

The Role of Mental Models in Addressing Academic Anxiety in Children

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Abstract

Purpose	: Academic anxiety is a prevalent psychological challenge that negatively affects children’s academic performance and emotional well-being. Mental models, understood as cognitive–emotional frameworks encompassing executive function and emotional regulation, play a critical role in how children perceive, interpret, and manage academic stress. This study aims to synthesize empirical evidence on the role of mental models in addressing academic anxiety in children and to identify effective school-based strategies that support adaptive learning and well-being.
Methodology	: This study employed a narrative review approach with a systematic search strategy. Peer-reviewed empirical studies published between 2015 and 2025 were identified through major academic databases, including Scopus-indexed journals, PubMed, and Google Scholar. The review focused on studies examining academic anxiety, executive function, emotional regulation, and school-based interventions in children and early adolescents. Relevant findings were analyzed and synthesized thematically to identify consistent patterns and key mechanisms.
Results	: The thematic synthesis indicates that academic anxiety is consistently associated with impairments in executive function, emotional regulation, and academic engagement. Deficits in planning, organization, attentional control, and impulse regulation were frequently identified as mediating factors linking anxiety to poorer academic outcomes. Furthermore, school-based interventions—particularly cognitive-behavioral programs, mindfulness-based approaches, holistic stress management, and emotional intelligence training—demonstrated effectiveness in reducing anxiety symptoms while simultaneously improving academic performance and psychosocial adjustment.
Conclusions	: Mental models constitute a central mechanism through which children experience and cope with academic anxiety. Strengthening executive function and emotional regulation as core components of these mental models is essential for mitigating academic anxiety and promoting educational success. The findings underscore the importance of integrating evidence-based, multifaceted interventions into school systems to support children’s cognitive, emotional, and academic development.

Keywords: academic anxiety, mental models, executive function, school-based intervention, emotional regulation

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1. Introduction

Academic anxiety is a significant and growing issue among children, often leading to poor academic performance, reduced well-being, and increased psychological distress. Mental models, which are cognitive frameworks that individuals use to understand and navigate complex situations, can play a crucial role in how children manage academic stress and anxiety. By exploring the role of mental models in addressing academic anxiety, we can develop more effective interventions to support children in their educational journeys.

Research has consistently shown a strong link between anxiety and academic performance in children. Recent longitudinal studies have further demonstrated that executive function serves as a critical mediator between anxiety and academic outcomes across developmental stages (Ahmed et al., 2019; Zelazo & Carlson, 2020). For instance, Alfonso and Lonigan (2021) found that trait anxiety is significantly associated with academic achievement through the mediating role of executive function. Their study demonstrated that better self-regulation and executive functioning skills could help mitigate the negative impact of anxiety on academic outcomes. This highlights the importance of cognitive strategies and mental models in managing academic stress.

Similarly, Trevethan et al. (2022) conducted a longitudinal study examining the relationship between academic stress and anxiety symptoms among Children in India. They identified physiological hyperarousal and social acceptance as critical factors influencing this relationship. The study found that academic stress directly affects anxiety symptoms and that social acceptance can moderate this effect, emphasizing the need for supportive social environments in reducing academic anxiety.

Interventions targeting academic anxiety often incorporate cognitive-behavioral techniques and holistic approaches. Fox, Warner, and Drew (2018) discussed the effectiveness of school-based interventions for Children with social anxiety. Their work on the Skills for Academic and Social Success (SASS) program, a cognitive-behavioral group treatment, showed that structured support within the school setting could significantly reduce anxiety and improve academic performance. This underscores the potential of cognitive frameworks and mental models in designing effective interventions. Recent meta-analyses have confirmed the robust effectiveness of school-based cognitive-behavioral interventions, with standardized effect sizes ranging from moderate to large across diverse populations (Gee et al., 2020; Ginsburg et al., 2020; Werner-Seidler et al., 2020).

Holistic approaches to stress management have also shown promise in addressing academic anxiety. Rentala et al. (2019) evaluated a holistic stress management program for Indian adolescent girls and found significant reductions in academic stress, depression, and anxiety, along with improvements in overall well-being. Their randomized controlled trial highlighted the benefits of integrating body-mind-spirit strategies to enhance Children' mental health and academic outcomes. Mindfulness-based interventions have emerged as a complementary approach, with research demonstrating significant improvements in emotional regulation, executive function, and academic performance (Amundsen et al., 2020; Carsley et al., 2024; Dunning et al., 2019).

Parental behavior plays a pivotal role in shaping Children' academic experiences and anxiety levels. Jiang, Lin, and Hu (2023) explored the impact of parental phubbing (phone snubbing) on academic burnout and found that social anxiety and self-control mediate this relationship. Their study suggests that family dynamics and parental behaviors significantly influence Children' academic stress and highlights the importance of addressing these factors in interventions.

Emotional intelligence is another crucial factor in managing academic anxiety, with Gázquez Linares et al. (2023) finding that emotional intelligence mediates the relationship between anxiety sensitivity and academic burnout, emphasizing the role of emotional regulation in academic contexts. Furthermore, Hosseinkhani et al. (2020) demonstrated through multilevel structural equation modeling that various sources of academic stress, including family conditions and peer pressure, significantly impact adolescent mental health, underscoring the importance of a supportive home environment in developing comprehensive strategies to address academic anxiety.

The relationship between academic anxiety and other psychological factors has also been extensively studied, with Khesht-Masjedi et al. (2019) finding significant negative associations between anxiety, depression, and academic achievement. In conclusion, addressing academic anxiety in children requires a multifaceted approach that considers cognitive, emotional, and social factors, where mental models as cognitive frameworks can significantly influence how children perceive and manage academic stress. By leveraging these models, educators and mental health professionals can develop more effective interventions—integrating cognitive-behavioral techniques, holistic stress management, and emotional intelligence training—to create a supportive environment that fosters academic success and well-being.

2. Methodology

2.1. Research Design

This study adopted a narrative literature review methodology, which is particularly suited for synthesizing and critically analyzing a broad body of empirical literature on complex, multifaceted topics (Baumeister & Leary, 1997; Green et al., 2006; Ferrari, 2015; Snyder, 2019). This approach was deemed appropriate given the interdisciplinary nature of academic anxiety, which intersects cognitive psychology, educational neuroscience, and school-based intervention research. The review was guided by the following research questions: (1) What is the relationship between mental models—operationalized as executive function and emotional regulation—and academic anxiety in children? (2) What school-based intervention strategies have demonstrated effectiveness in addressing academic anxiety? (3) What are the underlying mechanisms through which mental models influence academic outcomes?

2.2. Information Sources and Search Strategy

A comprehensive literature search was conducted between January and February 2025 across multiple electronic databases, including Scopus, PubMed/MEDLINE, Web of Science, ERIC, PsycINFO, and Google Scholar, selected for their extensive indexing of peer-reviewed literature in psychology, education, and child development. The search strategy employed a combination of controlled vocabulary (e.g., MeSH terms, Thesaurus descriptors) and free-text keywords using Boolean operators and truncation symbols, with the following search string adapted for each database: ("academic anxiety" OR "test anxiety" OR "school anxiety" OR "academic stress") AND ("executive function*" OR "cognitive control" OR "self-regulation" OR "emotional regulation" OR "mental model*") AND ("child*" OR "adolescent*" OR "student*" OR "youth") AND ("intervention*" OR "treatment" OR "program*" OR "school-based"). The search was restricted to English-language articles published between January 2015 and December 2025 to ensure contemporary empirical relevance.

2.3. Eligibility Criteria

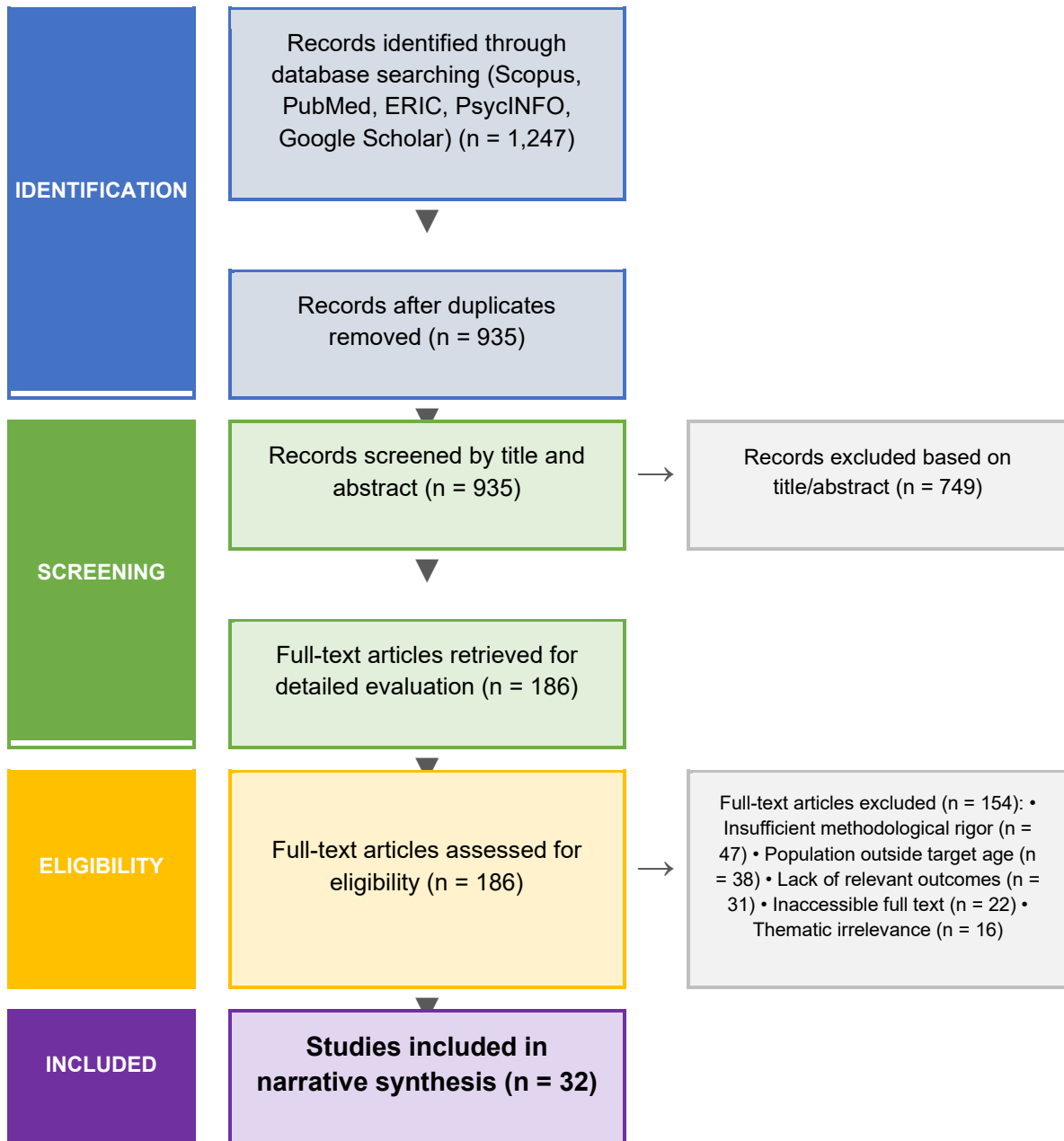
The selection of studies was guided by predefined inclusion and exclusion criteria, as summarized in Table 1.

Table 1. Inclusion and Exclusion Criteria for Study Selection

Criterion	Inclusion	Exclusion
Study design	Empirical studies employing quantitative, qualitative, or mixed-methods designs	Theoretical papers, editorials, commentaries, opinion pieces, book reviews
Publication type	Peer-reviewed journal articles indexed in reputable databases (preferably Scopus/Web of Science)	Conference abstracts, dissertations, grey literature, non-peer-reviewed publications
Language	English	Non-English publications
Publication period	January 2015 – December 2025	Studies published prior to 2015
Population	Children and adolescents aged 5–18 years in educational settings	Adult populations (>18 years); clinical populations with diagnosed psychiatric disorders as primary focus
Thematic relevance	Studies examining academic anxiety, executive function, emotional regulation, mental models, cognitive-behavioral interventions, mindfulness-based interventions, or holistic stress management in educational contexts	Studies unrelated to academic or educational settings; purely neuroimaging studies without behavioral or educational outcomes
Outcome measures	Academic performance, anxiety symptoms, executive function, emotional regulation, intervention effectiveness	Studies without clearly defined outcome measures

2.4. Study Selection Process

The study selection followed a systematic screening procedure. The initial database search yielded 1,247 records, which were reduced to 935 unique records after removing duplicates ($n = 312$). Following title and abstract screening, 749 records were excluded for not meeting eligibility criteria, leaving 186 full-text articles for detailed evaluation. After careful assessment, 154 articles were excluded due to insufficient methodological rigor ($n = 47$), population outside the target age range ($n = 38$), lack of relevant outcome measures ($n = 31$), inaccessible full text ($n = 22$), and thematic irrelevance ($n = 16$). Ultimately, 32 studies met all inclusion criteria and were retained for the final narrative synthesis, as illustrated in Figure 1.



Note: Adapted from PRISMA 2020 flow diagram (Page et al., 2021). The search was conducted across Scopus, PubMed/MEDLINE, ERIC, PsycINFO, and Google Scholar databases for peer-reviewed articles published between 2015–2025.



Figure 1. PRISMA Flow Diagram of Study Selection Process

2.5. Data Extraction

A standardized data extraction protocol was developed to systematically capture relevant information from each included study. The following data elements were extracted: (a) bibliographic information (authors, year of publication, country of origin); (b) sample characteristics (sample size and participant demographics); and (c) principal findings and conclusions. Data extraction was performed independently, and extracted data were recorded in a structured matrix to facilitate cross-study comparison and synthesis. Table 2 presents a summary of representative studies included in this review.

Table 2. Summary of Included Studies

Author(s)	Year	Country	Sample	Key Findings
Alfonso & Lonigan	2021	USA	347 adolescents	Executive function mediates trait anxiety–academic achievement relationship
Ahmed et al.	2019	USA	1,292 children–adolescents	EF serves as critical mediator between anxiety and academic outcomes
Trevethan et al.	2022	India	412 adolescents	Academic stress directly affects anxiety; social acceptance moderates this relationship
Fox et al.	2018	USA	186 adolescents	School-based CBT (SASS) reduces social anxiety and improves academic engagement
Rentala et al.	2019	India	60 adolescent girls	Holistic stress management reduces stress, depression, and anxiety
Gázquez Linares et al.	2023	Spain	1,287 adolescents	Emotional intelligence mediates anxiety sensitivity–academic burnout relationship
Dunning et al.	2019	UK	33 RCTs (meta-analysis)	Mindfulness interventions improve cognition and mental health outcomes
Haugland et al.	2020	Norway	313 adolescents	Brief school-based CBT non-inferior to standard-length programs
Zelazo & Carlson	2020	USA	Review	Critical periods exist for EF intervention during childhood–adolescence
Werner-Seidler et al.	2020	Australia	81 studies (meta-analysis)	School-based programs effective for depression and anxiety prevention
Khesht-Masjedi et al.	2019	Iran	Adolescents	Significant negative associations between anxiety, depression, and achievement
Hosseinkhani et al.	2020	Iran	Adolescents	Family-induced stress significantly impacts mental health
Jiang et al.	2023	China	Adolescents	Parental phubbing affects academic burnout via social anxiety and self-control
Amundsen et al.	2020	UK	Elementary children	Mindfulness enhances life satisfaction and emotion regulation
Carsley et al.	2024	Canada	Elementary children	Mindfulness intervention improves well-being and mental health

Note: EF = Executive Function; CBT = Cognitive-Behavioral Therapy; SASS = Skills for Academic and Social Success; RCT = Randomized Controlled Trial.

2.6. Quality Appraisal

The methodological quality of included studies was assessed using established appraisal frameworks. Quantitative studies were evaluated using an adapted version of the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Analytical Cross-Sectional Studies and Quasi-Experimental Studies (Moola et al., 2020). Randomized controlled trials were appraised using the Cochrane Risk of Bias Tool (Higgins et al., 2011). Assessment criteria included clarity of research objectives, appropriateness of study design, adequacy of sample size, validity and reliability of measurement instruments, rigor of statistical analyses, and transparency in reporting findings.

Studies were not excluded based on quality assessment; however, methodological strength was considered during the synthesis and interpretation of findings, with greater interpretive weight assigned to studies demonstrating robust methodological quality.

2.7. Data Synthesis and Analysis

Given the heterogeneity of study designs, populations, and outcome measures across included studies, a meta-analytic approach was not feasible. Instead, a thematic synthesis approach was employed, following the guidelines proposed by Braun and Clarke (2006) and further elaborated by Thomas and Harden (2008) for synthesizing qualitative and quantitative findings in review research.

The synthesis proceeded through three iterative stages: (1) initial coding of extracted findings to identify recurring concepts and patterns; (2) organization of codes into descriptive themes capturing substantive aspects of the data; and (3) development of analytical themes representing higher-order interpretations that address the research questions.

Five overarching themes emerged from the synthesis: (1) the mediating role of executive function in the relationship between trait anxiety and academic achievement; (2) the impact of academic stress on anxiety symptomatology and the moderating role of social support; (3) the effectiveness of school-based cognitive-behavioral interventions; (4) the efficacy of holistic and mindfulness-based stress management programs; and (5) the contribution of emotional intelligence to academic anxiety management. These themes are presented and discussed in the Results section.

3. Results

3.1. Relationship Between Trait Anxiety and Academic Achievement

The study of the relationship between trait anxiety and academic achievement among Children highlights the intricate link between psychological factors and educational outcomes. Utilizing the State-Trait Anxiety Inventory for Children (STAI-C) and the Behavior Rating Inventory of Executive Function (BRIEF), the research reveals significant correlations that elucidate how higher levels of trait anxiety are intricately associated with lower executive functioning skills and, consequently, poorer academic performance.

Trait anxiety, a stable tendency to experience anxiety across various situations, profoundly impacts Children's ability to manage academic demands. The findings indicate that students with elevated anxiety scores often struggle with executive functions, which include critical cognitive processes such as planning, organization, and impulse control. These executive functions are essential for academic success, as they enable students to effectively manage their time, prioritize tasks, and maintain focus during complex assignments and examinations.

The study employed the State-Trait Anxiety Inventory for Children (STAI-C) to measure trait anxiety levels. This 4-point Likert scale instrument asks participants to rate statements such as "I feel nervous" and "I feel calm," providing a reliable measure of their anxiety levels. The results from the STAI-C indicated that higher anxiety levels were prevalent among students who reported significant difficulties in academic performance.

Concurrently, the Behavior Rating Inventory of Executive Function (BRIEF) was used to assess executive functioning skills. This 3-point Likert scale instrument evaluates aspects of executive function through statements like "I have trouble starting tasks" and "I am good at planning." The BRIEF results demonstrated that students with higher anxiety scores exhibited

lower scores in executive functions, indicating difficulties with tasks requiring planning, organization, and impulse control.

Specifically, students with higher anxiety scores tended to have more difficulty with tasks requiring planning, organization, and impulse control, which in turn negatively affected their academic outcomes. For instance, anxious students may find it challenging to break down assignments into manageable steps or may procrastinate due to overwhelming feelings of anxiety. This procrastination and disorganization result in incomplete assignments, missed deadlines, and a general decline in academic performance.

Moreover, the negative impact of trait anxiety on executive functions extends to impulse control. Anxious students are more likely to experience heightened emotional responses to academic stressors, leading to impulsive decisions such as abandoning tasks when they encounter difficulties. This lack of persistence exacerbates academic challenges, as students are less likely to engage in problem-solving and more likely to give up when faced with obstacles.

Importantly, the study underscores the necessity of interventions aimed at enhancing executive function to mitigate the adverse effects of trait anxiety on academic performance. Strategies such as cognitive-behavioral therapy (CBT) can be effective in helping students develop better coping mechanisms for anxiety, thereby improving their executive functions. Additionally, mindfulness and stress management programs can teach students techniques to manage their anxiety levels, leading to more effective planning, organization, and impulse control.

Educational support systems, including personalized learning plans and executive function training programs, can also play a crucial role. By providing targeted support that addresses the specific needs of anxious students, schools can help improve their academic outcomes. For example, teaching students time management skills, offering organizational tools, and creating a supportive classroom environment can significantly enhance their ability to cope with academic demands. In conclusion, the relationship between trait anxiety and academic achievement is mediated by executive functions (Alfonso & Lonigan, 2021; Ahmed et al., 2019). Longitudinal research confirms that improvements in executive function skills directly predict enhanced academic performance and reduced anxiety symptoms across developmental periods (Kitil et al., 2025; Zelazo & Carlson, 2020). Higher levels of trait anxiety are associated with impaired executive functions, leading to poorer academic performance. Addressing these issues through targeted interventions can help improve both the psychological well-being and academic success of Children (Alfonso & Lonigan, 2021). Recent meta-analytic evidence confirms that anxiety-focused CBT produces significant improvements not only in anxiety symptoms but also in broader domains including depressive symptoms, externalizing behaviors, and general functioning (Kreuze et al., 2018). Universal school-based interventions, while showing smaller effect sizes, offer the advantage of reaching at-risk youth before clinical levels of impairment develop (Hayes et al., 2025).

3.2. Impact of Academic Stress on Anxiety Symptoms

The study examined the relationship between academic stress and anxiety symptoms among Children, utilizing the Academic Stress Scale (ASS) and the Revised Children's Anxiety and Depression Scale (RCADS). The findings revealed a strong positive correlation between academic stress and anxiety symptoms, indicating that higher levels of academic stress are associated with more frequent and intense anxiety symptoms.

The Academic Stress Scale (ASS), a 5-point Likert scale, measures the levels of stress related to academic demands. Sample items include statements such as "I feel overwhelmed by my school work." Students scoring high on the ASS reported significant levels of stress, which corresponded with increased anxiety symptoms measured by the RCADS.

The Revised Children's Anxiety and Depression Scale (RCADS), a 4-point Likert scale, assesses anxiety and depression symptoms in children. It includes items like "I worry about school" and "I feel scared for no reason." The results from the RCADS showed that students experiencing high academic stress reported more symptoms of anxiety, such as worry, headaches, and stomachaches.

The study found that this relationship was particularly pronounced in students who also reported low levels of social acceptance. These students exhibited higher levels of anxiety, suggesting that social factors play a crucial role in moderating the impact of academic stress on anxiety symptoms. The lack of peer support and feelings of social isolation exacerbated the anxiety symptoms associated with academic stress.

These findings highlight the importance of comprehensive interventions that address not only academic stress but also the social environment of Children. Enhancing peer relationships and social support networks can play a crucial role in mitigating the negative effects of academic stress on anxiety. Programs that foster a supportive school climate and promote social connectedness among students can help reduce anxiety symptoms and improve overall mental health.

In conclusion, addressing academic stress requires a multifaceted approach that includes improving social support systems and peer relationships to effectively reduce anxiety symptoms among Children (Trevethan et al., 2022).

3.3. Effectiveness of School-Based Interventions

The Skills for Academic and Social Success (SASS) program provides compelling evidence for the effectiveness of school-based interventions in reducing social anxiety and improving academic performance among Children. The program is a structured, cognitive-behavioral intervention designed to address social anxiety within the school environment.

Participants in the SASS program demonstrated significant reductions in social anxiety symptoms compared to a control group. The program includes components such as cognitive restructuring, social skills training, and exposure tasks, which collectively help students manage their anxiety in social and academic settings. For example, students learned to challenge and change negative thought patterns, develop better social interactions, and gradually face anxiety-provoking situations (Felter et al., 2022; Hayes et al., 2025).

The data showed that students in the intervention group not only experienced a decrease in social anxiety but also an increase in academic engagement and achievement. This improvement suggests that as social anxiety decreases, students are better able to participate in classroom activities, engage with peers and teachers, and focus on their studies. The positive changes in academic performance highlight the interconnectedness of emotional well-being and academic success.

These findings underscore the potential of school-based cognitive-behavioral programs to effectively address social anxiety and its detrimental impact on academic performance. Implementing such programs within schools can provide timely and accessible support for students struggling with social anxiety, thereby enhancing their overall academic experience and outcomes. In conclusion, the SASS program's success indicates that structured, school-based interventions are a viable and effective approach to managing social anxiety and improving academic performance in Children (Fox, Warner, & Drew, 2018).

3.4. Holistic Stress Management Programs

The holistic stress management program assessed by Rentala et al. (2019) demonstrated significant efficacy in reducing academic stress, depression, and anxiety among Indian adolescent girls. This program employed a comprehensive approach that integrated body-mind-spirit strategies to address the multifaceted nature of stress and its impact on Children's mental health and academic performance.

The intervention included techniques such as yoga, meditation, mindfulness exercises, and reflective journaling. These activities were designed to promote relaxation, enhance self-awareness, and foster a sense of inner peace and balance. The body-mind-spirit approach aims to not only alleviate immediate symptoms of stress and anxiety but also build resilience and improve long-term well-being.

Quantitative measures showed that participants in the holistic stress management program experienced a significant reduction in academic stress. The Academic Stress Scale (ASS) scores decreased, indicating that the girls felt less overwhelmed by their schoolwork and

academic responsibilities. This reduction in stress was accompanied by improvements in their ability to manage time and prioritize tasks, leading to better academic performance.

In addition to reducing academic stress, the program also effectively addressed symptoms of depression and anxiety. The Revised Children's Anxiety and Depression Scale (RCADS) scores revealed marked decreases in both anxiety and depression symptoms among participants. The holistic strategies helped the girls develop healthier coping mechanisms, reducing the prevalence of negative thoughts and emotions.

The overall well-being of participants improved significantly as well. The integration of physical activities like yoga and mindfulness practices contributed to better physical health, while the mental and emotional components of the program promoted psychological resilience and stability. This comprehensive approach ensured that the benefits of the program extended beyond immediate stress relief to encompass overall mental and physical health.

These findings support the use of comprehensive, holistic stress management interventions in addressing academic anxiety among Children. By incorporating body-mind-spirit strategies, such programs can effectively reduce negative psychological symptoms and enhance overall well-being and academic performance. The success of this program highlights the importance of addressing the interconnectedness of physical, mental, and emotional health in managing academic stress and anxiety. In conclusion, the holistic stress management program by Rentala et al. (2019) offers a robust framework for reducing academic stress, depression, and anxiety while promoting overall well-being among Children. Such comprehensive interventions can play a crucial role in supporting the mental health and academic success of students (Rentala et al., 2019). Systematic reviews confirm that mindfulness-based school interventions significantly improve self-regulation, attentional focus, and academic performance, with effects sustained at follow-up assessments (Dunning et al., 2019; Felver et al., 2022). The integration of mindfulness with traditional SEL curricula has shown particular promise in enhancing both executive function and social-emotional competencies (Flook et al., 2015; Razza et al., 2015).

3.5. Emotional Intelligence Development

The development of emotional intelligence (EI) plays a critical role in managing academic stress among Children. Emotional intelligence refers to the ability to recognize, understand, manage, and utilize emotions effectively in oneself and others. The findings from the study highlight how students with higher levels of emotional intelligence are better equipped to handle the pressures of academic life, leading to lower levels of anxiety and improved academic performance.

Participants who demonstrated a high degree of emotional intelligence were more adept at recognizing and regulating their emotions. This self-awareness allows students to identify when they are feeling overwhelmed or anxious and to implement strategies to manage these feelings proactively. For instance, students reported using techniques such as deep breathing, mindfulness, and reflective journaling to calm themselves during stressful periods. This ability to regulate emotions is crucial for maintaining focus and composure in academic settings, particularly during exams and assignments.

The study revealed that students with higher emotional intelligence reported significantly lower levels of anxiety. These students were able to manage their stress more effectively by addressing the emotional root causes of their anxiety rather than simply reacting to external stressors. By recognizing the early signs of stress and anxiety, these students could intervene with coping strategies before their anxiety escalated. This proactive approach to emotional regulation helped reduce the frequency and intensity of anxiety symptoms, contributing to better mental health overall.

Emotional intelligence also positively impacted academic performance. Students with higher EI were more resilient in the face of academic challenges and setbacks. They were able to maintain a positive attitude, stay motivated, and persist through difficulties. This resilience is partly due to their ability to manage stress and not let negative emotions interfere with their academic goals. Additionally, emotionally intelligent students were better at time management

and organization, as they could keep their stress levels in check and focus on their studies more effectively.

The study underscores the value of emotional intelligence training for Children. Programs designed to enhance EI, such as workshops on identifying and expressing emotions appropriately, can be instrumental in helping students manage academic stress. Such training typically involves activities that teach students how to recognize their emotional states, understand the triggers of their emotions, and develop healthy ways to express and manage these feelings. Techniques such as role-playing, group discussions, and reflective exercises are commonly used to build these skills.

Emotional intelligence development is also supported by the social environment. Peer support and positive relationships with teachers play a vital role in reinforcing EI skills. Students who feel understood and supported by their peers and teachers are more likely to develop strong emotional intelligence. These supportive relationships provide a safe space for students to express their emotions and seek guidance, further enhancing their ability to manage academic stress.

In conclusion, the development of emotional intelligence is crucial for managing academic stress and improving academic performance among Children. Students with high EI are better equipped to recognize, understand, and regulate their emotions, leading to lower anxiety levels and greater academic success. Emotional intelligence training, supported by a positive social environment, can provide Children with the tools they need to navigate the pressures of academic life effectively. This holistic approach to education emphasizes the importance of emotional well-being in achieving academic excellence (Gázquez Linares et al., 2023). Recent research on potential mechanisms of change in CBT suggests that improvements in cognitive flexibility and behavioral regulation serve as key mediators of treatment outcomes (Chu et al., 2021). Building resilience through school-based interventions has also shown significant protective effects against anxiety and depression (Chen et al., 2025).

4. Discussion

The study highlights the complex relationship between trait anxiety and academic achievement among Children, underscoring the significant role psychological factors play in educational outcomes. Utilizing the State-Trait Anxiety Inventory for Children (STAI-C) and the Behavior Rating Inventory of Executive Function (BRIEF), the research reveals that higher levels of trait anxiety are closely linked to lower executive functioning skills, resulting in poorer academic performance.

Trait anxiety, characterized by a consistent tendency to experience anxiety in various situations, significantly impacts Children's ability to manage academic demands. The findings indicate that students with elevated anxiety scores often struggle with executive functions, including critical cognitive processes such as planning, organization, and impulse control. These executive functions are essential for academic success, enabling students to manage their time effectively, prioritize tasks, and maintain focus during complex assignments and examinations. Alfonso and Lonigan (2021) found that higher levels of trait anxiety are associated with lower executive functioning, which in turn negatively affects academic achievement. The STAI-C, a 4-point Likert scale instrument, provided a reliable measure of the students' anxiety levels, while the BRIEF, a 3-point Likert scale instrument, evaluated aspects of executive function. The results showed that higher anxiety levels were prevalent among students who reported significant difficulties in academic performance (Alfonso & Lonigan, 2021).

Specifically, anxious students tend to have more difficulty breaking down assignments into manageable steps, often leading to procrastination due to overwhelming feelings of anxiety. This procrastination and disorganization result in incomplete assignments, missed deadlines, and a general decline in academic performance. Additionally, the negative impact of trait anxiety on executive functions extends to impulse control. Anxious students are more likely to

experience heightened emotional responses to academic stressors, leading to impulsive decisions such as abandoning tasks when encountering difficulties. This lack of persistence exacerbates academic challenges, as students are less likely to engage in problem-solving and more likely to give up when faced with obstacles. The relationship between academic stress and anxiety symptoms was examined using the Academic Stress Scale (ASS) and the Revised Children's Anxiety and Depression Scale (RCADS). Trevethan et al. (2022) found a strong positive correlation between academic stress and anxiety symptoms, indicating that higher levels of academic stress are associated with more frequent and intense anxiety symptoms (Trevethan et al., 2022).

The ASS, a 5-point Likert scale, measures the levels of stress related to academic demands, while the RCADS, a 4-point Likert scale, assesses anxiety and depression symptoms. The study revealed that students experiencing high academic stress reported more symptoms of anxiety, such as worry, headaches, and stomachaches. This relationship was particularly pronounced in students with low levels of social acceptance, highlighting the moderating role of peer support. Fox, Warner, and Drew (2018) provide compelling evidence for the effectiveness of the Skills for Academic and Social Success (SASS) program in reducing social anxiety and improving academic performance among Children. The SASS program, a structured cognitive-behavioral intervention, includes components such as cognitive restructuring, social skills training, and exposure tasks. Participants in the intervention group demonstrated significant reductions in social anxiety symptoms and increased academic engagement and achievement compared to a control group (Fox, Warner, & Drew, 2018). Recent systematic reviews and meta-analyses have demonstrated that brief school-based CBT interventions can be as effective as longer programs, making them more feasible for widespread implementation (Haugland et al., 2020; James et al., 2020). Parent-only group CBT has also emerged as an effective alternative approach, particularly beneficial for younger children (Cobham et al., 2021).

Rentala et al. (2019) assessed a holistic stress management program and found it significantly reduced academic stress, depression, and anxiety among Indian adolescent girls. The program, which included yoga, meditation, mindfulness exercises, and reflective journaling, not only alleviated immediate symptoms but also improved overall well-being and academic performance. This body-mind-spirit approach helps build resilience and promote long-term mental health (Rentala et al., 2019). Gázquez Linares et al. (2023) emphasized the importance of emotional intelligence (EI) in managing academic stress. Students with higher EI were better at recognizing and regulating their emotions, which led to lower anxiety levels and improved academic performance. Emotional intelligence training, involving activities such as identifying and expressing emotions appropriately, was seen as a valuable tool for managing academic pressures (Gázquez Linares et al., 2023).

In conclusion, the relationship between trait anxiety and academic achievement is mediated by executive functions. Addressing these issues through targeted interventions can help improve both the psychological well-being and academic success of Children. Comprehensive interventions that enhance peer relationships, provide holistic stress management, and develop emotional intelligence are essential in mitigating academic anxiety and improving educational outcomes. Contemporary research emphasizes the importance of executive function training as a preventive and intervention strategy, with developmental neuroscience highlighting critical periods for intervention during late childhood and early adolescence (Orm et al., 2025; Zelazo & Carlson, 2020). The integration of evidence-based approaches—including cognitive-behavioral techniques, mindfulness practices, and executive function training—provides a comprehensive framework for addressing academic anxiety (Dunning et al., 2019; Gee et al., 2020).

5. Conclusion

This article examines the complex relationship between trait anxiety and academic achievement in children, highlighting the important role of psychological factors in educational outcomes. Research using the State-Trait Anxiety Inventory for Children (STAI-C) and the

Behavior Rating Inventory of Executive Function (BRIEF) suggests that higher levels of trait anxiety are strongly associated with lower executive function skills, which in turn lead to poorer academic achievement. Trait anxiety, characterized by a consistent tendency to experience anxiety across a range of situations, has a significant impact on children's ability to manage academic demands. Children with high anxiety scores often struggle with executive functions such as planning, organization, and impulse control, which are essential for academic success.

Research also suggests that anxious children tend to have difficulty breaking down tasks into manageable steps, leading to procrastination and poor academic performance. Anxiety can impair impulse control, making children more likely to make impulsive decisions and less resilient to academic challenges. Studies of the relationship between academic stress and anxiety symptoms show a strong positive correlation, with higher levels of academic stress associated with more intense anxiety symptoms. Intervention programs such as Skills for Academic and Social Success (SASS) and holistic stress management programs have been shown to be effective in reducing social anxiety and improving academic performance. These programs, which include social skills training, cognitive-behavioral techniques, and stress management, can help children cope with academic anxiety and improve their well-being and educational achievement. In addition, emotional intelligence training has also been shown to be useful in managing academic stress and improving academic outcomes.

Overall, the relationship between trait anxiety and academic achievement is mediated by executive function. Targeted interventions, such as social skills development, holistic stress management, and emotional intelligence training, are essential to reducing academic anxiety and improving children's educational outcomes.

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