken language, which impairs a person's ability to speak, read, and spell, as well as frequently pick up a second language (Shaywitz, 2020). According to the International Dyslexia Association, people from various cultural, ethnic, and socioeconomic origins are almost equally affected by dyslexia. The Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) categorizes learning disorders as deficiencies in reading, writing, and arithmetic. It is estimated that 80 percent of learning disabilities are associated with reading problems (APA, 2018).

To the best of our knowledge, According to Catts et al. (2024), the prevalence of dyslexia is estimated to be 10% globally, while there are significant regional variations. Although genetic and neurological factors have been shown to contribute to the etiology of dyslexia, there are no particular markers or imaging tests available for diagnosis. Dyslexia is a hereditary disorder that affects 50% of children whose parents have the disorder and 50% of the siblings of dyslexic individuals. An observation, medical history, psychological assessment, and reading test are all taken into account in the diagnosis (Kim, 2021). Dyslexia may be divided into two categories: peripheral dyslexia and core dyslexia, depending on

where each difficulty occurs on the reading path. While central dyslexia refers to a deficiency in the process that comes after visual analysis, such as semantic access or phonological mediation, peripheral dyslexia is a reading impairment that manifests as a defective visual analysis of the word form. The inability to discern the direction of a sign, such as an arrow pointing left or right, is a symptom of peripheral dyslexia (Kim, 2021).

Children with dyslexia may exhibit the following symptoms when reading: rereading lines, word reversals or skipping, word replacement, diplopia, poor comprehension when reading aloud, the appearance of text jumping around on a page, the inability to distinguish between letters that have similar shapes but different orientations, like o and e, even certain words' letters may appear entirely reversed; for example, the word "bird" could appear as "drib.". Children with dyslexia also struggle with number matching. (Munzer et al., 2020). Although, dyslexia is socially framed as a learning handicap, it is biological in origin. The ideals of nonverbal communication influence and constrain this social construction, making it the area in which dyslexics suffer the most. (Morrison., 2023).

Regretfully, in addition to academic difficulties, students with learning disabilities (LD) also deal with emotional issues including anxiety, depressive symptoms, or poor self-esteem. The most common emotional symptom that dyslexic kids as well as adults report experiencing is anxiety. Anxiety is a typical, adapted human defense mechanism against danger. Anxious children experience dread as a result of their ongoing irritation and bewilderment at school. Dyslexic pupils, in particular, frequently experience anxiety when they fear making a mistake or drawing criticism from others. This fear of failing can exacerbate the student's anxiety, particularly in unfamiliar circumstances, and result in depression and avoidance (Michael, 2023).

In the same context, children who experience learning frustration for an extended period of time do poorly academically and also struggle with low self-esteem, anxiety, and emotional instability. These factors further undermine the inspiration and psychological stability of dyslexic children to study. On the other side, a child's personality will also make language acquisition challenging. Dyslexic symptoms may worsen as a result of negative personality traits. Personality characteristics and dyslexia interact and have an impact on learning. As a result, behavioral and psychological interventions are necessary for dyslexic children in order to address their extreme personalities and support their normal development (Huang et al., 2020).

Research has indicated a robust and positive association between a child's academic performance and their sense of self-worth. A child's ability to absorb and retain knowledge is positively correlated with their self-esteem. Additionally, children who have a positive self-image are better equipped to deal with challenging life circumstances including discrimination, failure, loneliness, violence, and so on (Gebresilase & Zhao., 2023). Students who struggle with dyslexia often have major psychosocial challenges in controlling their thoughts and emotions, building relationships, and carrying out anticipated social duties. In actuality, stigmatization, pessimism, and dissatisfaction with not being able to reach school expectations for learning are the root causes of their psychological issues. Psychosocial well-being has been demonstrated to be impacted by dyslexia, and dyslexic kids are more likely to face obstacles in life as feelings of inferiority and emotional insecurity (Nevill & Forsey., 2023).

Pupils may feel insecure or under pressure to achieve well since they often compare themselves to their classmates who are considered to be "healthy." In actuality, behavioral disorders and other emotional and social issues are frequently linked to learning impairments. Pupils with learning disabilities typically start to experience their condition more deeply. Studies reveal that LD students have a typically gloomy self-perception, underestimate their own potential, and have a rather negative self-evaluation. They frequently repress unpleasant emotions and have unpredictable emotional states as well as frequently exhibit negative attitudes and respond aggressively (Sender et al., 2024).

A child's self-concept is influenced by social circumstances that affect their educational path. Individuals who have dyslexia frequently face high rates of stigma and low self-esteem (Howard & Butler., 2018). Children with dyslexia are also more likely to "develop negative self-perceptions of themselves as learners," but not of their general self-worth. During a child's early experiences in formal schooling, these self-perceptions frequently start to develop (Gibby-Leversuch et al., 2021).

The inability to achieve despite their best efforts is a common source of frustration for those with dyslexia. Being unable to meet expectations set by parents, teachers, and peers due to difficulties with fundamental reading and writing abilities may be excruciating and infuriating. These encounters might make pupils feel inadequate all the time. Throughout adulthood, a feeling of inadequacy and failure may persist outside of the classroom. Sometimes it even makes accomplished adults doubt their own skills (Giovagnoli., et al 2020). When early diagnosis is not made and appropriate intervention is not provided

during the school phase, learning problems, lack of motivation, and low self-esteem may persist throughout life, the partnership between family, school, and therapists is essential to the success of the treatment (Prando et al., 2024).

For all dyslexic kids, social-emotional intervention programs optimize educational outcomes and experiences. It makes it possible for teachers and parents to work together to build strong bonds and an environment where each child feels connected, cared for, and secure both psychologically and physically. Additionally, it sets high standards that reinforce the notion that all kids can learn under the right circumstances (Abu Omar et al., 2024). Ongoing social-emotional interventions foster dyslexic students in problem solving, decision making, and engagement for lifelong learning. Higher classroom behavior, fewer behavioral issues and acts of aggressiveness, lessened emotional distress, higher academic performance, and increased social-emotional abilities are all examples of positive student outcomes (White, 2024). Consequently, the present study aims at development of effective Social-emotional programs to support dyslexic children.

Significance of the study:

Developmental dyslexia is a neurological disorder that affects 80% of individuals with learning difficulties. In addition to academic challenges faced by those with dyslexia, there are also social and emotional ones such as depression, anxiety, and other emotional, social, and mental health conditions around two to five times more than those of their peers. The prevalence of dyslexia in Egypt varies across different studies. One study found a prevalence rate of 13.9% among 2nd-grade primary school students in Asyut city (Farghaly et al., 2022).

Another study reported this specific reading disorder's (SLD) frequency of occurrence (dyslexia) of 11.3% among fourth and fifth graders in Eastern Cairo (Elsheikh et al., 2016). Additionally, a study on Arabic-speaking third graders found a high prevalence rate of combined deficits in reading and spelling (12.6%) (Farghaly et al., 2022). It is important to note that these studies focused on specific regions or grade levels, and the prevalence may differ in other parts of Egypt.

Furthermore, a psychiatric assessment result of a Turkish study on the prevalence and risk factors of children at risk of (SLD) showed that 92.3% of the children evaluated had a psychiatric disorder such as anxiety disorder, obsessive-compulsive disorder (OCD), attention deficit hyperactivity disorder (ADHD, intellectual disability, or an eating disorder (Bozatlı et al., 2024 & Vieira et al., 2024).

Numerous studies have demonstrated that anxiety levels are higher among individuals who suffer academically (Georgiou & Parrila, 2023). Therefore the researcher found that is important to apply socio-emotional support intervention to reduce anxiety and improve the self-esteem of dyslexic children.

Aim of the study:

The current study's goal was to examine the effectiveness of socio-emotional support intervention in reducing anxiety and improving self-esteem of dyslexic children which was achieved through the following:

- Assessing anxiety levels of dyslexic children.
- Assessing self-esteem levels of dyslexic children.
- Designing and implementing socio-emotional support intervention to reduce anxiety and improve self-esteem of dyslexic children.
- Evaluating the effect of socio-emotional support intervention on reducing anxiety and improving self-esteem of dyslexic children.

Research hypotheses:

The following hypotheses were examined in order for this study to fulfill its purpose:

Hypothesis I: Dyslexic children who would receive socio-emotional support intervention would show a decrease in anxiety level post-intervention than before.

Hypothesis II: Dyslexic children who would receive socio-emotional support intervention would exhibit self-esteem improvement post intervention than before.

Technical Design

The technical design for this study included research design, subjects and setting of the study as well as data collection tools.

Research design:

To meet the aim of this study, a quasi-experimental research methodology was employed; (pre and post intervention).

Research setting:

The study was conducted at two different settings in Egypt; first: in outpatient clinics of Minia psychiatric health and addiction treatment hospital which is affiliated to Minia government, serving it and its nine districts where, the outpatient clinic works three days per week (from 9 a.m. to 12 p.m. on Saturday, Monday, and Wednesday). Second: in psychiatric outpatient clinic at Banha university hospital which is affiliated to Banha city, the out-patient clinics work all days of week (6 days).The hospital serves ElQalubiah governorate.

Research subjects:

A purposive sample was utilized in the study. Participants involved in this study were 40 dyslexic children (pre and post-test). Using the following

statistical formula developed by Thompson, (2012), this sample size was determined:

$$n = \frac{N}{(N-1)B^2+1}$$

n= sample size, N= total population number, B= proportion of error (0.05). The following standards were used in selecting the research sample:

Inclusion criteria:

- Children who were diagnosed with dyslexia.
- Children whose parents accepted to participate in the study.
- Ages ranged from 6 to 12 for both genders.

Exclusion criteria:

- Children with any other disorder except developmental dyslexia such as ADHD, cerebral palsy, mental retardation, epilepsy, psychosis, etc...).
- Children with I.Q below average.
- Children with hearing or visual impairment.
- Children who suffered from brain injury.
- Children with delayed language development.

Study data collection Tools:

Structured interview questionnaire which consisted of three parts:

Part One: Child personal data like; age, birth order, gender, educational level, and children's behavior towards reading .etc.

Part Two: Parents' personal data such as age, level of education, occupation, and marital status.

Tool II: Screen for Child Anxiety Related Emotional Disorders (SCARED, 1999): It was developed by (Birmaher et al, 1999) and translated by the researchers. This self-report tool for kids and parents is used to test for anxiety problems in children. The generalized anxiety symptoms (nine items), separation anxiety symptoms (five items), social anxiety symptoms (eight items), panic or somatic symptoms (seven items), and school avoidance (three items). Subscales were therefore assessed in addition to the overall scores. It has been proposed that the presence of clinically significant anxiety is indicated by a total score of 25 or above.

Scoring system:

- All items are answered as the following 3 items of Likert scale: not true or hardly true= 0, somewhat true or sometimes true =1, very true or often true=2.
- A total score of ≥ 25 may indicate the presence of an Anxiety Disorder. Scores higher than 40 are more specific: TOTAL =
- A score of 7 for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 may indicate Panic Disorder or Significant Somatic Symptoms. PN =
- A score of 9 for items 5, 7, 14, 21, 23, 28, 33, 35, 37 may indicate Generalized Anxiety Disorder. GD =
- A score of 5 for items 4, 8, 13, 16, 20, 25, 29, 31 may indicate Separation Anxiety SOC. SP =

- A score of 8 for items 3, 10, 26, 32, 39, 40, 41 may indicate Social Anxiety Disorder. SC =
- A score of 3 for items 2, 11, 17, 36 may indicate Significant School Avoidance. SH =.

Tool III: Hare self-esteem scale (HSS, 1985): It was developed by Hare, 1985. When the results of the HSS are added together, it provides a broad evaluation of the self-esteem of school-age children in three domains: peers, school, and home. These three areas are the main pillars of a child's interaction indicator where their sense of self-worth is formed. Thirty items total—ten items for each subscale. A response on a scale of 1 (strongly disagree) to 4 (strongly agree) is possible. Items with negative wording must have their codes inverted.

Scoring system

- An individual's scores ranged from 30 to 120.
- A higher score on this scale implied a greater level of self-esteem.
- The overall self-esteem score was the average of the three subscales added together.

Operational Design: The operational design of the study entailed four phases:

Preparatory phase: Reviewing the current and past literature related to the study by using different ways was done to get a clear picture of the topics around the current study that help in guiding, preparing and developing the intervention of the study.

Administrative Design: The dean of Minia University's Faculty of Nursing filed formal letters to the previously stated setting. In this letter, the purpose of the study was outlined, and permission to conduct the study was requested. Oral and written consent were gained from dyslexic children's parents following an explanation of the nature and goals of the research.

Pilot Study: A pilot study included in the research sample was carried out on 10% of the entire sample size of the studied dyslexic children sample (n= 4) in order to examine the clarity and feasibility of the research tools as well as to determine the magnitude of time that needed to accomplish the intervention..

Validity and Reliability: A five-person jury comprised of professionals in the fields of psychiatric nursing and medicine evaluated the instruments to ensure its validation, and all required adjustments were made.

Reliability: The Cronbach's alpha value for Child Anxiety Related Disorders is 0.896, and of the Hare Self-Esteem Scale is 0.904

Field work

Designing phase:

To achieve the goal of the research, three stages were carried out: assessing, planning, executing, and evaluating. These stages started at the beginning of November 2023 to the end of June 2024.

Interviewing and Assessment phase:

In this phase, participants were selected through purposive sampling and consent from their parents to be included in the research was obtained, the researchers collected child and parent personal data, assessing Child Anxiety Related Emotional Disorders and Hare self-esteem levels among dyslexic children. This phase was done before the first session was applied in order to get the required information related to the study.

The researchers went to the mentioned settings above 3 days/week in order to apply semi structured interviews with the dyslexic children and their parents who met the criteria which mentioned before and invited them to share in the research study. After agreement to be involved in the study, the researchers explicit the purpose, aim of the study, and the time required for accomplishing the study, after that the researcher gained a written agreement from the children's parents then the questionnaire was filled out by the researchers through asking the children along with their parents. The researchers clarified the meanings of the questions to the participants and used simple words to enable understanding the meaning of the statements. Based on the assessment phase, the program exercises were prepared by the researchers in the form of booklet, posters, and videos.

Planning phase:

The programme strategy duration, session count, instructional strategies, and media utilized were all part of the planning process. Additionally, the suitability of the program's facilities and the teaching environment was assessed. The total number of sessions was 10 sessions, 3 sessions / week; through the sessions, the researcher used a variety of teaching methods such as presentation method supported by video and educational methods, videos and stories, discussion, positive reinforcement, Feedback and questions.

Implementation phase:

Once the participants and their parents agreed to participate in the study, the sessions of the intervention were conducted to each child and their parents individually, each session was about from 1 to 1.30 hours, it was given individually to each child in order to achieve the aim of the study. At the beginning of the session the researcher welcomed the participant and then explicit the purpose of the session and its content. Throughout the study the researcher used a variety of instructional techniques to enhance the child self-esteem and decrease the level of anxiety. Through each session a variety of interventions were applied to the children along with their caregivers, after completing each session the researcher ensure the importance of applying these interventions at homes and made emphasis on the

importance of sharing their teachers and their family on applying these interventions which given and performed during each session. At the end of each session, the researcher requested a homework assignment to the child concerned the topic of the session and asked the participant for any question, then told the participant about the time for the next session. Furthermore each practical session given through period of application of the research was applied more than one time to each participant through the period of research application in order to achieve the aim of the study. After finishing the implementation of practical sessions the researcher collected the post-test questionnaire. During implementation of the intervention the content was divided into theoretical sessions and practical sessions.

Theoretical sessions:

The theoretical part was given through 4 sessions each session was about 1 hour, these sessions involved (Interviewing session, the concept of dyslexia and its symptoms, The concept of anxiety ,self-esteem and their symptoms, the effect of anxiety on the child and finally the relationship between anxiety and self-esteem.

Practical sessions:

The practical part was given through 6 sessions which included (encouraging the child to talk about his anxiety, encouraging the child to "face not avoid" fears, rewarding courageous behaviors, "creating a schedule of recreational activities, encouraging good sleep patterns, and developing self-esteem for children with dyslexia.

Evaluation phase:

Evaluation was done to measure the progress in self-esteem and lowering level of anxiety after receiving socio-emotional support intervention. Evaluation of the participants' self-esteem and decreased level of anxiety was done through the results of pretest and posttest.

Ethical considerations:

An official permission was obtained from the ethical committee in the faculty of nursing after explaining the nature of the work. A verbal explanation of nature and the aim of the study were explained to the participants of the study, clarification of the nature and purpose of the study was done virtually with the participants. The participant has the right to withdraw from the study without any rational at any time. The participants assured that all data were highly confidential.

Statistical Analysis:

All statistical analyses were performed using SPSS for windows version 20.0 (SPSS, Chicago, IL). Continuous data were normally distributed and were expressed in mean \pm standard deviation (SD). Categorical data were expressed in numbers and

percentages. Chi-square test (or fisher's exact test when applicable) was used for the comparison of variables with categorical data. A correlation coefficient test was used to test for correlations between two variables with continuous data.

Results:**Table (1): Frequency distribution of the studied children's general characteristics (N= 40)**

General characteristics data of the children	No	%
Age (Years)		
8 – 9	23	57.5
9 – 10	11	27.5
10 – 11	6	15.0
Mean \pmSD	9.6 \pm1.8	
Gender		
Male	27	67.5
Female	13	32.5
Child arrangement		
First	16	40.0
Second	14	35.0
Third and above	10	25.0
Is there a child suffering from dyslexia in the family?		
No	31	77.5
Yes	9	22.5
Academic achievements level		
Low	14	35.0
Average	17	42.5
High	9	22.5
Average academic achievement in writing		
Low	16	40.0
Average	13	32.5
High	11	27.5
Academic achievement rate in reading		
Low	22	55.0
Average	9	22.5
High	9	22.5
Academic achievement rate in mathematics		
Low	11	27.5
Average	19	47.5
High	10	25.0

Table (2): Frequency distribution of the general characteristics of the studied children's parents (N= 40)

General characteristics data of the children's parents	No	%
Parent age		
25 – 30	15	37.5
30 – 35	16	40.0
35 – 40	9	22.5
Mean \pmSD	32.3 \pm3.2	
Parent gender		
Male	10	25.0
Female	30	75.0
Parent education		
Illiterate	12	30.0
Middle level education	11	27.5
University or Higher	17	42.5
Parent Occupation		
Not working	25	62.5
Working	15	37.5

Table (3): Frequency distribution of the Children’s behavior towards reading and writing (N= 40)

Children’s behavior towards reading and writing	No	%
Do you prefer reading or writing?		
Reading	29	72.5
Writing	11	27.5
Do you feel embarrassed by your colleagues while reading?	29	72.5
Are you afraid of the teacher?	21	52.5
Do you feel uncomfortable while reading?	28	70.0
Do you lose your reading place?	22	55.0
Do you prefer to read silently or aloud?		
Aloud	10	25.0
Silently	30	75.0

Table (4): Comparison of the screened child anxiety related disorders domains between pre and post intervention (N= 40)

	Pre – intervention		Post – intervention		Chi – Square / Fisher’s exact test	
	N	%	n	%	X ²	P
Panic Disorder or Significant Somatic Symptoms						
No indication of panic disorder	15	37.5	36	90.0		
Panic Disorder	25	62.5	4	10.0	23.854	<0.001**
Generalized Anxiety Disorder(GAD)						
No indication of GAD	24	60.0	35	87.5		
Indication of GAD	16	40.0	5	12.5	7.813	0.005*
Separation Anxiety Disorder						
No indication of Separation Anxiety Disorder	7	17.5	28	70.0		
Indication of SAD	33	82.5	12	30.0	22.400	<0.001**
Social Anxiety Disorder						
No indication of Social Anxiety Disorder	33	82.5	35	87.5		
Indication of Social Anxiety Disorder	7	17.5	5	12.5	0.392	0.531
Significant School Avoidance						
No indication of School Avoidance	28	70.0	37	92.5		
Indication of School Avoidance	12	30.0	3	7.5	6.646	0.010*

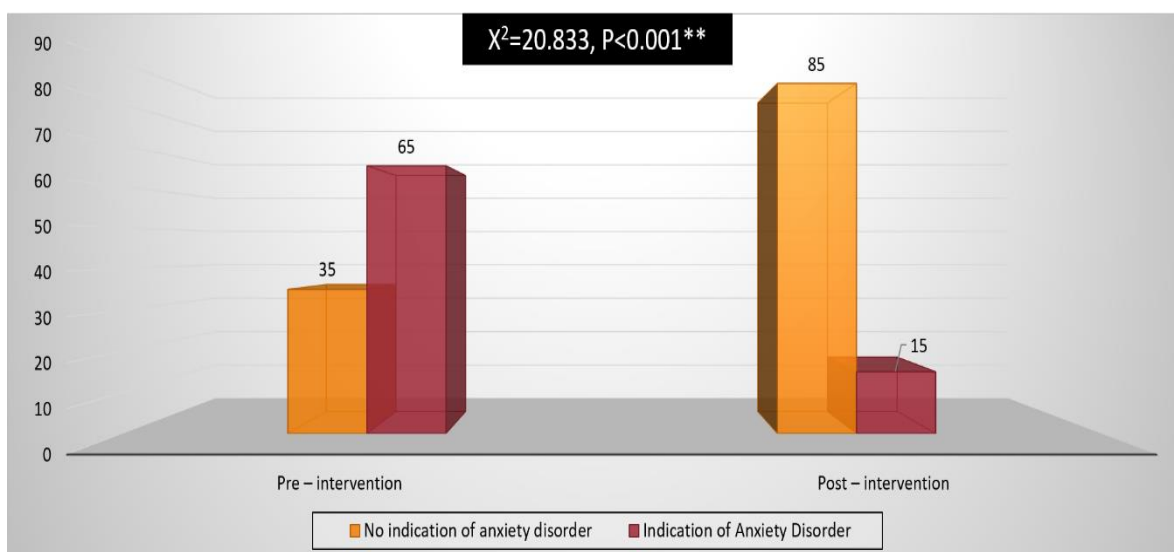


Figure (1): Comparison of the Screened total child anxiety related disorders level between pre and post intervention (N= 40)

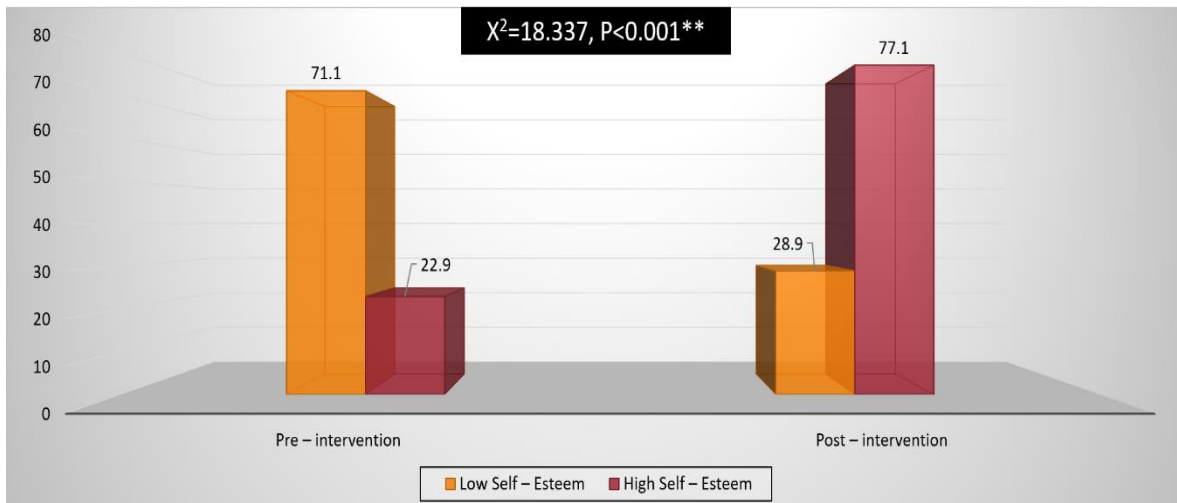


Figure (2): Comparison of the Hare Self – Esteem: School scores between pre and post intervention (N= 40)

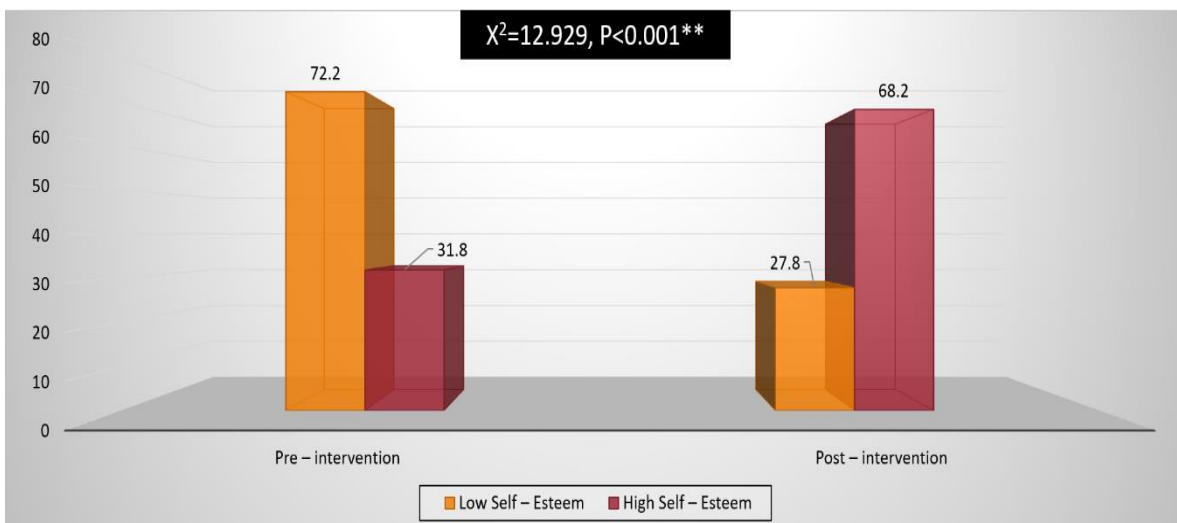


Figure (3): Comparison of the Hare Self – Esteem: Peer scores between pre and post intervention (N= 40)

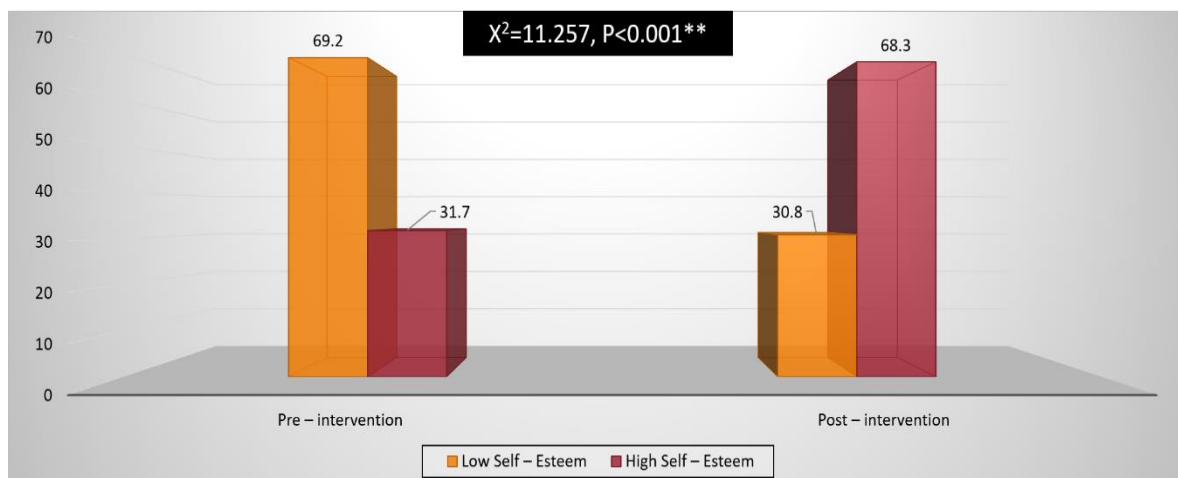


Figure (4): Comparison of the Hare Self – Esteem: Home scores between pre and post intervention (N= 40)

Table (5): Association between the Child Anxiety disorder and Hare Self-Esteem subscales levels (N= 40).

	No indication of anxiety disorder (n=34)		Indication of Anxiety Disorder (n=6)		Fisher's exact test	
	N	%	N	%	X ²	P
Hare Self – Esteem: School						
Low Self – Esteem	8	23.5	5	83.3		
High Self – Esteem	26	76.5	1	16.7	8.315	0.004*
Hare Self – Esteem: Peer						
Low Self – Esteem	6	17.6	4	66.7		
High Self – Esteem	28	82.4	2	33.3	6.536	0.011*
Hare Self – Esteem: Home						
Low Self – Esteem	8	23.5	4	66.7		
High Self – Esteem	26	76.5	2	33.3	4.519	0.033*

Table (6): Correlation between the Child Anxiety disorder and Hare Self-Esteem subscales level (N= 40)

	Screen for Child Anxiety disorder	
	R	P
Hare Self-Esteem scale		
Hare Self – Esteem: School	-0.378	0.016*
Hare Self – Esteem: Peer	-0.408	0.009*
Hare Self – Esteem: Home	-0.359	0.023*

Table (1): This table illustrates that, more than half (57.5 %) and (55.0 %) of the children are between the age of 8-9 years, with mean of age 9.6 ± 1.8 and having a low rate of the academic achievement in reading respectively. More than one third (40.0%) of the children are the first between their brothers, with low rate of average academic achievement in writing. Less than half (47.5%) and (42.5%) have an average level of academic achievement rate in mathematics and an average level of the academic achievement in general. About two third (67.5%) are male and about more than three quarters (77.5%) of them are having another child suffering from dyslexia in the family.

Table (2): This table shows that, More than three-quarters (77%) of the parents their ages range from 25 to 40, three-quarters (75%) are females; about less than two-thirds (62.5%) of them don't work, and more than one-third (42.5%) are highly educated; their age ranges from 25-35.

Table (3): This table indicates that, three-quarters (75%) of the children prefer to read silently, while, less than three-quarters (72.5%, 72.5%, and 70%) prefer reading, feel embarrassed and uncomfortable while reading.

Table (4): This table clarifies that, at pretest, the children with no indication of panic disorder are less than half (37.5%) and increase at the post-test to reach to (90%), however the children experience panic disorder are more than half (62.5%) but decrease at post-test to be just (10%). Also there is a highly significant difference between the pre and post-test as P-value is <0.001 .

As regarding to the GAD, the children who have no indication of GAD are more than half (60%) at pretest, and increase at the post-test to reach to (87%), however the children experience GAD are less than half (40%) but decrease at post-test to be just (12.5%). Also there is a highly significant difference between the pre and post-test as P-value is <0.005 .

According to Separation Anxiety Disorder, the children who don't indicate Separation Anxiety Disorder are (17%) at the pretest, and increase at post-test to reach to (70%), however the children experience SAD are more than three-quarters (82.5%) but decrease at post-test to be just (30%). Also there is a highly significant differences between the pre and post-test as P-value is <0.001 .

As pointing to School Avoidance, the same table indicates that, at the pretest, there are less than three-quarters (70%) of the children with no indication of School Avoidance and increase at the post-test to reach (92%), while, the children experience school avoidance are (30%) but decrease at post-test to be just (7%). Also there is a significant differences between the pre and post-test as P-value is <0.01 . Meanwhile, the same table shows no significant differences between the pre and post-test according to social anxiety disorder.

Figure (1): This figure shows that less than three quarters (65%) of the children have indication of anxiety disorder presence at the pretest, while decrease to be just (15%) at post-test. Also, there is a significant difference between the pre and post-test as P-value is <0.001 .

Figure (2): This figure illustrates that the Hare Self-Esteem: School scores among the studied children are low at the pretest as there is less than three quarters (71%) have low level, while this self-esteem level decreases at the post-test to be (28.9%). Also those with high level at the pretest were (22.9%) and increase to reach to (77.1%). There is a highly significant differences between the pre and post-test as P-value is <0.001 .

Figure (3): This figure indicates that the Hare Self – Esteem: Peer scores among the studied children are low at the pretest as there is less than three-quarters (72%) have low level, while this self-esteem level decreases at post-test to be (27.8%). Also, those with high level at the pretest were (31.8%) increase to (68.2%). There is a highly significant differences between the pre and post-test as P-value is <0.001 .

Figure (4): This figure clarifies that the Hare Self-Esteem: Home scores among the studied children are low at the pretest as there is more than two-thirds (69.2%) have low level, while this self-esteem level decreases at the post-test to be (30.8%). Also, those with high level at pretest were (31.7%) increase to reach to (68.3%). There is a highly significant difference between the pre and post-test as P-value is <0.001 .

Table (5): This table points to the presence of significant differences between Child Anxiety disorder and all Hare Self-Esteem subscales' levels as P values are 0.004, 0.011 and 0.033 respectively.

Table (6): This table suggests that there is a negative significant correlation between the Child Anxiety disorder and all Hare Self-Esteem subscales' level as P values are 0.016, 0.009 and 0.023, while r is -0.378, -0.408 and -0.359 respectively.

Discussion:

One specific kind of learning impairment called dyslexia is characterized by problems with exact and/or fluency recognition of words, as well as inaccurate spelling and decoding skills. This is usually caused by a phonological impairment, which is a surprising conclusion when considering other cognitive capacities and the quality of classroom training. In addition to their academic difficulties, children with dyslexia often struggle with serious emotional and psychological problems including anxiety and poor self-esteem, which can further impede their social and academic growth (Snowling, 2020).

The present study examined the general characteristics of the children involved, specifically focusing on those aged 8-9 years, who make up a significant portion of the sample which was more than half of the total number, also, the provided study reported a higher percentage of male children. This

study agreed with Thompson, & Richards, (2019) who focus on gender distribution investigated the effect of outdoor play on academic performance among school-aged children in Finland. Their findings indicated that academic achievement across various subjects; including reading, writing, and mathematics were variated.

As regarding family history of the disorder; the study emphasized that more than three-quarters had no other sibling suffering dyslexia in the family. This could be due to that the big portion of the included children was the first in arrangement among their siblings who represented more than one-third. It is known that dyslexia is familial and moderately hereditary (Liu et al., 2019). This was agreed with (Duranović et al., 2024) whose results indicated that in 14.3% of cases, someone in the family of children with dyslexia, such as a cousin, father, or brother, experienced difficulties in speech, reading, and writing.

The findings of this study illustrated that there were variations in academic performance in writing, reading, and mathematics; for writing there was more than one-third suffered a low level, and slightly more than half suffered a low level in reading meanwhile, slightly less than one half suffered average level in mathematic. In comparison, Kivelä et al., (2023) found academic variations among the studied children

In the current study, more than three-quarters of the parents were aged between 25 and 35. This age range was consistent with the findings of Smith et al., (2021) in the United States, who reported that nearly three quarters of parents in their sample were within the 25-40 age group. Similarly, in a study conducted by Kumar & Rani (2020) in India, more than two-thirds of the parent participants were within this age bracket. The slight variation in percentages could be attributed to differing social norms and economic conditions that influence the age at which individuals become parents in different countries.

The current study indicated that three-quarters of the parents were females. This was in line with findings from Garcia et al. (2019) in Spain, where slightly three-quarters of the surveyed parents were females. However, it was contradicted with the findings of Li & Chen (2020) in China, where only two thirds of the participants were females. The higher percentage of female participants in many studies could be due to traditional gender roles where mothers are more often involved in child-rearing activities and thus more likely to participate in related research.

The current study showed that more than one-third of the parents were highly educated, specifically those within the 25-35 age range. This was somewhat lower than the 50% reported by Müller & Schmidt (2020) in Germany, but higher than the 35% found in a study

by **Yamamoto & Suzuki (2019)** in Japan. The educational attainment of parents is often reflective of broader national education levels and accessibility, as well as cultural values placed on education.

Regarding employment status, about two thirds of the parents in the current study were not working, which was higher than the half reported by **Johnson et al. (2018)** in Canada. In contrast, a study by **Adebayo & Ogunleye (2019)** in Nigeria found that nearly three quarters of the parents were not employed. These differences might be influenced by the economic conditions and cultural expectations regarding the workforce participation of parents, particularly mothers, in different regions.

On the one hand of children's behavior towards reading and writing and as regarding to reading preferences; in the current study, three-quarters of the children preferred to read silently. This finding aligned with the results of **Smith et al. (2021)** in the United States, where more than three-quarters of children expressed a preference for silent reading. Similarly, in a study conducted by **Chang et al., (2020)** in South Korea, there were near to three quarters of children preferred silent reading. These consistent findings suggested that silent reading was a widely preferred mode among dyslexic children across different cultural contexts, likely due to the personal and reflective nature of the activity.

On the other hand of children's behavior towards reading and writing, regarding emotional responses to reading; the study also indicated that less than three-quarters of the children experience embarrassment from colleagues and, feel uncomfortable while reading. These percentages highlighted the significant emotional barriers to reading that children may face. In accordance to discomfort nearly three-quarters: This percentage was higher compared to the two-thirds reported by **Smith et al. (2021)** in Canada, where children expressed discomfort while reading. It was, however, similar to findings by **Yamamoto & Suzuki, (2019)** in India, where somewhat three-quarters of children reported feeling uncomfortable. Regarding embarrassment which was nearly three quarters, the percentage of children feeling embarrassed while reading was similar to the three quarters reported by **Johnson et al., (2018)** in the UK. This suggested a common issue among children that could be linked to a lack of confidence or fear of judgment from peers.

Moreover, from another point of view, in accordance to cultural attitudes towards education and reading which significantly impact children's emotional responses. In cultures where academic performance is highly stressed, children may feel more pressure and, consequently, more discomfort and embarrassment, also Differences in educational systems, teaching

methods, and support provided to struggling readers can also play a role. Countries with more supportive and less competitive educational environments might report lower levels of discomfort and embarrassment among children.

As regarding the comparison of the screened child anxiety related disorders domains between pre and post-intervention, the results showed that at the pretest stage, less than half of the children showed no indication of panic disorder, increasing dramatically to be the most 90% at the post-test. Conversely, the number of children experiencing panic disorder decreased from more than half to be just ten percent. These changes indicated a highly significant difference (P-value <0.001) between the pre and post-test results. Similar improvements have been documented in studies such as **Morales & Pérez-Edgar (2016)** in the United States, where cognitive-behavioral interventions reduced panic disorder prevalence from sixty percent to fifteen percent. This underscores the effectiveness of targeted interventions in mitigating panic disorders in children.

Regarding Generalized Anxiety Disorder (GAD), the data showed that at the pretest, more than half of the children had no indication of GAD, which increased to 87% at the post-test. Children experiencing GAD decreased from less than half to just 12.5%, with a highly significant difference (P-value <0.005). This improvement aligned with findings by **Liu & Pérez-Edgar (2019)** in Australia, where similar interventions resulted in a reduction of GAD prevalence from 50% to 10%. These results demonstrated the positive impact of interventions on reducing GAD symptoms in children.

In accordance to Separation Anxiety Disorder (SAD) initially, only 17% of the children showed no indication of SAD, which increased to 70% at the post-test. Those experiencing SAD decreased from more than three quarters to 30%, indicating a highly significant difference (P-value <0.001). This substantial improvement mirrors the results from a study by **Pérez et al., (2020)** in Spain, where therapeutic interventions reduced SAD prevalence from 75% to 25%. These findings highlight the effectiveness of targeted therapies in alleviating separation anxiety in children.

As regards School Avoidance At pretest, less than three-quarters of the children had no indication of school avoidance, which increased to 92% at the post-test. Children experiencing school avoidance decreased from 30% to just 7%, showing a significant difference (P-value <0.01). Similar trends were reported by **Lau & Waters, (2017)** in Japan, where interventions reduced school avoidance rates from 35% to 8%. This indicates that effective intervention

strategies can significantly reduce school avoidance behaviors.

Regarding Social Anxiety Interestingly, the table showed no significant differences between the pre and post-test regarding social anxiety. This lack of significant change contrasted with some studies like those by **Hudson et al., (2015)** in the Netherlands, where social anxiety interventions showed a marked reduction in prevalence. The discrepancy might be due to different intervention types, intensity, or cultural factors affecting social anxiety.

The effectiveness of interventions may vary based on cultural attitudes towards mental health and the availability of resources and differences in intervention strategies (e.g., cognitive-behavioral therapy, pharmacological treatments) can result in varying degrees of effectiveness across different disorders.

Concerning to prevalence of Anxiety Disorders, the pretest results, indicated that two-thirds of children had anxiety disorders, which are similar to findings in other studies. For instance, **Nikolić, et al., 2018** found that nearly more than two-thirds of children in their sample exhibited anxiety disorders before any intervention. Similarly, in a study by **Shakeri et al., (2021)** in China, 64% of the children were diagnosed with anxiety disorders at the pretest stage. These consistent findings highlight the widespread prevalence of anxiety disorders among children across different regions and contexts. The reduction to 15% at the post-test aligns with significant improvements documented in various studies. For example, **Shambhavi & Kenchappanavar (2018)** reported a decrease from 70% to 20% following a comprehensive cognitive-behavioral therapy program. In a similar vein, **Zmyslowska, M. (2020)** in India noted a reduction from 66% to 18% after implementing a mindfulness-based intervention. These comparisons emphasize the effectiveness of targeted interventions in reducing anxiety disorder prevalence among children. The highly significant P-value (<0.001) indicates a strong statistical difference between the pretest and post-test results. This aligns with the findings of **Ihbour et al. (2021)**, who reported a P-value of <0.001 in their study on the effectiveness of anxiety reduction programs in school settings. The consistency in significant results across studies reinforces the reliability of these interventions in addressing anxiety disorders.

The significant reduction in anxiety disorders suggests that the intervention used was highly effective. Common effective strategies include cognitive-behavioral therapy (CBT), mindfulness-based stress reduction (MBSR), and other therapeutic approaches tailored to children's needs. The effectiveness of these interventions has been widely

supported by research, indicating their potential for broad application.

In accordance to the comparison of the Hare Self-Esteem: School scores between pre and post intervention, the significant changes in the Hare Self-Esteem: School scores among the studied children from pretest to post-test. Specifically, the proportion of children with low self-esteem decreased markedly, while those with high self-esteem increased. The observed changes are statistically significant, as indicated by a P-value of <0.001.

Regarding the pretest stage, less than three-quarters of the children had low self-esteem scores. This aligns with findings from similar studies. For example, in a study by **Brown & Clark (2019)** in the United States, 70% of children exhibited low self-esteem scores at the pretest stage. Similarly, **Martinez & Garcia (2020)** reported that 68% of children in their study had low self-esteem levels before any intervention. These consistent findings suggest that low self-esteem is a prevalent issue among children across various contexts.

While at Post-Test Self-Esteem Levels. Following the intervention, the proportion of children with low self-esteem decreased significantly to 28.9%. Conversely, those with high self-esteem increased from 22.9% at the pretest to 77.1% at the post-test. This substantial improvement was supported by similar research outcomes. For instance, a study by **Smith et al., (2021)** found that after a self-esteem enhancement program, the percentage of children with high self-esteem increased from 25% to 75%. Likewise, **Moshkani et al., (2017)** in India reported an increase from 20% to 70% in high self-esteem levels after a similar intervention.

There was a significance of differences. The P-value of <0.001 indicates a highly significant difference between the pretest and post-test self-esteem scores. This aligns with the findings of several studies, such as **Johnson et al., (2018)**, who also reported a P-value of <0.001 when measuring the effectiveness of self-esteem interventions among children. The consistency in statistical significance across studies underscores the reliability and impact of these interventions.

The significant improvement in self-esteem scores suggested that the interventions implemented were highly effective. Effective strategies often include cognitive-behavioral therapy (CBT), group therapy, and school-based programs focusing on building self-esteem and resilience. The success of these interventions highlights their potential for broader application in educational and clinical settings.

Regarding the comparison of the Hare Self-Esteem: Peer scores between pre and post intervention the figure highlights significant changes in the Hare Self-

Esteem: Peer scores among the studied children from the pretest to post-test. Specifically, the proportion of children with low peer self-esteem scores decreased markedly, while those with high peer self-esteem scores increased. The observed changes are statistically significant, as indicated by a P-value of <0.001.

Regarding the pretest Peer Self-Esteem levels, results show that less than three-quarters of the children had low peer self-esteem scores. This finding is consistent with similar studies. For instance, in a study by **Shakeri et al., (2021)**, 70% of children exhibited low peer self-esteem scores at the pretest stage. Similarly, **Wilmot et al., (2023)** reported that 69% of children in their study had low peer self-esteem levels before any intervention. These consistent findings suggest that low peer self-esteem is a prevalent issue among children across various contexts.

Regarding Post-Test Peer Self-Esteem Levels Following the intervention, the proportion of children with low peer self-esteem decreased significantly to 27.8%. Conversely, those with high peer self-esteem increased from 31.8% at pretest to 68.2% at post-test. This substantial improvement is supported by similar research outcomes. For example, a study by **Thompson & Richards, (2019)**, found that after a peer support program, the percentage of children with high peer self-esteem increased from 30% to 65%. Likewise, **Mkhwanazi, (2019)** in South Africa reported an increase from 32% to 70% in high peer self-esteem levels after a similar intervention. The P-value of <0.001 indicates a highly significant difference between the pretest and post-test peer self-esteem scores. This aligns with the findings of several studies, such as **Livingston et al., (2018)** in Australia, who also reported a P-value of <0.001 when measuring the effectiveness of peer self-esteem interventions among children. The consistency in statistical significance across studies underscores the reliability and impact of these interventions.

As concerning to pretest Home Self-Esteem levels, at the pretest stage, more than two-thirds of the children had low home self-esteem scores. This finding was consistent with similar studies. For instance, **Snowling, (2020)** and **Martinez & Garcia, (2020)** found that more than two-thirds of children exhibited low home self-esteem scores at the pretest stage before any intervention. These consistent findings suggested that low home self-esteem is a prevalent issue among children across various contexts. While the Post-Test Home Self-Esteem Levels following the intervention, the proportion of children with low home self-esteem decreased significantly to 30.8%. Conversely, those with high home self-esteem increased from 31.7% at the pretest to 68.3% at the post-test. This substantial improvement is supported

by similar research outcomes. For example, a study by **Smith et al., (2021)** in United States found that after a family-based intervention program, the percentage of children with high home self-esteem increased from 30% to 65%. Likewise, **Soğancı & Kulesza, (2023)** in Turkey reported an increase from 32% to 70% in high home self-esteem levels after a similar intervention. The P-value of <0.001 indicates a highly significant difference between the pretest and post-test home self-esteem scores. This aligns with the findings of several studies, such as **Lau & Waters, (2017)**, who also reported a P-value of <0.001 when measuring the effectiveness of home self-esteem interventions among children. The consistency in statistical significance across studies underscores the reliability and impact of these interventions.

May be the success of these interventions highlights their potential for broader application in educational and clinical settings. The Training parents and caregivers in effective interaction strategies can create a more supportive home environment for children.

The study illustrated that there was negative significant correlation between the Child Anxiety disorder and Hare Self-Esteem subscales level as P values are 0.016, 0.009 and 0.023. This findings were consistent with the study of **(Nosrati et al., 2019)** who found that there was a significant relationship between support and social anxiety with self-esteem and its scales. Similarly Studies by **(Wilmot et al., 2023 & De Lima et al., 2020)** found a significant association between dyslexia and markers of wellbeing and mental health, such as self-esteem, confidence, anxiety, and self-efficacy. Furthermore study conducted by **(Ihbour et al., 2021)** illustrated that there was a negatively correlation between global self-esteem and anxiety.

Conclusion:

The current study concluded that less than three-quarters of the children had indication of anxiety disorder presence at the pretest, while decreased to be just (15%) at the post-test. There was a highly significant difference between the pre and post-test as regarding to Hare Self-Esteem subscales' levels. Also, there was a negative significant correlation between the child anxiety disorder and all Hare Self-Esteem subscales' levels.

Recommendations:

In light of the current study's findings, the suggestions listed below can be implemented:

- Create and carry out instructional initiatives for parents and teachers of the children who experience dyslexia regarding its early signs to help early

identification, and knowledge about dyslexic children's needs.

- Establishing educational intervention programs with the collaboration between a psychologist, a special education teacher, and family caregiver is crucial to take into account parental needs, awareness, and resources, according to broad policies and practices developed by the Egyptian Ministry of Health, which shifts the focus of care from an individual-centered approach to one that is family-centered from a systemic perspective to achieve tangible progress among children with dyslexia.
- Studies with long follow-up might evaluate how long the benefits of an intervention last, providing insight into any ongoing gains in dyslexic students' wellbeing, self-esteem, and academic achievement.
- In order to guide evidence-based practices, comparative effectiveness research may be able to determine which intervention strategies-such as cognitive behavioral therapy, mindfulness-based therapies, and educational interventions-are the most successful.

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Conflict of Interests

The authors stated that there are no conflicts of interest in this work.

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