



A Systematic Review of Mindfulness Research with Preschool Children

Okul Öncesi Dönem Çocuklarıyla Yapılan Bilinçli Farkındalık (Mindfulness) Araştırmalarının Sistemik İncelenmesi

Esra Ataman¹ , Neslihan Avcı² 

1. Cengiz Topel Kindergarten, Antalya, Turkey. E-mail:esraataman7@gmail.com

2. Prof. Dr., Gazi University, Faculty of Education, Department of Primary Education, Division of Early Childhood Education, Ankara, Turkey.

Abstract

Mindfulness is a skill that enables individuals to accept their thoughts and feelings without judgement and to focus on their immediate experiences. It is important to determine the effects of mindfulness activities on children during the preschool period, as this is critical for their development. In this study, the systematic review method was used to examine the effects of mindfulness practices conducted with preschool children on their development. It is expected that the study will contribute to the scientific literature in terms of understanding the effects of mindfulness on children's different developmental areas and behaviours; it is also expected that it will serve as a guide on the development of educational programmes and intervention practices to support mindfulness skills at an early age. The research included scientific studies and theses on mindfulness in preschool children (36-72 months) in Google Scholar, YÖK Thesis Centre, Tandfonline, ProQuest, EBSCO, Wiley Online Library, MEDLINE, Sage Journals, DergiPark, and JSTOR databases, which were conducted between 2015-2025 and could be accessed in full text. The databases were searched using the keywords "mindfulness" and "preschool" in English and "okul öncesi," "mindfulness," and "bilinçli farkındalık" in Turkish, which were determined by considering the subject title and the relationship with the purpose of the study. As a result of the search, 51 sources, 11 theses, and 40 studies were included in the review. The research results show that mindfulness-based programs have the potential to positively affect children's executive functioning, self-regulation skills, and social-emotional development. This study highlights the importance of early interventions and offers evidence-based guidance for future educational programs.

Keywords: Preschool, Early Childhood, Mindfulness, Systematic Review

Öz

Bilinçli farkındalık (mindfulness), bireyin duygu ve düşüncelerini yargılamadan kabul etmesini ve anlık deneyimlerine odaklanmasını sağlayan bir beceridir. Çocukların gelişimleri açısından kritik öneme sahip olan okul öncesi dönemde uygulanan bilinçli farkındalık çalışmalarının, çocuklar üzerindeki etkilerini saptamak önem arz etmektedir. Bu çalışmada, okul öncesi dönem çocuklarıyla yürütülen bilinçli farkındalık uygulamalarının çocukların gelişimleri üzerindeki etkilerini ortaya koymak amacıyla sistematik derleme yöntemi kullanılmıştır. Yapılan çalışmanın, bilinçli farkındalığın çocukların farklı gelişim alanları ve davranışları üzerindeki etkisini anlamaya yönelik olması bakımından bilimsel literatüre katkı sağlayacağı; ayrıca, erken yaşta bilinçli farkındalık becerilerini desteklemeye yönelik eğitim programları ve müdahale uygulamaları geliştirilmesine ışık tutması açısından yol gösterici olacağı beklenmektedir. Araştırmaya, 2015-2025 yılları arasında gerçekleştirilmiş ve tam metin olarak erişilebilen; Google Akademik, YÖK Tez Merkezi, Tandfonline, ProQuest, EBSCO, Wiley Online Library, MEDLINE, Sage Journals, DergiPark ve JSTOR veri tabanlarında yer alan; okul öncesi dönem (36-72 ay) çocuklar ile bilinçli farkındalık (mindfulness) konulu bilimsel araştırmalar ve tezler dahil edilmiştir. Veri tabanlarında konu başlığı ve çalışmanın amacıyla ilişkisi göz önünde bulundurularak belirlenen İngilizce "mindfulness", "preschool" ve Türkçe "okul öncesi", "bilinçli farkındalık", "mindfulness" anahtar sözcükleri kullanılarak tarama yapılmıştır. Tarama sonucunda incelemeye 11 tez ve 40 araştırma olmak üzere toplam 51 kaynak alınmıştır. Araştırma sonuçları, bilinçli farkındalık (mindfulness) temelli programların çocukların yürütücü işlevleri, öz düzenleme becerileri ve sosyal-duygusal gelişimleri üzerinde olumlu etkiler yaratma potansiyeline sahip olduğunu göstermektedir. Bu çalışma, erken müdahalelerin önemini vurgulamakta ve gelecekteki eğitim programları için kanıta dayalı rehberlik sunmaktadır.

Anahtar Kelimeler: Okul Öncesi Dönem, Bilinçli Farkındalık, Mindfulness, Sistemik İnceleme



Introduction

The preschool period is considered a stage of life during which developmental domains are more closely interrelated than at any other time, and the foundation for many essential life skills is established. It has been scientifically demonstrated that this period is characterized by both significant opportunities and major risks, and its influence extends across the lifespan (Shonkoff, 2010). In this regard, the quality of education provided during preschool years and the development of skills necessary for navigating a rapidly changing and evolving world are of critical importance. Among the 21st-century skills, the concepts of adaptability and emotional resilience have gained prominence. The classroom environment and teachers' practices play a vital role (Jennings, 2019).

Mindfulness has emerged as a concept that helps individuals cope with various difficulties and stressors, contributing to their psychological balance and enhancing their ability to remain present in the moment (Napoli, 2004). Children who participate in mindfulness practices at an early age demonstrate significant gains in emotional and social development. These gains include increased empathy, improved skills in recognizing and expressing emotions, and the use of more effective emotion regulation strategies. Children who develop mindfulness skills tend to remain calmer in stressful situations and show greater resilience in the face of challenges. These outcomes are suggested to enhance the likelihood of exhibiting positive behaviors and maintaining emotional well-being in later years (Duff, 2024).

According to Kabat-Zinn (2005), mindfulness is “the state of being in the present moment with an open and non-judgmental attitude” (p. 14). Killingsworth and Gilbert (2010) emphasized that individuals often dwell on the past or worry about the future, which prevents them from noticing the present moment. This pattern of thinking may have a negative impact on well-being. Mindfulness practices offer a structured way to refocus attention and reconnect with internal strengths such as calmness, resilience, and clarity (Kabat-Zinn, 2005). Mindfulness practices have been shown to positively influence children's abilities to recognize, regulate, and accept their thoughts and emotions; to act according to their emotional states; to demonstrate empathy; and to manage negative behaviors (Erten & Güneş, 2024).

In contrast to the sense of separation created by cognitive awareness, sensory-based attention provides a shared foundation that supports social connection among individuals. Mindfulness-based practices contribute to strengthening the role of sensory awareness in daily life by enhancing individuals' interaction with the external world (Carmody, 2015). Mindfulness is regarded as an enlightening, liberating, and empowering approach for individuals. It illuminates aspects of one's life that are often avoided or overlooked, allowing individuals to clearly perceive the realities that they might otherwise suppress. It is liberating in that it transforms the way individuals interpret themselves and the world, helping them to break free from recurring behavioral and cognitive patterns. By intentionally directing attention, mindfulness also empowers individuals by granting access to deep inner resources, such as creativity, intelligence, imagination, clarity, determination, the capacity for conscious decision-making, and wisdom (Kabat-Zinn, 2005).

Children are often regarded as natural masters of mindfulness due to their innate “present-moment intelligence” (Snel, 2019). However, as they grow older, their tendency to reflect on the past or imagine the future can diminish or suppress this inherent ability. It has been noted that “mindfulness training in children, like language learning, is more effective the earlier it is introduced” (Atalay, 2019, p. 117). Sustaining the desire to remain in the present moment through mindfulness practices during early childhood is of critical importance. Mindfulness programs designed for children play a significant role in guiding the development of fundamental human capacities and promoting holistic growth (Snel, 2019).

Mindfulness practices in early childhood have been found to positively influence children's executive functions (Li et al., 2019; Aydın & Özbey, 2022; Shlomov et al., 2023; Xie et al., 2022, 2024; Rajbhandari,

2023), as well as their emotion regulation and self-regulation skills (Paslı & Temel, 2024; Berti & Cigala, 2022; Türkent, 2023; Tonga Çabuk, 2023; Berger et al., 2024). In this context, scientifically examining mindfulness practices implemented inwith children is essential for the development and widespread implementation of effective educational programs.

A review of the literature reveals that mindfulness studies have been conducted with preschool children, and that existing systematic analyses tend to focus on the impact of mindfulness on specific developmental domains. However, no comprehensive systematic review has been identified that examined all mindfulness-based interventions implemented in preschool-aged children. The present systematic review aims to contribute significantly to the literature by examining the effects of mindfulness practices on the overall development of preschool children. Furthermore, mindfulness applications during the preschool years are expected to serve as a guide for researchers to identify new research directions related to supporting various developmental domains through early interventions.

The following questions were addressed in this study:

1. How is the distribution of studies on mindfulness to be analysed within the scope of the research according to years and types?
2. What is the distribution of studies on mindfulness to be analysed within the scope of the research according to the countries and types of studies conducted?
3. What is the distribution of the programs applied in the studies conducted on mindfulness to be analyzed within the scope of the research according to the duration of implementation?
4. What is the distribution of the studies conducted on mindfulness to be analysed within the scope of the research according to the ages of the participants?
5. What dimensions have been examined in studies on mindfulness within the scope of this research?

Method

This study presents a systematic review of research examining the effects of mindfulness practices on preschool children aged 36–72 months old. A systematic review is a type of research that systematically and transparently identifies, selects, and critically appraises relevant studies to address a specific research question. During the review process, data from the included studies were extracted and analyzed (Moher et al., 2009). The data for this review were structured using the PICOS framework and were reported in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines.

PICOS Approach

The PICOS approach is a widely used framework in systematic reviews for structuring research questions, defining eligibility criteria for study selection, and guiding the analytical process. By clearly outlining the criteria for study inclusion and the outcomes to be assessed, PICOS contributes to making systematic reviews more comprehensive, transparent, and methodologically robust (Methley et al., 2014).

The "Participants" component of the PICOS framework refers to defining the target group included in the study. This study included typically developing preschool children aged 3 to 6 years (36–72 months) who participated in mindfulness-based interventions. Children with special needs were excluded from the review because they may have demonstrated different patterns of developmental responses to mindfulness interventions.

The "Interventions" component refers to the programs implemented directly with the participants. This review included studies that administered mindfulness-based interventions directly to preschool children aged 3–6 years (36–72 months). Studies in which mindfulness interventions were delivered to parents or preschool teachers with the aim of indirectly assessing effects on children were excluded.

The "Comparisons" component involves evaluating the outcomes of groups that received mindfulness interventions in comparison to those that received either standard educational programs or no intervention. This review included studies that compared mindfulness intervention groups with control groups that received traditional teaching methods or no training. Studies without control groups or valid comparison conditions were excluded.

The "Outcomes" component refers to the targeted outcomes examined in the studies. The included studies focused on evaluating the effects of mindfulness practices on children's developmental domains or specific skills.

The "Study Design" component encompasses the methodological characteristics of the included studies. This review incorporates empirical research articles and theses published in either Turkish or English. Meta-analyses, literature reviews, book chapters, and web-based content were excluded. The PICOS criteria established in this review are listed in Table 1.

Table I. Design Of The Research According To PICOS Criteria

PICOS element	Inclusion Criteria	Exclusion Criteria
P (Population/Participants)	Healthy developing children receiving mindfulness interventions in preschool period (3-6 years, 36-72 months)	Children with special needs
I (Intervention)	Mindfulness practices (group, individual sessions, play-based practices, etc.).	Studies in which the effects of the programme applied to parents or preschool teachers on children were determined
C (Comparison/Comparisons)	Studies comparing control groups receiving and not receiving mindfulness practices or groups receiving traditional teaching methods	Non-comparative research
O (Outcome/Results)	Studies examining the effects of mindfulness practices on children's developmental areas or skills	
S (Study Design):	Research studies in Turkish and English (articles, theses)	Systematic reviews, meta-analyses, book chapters, web site news

PRISMA Guide

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were developed to ensure transparent and complete reporting of systematic reviews (Page et al., 2021).

In the identification phase, studies suitable for inclusion were identified through a comprehensive screening process. For this review, both research articles and theses on mindfulness practices with preschool children aged 36–72 months were identified through searches of multiple academic databases and search engines. These included Google Scholar, YÖK Thesis Center, Taylor & Francis (Tandfonline), ProQuest, EBSCO, Wiley Online Library, MEDLINE, Sage Journals, DergiPark, and JSTOR. The search covered the period from 2015 to 2025 and included only full-text accessible sources. Keywords used for the search were determined based on the alignment between the study objective and the topic, and included: “mindfulness” and “preschool” (English); “mindfulness”, “mindful awareness”, and “okul öncesi” (Turkish). The search yielded a total of 736 records: 410 from Google Scholar, 8 from YÖK Thesis Center, 154 from Tandfonline, 54 from ProQuest, 67 from EBSCO, 8 from Wiley, 21 from MEDLINE, and 4 each from Sage Journals, DergiPark, and JSTOR.

All records were imported into EndNote, and 95 duplicates were removed. A total of 549 records were excluded after content screening due to irrelevance. The remaining 94 studies were then assessed in detail. Of these, 8 were excluded for involving children outside the 36–72 month age range, and 35 were excluded for methodological reasons (e.g., inclusion of children with special needs, indirect application via parents or teachers or lack of a control group). Finally, 51 studies met the inclusion criteria and were included in the final review. A PRISMA flow diagram is shown in Figure 1.

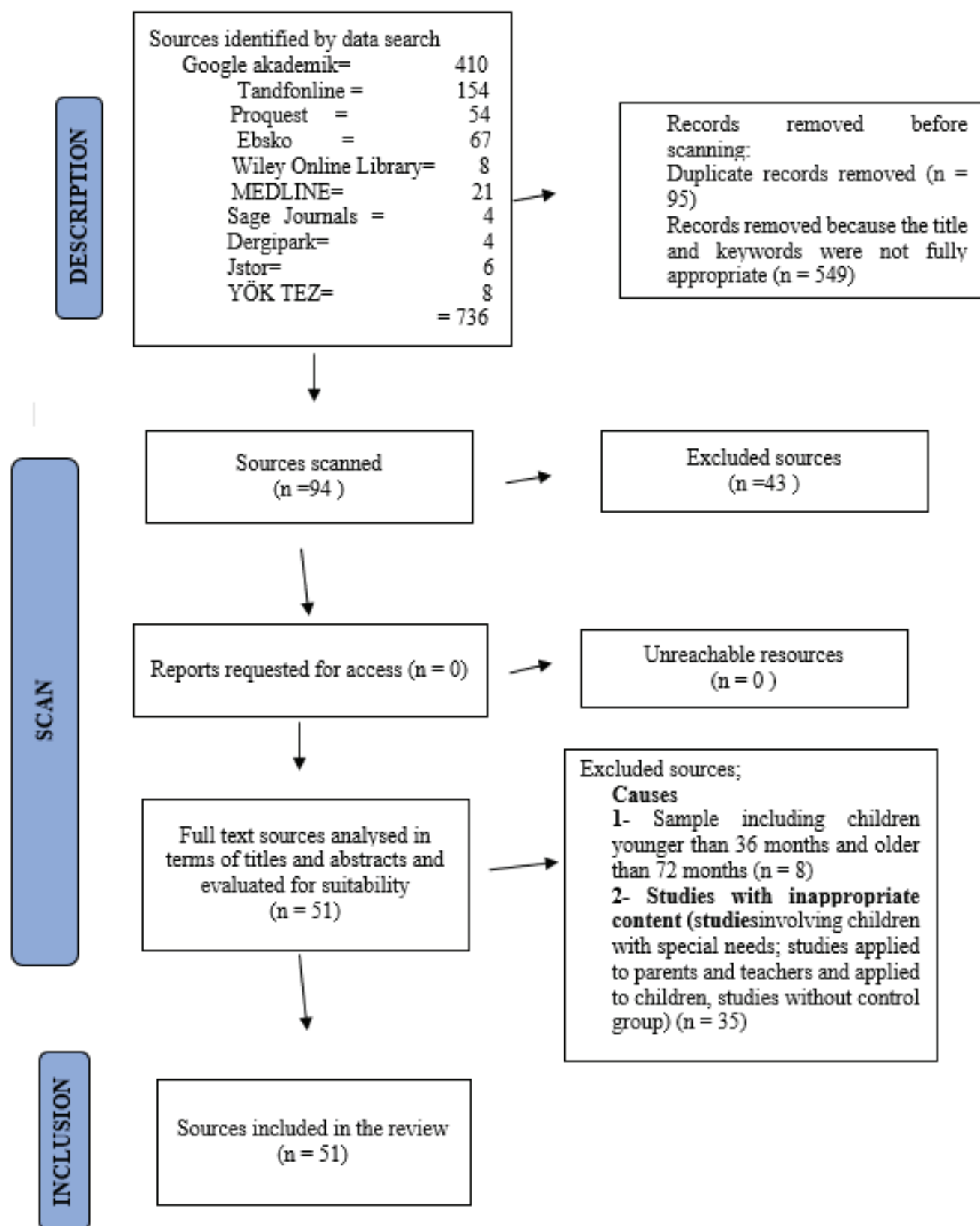


Figure 1: PRISMA Flowchart

Results

In this section, the systematic analysis data of the studies included in the scope of the study are categorised in accordance with the sub-objectives formed in line with the purpose of the study and presented in the findings.

1. Distribution of Studies on Mindfulness According to Years and Types

In line with the first research question of the systematic review, Figure 2 presents the distribution of mindfulness-related studies included in the analysis according to their publication years and types.

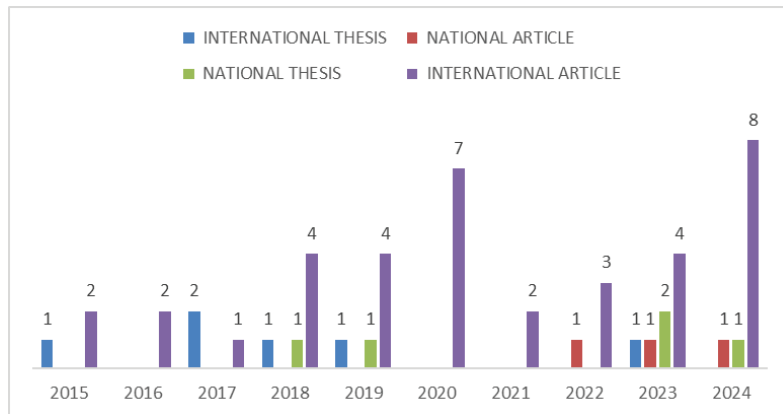


Figure 2. Distribution of Studies on Mindfulness According to Years and Types

Figure 2 presents the distribution of national articles, international articles, national theses, and international theses by publication year between 2015 and 2024. According to the data, international articles constitute the most frequently published type of work, with a notable increase observed in 2018 and 2024. Although the number of national articles has remained relatively low, the number of international theses has shown little variation over the years. By contrast, national theses have demonstrated an upward trend since 2022. Overall, it can be concluded that there is a strong interest in publishing international articles.

2. Distribution of Studies on Mindfulness According to Years and Types

In line with the second research question, Figure 3 presents the distribution of mindfulness-related studies included in the analysis by country and publication type.

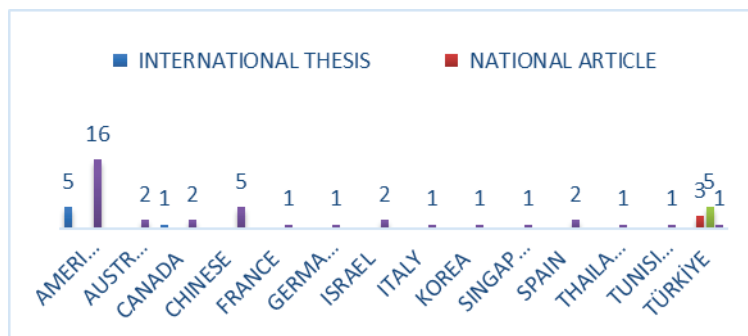


Figure 3: Distribution of Studies on Mindfulness According to Years and Types

An analysis of the distribution of mindfulness studies conducted with preschool children by country

revealed that the highest number of studies were conducted in the United States. In Türkiye, the relatively comparable numbers of articles and theses suggest that the topic of mindfulness has been addressed in a balanced manner across different academic publication types. By contrast, countries such as Germany, Australia, China, France, Spain, Israel, Italy, Canada, South Korea, Thailand, Singapore, and Tunisia appear to have conducted fewer studies in this area. Overall, the findings indicate that mindfulness research varies in intensity across countries, with the United States leading in terms of published articles, whereas Türkiye stands out in the number of thesis-based studies.

3.Distribution of the Programmes Implemented in the Studies on Mindfulness According to the Duration of Implementation

In line with the third research question, Figure 4 presents the distribution of the mindfulness programs included in the analysis according to their implementation duration.

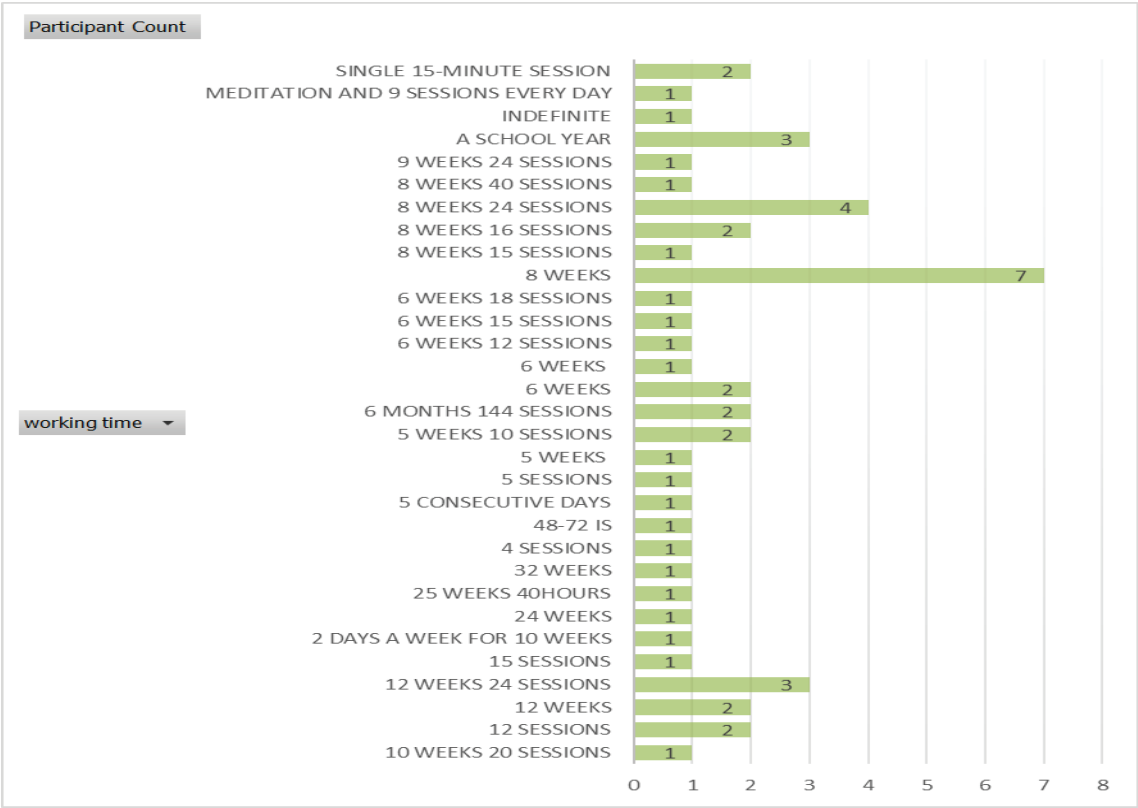


Figure 4: Distribution of the Programmes Implemented in the Studies on Mindfulness According to the Duration of Implementation

An examination of the distribution of program duration in mindfulness studies conducted with preschool children revealed that the majority of the interventions were implemented over an eight-week period. The longest program lasted for one year, while the shortest program consisted of a single 15-minute session.

4. Distribution of Participants According to Their Ages in Studies Conducted on Mindfulness

In line with the fourth research question, Figure 5 presents the age distribution of the participants in the mindfulness studies included in the analysis.

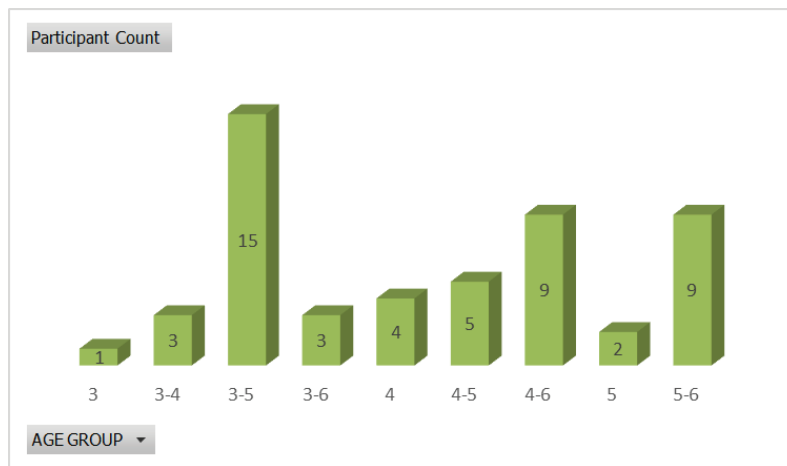


Figure 5: Distribution of Participants according to Age in Studies on Mindfulness

An analysis of participant distribution in mindfulness studies conducted with preschool children revealed that the 3–5 age group was the most frequently studied group, with a total of 15 studies. Additionally, a large number of studies focusing on the 4–6 and 5–6 age groups were also observed.

5. Dimensions of Relationships Analysed in Studies on Mindfulness

In line with the fifth research question, Table II presents the dimensions of the interrelationships examined in the mindfulness studies included in the analysis.

Table II: *Dimensions of Relationships Analysed in Studies on Mindfulness*

TOPICS EXAMINED	NUMBER OF STUDIES
Academic Performance	1
Anxiety, Social Emotional Behavior, Executive Functions	1
Attention	1
Attention And Social-Emotional Competence	1
Attention Control	1
Behavioral And Attention Regulation	1
Behavioral Problems, Adaptation Skills And Executive Functions	1
Being Careful, Being Calm, Behaving With Self-Control, Accepting And Loving Oneself, Being Caring And Helpful To Others	1
Cognitive Flexibility, Impulse Control, Working Memory	1
Emotional Intelligence	1
Emotional Resilience, Social-Emotional Well-Being And School Readiness	1
Endurance, Social Behavior And Motor Skills	1
Executive Functions	6
Executive Functions And Peer Conflict	1
Executive Functions, Eating Behaviors	1
Executive Functions, Self-Regulation	1
Executive Functions, Social Emotional Skills	1
Executive Functions, Social Skills	1
Food Neophobia	1
Internalization, Externalization, Prosocial Behaviors And Executive Functions	1
Mental Health, Self-Management, Social Emotional Skills, Executive Functions	1
Prosocial Behavior	2
Prosocial Behavior, Self-Regulation	1
Prosocial Behavior, Self-Regulation, Perspective Taking	1
Prosocial Behaviors And Hyperactivity	1
Psychological Well-Being	1
Psychosocial Adaptation And Neuropsychological Development	1
School Adaptation; (2) School Behavior Problems; And (3) Academic Outcomes.	1
School Maturity	1
Self Regulation	7
Self-Regulation, Body And Emotional Awareness, Self-Calming, Empathy, And Sensitivity To The Emotions Of Others.	1
Self-Regulation, Empathic Behaviors	1
Self-Regulation, Social Skills	1
Social Behaviors	1
Social Skills And Adaptability, Depression, Anxiety, Inattention And Hyperactivity	1
Social-Emotional Behaviors	1
Social-Emotional Skills	1
Social-Emotional Skills, Executive Function And Academic Skills	1
Well-Being, Self-Regulation, Sleep, Behavioral Problems, Academic Skills	1
Grand total	51

When the studies evaluating the effects of mindfulness-based interventions conducted with preschool children were categorized under general themes, 12 research articles (A35, A16, A39, A20, A29, A23, A6, A21, A1, A36, A37 and A31) and 2 theses (T5 and T11) were identified as focused on executive function skills. Additionally, 7 research articles (A28, A13, A15, A27, A19, A26 and A40) and 6 theses (T8, T4, T9, T10, T2 and T6) investigated the effects on self-regulation and related skills. A significant portion of the studies—19 research articles (A17, A11, A38, A25, A30, A22, A7, A8, A14, A24, A34, A2, A3, A12, A4, A18, A10, A33 and A32) and 1 thesis (T3) focused on the development of social-emotional skills. In addition studies have examined various other outcomes such as attentiveness/focus, calmness, self-controlled behavior, self-acceptance and self-love, and prosocial behaviors such as caring for and helping others. Moreover, the relationship between mindfulness practices and eating problems was explored in studies A9 and A5, whereas school readiness was addressed in thesis T7.

Discussion

Studies examining the effects of mindfulness practices on preschool children have predominantly focused on dimensions related to executive functions, self-regulation skills, and social-emotional development. Within the context of executive functions, these studies have addressed components such as attention, attention regulation, cognitive flexibility, impulse control, and working memory. Additionally, the relationship between executive function skills and peer conflict has been explored.

The effects of a twelve-session mindfulness training program on the components of executive functions,—namely attention, impulse control, working memory, and cognitive flexibility,—were investigated. Li et al. (2019) reported that the mindfulness program particularly strengthened preschoolers' attention and flexibility in managing impulses and tasks. Similarly, according to Aydın and Özbey (2022), preschoolers who participated in mindfulness activities exhibited noticeable gains in sustaining attention, controlling impulses, and retaining information over short periods."Moreover, several studies have examined the effects of mindfulness training on both hot and cold executive functions. The findings suggest that such interventions are particularly effective in tasks involving emotional regulation, which are associated with hot executive functions (Rajbhandari, 2023).

The literature also includes structured mindfulness programs such as the Mini-Mind Program, which has been assessed for its practicality and acceptance among educators and children alike. This study examined the effects of the program on key components of executive functioning, including attention, working memory, impulse control, and cognitive flexibility.

Data obtained from indirect measures revealed small -to- moderate effect sizes in favor of the intervention group for attention, impulse control, cognitive flexibility, and social skills. However, these differences were not statistically significant. In contrast, findings related to working memory were particularly noteworthy, as the data demonstrated a large effect size in this domain. Additionally, the teachers reported that the progress observed in the intervention group during the autumn term was sustained through the end of the spring term. This finding suggests that the intervention may have enduring effects.

Overall, the positive outcomes of the study indicate that mindfulness-based practices may effectively support specific dimensions of executive function skills (Wood et al., 2018).

Another mindfulness-based program whose effects have been investigated is the Kindness Curriculum. However, findings from different studies examining the impact of this program on children have yielded inconsistent results. One study based on a mindfulness- and kindness-oriented training program suggested that the intervention may be effective in enhancing children's executive function skills, particularly impulse control and cognitive flexibility (Shlomov et al., 2023). In contrast, Jansen et al. (2024), using the same

program, reported improvements in children's social and emotional skills but found no significant gains in executive function abilities.

To better understand how mindfulness-based interventions influence different components of executive functions in preschool children, it is essential that such programs be more effectively designed and implemented to support child development.

In studies focusing on vulnerable populations—such as children from low-income families or those exhibiting lower baseline executive functioning—mindfulness programs appear to have an even more pronounced effect. Zelazo et al. (2018) reported broad improvements across executive domains for all participants, yet only the group receiving both mindfulness and reflection training maintained these gains during follow-up. Similarly, Lertladaluck et al. (2021) found significant improvements in working memory and impulse control in a Thai cohort of children with low executive function scores, though no notable changes were observed in cognitive flexibility.

Additionally, a study investigating the feasibility and effectiveness of a mindfulness-based yoga program for preschool children living in communities with high levels of trauma also assessed the program's impact on attention and self-regulation. Findings revealed that the program was both feasible and effective, resulting in significant improvements in children's attention regulation and self-regulation skills (Razza et al., 2019).

Most mindfulness-based intervention programs examined in the literature range from 6 to 12 weeks in duration; however, some studies have assessed the effects of short-term or even single-session interventions. One such study was conducted by Lim and Qu (2017), who investigated the impact of a 15-minute, single-session mindfulness training program—developed based on prior research—on attentional control in preschool children. The findings indicated that the mindfulness intervention reduced the tendency toward global information processing initially inclined toward holistic strategies, and similarly reduced local information processing in children with a detail-focused cognitive style. These results suggest that mindfulness practice may enhance the use of cognitive strategies to direct attention, although it does not appear to have a direct effect on attention itself.

Busch et al. (2023) conducted another study to evaluate the effects of a brief, 15-minute mindfulness-based yoga session. Based on teacher-reported data, children who participated in the program demonstrated improvements in social-emotional behavior and executive functioning, particularly in the domain of attention. Moreover, children in the intervention group showed greater increase in the number of correct responses on the cancellation task. These findings suggest that even a short mindfulness-based yoga session may positively influence behavioral regulation and attentional functioning in preschool-aged children.

Studies examining the neuroscientific effects of mindfulness-based interventions (Xie et al., 2022, 2024; Shlomov et al., 2023) have utilized EEG, fNIRS, and multi-scale sample entropy analysis methods. These studies have demonstrated that mindfulness-based programs can influence brain activity and enhance various components of executive functioning. The findings provide concrete evidence that mindfulness training produces not only behavioral outcomes but also measurable changes in brain activation.

To better understand and directly observe the effects of mindfulness-based programs, it is essential to place greater emphasis on studies that use EEG, fNIRS, and other neuroimaging techniques. Such research is particularly valuable in exploring the impact of mindfulness on brain activation and neurocognitive processes in a scientifically observable manner.

Some studies have also examined the role of mindfulness training in specific executive function domains—particularly attention and impulse control,—in relation to peer conflict in preschool children. For example, Caporaso (2017) implemented a mindfulness-based intervention alongside two cognitively demanding

educational programs. The findings revealed that mindfulness training did not lead to a statistically significant increase in children's use of more appropriate responses in peer conflict situations.

The findings of this research suggest that while mindfulness training may have the potential to enhance children's executive function skills, its effectiveness can vary depending on multiple factors and may not consistently yield significant results. These findings highlight the need for further longitudinal studies with larger sample sizes to better understand the impact of mindfulness-based interventions on the executive functioning of preschool children.

Moreover, some studies examining the effects of mindfulness practices on preschool children's developmental domains have explored the relationships between self-regulation and a various related outcomes. These include prosocial behavior, empathy, emotional awareness, peer interactions, perspective taking, social skills, and academic achievement.

Findings from studies evaluating the effects of mindfulness-based intervention programs on preschool children's self-regulation skills generally indicate that such interventions can support various self-regulatory abilities, including attention, delayed gratification, impulse control, and cognitive flexibility (Razza et al., 2015; Flook et al., 2015; Jackman et al., 2019; Li et al., 2019; Türkkent, 2023).

Yıldırım (2019) investigated the effects of a mindfulness-based yoga program on preschool children's self-regulation skills. The findings revealed that the children in the intervention group demonstrated higher performance in working memory; however, no significant differences were observed between the groups in other self-regulation domains. While teacher evaluations indicated no differences between the groups, mothers reported that the children in the intervention group exhibited higher levels of positive affect.

In a study conducted by Thierry et al. (2016), a mindfulness program designed to enhance children's self-regulation was implemented over the course of one year. The results indicated that the program led to improvements in executive functioning, particularly in working memory, planning, and organizational skills, whereas children in the control group showed declines in these same areas.

Similarly, Thierry et al. (2018) developed a mindfulness program focused on enhancing students' self-regulation and self-awareness through targeted activities. By the end of the academic year, students in the intervention group demonstrated greater improvements in executive functions than their peers in the control group who followed the standard curriculum. However, no significant differences were found between the groups in terms of prosocial behavior or academic achievement.

Research indicates that children who experience difficulties in self-regulation or who come from socioeconomically disadvantaged backgrounds may benefit more significantly from mindfulness-based interventions (Poehlmann-Tynan et al., 2016; Lemberger-Truelove et al., 2018). For example, Razza et al. (2015) found that children who participated in a mindfulness-based yoga program demonstrated significant improvements in their self-regulation skills, with the greatest gains observed among those identified as high-risk.

Similarly, Lemberger-Truelove et al. (2018) reported that the combination of social and emotional learning (SEL) and mindfulness practices led to notable improvements in task-focused attention and experiential engagement among children from disadvantaged communities.

Findings from several studies suggest that mindfulness-based programs may positively influence not only children's self-regulation skills but also their prosocial behaviors. For instance, Flook et al. (2015) concluded that the Kindness Curriculum significantly improved children's cognitive flexibility, delay in gratification, and prosocial behavior.

Expanding upon the work of Flook et al., Haines et al. (2023) investigated the effects of the Mindfulness-Based Kindness Curriculum (MBKC) on preschool children's social-emotional development, executive functioning, and academic performance. Their findings indicated that children in the intervention group scored significantly higher in all three areas than their peers in the control group.

Similarly, Berti and Cigala (2022) reported that a mindfulness-based intervention led to significant improvements in inhibitory control (a subdomain of self-regulation), perspective-taking, and prosocial behaviors among children.

Viglas (2015) examined the effects of a mindfulness-based intervention on preschool children's self-regulation, prosocial behaviors, and hyperactivity. These findings suggest that implementing mindfulness programs in early childhood classrooms can enhance self-regulation, promote prosocial behaviors, and reduce hyperactive behaviors.

Daşiran (2023) evaluated the impact of a “Holistic Mindfulness Training” program on preschool children's self-regulation and social skills. The results showed that children in the intervention group scored significantly higher than those in the control group on both the Self-Regulation Skills Scale (including its subdimensions) and Social Skills Assessment Scale.

However, some studies have shown that mindfulness-based interventions do not always produce consistent or statistically significant results. For example, in a study conducted by Torres (2019) examining the effects of a mindfulness-based social skills program, no significant differences were found in children's self-regulation or prosocial behavior skills. Similarly, Stanley (2018) reported that mindfulness-based intervention did not result in notable improvements in children's self-regulation abilities. These findings suggest that the effectiveness of mindfulness interventions may vary depending on several factors, including the individual characteristics of the child, the duration of the program, and the method of implementation. Research involving older children has produced mixed outcomes regarding the efficacy of mindfulness interventions. A recent study conducted in Canada examined the impact of dispositional mindfulness (i.e., children's natural tendency or trait-level inclination toward mindfulness) on the mental health development of elementary school children, as well as whether a mindfulness-based intervention moderated this effect. It was found that higher levels of dispositional mindfulness were associated with reduced symptoms of inattention, anxiety, and depression; however, the intervention did not significantly strengthen this relationship. The findings suggest that while dispositional mindfulness is beneficial, it may need to be supported by additional emotion regulation techniques in order to achieve optimal outcomes (Malboeuf-Hurtubise et al., 2025).

Some studies of mindfulness-based interventions have included follow-up assessments to evaluate the long-term effects of these programs. For instance, Pash and Temel (2024) found that the effects of a mindfulness-based intervention persisted beyond the post-test period. Similarly, Türkkent (2023) reported that an eight-week mindfulness-based social-emotional learning program yielded statistically significant long-term improvements in children's self-regulation skills.

Yurdakul (2025) investigated the impact of an eight-week mindfulness program tailored for preschoolers aged 60 to 72 months using a single-group experimental approach. The study reported notable gains in attention and working memory among participants, although inhibitory control did not show measurable improvement. These outcomes suggest that when designed with developmental appropriateness, mindfulness-based programs in early childhood can enhance specific dimensions of self-regulation.

Various studies have examined the effects of mindfulness-based social-emotional learning programs on preschool children's psychosocial adjustment and neuropsychological development. One such program, OpenMind-Korea (OM-K), was evaluated by Kim et al. (2020), who reported improvements in children's emotion regulation, psychological resilience, and prosocial behaviors.

Similarly, Moreno-Gómez and Cejudo (2019), found that the MindKinder program supported children's psychosocial adaptation and contributed to their neuropsychological development, including improvements in motor skills, pronunciation, language comprehension, expressive language, spatial structuring, visual perception, memory, and rhythm skills. In a subsequent study implementing the same program, children demonstrated significant improvements in school adjustment, behavioral problems, and academic achievement (Moreno-Gómez, et al., 2020).

Additionally, Berger et al. (2024) investigated the effects of a mindfulness intervention and found that participants in the intervention group showed decreased impulsivity, increased sustained attention, greater attention toward the teacher, and reductions in social difficulties and aggression.

In a study conducted by Aydın and Özbey (2023), the impact of a Mindfulness Education Program on preschool children's emotional intelligence was examined. The findings revealed a statistically significant difference in favor of the intervention group compared with the control group. Similarly, Bazzano et al. (2023) reported that school-based yoga and mindfulness programs played a supportive role in enhancing young children's social-emotional competencies and psychological resilience. In another study, Erten and Güneş (2024) investigated the effects of mindfulness practice during early childhood on social behavior. Their findings showed an increase in positive social behaviors and decrease in behaviors associated with physical aggression and depressive symptoms.

The effects of mindfulness practices on emotion regulation and mental health have been widely studied not only during early childhood but also among primary school children and adults. Research involving 259 adolescents aged 8 to 12 has highlighted the potential of mindfulness and emotional regulation training as a protective mechanism against mental health challenges in early adolescence (Porter et al., 2025). A digital mindfulness training program known as ISSMT, built upon the MAT framework, was implemented in China via the “Hi Emotion” platform to target depressive symptoms in adults (Zhu et al., 2025). Participants aged 18 and older were randomly allocated to either the intervention or control group. The intervention group engaged in brief daily sessions over a two-week period, supported by automated reminders. Changes in mindfulness levels and depressive symptoms were monitored weekly, and the results suggested that the program enhanced mindfulness while reducing symptoms of depression.

Garrison (2017), designed a self-compassion and mindfulness program for preschool children and evaluated its feasibility and potential effects. The program was intended to enhance emotional resilience, social-emotional well-being, and other factors associated with school readiness through self-compassion and mindfulness practices. The findings indicated that introducing preschool children to self-compassion and mindfulness practices yielded positive outcomes and demonstrated the practical applicability of such interventions in this age group. The study further showed that the intervention was effective in reducing behavioral and emotional difficulties, with notable improvements observed in emotional reactivity, aggression, withdrawal, attention problems, and sleep disturbances. In a related study, Dorra and Jarraya (2024) investigated the effects of a short-term mindfulness intervention delivered Daily for 30 minutes over five consecutive days. Their findings suggested that such an intervention may positively influence motor skills and social behaviors, although it did not yield a statistically significant effect on psychological resilience.

Some studies have reported inconclusive or mixed findings regarding the effects of mindfulness-based programs. For example, Li-Grining et al. (2021) observed that the CaLM program, developed for children from low socio-economic backgrounds, had positive effects on children's overall well-being and self-regulation skills; however, these differences were not statistically significant. In another study, Yaari et al. (2019) found that the *Early Minds* program received positive feedback from both educators and parents in Australia. Nevertheless, they emphasized the need for further research to establish the generalizability of

the program's outcomes. Similarly, Sexton et al. (2022) evaluated the *Early Minds* program in terms of its effects on children's internalizing and externalizing behaviors, prosocial skills, and executive functions. Although this study aimed to assess program effectiveness, several limitations related to its feasibility and implementation were identified.

Mindfulness-based interventions have also been shown to positively impact children's relationships with peers, teachers, and parents. For example, Courbet et al. (2024) found that the French adaptation of the Kindness Curriculum reduced both teacher-child and peer-child conflicts, while also contributing positively to children's mental health. Similarly, in a study conducted by Crooks et al. (2020), the *MindUP* program was found to reduce children's negative behaviors, enhance their adaptive functioning, and improve executive functions. In this context, providing mindfulness training for teachers and integrating mindfulness practices into the curriculum in a sustainable manner may strengthen children's social relationships and foster a developmentally supportive environment.

In a study examining the effects of an intervention program integrating mindfulness practices with unstructured free play activities, the intervention was implemented over five consecutive days. The findings indicated that children who participated in outdoor free play combined with brief mindfulness sessions showed improvement in both play skills and emotional well-being. However, no significant differences were found between the groups in terms of physical activity levels or peer interactions. One notable result was that happiness scores significantly increased in the intervention group, whereas no change was observed in the control group (Lee, et al. 2020).

In another study, Malboeuf-Hurtubise et al. (2020) examined the effects of a combined philosophy (P4C – Philosophy for Children) and mindfulness-based intervention program for preschool children on both positive and negative indicators of mental health. The results showed that there were generally no statistically significant differences in the mental health indicators between the experimental and control groups. These findings suggest that the short-term effects of a combined mindfulness and philosophy-based intervention on children's mental health are limited.

In a study conducted by Çollak (2018), the effects of an eight-week mindfulness program for preschool children were examined in terms of various skill areas, including attention/focus, calmness, self-control, self-acceptance and self-love, as well as being caring and helpful toward others. The findings revealed significant improvements in each of these skills among participating children.

Özcan (2024) investigated the impact of a school-based mindfulness program on children's school readiness. The results indicated that the program had a positive effect on school readiness and that these effects were sustained over a four-week period based on according to follow-up assessments.

Overall, the research findings suggest that mindfulness-based intervention programs have the potential to enhance preschool children's self-regulation and social-emotional skills. However, inconsistencies have been observed across studies owing to factors such as program duration and participant characteristics. Therefore, future research should aim to include larger sample sizes, evaluate long-term retention effects, and conduct more precise and detailed analyses of program feasibility. Such efforts would contribute to obtaining more robust and generalizable results.

Several studies have explored the integration of mindfulness practices with art-based activities. For instance, Wong et al. (2024) investigated the effects of a mindfulness-based mandala intervention on children's attention and social-emotional development. The findings revealed that the children in the intervention group demonstrated improvements in five thematic areas: increased attention, emotional awareness, emotion validation, emotion regulation, and recognition of interpersonal relationships.

The reviewed studies, also investigated the effects of mindfulness-based intervention programs on eating-related issues. For example, Dial et al. (2020) evaluated whether a mindfulness-based intervention was effective in reducing food neophobia. They found that mindfulness-based eating exercises supported children in using more of their senses and identifying foods during the process of exploring new foods. However, no statistically significant difference was observed in the actual willingness to try new foods. The researchers concluded that while mindfulness-based eating exercises may facilitate food exploration, they may not be sufficient on their own to reduce food neophobia.

Similarly, Brann et al. (2024) examined the effects of mindfulness practices on executive functions and eating behaviors. The findings revealed improvements in children's executive function skills, such as attention, planning, and self-control. In addition, the children demonstrated more regulated eating behaviors and made healthier food choices. These results suggest that mindfulness practices during early childhood may be effective not only in enhancing cognitive skills but also in promoting healthy eating habits.

Conclusions and Recommendations

This systematic review reveals several important indicators regarding mindfulness-based studies conducted with preschool-aged children. An examination of studies published between 2015 and 2025 shows that international journal articles were the most frequently published type of research, with a notable increase observed in the years 2018 and 2024. In terms of country-based distribution, the United States stands out as the leading contributor to mindfulness research involving preschool children. Regarding the duration of intervention programs, the majority of studies implemented eight-week interventions. The longest program lasted one year, whereas the shortest involved a single 15-minute session. In terms of participant age distribution, the 3–5-year-old age group was the most frequently studied.

Findings related to the impact areas of mindfulness-based interventions applied during the preschool period suggest positive outcomes on children's executive functioning, self-regulation, social-emotional development, psychological resilience, and overall well-being. Specifically, significant improvements were noted in executive function components such as attention, impulse control, working memory, and cognitive flexibility. In addition, social-emotional skills such as empathy, prosocial behavior, and emotional awareness were found to be positively supported. However, the absence of statistically significant findings in some studies suggests that such effects may vary depending on contextual and individual factors such as program content, duration, and sample size.

Based on the findings presented above, several key recommendations can be outlined.

1. **Standardized Intervention Programs:** Given the challenges in comparing the effectiveness of programs with varying content, it is recommended that mindfulness interventions be structured according to shared standards (e.g., duration, content, and developmental appropriateness) and systematically evaluated for their applicability.
2. **Longitudinal and Large-Scale Studies:** To assess the long-term effectiveness and generalizability of intervention programs, future research should include longer-term studies with larger sample sizes.
3. **Neuroimaging-Supported Data:** In order to evaluate the neurocognitive impacts of mindfulness-based interventions more concretely, studies employing neuroimaging techniques such as EEG and fNIRS should be encouraged.
4. **Programs Targeting Disadvantaged Groups:** Since children from socioeconomically disadvantaged or high-risk backgrounds appear to benefit more from mindfulness interventions, greater emphasis should be placed on programs designed for these populations.

5. **Integration with Art, Play, and Nutrition:** Programs that integrate mindfulness with art, music, mandala, free play, or healthy eating habits may enhance the positive effects on children's behaviors and skills, and therefore should be promoted.

6. **Educators' Mindfulness Experiences:** Mindfulness practices can be implemented both directly and indirectly in preschool settings. Indirect implementation involves teachers' own knowledge and experience of mindfulness. To increase the success of such programs, it is recommended to expand mindfulness-based training programs for educators.

In conclusion, mindfulness-based practices have significant potential to support developmental domains in preschool-aged children. However, methodologically rigorous research is needed to establish these effects more clearly and reliably.

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Table III : Studies Included in the Study

Citation Code	Publication Type	Author	Year	Country	Age	Publication Title
A1	Article	Aydın, Ayşe and Öz-bey, Saide	2022	Türkiye	5-6 year	Investigation of the effect of mindfulness-based education programme on the executive function levels of preschool children.
A2	Article	Aydın, Ayşe and Öz-bey, Saide	2023	Türkiye	5-6 year	Investigation of the effect of mindfulness training programme on emotional intelligence levels of preschool children.
A3	Article	Bazzano, Alessandra N, Sun, Yaoyao, Zu, Yuanhao, Fleckman, Julia M, Blackson, Emma A, Patel, Tejal, Shorty-Belisle, Angie, Liederman, Keith H and Roi, Cody	2023	USA	3-5 year	Yoga And Mindfulness For Social-Emotional Development And Resilience In 3–5 Year-Old Children: Non-Randomized, Controlled Intervention
A4	Article	Berger, Rony, Benatov, Joy, Karna, Ankita, Wu, Rui, Tarrasch, Ricardo, van Schaik, Saskia DM and Brennick, Alaina	2024	Israel	5 year	Cultivating Compassion In Jewish-Israeli Kindergartners: The Effectiveness Of Mindfulness-And Empathy-Based Interventions As Facilitators Of Compassion
A40	Article	Berti, S., & Cigala, A	2022	Italy	3-6 year	Mindfulness For Preschoolers: Effects On Prosocial Behavior, Self-Regulation And Perspective Taking.
A5	Article	Brann, Lynn S, Razza, Rachel A and Smith, Caitlin S	2024	USA	3-5 year	The Feasibility And Preliminary Effectiveness Of A Mindfulness Intervention On Preschooler’S Executive Function And Eating Behaviors
A6	Article	Busch, Andrew M, Modica, Christopher A and Sheridan, Emily R	2023	USA	4-6 year	The Effect Of Yoga On Anxiety, Attention And Social-Emotional Symptoms In Preschool Children: A Pilot Quasi-Experimental Study

T11	Thesis	Caporaso, J. S	2017	USA	5 year	The Use Of Mindfulness Training To Examine The Role Of Executive Function İn Pre-school Peer Conflict.
A7	Article	Courbet, Ophélie, Daviot, Q, Kalamarides, Victoire, Habib, Marianne, Castillo, MC C and Villemonteix, Thomas	2024	France	3-5 year	Promoting Psychological Well-Being İn Preschool Children: Study Protocol For A Randomized Controlled Trial Of A Mindfulness-And Yoga-Based Socio-Emotional Learning Intervention
A8	Article	Crooks, Claire V, Bax, Karen, Delaney, Andrea, Kim, Haesoo and Shokoohi, Mostafa	2020	Kanada	4-6 year	Impact Of Mindup Among Young Children: Improvements İn Behavioral Problems, Adaptive Skills, And Executive Functioning
T1	Thesis	Çollak, Nisa	2018	Türkiye	5-6 year	8-week mindfulness programme for preschool children and the effects of the programme on children
T2	Thesis	Daşiran, Tuba Yeşilay	2023	Türkiye	4-6 year	Examination of the effect of holistic awareness training on the self-regulation and social skills of preschool children
A9	Article	Dial, Lauren A, Emley, Elizabeth, Koerten, Hannah R, Waite, Tabitha C and Mush-er-Eizenman, Dara R	2020	USA	3- 5 year	A Mindfulness Intervention For Food Neophobia Among Pre-schoolers
A10	Article	Dorra, Jalleli and Jar- raya, Sana	2024	Tunisia	4-5 year	The Effect Of A Short-Term Mindfulness Program On Motor Skills And On Psychological And Social Behavior İn Pre-school Children: A Randomized Controlled Trial.
A12	Article	Erten, Ceren and Güneş, Gökhan	2024	Türkiye	5-6 year	Social Behaviour Changes Via Mindfulness Practices İn Early Childhood
A13	Article	Flook, Lisa, Gold- berg, Simon B, Pinger, Laura and Davidson, Richard J	2015	USA	4 year	Promoting Prosocial Behavior And Self-Regulatory Skills İn Preschool Children Through A Mindfulness-Based Kindness Curriculum

T3	Thesis	Garrison, Jillian LeRae	2017	USA	3-5 year	A Self-Compassion And Mindfulness Program For Preschoolers
A14	Article	Haines, Beth A, Hong, Phan Y, Immel, Kathy R and Lishner, David A	2023	USA	3-5 year	The Mindfulness-Based Kindness Curriculum For Preschoolers: An Applied Multi-Site Randomized Control Trial
A15	Article	Jackman, Monica M, Nabors, Laura A, McPherson, Carrie L, Quaid, Jill D and Singh, Nirbhay N	2019	USA	3-5 year	Feasibility, Acceptability, And Preliminary Effectiveness Of The Openmind (Om) Program For Pre-School Children
A16	Article	Jansen, Petra, Siebertz, Markus and Portele, Christiane	2024	Germany	3-6 year	A Kind Mind: Enhancing Socio-Emotional Skills In German Preschool Children Through The Mindfulness-Based Kindness Curriculum
A17	Article	Kim, Eunjin, Jackman, Monica M, Jo, Seong-Hun, Oh, Jisun, Ko, Shi-Yong, McPherson, Carrie L, Hwang, Yoon-Suk and Singh, Nirbhay N	2020	Korea	3 year	Effectiveness Of The Mindfulness-Based Openmind-Korea (Om-K) Preschool Program
A18	Article	Lee, Regina Lai Tong, Lane, Shelly Jerrine, Tang, Anson Chiu Yan, Leung, Cynthia, Kwok, Stephen Wai Hang, Louie, Lobo Hung Tak, Browne, Graeme and Chan, Sally Wai Chi	2020	China	4-6 year	Effects Of An Unstructured Free Play And Mindfulness Intervention On Wellbeing In Kindergarten Students
A19	Article	Lemberger-Truelove, Matthew E, Carbonneau, Kira J, Atencio, David J, Zieher, Almut K and Palacios, Alfredo F	2018	USA	3-4 year	Self-Regulatory Growth Effects For Young Children Participating In A Combined Social And Emotional Learning And Mindfulness-Based Intervention
A20	Article	Lertladaluck, Kanda, Suppalarkbunlue, Warabud, Moriguchi, Yusuke and Chutabhakdikul, Nuanchan	2021	Thailand	4-5 year	School-Based Mindfulness Intervention Improves Executive Functions And Self-Regulation In Preschoolers At Risk

A21	Article	Li, Quan, Song, Yanan, Lian, Bin and Feng, Tingyong	2019	China	3-4 year	Mindfulness Training Can Improve 3-And 4-Year-Old Children'S Attention And Executive Function
A22	Article	Li-Grining, Christine Pajunar, Vera, Elizabeth, Janusek, Linda, Saban, Karen, Liston, Yarina, Naqi, Zahra and Troske, Mackenzie	2021	USA	4 year	Exploring The Possible Emergence Of Prosocial And Relational Leadership Capacity In A Mindfulness-Based Transitional Kindergarten Classroom: A Phenomenological And Exploratory-Based Qualitative Case Study
A23	Article	Lim, Xinyi and Qu, Li	2017	Singapore	4- 6 year	The Effect Of Single-Session Mindfulness Training On Pre-school Children'S Attentional Control
A24	Article	Malboeuf-Hurtubise, Catherine, Lefrançois, David, Mageau, Geneviève A, Taylor, Geneviève, Éthier, Marc-André, Gagnon, Mathieu and DiTomaso, Carina	2020	Kanada	4-5 year	Impact Of A Combined Philosophy And Mindfulness Intervention On Positive And Negative Indicators Of Mental Health Among Pre-Kindergarten Children: Results From A Pilot And Feasibility Study
A11	Article	Moreno-Gómez, A. J., & Cejudo, J.	2019	Spain	4-6 year	Effectiveness Of A Mindfulness-Based Social-Emotional Learning Program On Psychosocial Adjustment And Neuropsychological Maturity In Kindergarten Children.
A25	Article	Moreno-Gómez, Alfonso, Luna, Pablo and Cejudo, Javier	2020	Spain	5-6 year	Promoting School Success Through Mindfulness-Based Interventions In Early Childhood
T4	Thesis	Önoğlu Yıldırım, Eda	2019	Türkiye	3-5 year	The Effects Of Mindfulness Based Yoga Intervention On Preschoolers' Self-Regulation Ability
T7	Thesis	Özcan M,	2024	Türkiye	4-6 year	The effect of school-based mindfulness programme on school readiness of children aged 48-72 months / Impact of school-based mindfulness programme on school readiness of children aged 48-72 months.

A26	Article	Paslı, Hatice and Temel, Fulya	2024	Türkiye	5-6 year	The effect of mindfulness practices on children's self-regulation skills according to teacher evaluations.
A27	Article	Poehlmann-Tynan, Julie, Vigna, Abra B, Weymouth, Lindsay A, Gerstein, Emily D, Burnson, Cynthia, Zabransky, Matthew, Lee, Pilline and Zahn-Waxler, Carolyn	2016	USA	3-5 year	A Pilot Study Of Contemplative Practices With Economically Disadvantaged Preschoolers: Children’S Empathic And Self-Regulatory Behaviors
T5	Thesis	Rajbhandari, Biju	2023	USA	4-5 year	Mindfulness Practice Relates To Improvements İn Delaying Gratification İn Preschoolers
A28	Article	Razza, Rachel A, Bergen-Cico, Dessa and Raymond, Kimberly	2015	USA	3-5 year	Enhancing Preschoolers’ Self-Regulation Via Mindful Yoga
A29	Article	Razza, Rachel A, Linsner, Rachel Uveges, Bergen-Cico, Dessa, Carlson, Emily and Reid, Staceyann	2020	USA	3-5 year	The Feasibility And Effectiveness Of Mindful Yoga For Preschoolers Exposed To High Levels Of Trauma
A30	Article	Sexton, Ella TS, Sheehan, Jane, Van Dam, Nicholas T, Grobler, Anneke, Phillips, Lisa, Yaari, Maya and Hiscock, Harriet	2022	Australia	3-4 year	Feasibility Of The Early Minds Program By Smiling Mind: A Pilot Cluster-Randomized-Controlled Trial
A31	Article	Shlomov, Ilana, Levit-Binnun, Nava and Horowitz-Kraus, Tzipi	2023	Israel	4-6 year	Neurodevelopmental Effects Of A Mindfulness And Kindness Curriculum On Executive Functions İn Preschool Children—A Randomized, Active-Controlled Study
T6	Thesis	Stanley, Oceann C.	2018	USA	3-5 year	Mindfulness Meditation And Personality Effects On Self-Regulation İn Preschoolers

A32	Article	Thierry, Karen L, Bryant, Heather L, Nobles, Sandra Speegle and Norris, Karen S	2016	USA	4 year	Two-Year Impact Of A Mindfulness-Based Program On Preschoolers' Self-Regulation And Academic Performance
A33	Article	Thierry, Karen L, Vincent, Rhonda L, Bryant, Heather L, Kinder, Michelle B and Wise, Christina L	2018	USA	4 year	A Self-Oriented Mindfulness-Based Curriculum Improves Prekindergarten Students' Executive Functions
T8	Thesis	Torres, Remi Alyssa	2019	USA	3-5 year	The Impact Of A Preschool Mindfulness Program On Children'S Self-Regulation And Prosocial Skills
T9	Thesis	Türkent, A.	2023	Türkiye	5-6 year	The effect of mindfulness-based social emotional learning programme on preschool children's self-regulation skills
T10	Thesis	Viglas, Melanie	2015	Kanada	4-6 year	Benefits Of A Mindfulness-Based Program In Early Childhood Classrooms
A34	Article	Wong, Waisan, Zhang, Donghang, Hu, Jierong and U, Chao	2024	China	5-6 year	Improving Emotional And Social Development In Preschool Children: Exploring The Effects Of Mindfulness-Based Mandala Intervention In Social Work Practice In Macao
A35	Article	Wood, Laura, Roach, Andrew T, Kearney, Moriah A and Zabek, Faith	2018	USA	3-5 year	Enhancing Executive Function Skills In Preschoolers Through A Mindfulness-Based Intervention: A Randomized, Controlled Pilot Study
A36	Article	Xie, Sha, Gong, Chaohui, Lu, Jiahao, Li, Hui, Wu, Dandan, Chi, Xinli and Chang, Chunqi	2022	China	5-6 year	Enhancing Chinese Preschoolers' Executive Function Via Mindfulness Training: An Fnrirs Study
A37	Article	Xie, Sha, Lu, Shuqi, Lu, Jiahao, Gong, Chaohui and Chang, Chunqi	2024	China	3-6 year	Using Mindfulness-Based Intervention To Promote Executive Function In Young Children: A Multivariable And Multiscale Sample Entropy Study

A38	Article	Yaari, Maya, Sheehan, Jane, Oberklaid, Frank and Hiscock, Harriet	2019	Australia	3-4 year	Early Minds: A Pilot Randomised Controlled Trial Of A Mindfulness Program In Early Learning Centres
A39	Article	Zelazo, Philip David, Forston, Jessica L, Masten, Ann S and Carlson, Stephanie	2018	USA	4-5 year	Mindfulness Plus Reflection Training: Effects On Executive Function In Early Childhood