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The effect of One-Minute Mindfulness-Based Calming Music Meditation (OMCMM) intervention in reducing hyperactivity-impulsivity in a child with ADHD: A case study

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Abstract
Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by persistent inattention, impulsivity, and hyperactivity, often leading to academic, social, and behavioral challenges in children. Despite the availability of pharmacological and behavioral treatments, many children with ADHD continue to struggle with symptom management. In this study, a student with hyperactivity-impulsivity behavior is examined to determine whether a one-minute mindfulness-based calming music meditation (OMCMM) intervention can reduce hyperactivity and impulsivity. Employing a qualitative methodology, the research employed direct observation by educators and parents utilizing interval recording forms, prior to and following a three-week OMCMM intervention. In order to evaluate the acceptability and feasibility of the intervention, one-on-one interviews with the parent and teachers were also carried out.
The results revealed a reduction in the frequency of hyperactive and impulsive behaviors in both classroom and home settings. Teachers and the parent reported that the brief, one-minute mindfulness-based music sessions were easy to implement and well-received by the child, contributing to calmer behavior and improved focus. These results imply that short mindfulness-based music therapies could be a useful and practical adjunctive strategy for managing ADHD symptoms in children. The study's implications highlight the potential for OMCMM to be adapted for broader use in addressing various behavioral challenges in children.

Keywords: ADHD, mindfulness-based meditation, intervention, behivour therapy

Introduction
Attention-Deficit/Hyperactivity Disorder (ADHD) is a prevalent neurodevelopmental disorder characterized by persistent patterns of inattention, impulsivity, and hyperactivity that significantly impair functioning across various domains of life (Li *et al*., 2022; Vekety *et al*., 2021a) [15, 27]. Children diagnosed with ADHD often experience academic difficulties, social challenges, and behavioral problems, posing substantial burdens on both affected individuals and their families (Turnbull *et al*., 2016) [26]. Despite the availability of pharmacological and behavioral interventions, many children with ADHD continue to struggle with symptom management, highlighting the need for innovative and complementary approaches to treatment (Cullen, 2011; Leon *et al*., 2024) [6, 14].
Mindfulness-based interventions have emerged as promising adjunctive therapies for ADHD, offering strategies to enhance self-regulation, attentional control, and emotional regulation (Mitchell *et al*., 2015; Modesto-Lowe *et al*., 2015) [20, 21-22]. One form of mindfulness intervention gaining attention is Mindfulness-Based Music Meditation, which integrates mindfulness techniques with the therapeutic qualities of music. Music has been shown to evoke emotional responses, enhance relaxation, and improve mood, making it a potentially effective adjunctive therapy for individuals with ADHD (Jasper P. Duyan *et al*., 2024; Leon *et al*., 2024; Mitchell *et al*., 2015) [10, 14, 20].
Despite the growing interest in mindfulness-based music interventions for ADHD, empirical evidence supporting their efficacy remains limited and inconclusive (Tercelli & Ferreira, 2019) [25]. While some studies have reported positive outcomes, including reductions in ADHD symptoms and improvements in attentional functioning (Cassone, 2015; Mitchell *et al*., 2015) [3, 20], others have yielded mixed findings or failed to demonstrate significant

effects (Chimiklis *et al*., 2018; Evans *et al*., 2017; Kiani *et al*., 2017; Malboeuf-Hurtubise *et al*., 2018; Vekety *et al*., 2021a) [4, 8, 11, 17, 27]. Furthermore, the majority of existing studies have focused on longer-duration mindfulness meditation programs, leaving a gap in the literature regarding brief and easily accessible interventions tailored specifically for younger children with ADHD (Lee *et al*., 2017; Li *et al*., 2022; Luo *et al*., 2023) [13, 15, 16]. Previous studies on mindfulness meditation have predominantly targeted students at the elementary, high school, and college levels within clinical settings (Cassone, 2015; Kiani *et al*., 2017; Lee *et al*., 2017; Sims, 2015) [3, 11, 13, 23], underscoring the necessity for research to extend into school settings.

In light of these considerations, the present study seeks to address existing gaps in the literature by investigating the effectiveness of One-Minute Mindful-Based Calming Music Meditation (OMCMM) intervention in reducing impulsivity and hyperactivity in children diagnosed with ADHD. By utilizing OMCMM intervention by using pre and post-intervention observation, this study aims to explore the feasibility and efficacy of OMCMM as a brief and accessible mindfulness intervention for children with ADHD, providing valuable insights into the practical application of mindfulness-based approaches for children with ADHD within a school setting. Thus, this study aims to address the following research questions:

1. Can OMCMM reduce hyperactivity and impulsivity in children with ADHD?
2. What are the perceptions of parents and teachers regarding the feasibility and acceptability of implementing OMCMM as an intervention in school and home settings for managing hyperactivity-impulsivity behavior in children with ADHD?

Literature Review

Attention-Deficit/Hyperactivity Disorder (ADHD) is a prevalent neurodevelopmental disorder characterized by persistent patterns of inattention, impulsivity, and hyperactivity that often manifest in childhood and can persist into adulthood. ADHD affects approximately 5-7% of school-aged children worldwide, posing significant challenges in academic, social, and emotional functioning (American Psychiatric Association, 2013) [1]. Impulsivity and hyperactivity are primary characteristics of ADHD, often leading to disruptions in classrooms such as inappropriate movements, outbursts, and aggression when frustrated, and excessive fidgeting (Turnbull *et al*., 2016) [26]. The impulsive behaviors associated with ADHD signify a difficulty in delaying responses, highlighting the need for interventions that create a gap between thoughts and actions. The symptoms of ADHD manifest differently across various stages of development (Turnbull *et al*., 2016) [26]. In younger children, the most noticeable sign is excessive gross motor activity. They tend to move around frequently, resist restraint, and appear restless. As they grow older, this hyperactivity tends to diminish but may present as restlessness, fidgeting, and an inability to remain seated. They often act impulsively, without considering the consequences of their actions (Modesto-Lowe *et al*., 2015) [21-22]. In educational settings, these children struggle to wait their turn and may interrupt others. They might engage in risky behaviors and have difficulty following instructions comprehensively (Dunn & Howell, 1982; Turnbull *et al*., 2016) [7, 26].

While traditional treatments such as medication and behavioral therapy are commonly utilized, there is increasing interest in exploring complementary interventions, including mindfulness-based music meditation approaches, to alleviate ADHD symptoms and enhance overall well-being in affected individuals (Kratter & Hogan, 1982; Leon *et al*., 2024), [12, 14]. Mindfulness, rooted in ancient contemplative practices, involves maintaining moment-to-moment awareness of one's thoughts, emotions, bodily sensations, and the surrounding environment, with an attitude of acceptance and non-judgment (Cassone, 2015; Modesto-Lowe *et al*., 2015) [3, 21-22]. Mindfulness-based interventions (MBIs) typically incorporate mindfulness meditation, yoga, and other mind-body practices, aiming to cultivate self-regulation, hyperactivity, and impulsive control (Chimiklis *et al*., 2018; Jasper P. Duyan *et al*., 2024; Leon *et al*., 2024; Modesto-Lowe *et al*., 2015) [4, 10, 14, 21-22].

Research suggests that MBIs may be beneficial for individuals with ADHD (Jasper P. Duyan *et al*., 2024; Kiani *et al*., 2017) [10, 11]. MBIs have been shown to significantly reduce ADHD core symptoms of inattention and hyperactivity/impulsivity (Li *et al*., 2022; Modesto-Lowe *et al*., 2015) [15, 21-22]. A meta-analysis by Vekety *et al*. (2021a) [27] found that mindfulness meditation interventions demonstrated promising effects in reducing ADHD symptoms, particularly inattention and hyperactivity/impulsivity. These interventions typically involve mindfulness meditation, mindful breathing, and body scans, aimed at improving attentional control and emotion regulation. Moreover, a systematic review by Tercelli and Ferreira (2019) [25] reported that MBI had positive results in addressing attention deficits in children with ADHD. Further, Kratter & Hogan (1982) [12] conducted a study with 24 male students aged 7-12 who exhibited ADHD symptoms. These students were divided into three groups: a meditation training group, a progressive muscle relaxation training group, and a waiting list control group. Following 20-minute sessions twice a week, the students in the meditation training and muscle relaxation groups showed significant reductions in impulsivity compared to the control group, which saw no change. Additionally, these students displayed improved problem-solving abilities by carefully assessing situations before reacting. This study suggests that mindfulness meditation could help children with ADHD manage their impulses and display fewer disruptive behaviors in class.

Most recently, integrating music into mindfulness practices has garnered attention for its potential to enhance relaxation and attentional focus (Jasper P. Duyan *et al*., 2024; Mitchell *et al*., 2015) [10, 20]. Music has been shown to modulate brain activity, promote emotional regulation, and induce a state of calmness and tranquility (Jasper P. Duyan *et al*., 2024; Martin-Moratinos *et al*., 2023) [10, 18]. Mindfulness-based music interventions enhance self-regulation and attentional control by promoting awareness of internal experiences and fostering adaptive responses to external stimuli (Antonietti *et al*., 2018; Mitchell *et al*., 2013) [2, 19]. Research suggests that mindfulness music intervention may be particularly beneficial for individuals with ADHD, given their potential to mitigate impulsivity, improve attentional functioning, and reduce impulsivity (Kiani *et al*., 2017; Li *et al*., 2022; Martin-Moratinos *et al*., 2023) [11, 15, 18].

Methodology

Study Design

This qualitative research design is a case study. According

to Creswell (2012) [5] A case study is suitable for answering questions that start with how, who, and why to investigate single or multiple units of study using familiar research methods for data collection such as observation, interviews, or surveys. This study investigated the impact of OMCMM on a child with ADHD

Participants
The study employed a purposive sampling method to select its participants. It was conducted in an inclusive school, where the child received education in a self-contained classroom. The main participant was a student exhibiting symptoms of ADHD, primarily characterized by impulsivity and hyperactivity. The child's parent and subject teachers were also involved in the study, providing observations and feedback on the child's behavior.

Intervention
The OMCMM intervention was implemented over a three-week period in May. The child participated in one minute claming music meditation exercises in two settings: the classroom and at home. In the classroom, subject teachers guided meditation sessions at the beginning and end of each class period, which lasted 45 minutes. At home, the child's parent guided the sessions in the morning and evening.
Before the intervention, the researcher briefed the subject teachers and the parent regarding observation norms and procedures to ensure consistent and accurate data collection. The primary focus of the observation was to track the frequency of impulsivity and hyperactivity behaviors displayed by the child during the meditation sessions. The goal was to evaluate the effectiveness of the OMCMM intervention in reducing the target behaviors over the course of three weeks.

Data Collection
The data for this study were collected through using interval recording form by child's subject teachers and parent. Further, interviews were conducted with the subject teachers, and parent to gather qualitative data on the effectiveness and feasibility of OMCMM.

Observation
This qualitative study employed direct observation by classroom teachers and child's parent using interval recording forms. The frequency of these behaviors was recorded using interval recording forms by subject teachers in the classroom and by the child's parent at home. Observations were conducted for five days each before and after the implementation of OMCMM. The subject teachers and parent recorded the frequency of target impulsive behaviors each minute of their observation.

Pre-Intervention Observation
Baseline data was collected over a five days period before the introduction of the OMCMM intervention to establish the frequency of the target behaviors. The specific behaviors observed during this period included:

Movement: Frequent, excessive physical movement, such as running around.

Inability to Remain Seated: Difficulty staying seated during the one-minute music meditation.

Focus/inattention: Difficulty attending to one-minute music.

Fidgeting: Frequent movement of hands or other restless actions.

Post-Intervention Observation
Following the three-week OMCMM intervention, observations were repeated over another five days to assess changes in the child's behavior. During the one-minute meditation period, the same behaviors were monitored to determine the effectiveness of the intervention.
The observations conducted both at home and in the classroom aimed to capture the child's response to the OMCMM intervention, with a focus on any reduction in the frequency of impulsivity and hyperactivity behaviors during the designated meditation period.

Interviews
The other research tool employed in this study was a qualitative research interview as the main data collection tool stress interviews are a common form of data collection in case study research. One-on-one interviews were conducted with classroom teachers and parents to gather quality feedback on the effectiveness and feasibility of implementing the OMCMM intervention. All verbal interviews were documented through handwritten notes, which were later transcribed for analysis.

Data Analysis
Qualitative analysis was conducted on the observation data collected from interval recording forms, focusing on child behavior changes. Thematic analysis was applied to interview transcripts to identify key themes related to the feasibility and effectiveness of the OMCMM intervention strategy.

Results
This section presents the findings of the study, focusing on the impact of the One-Minute Mindful-Based Calming Music Meditation (OMCMM) intervention on impulsivity and hyperactivity behaviors in a child with ADHD. Data were collected through pre- and post-intervention observations using interval recording forms and through qualitative interviews with the child's subject teachers and parent. The findings are organized around the two main research objectives: (1) assessing the impact of OMCMM on hyperactivity-impulsivity behavior, and (2) exploring the feasibility and acceptability of implementing OMCMM in a school and home setting.

A. Impact of OMCMM on Hyperactivity-Impulsivity Behavior
Pre-Intervention Behavior Analysis
Before the implementation of the OMCMM intervention, baseline data were collected over five days to establish the frequency of the child's hyperactivity and impulsivity behaviors. The observed behaviors included excessive physical movement, difficulty remaining seated, frequent interruptions, and fidgeting. The data revealed the following:

Movement: The child exhibited frequent, excessive physical movement, such as running or turning around, with

an average of 11 instances per minute.

Inability to Remain Seated: The child struggled to stay seated during the one-minute music meditation, with an average of 8 occurrences of leaving his seat during the session.

Focus/Inattention: The child exhibited frequent loss of focus, being distracted an average of 12 times per minute during the observation period.

Fidgeting: The child displayed frequent hand movements or other restless actions, such as touching and hitting others nearby, with an average of 11 instances per minute.
These baseline observations indicated that the child exhibited a high frequency of impulsivity and hyperactivity behaviors, consistent with the symptoms of ADHD.

Post-Intervention Behavior Analysis
Following the three-week OMCMM intervention, observations were repeated over another week to assess changes in the child's behavior. The data showed a noticeable reduction in the frequency of the target behaviors:

Movement: The child's excessive physical movement decreased significantly, with an average of 5 instances per minute, representing a 54.5% reduction.

Inability to Remain Seated: The child showed improvement in remaining seated during the meditation, with an average of 3 occurrences per session, indicating a 62.5% reduction.

Focus/Inattention: The frequency of inattention dropped to an average of 5 instances per minute, reflecting a 58.3% reduction.

Fidgeting: The child's fidgeting behavior also decreased, with an average of 7 instances per minute, showing a 36.4% reduction.
The post-intervention data suggest that the OMCMM intervention had a positive impact on reducing the child's impulsivity and hyperactivity behaviors. After the three-week intervention, analysis demonstrated significant reductions in hyperactivity and impulsivity. The child exhibited fewer instances of excessive physical movement, showed an improved ability to remain seated, maintained better focus, and displayed reduced signs of restlessness.

B. Feasibility and Acceptability of OMCMM in a School and Home Setting
Teacher and Parent Feedbacks
One-on-one interviews were conducted with the child's subject teachers and parent to gather qualitative feedback on the feasibility and acceptability of implementing the OMCMM intervention in a school and home setting based on two questions:

- Do you perceive the feasibility and acceptability of implementing a OMCMM intervention within a school/home setting?
- Does the OMCMM intervention demonstrate efficacy in reducing hyperactivity-impulsivity behavior in children with ADHD?

- Does the OMCMM intervention demonstrate efficacy in reducing hyperactivity-impulsivity behavior in children with ADHD?

Teacher 1: Yes, I've seen a noticeable reduction in hyperactivity and impulsivity over time. The child was a bit distracted at first, not fully engaged. But after a few tries, I noticed he started to relax more quickly and seemed to enjoy the calming music. It became easier for him to participate as he got used to it. It's not a cure-all, but it definitely helped manage some of the more disruptive behaviors.

Teacher 2: In my experience, yes. Over time, there was a noticeable decrease in his hyperactive behavior. He could sit still for longer periods and was less fidgety. His focus during sessions improved, and impulsive outbursts became less frequent and less intense. The changes weren't immediate, but over time, the intervention clearly made a difference.

Teacher 3: I've observed a clear improvement in the child's behavior. The intervention helped him become less impulsive and more focused during class. It's not a dramatic change overnight, but there's been steady progress, which shows that the intervention is effective.

Teacher 4: The intervention helped him calm down and focus better during sessions. Initially, the child was a bit restless and unwilling to meditate. But after repeated sessions, he began to settle down more quickly. He seemed to enjoy the music, which helped him focus during the meditation. I think the consistency and routine played a big role in that.

Parent: At first, I found it very exhausting to get my son to sit still for even a few seconds during the calming music meditation. He was frequently out of place, but after repeated meditation sessions and with my guidance, he gradually began to look forward to it. Now, he even asks to listen to calming music at other times, not just during the meditation sessions. It has become something he associates with feeling calm.

1. Do you perceive the feasibility and acceptability of implementing an OMCMM intervention within a school/home setting?

Teacher 1: I think it's both feasible and acceptable. The intervention is quick and doesn't require any special equipment or extensive training, which makes it easy to incorporate into the school day. The students also seemed to accept it well, especially once they got used to the routine.

Teacher 2: I think it's very feasible, especially because it only takes a minute and can be done anywhere. It's a low-cost, low-effort strategy that can easily fit into a school's daily schedule. As for acceptability, I believe it's something most teachers and students would be willing to try, especially if they see the benefits.

Teacher 3: Yes, it's feasible and acceptable. It's such a simple intervention that can be applicable in any setting. The student seem to enjoy the music, which makes it more engaging for him.

Teacher 4: The intervention is quick, easy to implement, and doesn't require any special resources. It's something that can be done in any classroom setting, which makes it very feasible. As for acceptability, I think once teachers see the benefits, they'd be more than willing to incorporate it into their routine.

Parent: I feel it is feasible and acceptable. It's something simple that can be done anywhere if the child feels tense and restless, and I believe most parents would be supportive if it helps their children manage their behaviors better.

The interviews revealed several key themes

Ease of Implementation

Both teachers and the parent found the OMCMM intervention easy to implement, requiring minimal time and resources. The brief duration of the meditation exercise (one minute) made it feasible to incorporate it into the daily routine without disrupting classroom activities or home schedules.

Perceived Effectiveness

Teachers and the parent reported noticeable improvements in the child's behavior, particularly in reducing hyperactivity and impulsivity. They observed that the child appeared calmer and more focused during and after the meditation sessions. The child exhibited less impulsivity, reduced fidgeting, improved focus, and a decrease in excessive movements.

Acceptability

The intervention was well-received by both the child and the adults involved. The use of one-minute calming music meditation was particularly appreciated, as it created a soothing environment that supported the meditation practice and calmed child's behaviour.

The results of this study indicate that the OMCMM intervention was effective in reducing the frequency of hyperactivity and impulsivity behaviors in a child with ADHD. The intervention was also deemed feasible and acceptable by both teachers and the parent, suggesting that it could be a valuable addition to existing strategies for managing ADHD in a school and home setting.

Discussion

The primary aim of this study was to investigate the effectiveness of the One-Minute Mindfulness-Based Calming Music Meditation (OMCMM) intervention in reducing hyperactivity and impulsivity in a child diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD). Additionally, the study sought to explore the feasibility and acceptability of implementing this intervention in a school setting. The findings from the intervention, supported by both observational data and qualitative feedback from teachers and parents, provide valuable insights into the potential benefits and challenges of utilizing a brief mindfulness-based music meditation in managing ADHD symptoms in children.

Impact of OMCMM on Hyperactivity and Impulsivity

The results of this study indicate that the OMCMM intervention had a positive effect on reducing hyperactivity and impulsivity behaviors in the child with ADHD. The comparison of pre- and post-intervention observations data revealed a noticeable decrease in behaviors such as excessive movement, inability to remain seated, inattention and fidgeting during the one-minute meditation sessions. These findings align with previous research suggesting that mindfulness-based interventions can enhance self-regulation, attentional control, and emotional regulation in individuals with ADHD (Cassone, 2015; Leon *et al*., 2024; Luo *et al*., 2023; Mitchell *et al*., 2015) [3, 14, 16, 20]. The reduction in hyperactivity and impulsivity may be attributed to the calming and focusing effects of music, which have been well-documented in the literature (Jasper P. Duyan *et al*., 2024; Leon *et al*., 2024; Vekety *et al*., 2021b) [10, 28, 14]. Music's ability to modulate brain activity and evoke emotional responses likely played a role in helping the child achieve a state of calmness and tranquility, thereby reducing impulsive (Frantz, 2020; Jasper P. Duyan *et al*., 2024; Modesto-Lowe, 2015) [19, 10, 21-22]. The brief duration of the OMCMM intervention also proved to be effective, suggesting that even short mindfulness practices can yield significant benefits for children with ADHD.

Feasibility and Acceptability of OMCMM in a School Setting

The feasibility and acceptability of the OMCMM intervention were key considerations in this study. Feedback from both the child's teachers and parent indicated that the intervention was relatively easy to implement and was well-received by the child. Teachers noted that the short duration of the meditation sessions made it practical to incorporate into the school day without disrupting the regular curriculum. This is particularly important in school settings, where time constraints often limit the implementation of extended interventions.

Parents also expressed satisfaction with the intervention, observing positive changes in the child's behavior not only during the meditation sessions but also in other aspects of daily life. The consistency of the intervention at home and school likely contributed to these outcomes, highlighting the importance of a collaborative approach between educators and parents in managing ADHD symptoms.

Implications for Practice

The successful implementation of the OMCMM intervention has important implications for educators, and parents working with children diagnosed with ADHD.

1. **Educational Practice:** The One-Minute Mindfulness-Based Calming Music Meditation (OMCMM) intervention offers educators a simple, cost-effective tool that can be easily incorporated into daily classroom routines. This brief intervention can help reduce disruptive behaviors, improve student focus, and create a calmer classroom environment. Teachers can use OMCMM sessions to transition between activities, particularly during times when children may struggle with attentiveness or impulsivity.
2. **Parental Involvement:** The study highlights the potential for parents to use OMCMM as a home-based intervention to support their child's behavior outside of school. By engaging in mindfulness-based music meditation at home, parents can reinforce the calming techniques learned at school, promoting consistency in managing ADHD symptoms across different settings.
3. **Accessibility:** The simplicity and brevity of the OMCMM intervention make it an accessible strategy that can be easily implemented in various settings,

including schools and homes. This accessibility is particularly important for communities with limited resources, where more intensive interventions may not be feasible.

4. **Potential for Adaptation:** The success of the OMCMM intervention in this study suggests that similar brief, mindfulness-based practices could be adapted for other behavioral challenges in children, such as anxiety, stress, or anger management. This opens up opportunities for further exploration of calming music-based approaches in addressing a wide range of behavioral and emotional difficulties.

Limitations of the Study

While the study provides valuable insights, several limitations must be acknowledged:

1. **Small Sample Size:** The study involved only a single participant, limiting the generalizability of the findings. The results cannot be broadly applied to all children with ADHD without further research involving larger, more diverse populations.
2. **Subjective Observations:** The reliance on qualitative data from observations by teachers and parent introduces potential biases. Although structured observation protocols were used, the subjective nature of the data collection may affect the accuracy of the results. Future studies could benefit from incorporating more objective measures, such as standardized behavioral assessments or tests.
3. **Short Duration of the Intervention:** The three-week intervention period provides only a snapshot of the potential benefits of the OMCMM intervention. The long-term efficacy and sustainability of the observed improvements in behavior remain uncertain. Extended studies are needed to determine whether the benefits of the OMCMM intervention persist over time.
4. **Lack of a Control Group:** The absence of a control group in this study makes it difficult to attribute the observed changes in behavior solely to the OMCMM intervention. Other factors, such as natural developmental changes or external influences, could have contributed to the improvements. Future research should include control groups to better isolate the effects of the intervention.
5. **Generalizability to Other Contexts:** The study was conducted in a specific school setting with a particular child, which may limit the applicability of the findings to other contexts or populations. Further research is needed to explore the effectiveness of the OMCMM intervention in different environments, such as different age groups, cultural settings, or children with varying degrees of ADHD severity.
6. **Potential for Observer Bias:** Teachers and parents, knowing the purpose of the intervention, may have unintentionally influenced the outcomes through their expectations or interactions with the child. Although efforts were made to minimize this bias, it remains a potential limitation that could affect the study's findings.

Future Research Directions

Future research should aim to address the limitations identified in this study by involving a larger and more diverse sample of children with ADHD. Additionally, exploring the long-term effects of the OMCMM intervention would provide valuable insights into its sustainability and potential for integration into ongoing therapeutic practices.

Further studies could also investigate the specific components of the OMCMM intervention to determine which elements—mindfulness, music, or a combination of both—are most effective in reducing hyperactivity and impulsivity. Understanding the relative contributions of these components could lead to more targeted interventions tailored to the individual needs of children with ADHD.

Finally, examining the applicability of the OMCMM intervention in other contexts, such as in combination with other therapeutic approaches or in children with comorbid conditions, could further enhance its utility as a versatile tool for managing ADHD symptoms.

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Appendices

Interval Recording Form

Name:
Date:
Day:
Behavior: Impulsivity/hyperactivity
Time start:
Time end:
Observer:
Setting:

	10"	20"	30"	40"	50"	60"
Movement						
Out of seat						
Inattention/focus						
Fidgeting						

\+ Behavior occurs
\- Do not occur
Number (percent) of intervals of occurrence:
Number (percent) of interval of non-occurrence:

Interview Questions

1. Do you perceive the feasibility and acceptability of implementing a OMCMM intervention within a school setting?
2. Does the OMCMM intervention demonstrate efficacy in reducing hyperactivity-impulsivity behavior in children with ADHD?