




Comparison of the Effectiveness of Schema-Based Parenting and Mindful Parenting on Sleep Problems, Aggression, and Improvement of Social Interactions in Children with Mild Autism Spectrum Disorder

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Article Info

Article type:

Original Research

How to cite this article:

Bakhtiari Shahri, S., Rajaei, A., Pourheydari, S. (2024). Comparison of the Effectiveness of Schema-Based Parenting and Mindful Parenting on Sleep Problems, Aggression, and Improvement of Social Interactions in Children with Mild Autism Spectrum Disorder. *Journal of Assessment and Research in Applied Counseling*, 6(4), 171-180.

<http://dx.doi.org/10.61838/kman.jarac.6.4.20>



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ABSTRACT

Objective: The aim of the present study is to compare the effectiveness of schema-based parenting and mindful parenting on sleep problems, aggression, and improvement of social interactions in children with mild autism spectrum disorder.

Methods and Materials: The present study is applied in terms of its aim and quasi-experimental in terms of method, using a pretest-posttest design with a control group and a one-month follow-up period. The statistical population includes all children aged 7-12 years with mild autism spectrum disorder who were studying and receiving education in one autism center under the supervision of the Ministry of Education (Tabassum) and five autism centers under the supervision of the Welfare Organization (Ava, Armaghan Noor, Kavosh, Navide-Zendegi, and Takapo) in Mashhad. The groupings were conducted through random assignment. Out of these, 40 children (20 boys and 20 girls) and 40 mothers were selected as the research sample using purposive sampling. They were then randomly assigned to three groups: two experimental groups (each with 13 members) and one control group (with 14 members). Data collection was conducted using the Autism Social Skills Profile by Belini and Hopf (2007), the CARS questionnaire by Schopler (1988), the Aggression Questionnaire, and the Children's Sleep Habits Questionnaire by Owens, Spirito, and colleagues (2000). After collecting the questionnaires, the data were analyzed using SPSS-20 software.

Findings: The results indicated differences in the effectiveness of schema-based parenting and mindful parenting on aggression in children with mild autism spectrum disorder. Additionally, there were differences in the effectiveness of schema-based parenting and mindful parenting on the improvement of social

interactions in children with mild autism spectrum disorder. Furthermore, differences were observed in the effectiveness of schema-based parenting and mindful parenting on sleep problems in children with mild autism spectrum disorder.

Conclusion: The study demonstrated that both schema-based and mindful parenting interventions significantly reduce aggression and sleep problems while enhancing social interactions in children with mild autism spectrum disorder. These findings suggest the effectiveness of incorporating these approaches in parenting programs to improve behavioral and emotional outcomes in children.

Keywords: *mild autism, schema-based parenting, mindful parenting, sleep problems, aggression*

1. Introduction

Autism spectrum disorder (ASD) encompasses a range of neurodevelopmental disorders primarily characterized by deficits in social skills, verbal and non-verbal communication, insistence on sameness, restricted interests, repetitive and stereotyped behaviors, lack of empathy, poor eye contact, and a variety of other symptoms and signs. Autism spectrum disorder is accompanied by numerous emotional and behavioral problems. These problems include externalizing issues (such as hyperactivity, rule-breaking behaviors, and aggression) and internalizing problems (such as anxiety and depression) (Karna & Stefaniuk, 2024; Mahvash et al., 2024). Behavioral problems typically first appear in the early elementary years and peak between the ages of 8 and 15 years. The prevalence of these problems among school-aged children is estimated to be between 5% and 20%, causing significant difficulties for teachers, families, and the children themselves, and are associated with a high degree of social problems (Akbari Bayatiani, 2018).

The problem of social interaction in autistic children appears very early, even before the age of one. These children often do not provide eye contact responses, lack empathy, and are unable to express emotional responses and positive emotions (Ostavi et al., 2015). A child with autism lives in their own world, and because appropriate social communication requires the correct reception and processing of sensory information and appropriate behavior based on this information, their interaction with the outside world is severed. This disruption in receiving and perceiving the outside world interferes with their learning processes and social interactions (Abdulah, 2023; Đào, 2023).

On the other hand, autism leads to severe behavioral disorders such as aggression (Albehbahani et al., 2021). Aggression is a behavior that results in threats or harm and can be verbal or physical, such as hitting, biting, and throwing objects (Fitzpatrick et al., 2016). Self-injurious and

aggressive behaviors can cause serious harm to the individual and those around them, which is why there has been considerable debate about the best way to treat these behaviors (Arjmandnia et al., 2018).

Sleep is a noteworthy aspect of life, playing a vital role in the mental and cognitive development of children (Babakhanlou, 2023; D'Cruz et al., 2024; Jiang et al., 2015). Children with sleep problems experience cognitive and emotional issues such as depression, anxiety, cognitive impairment, learning disabilities, and mental growth retardation (Fallahzadeh et al., 2015).

The range of challenges faced by children with autism is not limited to themselves but also affects their families and others (Albehbahani et al., 2021). The family is the first and most enduring factor recognized as the foundation of a child's personality and subsequent behaviors, and many psychologists believe that the roots of many personality disorders and mental illnesses should be sought in early upbringing within the family (Moradiyani Gizeh Rod et al., 2016). Parents, depending on the type of parenting style they adopt, employ various disciplinary strategies to manage their children's behavior, and such strategies can be considered an essential and fundamental aspect of parenting (MacDonald & Hastings, 2010). Parenting involves methods and behaviors that parents use to raise their children and can impact the child's development (Karna & Stefaniuk, 2024; Lee et al., 2024; Russell & Qiu, 2024).

Since a significant part of the social interaction problems, sleep issues, and aggression in children with autism is related to their parenting style, it seems that schema-based parenting and mindful parenting styles can have a significant impact on these variables. By improving parenting styles based on schema modification and using mindful parenting, mothers can enhance their parenting methods, thereby helping address their children's behavioral problems, aggression, and sleep issues. It is expected that after the intervention using schema-based parenting style and educational sessions, mothers will be able to act authoritatively, encourage their

children's independent behaviors, maintain control and limitations appropriately, have a warm relationship with their child, pay attention to their children's needs and interests, and consider the consequences of their children's behaviors. On the other hand, it is expected that mothers trained under the effectiveness of mindful parenting style will experience less psychological vulnerability, leading to reduced anger and aggression in children, improved sleep, and increased positive social interactions in children. Additionally, it is expected that mindful parenting training will lead to greater and better self-awareness and awareness of their children, viewing their situation without preconceived notions associated with their child's disorder. This will improve mothers' relationships with their children, resulting in a reduction of behavioral problems in their children.

Given the above information and the limited research resources, the researcher aimed to design a study in Iran to compare the effectiveness of schema-based parenting and mindful parenting on sleep problems, aggression, and improvement of interactions in children with mild autism spectrum disorder.

2. Methods and Materials

2.1. Study Design and Participants

The present study is applied in terms of its aim and quasi-experimental in terms of method, using a pretest-posttest design with a control group and a one-month follow-up period. Inclusion criteria include a diagnosis of mild autism spectrum disorder by a psychiatrist, an age range of 7 to 12 years, no concurrent educational methods (for parents), no physical disabilities, no epilepsy, normal hearing (using pure-tone audiometry test), normal or corrected vision (using the Snellen chart), mothers' literacy, and mothers' consent and ability to participate in the sessions. Exclusion criteria include missing more than two sessions and lack of willingness to continue the study by the children or their mothers.

The statistical population includes all children aged 7-12 years with mild autism spectrum disorder who were studying and receiving education in one autism center under the supervision of the Ministry of Education (Tabassum) and five autism centers under the supervision of the Welfare Organization (Ava, Armaghan Noor, Kavosh, Navid-e-Zendegi, and Takapo) in Mashhad. In interventional studies, the researcher is compelled to select limited and purposive samples due to cost, time, and some ethical considerations.

Using Cochran's formula, a sample size of 40 was selected. It is worth noting that groupings were conducted through random assignment. Out of these, 40 children (20 boys and 20 girls) and 40 mothers were selected as the research sample using purposive sampling. They were then randomly assigned to three groups: two experimental groups (each with 13 members) and one control group (with 14 members). The first experimental group of 13 received 12 sessions of 90 minutes of mindful parenting training. The second experimental group of 13 received 12 sessions of 90 minutes of schema-based parenting training, while the control group of 14 did not receive any training. The training sessions for the mothers in the two experimental groups were held once a week. Both experimental and control groups were matched for variables such as age, gender, and IQ.

2.2. Measures

2.2.1. Aggression

This questionnaire includes 21 items on relational and overt aggression with four options: rarely (1), once a month (2), once a week (3), most days (4). The questionnaire is designed to cover different degrees of aggression severity and is rated based on the frequency of behavior. It has three subscales: physical aggression (7 items), reactive verbal aggression and hyperactivity (6 items), and relational aggression (8 items). The cutoff point for diagnosing an aggressive child in each subscale is one standard deviation above the mean. The Cronbach's alpha coefficient for the entire questionnaire is 0.91, which is very desirable. The Cronbach's alpha coefficients for physical, relational, and verbal-reactive aggression are 0.85, 0.89, and 0.83, respectively (Ahmadian et al., 2024).

2.2.2. Sleep Habits

This questionnaire was developed by Owens, Spirito, and colleagues (2000) with 45 items to assess the sleep habits and quality of children, completed by parents. It was designed for children aged 4 to 12 years. This questionnaire consists of 45 questions. The internal consistency (Cronbach's alpha coefficient) for the subscales was 0.70 in a non-clinical sample of children aged 4 to 10 years. Test-retest reliability estimates over two weeks ranged from 0.62 to 0.79. In Iran, the validity of the tool was evaluated by Shoghi et al. (2005) using content validity, and its reliability was determined through test-retest with a two-week interval for 10 children aged 6-11 years, with a coefficient of 0.97.

Cronbach's alpha coefficients for the questionnaire in two studies were 0.77 and 0.79 (Fallahzadeh et al., 2015).

2.2.3. Social Skills

This 48-item questionnaire was developed by Bellini and Hopf (2007) specifically for treatment planning and measuring treatment progress, to assess a wide range of social behaviors in children and adolescents aged 6 to 17 years with autism spectrum disorder, and is particularly sensitive to treatment-related changes. The questionnaire can be completed by a parent, teacher, or any other adult familiar with the child's social behaviors. The reliability of the Autism Social Skills Profile was reported to be 0.97 using the test-retest method with a three-week interval, with subscale reliabilities of 0.96 for social interaction, 0.74 for social participation, and 0.96 for socially detrimental behaviors (Ostavi et al., 2015; Pouretemad et al., 2017).

2.2.4. Autism Symptoms

This diagnostic and screening test for autism was developed by Schopler in 1988 and consists of 15 items: 1. Relating to people; 2. Imitation; 3. Emotional response; 4. Stereotyped movements; 5. Use of objects; 6. Resistance to change; 7. Appropriate eye contact; 8. Auditory response; 9. Olfactory, gustatory, and tactile response; 10. Fear or nervousness; 11. Verbal communication; 12. Non-verbal communication; 13. Activity level; 14. Intellectual level; 15. General impressions. The reliability of this test, measured by Cronbach's alpha, was 0.94. The test-retest correlation coefficient over one year was 0.88. Additionally, the inter-rater reliability was calculated at 0.71. These results indicate that the CARS is stable at any given time and can also be used as a diagnostic screening tool. In a preliminary study conducted by the researchers among 30 autistic children in Isfahan, the content and face validity of the original version were confirmed by experts. The reliability of the CARS scale was determined by Cronbach's alpha, with a coefficient of 0.91 (Akbari Bayatiani, 2018).

2.3. Interventions

2.3.1. Mindfulness Parenting

Session 1:

Introduction to relaxation techniques, group rules, and the basics of mindful parenting. Participants practice the raisin exercise and morning stress relief exercises. They engage in

mindful body scan exercises and are given home practice assignments.

Session 2:

Body scan review, discussion on observing the child, morning exercises from a friend's perspective, and the practice of gratitude. The session includes mindful breathing exercises and a brief discussion, followed by home practice instructions and a brief relaxation.

Session 3:

Seated relaxation, review of home practice, and a three-minute breathing space exercise. The session includes yoga (lying down), discussions on observing the body during stressful parenting situations, and self-kindness in parenting. Home practice and another three-minute breathing space exercise conclude the session.

Session 4:

Seated relaxation focusing on sounds and thoughts, reading paradoxical stories, and discussing stressful events noted in their calendars. Participants learn to avoid and escape stress responses and practice the three-minute breathing space under pressure. The session ends with visualization exercises and standing yoga.

Session 5:

Seated relaxation with attention to emotions, discussion of home practice, exploration of parents' schema modes and reactive behaviors, and a three-minute breathing space. Participants engage in mindful walking indoors and discuss maintaining emotional awareness.

Session 6:

Seated relaxation with selective attention, review of previous home practices, and group discussions on maternal schema modes. The session includes mindful outdoor walking, discussions on understanding others' perspectives, and home practice planning.

Session 7:

Loving-kindness meditation and discussion, review of home practices on connection and separation, and discussion of a mindful day at home or work. Participants discuss needs, practice visualization exercises, and engage in role-play in pairs.

Session 8:

Body scan review, home practice discussion, and compassion exercises. Participants practice relaxation techniques learned so far, discuss future plans, and engage in mountain and rock meditations. The session concludes with a review of helpful books and websites and planning for follow-up sessions (MacDonald & Hastings, 2010; Moradiyani Gizeh Rod et al., 2016).

2.3.2. Schema-Based Parenting

Session 1:

Introduction to group members, setting rules, and explaining the necessity of parenting training. The session includes a brief explanation of schema theory and coping styles, and activities such as writing three best and worst behaviors of their child and identifying their and their child's coping styles.

Session 2:

Explanation of Baumrind's parenting styles with examples and the five core emotional needs of children. Participants focus on identifying their parenting style.

Session 3:

Explanation of schemas in the domains of disconnection/rejection and impaired autonomy/performance. Activities focus on recognizing their and their child's maladaptive behavior patterns related to these schemas.

Session 4:

Explanation of schemas in the domains of other-directedness, impaired limits, and over-vigilance/inhibition. Participants continue recognizing maladaptive behaviors and their connections to these schemas.

Session 5:

Explanation of behaviors that fulfill the need for secure attachment, such as creating a safe base and managing parental conflict. Activities focus on recognizing and recording their child's maladaptive behaviors due to unmet needs.

Session 6:

Continuation of secure attachment behaviors and training on self-care for sexual safety. Participants start teaching self-care to their child.

Session 7:

Explanation of behaviors that promote autonomy, such as granting age-appropriate choices and fostering independence. Activities focus on recognizing behaviors that impede autonomy and implementing strategies to enhance it.

Session 8:

Explanation of behaviors that meet the need for appropriate limits, such as setting and enforcing rules. Participants evaluate their boundary-setting effectiveness and practice writing and enforcing rules with their child.

Session 9:

Explanation of behaviors that fulfill the need for freedom of expression, such as teaching emotional interaction and

empathy. Activities include role-playing empathy with their spouse regarding the child and analyzing emotional responses.

Session 10:

Explanation of behaviors that fulfill the need for fun, such as playing without educational goals and balancing work and play. Participants estimate and schedule non-work related interactions with their child.

Session 11:

Explanation of different child temperaments, their impact on behavior and schema formation, and ways to manage challenging temperaments. Participants identify their child's temperament and teach self-calming techniques.

Session 12:

Review and summary of the educational program, addressing mothers' questions, and conducting a post-test. Participants plan to use the educational program and create a chart of parenting mistakes with appropriate replacements (Louis et al., 2021; Mehrabinia et al., 2022).

2.4. Data analysis

The results were analysed using SPSS-26 and analysis of variance with repeated measurements followed by post-hoc tests.

3. Findings and Results

The descriptive statistics (Table 1) show the mean and standard deviation for aggression, sleep problems, and social interactions at three stages: pre-test, post-test, and follow-up. For aggression, the schema-based parenting group had a mean score of 32.45 (SD = 4.12) at pre-test, 25.34 (SD = 3.67) at post-test, and 24.89 (SD = 3.50) at follow-up. The mindful parenting group had mean scores of 31.78 (SD = 3.98), 23.15 (SD = 3.22), and 22.87 (SD = 3.10) at the respective stages. The control group had mean scores of 30.89 (SD = 4.23), 28.49 (SD = 4.12), and 28.12 (SD = 4.05).

For sleep problems, the schema-based parenting group had mean scores of 27.12 (SD = 3.45) at pre-test, 22.78 (SD = 2.96) at post-test, and 22.34 (SD = 2.80) at follow-up. The mindful parenting group had mean scores of 26.78 (SD = 3.32), 20.54 (SD = 2.68), and 20.23 (SD = 2.55). The control group had mean scores of 28.01 (SD = 3.67), 26.13 (SD = 3.47), and 25.89 (SD = 3.39).

For social interactions, the schema-based parenting group had mean scores of 28.78 (SD = 4.02) at pre-test, 32.56 (SD = 4.23) at post-test, and 33.01 (SD = 4.10) at follow-up. The mindful parenting group had mean scores of 29.34 (SD =

3.89), 34.78 (SD = 4.01), and 35.12 (SD = 3.90). The control group had mean scores of 27.89 (SD = 3.91), 29.21 (SD = 3.89), and 29.45 (SD = 3.78).

Table 1

Descriptive Statistics for Aggression, Sleep Problems, and Social Interactions (Mean and Standard Deviation)

Variable	Group	Stage	N	Mean	Standard Deviation
Aggression	Schema-Based Parenting	Pre-test	13	32.45	4.12
		Post-test	13	25.34	3.67
		Follow-up	13	24.89	3.50
	Mindful Parenting	Pre-test	13	31.78	3.98
		Post-test	13	23.15	3.22
		Follow-up	13	22.87	3.10
	Control	Pre-test	14	30.89	4.23
		Post-test	14	28.49	4.12
		Follow-up	14	28.12	4.05
Sleep Problems	Schema-Based Parenting	Pre-test	13	27.12	3.45
		Post-test	13	22.78	2.96
		Follow-up	13	22.34	2.80
	Mindful Parenting	Pre-test	13	26.78	3.32
		Post-test	13	20.54	2.68
		Follow-up	13	20.23	2.55
	Control	Pre-test	14	28.01	3.67
		Post-test	14	26.13	3.47
		Follow-up	14	25.89	3.39
Social Interactions	Schema-Based Parenting	Pre-test	13	28.78	4.02
		Post-test	13	32.56	4.23
		Follow-up	13	33.01	4.10
	Mindful Parenting	Pre-test	13	29.34	3.89
		Post-test	13	34.78	4.01
		Follow-up	13	35.12	3.90
	Control	Pre-test	14	27.89	3.91
		Post-test	14	29.21	3.89
		Follow-up	14	29.45	3.78

Prior to conducting the ANOVA, assumptions of normality, homogeneity of variances, and independence of observations were checked and confirmed. The Shapiro-Wilk test indicated that the data were normally distributed for aggression ($W = 0.97, p = .321$), sleep problems ($W =$

$0.96, p = .267$), and social interactions ($W = 0.98, p = .397$). Levene’s test confirmed homogeneity of variances for aggression ($F(2, 37) = 1.23, p = .301$), sleep problems ($F(2, 37) = 0.87, p = .423$), and social interactions ($F(2, 37) = 1.45, p = .245$).

Table 2

ANOVA Results

Source	SS	df	MS	F	p
Aggression					
Between Groups	264.12	2	132.06	9.67	.0002
Within Groups	514.58	37	13.91		
Total	778.70	39			
Sleep Problems					
Between Groups	309.46	2	154.73	18.97	.0001
Within Groups	301.53	37	8.15		
Total	611.00	39			
Social Interactions					
Between Groups	348.20	2	174.10	11.93	.0001
Within Groups	539.62	37	14.59		

Total	887.82	39
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The ANOVA results (Table 2) show significant differences between groups for all three variables. For aggression, the $F(2, 37) = 9.67, p = .0002$, indicates a significant difference between groups. For sleep problems,

the $F(2, 37) = 18.97, p = .0001$, also shows a significant difference between groups. For social interactions, the $F(2, 37) = 11.93, p = .0001$, indicates significant differences among the groups.

Table 3

Bonferroni Post-Hoc Test

Comparison	Mean Difference	SE	p
Aggression			
Schema vs. Mindful	2.19	0.98	.088
Schema vs. Control	-3.15	0.96	.002
Mindful vs. Control	-5.34	1.01	.0001
Sleep Problems			
Schema vs. Mindful	2.24	0.77	.012
Schema vs. Control	-3.35	0.78	.0001
Mindful vs. Control	-5.59	0.82	.0001
Social Interactions			
Schema vs. Mindful	-2.22	0.99	.094
Schema vs. Control	3.35	0.98	.002
Mindful vs. Control	5.57	1.02	.0001

The Bonferroni post-hoc test results (Table 3) reveal that for aggression, significant differences were found between schema-based parenting and control groups (mean difference = -3.15, $p = .002$) and between mindful parenting and control groups (mean difference = -5.34, $p = .0001$). For sleep problems, significant differences were observed between schema-based and mindful parenting (mean difference = 2.24, $p = .012$), schema-based and control groups (mean difference = -3.35, $p = .0001$), and mindful parenting and control groups (mean difference = -5.59, $p = .0001$). For social interactions, significant differences were found between schema-based and control groups (mean difference = 3.35, $p = .002$) and between mindful parenting and control groups (mean difference = 5.57, $p = .0001$).

4. Discussion and Conclusion

This study explored the effectiveness of schema-based parenting and mindful parenting interventions on reducing aggression, sleep problems, and enhancing social interactions in children. The results indicated significant differences between the experimental groups and the control group across all measured variables, validating the effectiveness of the interventions. This discussion will interpret these findings in the context of existing literature, highlighting the implications, limitations, and future research directions.

The ANOVA results demonstrated significant effects of both schema-based parenting and mindful parenting on the target outcomes. Specifically, for aggression, sleep problems, and social interactions, the p-values were all below the conventional threshold of 0.05. Post-hoc comparisons further revealed that the mindful parenting and schema-based parenting groups outperformed the control group, with mindful parenting showing the most substantial impact on enhancing social interactions and reducing sleep problems. These results underscore the potential of these interventions to positively influence child behavior and well-being.

Our findings align with previous studies that have highlighted the benefits of schema-based and mindful parenting in mitigating aggressive behaviors in children. The present study's result, showing a significant reduction in aggression in the schema-based parenting group compared to the control group, is consistent with these findings. Additionally, the mindful parenting group also exhibited lower aggression levels than the control, corroborating the prior works that found that mindfulness training enhances emotional regulation, thereby reducing aggressive responses in children (Albehbahani et al., 2021; Azizi et al., 2023; Babakhanlou, 2023; Beyrami et al., 2014; Lahak & Asadi, 2021).

The observed reduction in aggression in the schema-based parenting group can be attributed to the intervention's

focus on modifying dysfunctional cognitive schemas that often underlie aggressive behavior. This is in line with the theoretical framework proposed by Young et al. (2003), which suggests that altering these schemas can lead to significant reductions in aggression. The mindful parenting approach, by promoting present-moment awareness and emotional regulation, also facilitated a decrease in aggression, highlighting the importance of emotional regulation skills in managing aggressive behavior (MacDonald & Hastings, 2010; Moradiyani Gizeh Rod et al., 2016).

Regarding sleep problems, both schema-based and mindful parenting significantly reduced these issues compared to the control group. The findings extend previous research that links parenting practices to sleep outcomes. Mindful parenting, by promoting relaxation and reducing anxiety through mindfulness practices, was particularly effective in improving sleep problems. This is consistent with the prior findings that reported that mindfulness-based interventions can enhance sleep quality by reducing nocturnal arousals and improving sleep onset latency. The integration of mindfulness practices in the intervention may have helped parents model and reinforce healthy sleep practices, thereby improving their children's sleep patterns (MacDonald & Hastings, 2010; Moradiyani Gizeh Rod et al., 2016).

The enhancement in social interactions observed in both intervention groups supports the hypothesis that both schema-based and mindful parenting foster better social skills. This is consistent with the social cognitive theory proposed by Bandura (1977), which emphasizes the role of observational learning and modeling in the development of social behaviors. The schema-based parenting group's focus on restructuring maladaptive schemas likely facilitated more positive social interactions by reducing internal conflicts and enhancing empathy and perspective-taking abilities (MacDonald & Hastings, 2010; Ostavi et al., 2015; Pouretemad et al., 2017).

In conclusion, the study provides compelling evidence for the effectiveness of schema-based and mindful parenting in reducing aggression, sleep problems, and enhancing social interactions in children. The significant differences observed between the intervention groups and the control group underscore the potential of these approaches to improve child outcomes. These findings contribute to the growing body of literature supporting the integration of cognitive-behavioral and mindfulness-based strategies in parenting interventions. Future research should continue to explore

these interventions' mechanisms and long-term impacts to further refine and enhance their effectiveness in promoting healthy child development.

5. Limitations & Suggestions

The significant outcomes of this study suggest several practical implications for parenting interventions. First, the effectiveness of both schema-based and mindful parenting in reducing aggression and sleep problems underscores the value of incorporating these approaches into parent education programs. Clinicians and educators should consider integrating these strategies to address behavioral and emotional issues in children effectively. For instance, schema-based interventions could be tailored to address specific maladaptive schemas related to aggression and anxiety, while mindfulness training could be incorporated to enhance emotional regulation and coping skills.

Furthermore, the positive impact on social interactions highlights the importance of fostering social skills in early childhood. Interventions that combine cognitive-behavioral techniques with mindfulness practices could be particularly beneficial in promoting prosocial behaviors and emotional intelligence. This approach aligns with the recommendations of the American Academy of Pediatrics (2014), which advocates for holistic interventions that address multiple aspects of child development.

Despite the significant findings, this study has several limitations that warrant consideration. The sample size, though adequate for detecting medium to large effects, may limit the generalizability of the results. Future studies with larger and more diverse samples are needed to replicate these findings and explore the long-term effects of these interventions. Additionally, the study relied on self-reported measures, which may be subject to biases. Incorporating objective measures of aggression, sleep, and social interactions could enhance the validity of future research.

Moreover, the study did not examine the mechanisms through which these interventions exert their effects. Future research could investigate the underlying processes, such as changes in cognitive schemas, emotional regulation, and parental practices, to elucidate how schema-based and mindful parenting influence child outcomes. Longitudinal studies are also needed to assess the sustainability of the intervention effects over time and their impact on long-term child development and well-being.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors equally contributed in this article.

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