

An Investigation into the Role of Music Therapy in Reducing Anxiety and Promoting Emotional Regulation in Children with ADHD

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Abstract

ADHD, also known as attention deficit hyperactivity disorder, is a chronic illness that causes impulsivity, hyperactivity, and difficulty in focusing. Children with ADHD, who were first diagnosed in childhood, may struggle to regulate their impulsive behaviors, pay attention, or behave excessively. Numerous studies had demonstrated a strong association between music and ADHD. In addition, children diagnosed with ADHD had shown great benefit from the rapidly expanding discipline of music therapy. Also, they benefited from it in areas including mood enhancement, self-control improvement, and concentration enhancement.

This study employed the qualitative research approach specifically the phenomenological design to understand the lived experiences of a grade school learner diagnosed with ADHD accompanied by the learner's parent and his teacher from Mati, Davao Oriental. The participant was chosen and qualified according to the inclusion criteria for in-depth interview. The researchers employed thematic analysis on the data transcription from the participants' responses, categorized and coded to arrive at essential themes. Evidently, the data showed that children with ADHD can benefit greatly from music, despite its indirect form of treatment, thus, it helped to improve motivation, focus, and mental health in general.

Keywords: ADHD, Role, Music Therapy

1. Introduction

5.6% of children worldwide have ADHD (Li et. al, 2019). Approximately 10% of children of school age suffer from attention deficit hyperactivity disorder (ADHD), a common behavioral condition. Children with ADHD struggle to focus on a task or their schoolwork because they are hyperactive. Sadock (2015) affirmed that one of the primary signs of ADHD is hyperactivity, which can cause a child to be psychologically and socially incompatible at home, school, and in the community. Similarly, attention span issues and impulse control are common in children with ADHD. Also, inattentiveness, incompleteness, emotional impulsivity, and indiscriminate hyperactivity are the main ways that attention deficit and hyperactivity are expressed (Yu, 2019).

In addition, Sharma et. al (2014) said that an individual with hyperactivity may seem to move around a lot or fidget excessively. An impulsive individual could act without considering their actions or have trouble

exercising self-control. Building up these children's levels of self-control is one of the primary goals of behavioral treatment for ADHD.

More so, children with ADHD may experience issues in their interactions with mentors, parents, and peers. Environmental or genetic factors are implicated in ADHD. Parental drug, alcohol, and tobacco usage as well as exposure to harmful chemicals. According to Kerkar (2018) he said that compared to typical children, the size of specific brain areas is 5%–10% less in ADHD children. Consequently, these children's brains experience certain chemical alterations. Additionally, Chang et. al (2015) claimed that studies showed that compared to children who are usually developing, children with ADHD are five to ten times more likely to experience substance misuse, antisocial personality disorder, and delinquency.

Currently, medication and counseling are used to manage ADHD. Likely, music therapy is used in addition to these conventional treatments. According to research, children with ADHD who receive music therapy can develop the focus and self-control they need to succeed in school and at home (Kerkar, 2018). Kerkar added, that dopamine is a neurotransmitter that is increased in the brain by listening to enjoyable music. This neurotransmitter controls motivation, working memory, and attention all of which are typically lacking in the brains of children with ADHD.

However, there was not much research on how music therapy affected children with ADHD symptoms. The impacts of the topic were described by some researchers who had studied it in depth, while others claimed that the effects are transient and called for further investigation. Jackson (2003) exclaimed how music therapy may help children with ADHD through a comprehensive approach to treating their symptoms and how music can enhance cognitive functions and sensory integration in these kids.

On the other hand, Kasuya-Ube et. al (2020) argued that the effects of music therapy on children's attentional control are just momentary. These studies on the beneficial effects of music therapies on ADHD children do have certain drawbacks, most of which have to do with the way they are focused. To address the antecedent gap, this study aimed to probe the intervention of music therapy in reducing anxiety and promoting emotional regulation with the ADHD children.

1.1 Problem Statement

The study aims to investigate how music therapy plays a vital role in reducing anxiety, stress and regulates emotional instability of the child with ADHD.

- a. Describe the experience of the teacher and the parent on administering the music therapy to the child with ADHD.
- b. What insights can the participants share to the academe and to the society in general?

1.2 Review of Related Literature

Attention Deficit Hyperactivity Disorder (ADHD)

ADHD, which is first diagnosed in childhood and frequently continues into adulthood, is one of the most common neurodevelopmental diseases in children and adolescence. This is a leading reason why kids end up in psychiatric and psychology clinics (Austerman, 2015). According to the Fifth Diagnostic and Statistical

Manual of Mental Disorders (DSM5), a group of behaviors that disrupt social status is the essential component of attention deficit hyperactivity disorder (ADHD).

Consequently, according to Couture et. al (2014) social situations such as excessive wobbling, finger play, talkativeness, and increased motor activity in inappropriate environments can disrupt an individual's personal and academic life. Further, Sadock et. al (2015) cited that children with attention deficit disorder are affected differently based on their age and gender, with boys being more likely than girls to have it.

Furthermore, Bitsko et. al (2022) added that boys are more likely to be diagnosed with ADHD than girls in the U.S., with approximately 11.9% of boys ages 3 to 17 years diagnosed with ADHD currently, compared to 5.5% of girls. The disease manifests differently in boys and girls, according to a Rucklidge research. Externalized symptoms, like impulsivity and running, are common in boys with ADHD. Girls with ADHD, however, usually exhibit internalized symptoms.

Conversely, inattentiveness and low self-esteem are two of these symptoms. In addition, girls tend to be more verbally confrontational and to turn their grief and anger inward, which puts them at risk for eating disorders, anxiety, and depression, whereas boys tend to be more physically aggressive and externalize their frustrations (Rucklidge, 2010).

Accordingly, Kim et. al (2020) said that premature birth, preeclampsia, hypertension, overweight, and obesity in pregnant women, as well as maternal smoking exposure, are some of the factors that contribute to ADHD in children. Rucklidge (2010) added that drug misuse has also been linked to a higher risk of developing ADHD, according to studies on family histories.

Music and Therapy

Music and its ability to move people have been known to humanity from the dawn of time. Music therapy was a brand-new profession that emerged following World War II. The forms and techniques of music therapy have had a tremendous impact, with far-reaching advantages in a range of circumstances.

Notably, music has been utilized as a calming and relaxing medium for decades, and this practice is prevalent worldwide. Also, de Witte et al. (2020) said that the most extensively researched impacts of music are these stress-relieving characteristics.

Further, music therapy has several advantages when it is used alongside conventional therapies, positive psychology, or even as a stand-alone intervention. Furthermore, Koelsch et al. (2009) said that music has an impact on a client's attention, emotion, cognition, behavior, and communication. They also added that it can also facilitate relaxation and enjoyment.

More so, other stress-relieving activities can be improved by listening to music. Listening to music can increase the benefits of other soothing activities for reducing stress (Scott, 2018). Moreover, Levy (2017) shared six proven benefits of music therapy. First, it reduces anxiety and physical effects of stress, second, it improves healing, third, it can help manage Parkinson's and Alzheimer's disease, fourth, it reduces depression and other symptoms in the elderly, fifth, it helps reduce symptoms of psychological disorders and sixth, it improves self-expression and communication.

Additionally, playing an instrument can induce a state of mental relaxation since it stimulates the tactile and aural senses. Nowadays, a wide range of illnesses are treated with music as a natural therapy; people with severe physical or mental impairments have even shown improvement. Also, Serrallach et. al

(2016) cited that learning music, particularly through instrument playing, can quicken the development of timing abilities and, in turn, hasten the long-term development of the auditory brain.

Conversely, Schaal et. al (2021) added that when using music therapy, the patient reflects his stress and anxiety onto the song's melody. Stable emotions are introduced through the process of creating harmonic musical balance and chords.

Role of Music Therapy in child with ADHD

Children with ADHD usually experience less anxiety when they receive music therapy in the style of classical music. They can concentrate better on their work when they are calmed down by this kind of music (Kerkar, 2018). More so, children can express themselves through music as well. Due to its rhythmic and harmonic qualities, music helps children with ADHD with their academic performance, motor control, and attention span.

Moreover, Jackson (2003) said that a particular type of healing that can be used with children with ADHD is music therapy, which uses nonverbal music therapy techniques. Likewise, the use of music therapy can help with learning, maintenance, contemplation, relaxation, and emotional expression (Gao et. al, 2013). According to Kim (2015), music therapy can help children engage in joyful, independent play with others and build relationships.

In addition, two primary approaches are used in music therapy: (1) "active" music therapy, in which the patient plays an instrument or sings; and (2) "passive" music therapy, in which the patient listens to music performed by others. Likewise, James et al. (2015) stated that there were songs with lyrics that were associated with musical improvisation and target skills. It had been observed through several studies and applications of music therapy that active methods were employed more frequently than passive methods.

Also, Savage et. al (2020) said that apart from effectively developing in music, people with ADHD can also benefit therapeutically from music. Being musically gifted is not a prerequisite for using music as therapy. Children with ADHD, this therapy may reveal latent musical ability, if any. When utilized for ADHD therapy, music is generally non-intrusive, secure, and inspiring.

Consequently, both hemispheres are activated in the sensory, motor, cognitive, language, and affective domains when one practices and listens to music (Zatorre et. al, 2007). Moreover, dopamine a crucial neurotransmitter linked to ADHD modifies the reward circuits linked to music, eliciting pleasurable reactions (Ferreri et. al, 2019).

2. Methodology

2.1 Research Design

In this study, the researchers used qualitative method specifically the phenomenological design. Creswell (2009) defined qualitative research as "exploring and understanding the individuals or groups ascribed to a social or human problem." Also, creating inquiries and other research methods were strategies, information generally obtained inside the participant's surroundings, inductive information interpretations of the significance of the facts by the researcher, and an analysis that progresses from details to broad themes.

More so, this study employed phenomenological design, a method of qualitative study that emphasizes the similarities among group members' lived experiences (Creswell, 2013). The researchers explored participants' lived experiences through questionnaire and interview.

In conducting this study, the researchers chose to use the phenomenological design. It provided a forum for comprehending the real-world experiences of the participants. Gaining access to the participants' participation in the study and direct observation was also beneficial.

2.2 Participant of the Study

The primary participant of the study was (*John), a *6-year-old boy diagnosed with ADHD yet accompanied by his teacher and his parent due to the participant's need of assistance. Both the parent and the teacher had direct intervention with the child using the music as therapy during his tough times.

More importantly, the study included these chosen individuals who may shed light on the phenomenon and offer solutions to the research questions (Kuper & Levinson, 2008). Thus, it conveys more reliably for efficient and coherent observation.

2.3 Sampling Procedure

The researchers utilized the purposive sampling approach. Likely, purposive sampling is convenient for researchers since it allows them to negotiate access through existing contacts (Saunders & Thornhill, 2012).

Also, the researchers were able to employ limited resources efficiently and obtain an immense quantity of information by using this sampling strategy. Choosing and identifying people with in-depth knowledge of the topic of interest was another aspect of it, hence the objective was attained.

2.4 Research Instrument

The instruments were used to come up with significant information on how music therapy plays a vital role in reducing anxiety, and stress and regulating the emotional instability of a child with ADHD. The Multi-Factored Assessment Tool. This MFAT is a classroom activity-based assessment that covers the different domains of learning.

The assessment tool is intended to identify learners with special educational needs who may require educational services and/or medical/allied services, and aid teachers in designing and planning instructions suitable for learners with learning disabilities (LSENs) according to their needs. The information gathered from the questionnaire's items is presumed to be valid and reliable.

2.5 Data Gathering Procedure

The researchers included open-ended questions in the questionnaire to help direct the conversations. The questions were created with the multi- approach in mind to collect thorough and specifics of the participants' letter sound instruction experiences. The study advisor double-checked the surveys to make sure they were relevant and clear. A linguist verified the surveys to make sure they were useful and acceptable.

Prior to the interview, the participants were given a consent form to complete. The consent form requested participants' consent and described the rationale behind the data gathering. To take part in the interviews, participants received assurances regarding the confidentiality of their identities and that their confidentiality would be upheld.

Interviews were performed with the participants during the interview process. educators. In order to guarantee reliable recording of the interviews, audio or video recordings were also made. replies from participants and facilitate further analysis. The open-ended interview was conducted by the researchers. inquiries to direct the discussion. The interviews were carried out in a conversational and encouraging style that encouraged participants to openly discuss their viewpoints and experiences.

By adhering to this protocol for collecting data, the researchers made sure that thoughtful interview questions were created, that participants gave their informed consent, and that the interviews were recorded for precise data collection and gave data privacy and confidentiality top priority during the entire study process.

2.6 Role of the Researcher

As researchers, we served as our subjects' recruiters and supervisors, providing them with direction and managing the participant list. We interviewed and facilitated our participants directly during the data gathering process.

As facilitators, we supported the participants in eliciting their thoughts and experiences connected to the issue under discussion, and as interviewers, we were free to choose the questions we wanted to bring up and ask their ideas when fears of an uprising had surfaced.

The researchers also played as analysts, transcribers, and encoders. To arrive to standardized and definitive result, we thoroughly arranged and ordered the transcribed interviews using conventional English statements or written text. To make future analysis easier, the researchers made sure the encoded data was coherent and clear.

2.7 Data Analysis

Utilizing Colaizzi's (1978) phenomenological approach, the researchers investigated the participants' real-life experiences. Qualitative data analysis is an iterative and inductive process that transforms data into insights. Colaizzi's descriptive method Phenomenology was applied to investigate and analyze the difficulties, coping strategies, and importance of experience.

These are the following seven phases in analyzing qualitative data using Colaizzi's phenomenological method to identify main themes:

To get a general sense of the ideas presented from the interviews, as researchers, first we read the entire interview, including all the participant's responses to the open-ended questions. Then we verified the transcription by looking at the video that had been recorded. Second, we took out the key points from their answers, and pay equal attention to the encoding process. Third, we developed the meanings thoroughly without prejudice. Fourth, we categorized the meanings according to themes. Fifth, we unified all-encompassing explanation of the categorized themes. Sixth, created a clear and concise statement that revealed the essential elements of the phenomenon. Lastly, convened for a comprehensive interview with the participants.

2.8 Ethical Considerations

The researchers gave ethical considerations top priority in this qualitative investigation to make sure the privacy and confidentiality of participants. There were precautions taken to make sure the participants could not be mentioned in the reports, protecting their privacy.

The researchers were aware of the participants' regular activities, guaranteeing that their participation in the study did not interfere with their daily schedules or general wellbeing. Participants gave their informed permission after providing comprehensive details regarding the goal, methods, and volunteer nature of the study. Permission was given to the participants, they will be able to sign the consent form, which will include a letter describing the main points of the study for their comprehension and readiness to take part. The researchers pledged to uphold confidentiality, not revealing the names of the participants in any presentations or publications.

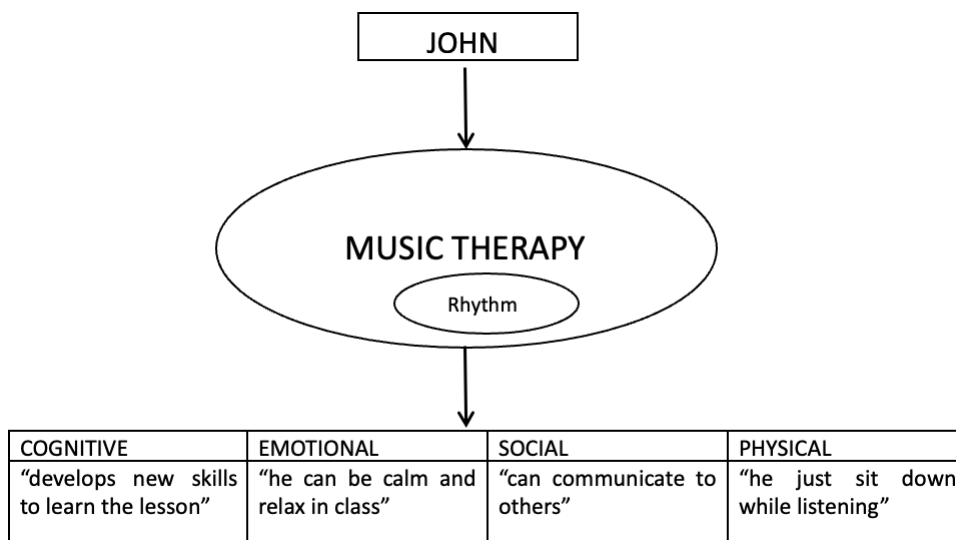
These moral considerations seek to shield the gathered data from potential harm and unapproved access, enhancing the study's integrity.

3. Results and Discussion

John was diagnosed with ADHD. He has a lot of challenges that affect his participation and performance. John talks about having trouble concentrating and remaining motionless during class and frequently struggles to maintain his focus. John is reportedly agitated and frequently needs reassurance to stay on target, according to his parents and teacher. He is said to be "constantly running around," having trouble listening, and obeying directions.

The research's data were gathered using the following methods: observations and conversations derived from the traits of John as seen by his actions at home or in the classroom. The approach of John's music therapy is done by playing music that he like such as educational learning songs from internet.

This idea was connected to the answers primarily from John's parent and adviser, who describe their personal experiences:



John's adviser reported that she used music in the classroom before. She allowed John to use the headphone for about 15-30 mins while listening to his favorite learning songs in the internet. *"He can understand well, it's very effective especially to student like John, he can learn much more than just a picture".*

"Malipay siya, mawala iyahang ka kiat sa balay, unya maminaw sa music, oo mas mu kalma".

Translation: He is happy, he can lose his nastiness in the house while listening to music, a tendency that he could be calmer.

The results of the interviews suggest that music therapy provides benefits for children with ADHD. Children with ADHD experience some difficulties with timing deficits may be associated with deficiencies in attention, reading, language skills, or executive function. The study demonstrated its efficacy in reducing symptomatology in many disorders. Listening to music prove to be a useful assessment and effective tool in compensating for the difficulties with multi-modal treatment in ADHD.

Additionally, it was noted that because irregular rhythms are more complicated than regular rhythms, John pays more attention and is better able to focus on his activities when listening to regular rhythms.

The adviser and parent of John said that John's attention span expanded and his academic success improved and became more sociable and participant. *"Of course! He listens to music like songs with regular rhythms.*

"Sa balay mas ganahan siya maminaw ug simple lang nga music example twinkle, twinkle little stars na kanta, while naga paminaw siya maka concentrate jud sa ug mag behave siyag maayo. Added by the parent.

Translation: In the house, he likes to listen more on simple music, for example twinkle, twinkle little stars, while listening to that he can really concentrate and able to behave well.

Notably, it is a commonly accepted that children with ADHD studies that listening to music before or during a task could improve attention performance better than silence. (Fernandez, et al, 2023).

3.1 Findings

The participants described that music therapy has the power to engage attention, enhance emotional regulation, and improve cognitive skills. Additionally, it provides a creative outlet for self-expression, promoting social interaction and positive behaviour. In this way, music therapy can help John avoid certain disorders like attention. In this study, the usage of different children songs had also been used (Dolgun, 2018). The effectiveness of music therapy in ADHD children underscores the importance of holistic approaches that go beyond traditional medical treatments.

4. Conclusion

The implementation of music therapy in children with ADHD has an effective role in reducing anxiety and promoting emotional regulation. Based on the above exposure, music has proven to children with ADHD improve concentration and reduce co-occurring ADHD disorders, like anxiety and depression. In addition, the role of music therapy as an alternative treatment showed positive effects in neurophysiological and psychological effects.

5. Recommendation

Our perspective highlights the need for in-depth research on music therapy in ADHD children. Conducting observational and experimental studies across various settings could indeed enhance our understanding of the impact on their development. Examining family dynamics and involvement would provide valuable insights into overall effectiveness of music therapy in this context.

Further studies should be conducted as music therapy is a relatively recent form of therapy, especially in ADHD children. Music with a slow tempo and a steady beat, such as classical music or ambient tunes, can be beneficial for ADHD children.

Additionally, music that incorporates simple or regular rhythms like children's songs may help improve focus and concentration. It's important to observe individual preferences, as a response to music can vary.

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