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Parents' Perceptions of Kinesthetic Learning and Academic Performance Among Students With Attention Deficit Hyperactivity Disorder

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MS, Florida A&M University, 2009

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Dissertation Submitted in Partial Fulfillment

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Abstract

Students with attention deficit hyperactivity disorder (ADHD) struggle academically more than students without ADHD. Although kinesthetic learning, a motor and tactile style of experiential learning, has been found to benefit students generally, parents' perceptions of it as an educational intervention for students with ADHD has not been examined. The purpose of this qualitative study was to explore parents' perceptions of kinesthetic learning and academic performance among students with ADHD. The experiential learning theory, which posits that learning occurs through experience, was the theoretical framework for the study. Eleven parents participated in an open-ended question interview ranging from 7 to 22 minutes. Interview transcripts were analyzed and coded until data saturation was achieved. Two themes emerged from the data analysis. Theme 1 was participants' perception of kinesthetic learning as valuable, impactful, and generally accommodating to their child with ADHD. Theme 2 was participants' perception of kinesthetic learning as influencing academic performance through parental guidance, interaction with specialists, use of fidget tools, and participation in kinesthetic and classroom activities, as well as by impacting focus, work completion, movement, comprehension, retention, behavior, focus, enjoyment, engagement, and confidence. The findings suggest that kinesthetic learning is a practical approach to bolster the academic performance of students with ADHD. Providing students with ADHD kinesthetic learning strategies in academic settings may promote positive social change by potentially reducing in-class reprimands, increasing self-esteem and confidence, fostering more engagement, and improving academic performance, among other things.

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Dedication

First and foremost, I would like to thank God for giving me the fortitude to set out on this dissertation journey and encouraging and comforting me along the way. Next, I would like to dedicate this body of work to my son. From the moment I became a mom, my son has always been my greatest inspiration. I love my son, dearly, and I have always basked in the idea of him being proud of me and my endeavors. In addition, I would also like to dedicate this body of work to my parents. My parents have always supported my dreams and created a space for me to make my dreams a reality. I will forever love them for that. Thank you, Mom and Dad. I would also like to dedicate this body of work to the rest of my family, specifically calling out my sisters, my brother, and my grandmother. My family has always been patient and supportive of my goals from start to finish, and I love them for always supporting me no matter what. I appreciate and thank you all. Lastly, I would like to dedicate this body of work to all my former clients with ADHD. Thank you all for inspiring me to embark on this doctoral journey.

Acknowledgments

I would like to acknowledge my dissertation committee chair, Dr. Jennifer Rounds-Bryant, for her enduring support, patience, and guidance throughout my dissertation journey. Thank you so much, Dr. Rounds-Bryant, for helping me successfully reach the dissertation finish line. Please know that I am thankful beyond words. You are truly an amazing and phenomenal chair. I would also like to acknowledge my second dissertation committee member, Dr. Jeremy Grabbe, for his continued support and kindness throughout my dissertation journey. Thank you so much, Dr. Grabbe, for also assisting me with reaching the dissertation finish line. You are also greatly appreciated, and I could not have asked for a better second committee member. I would also like to acknowledge all the parents who participated in my study and everyone who assisted me along the way throughout my dissertation journey that I did not mention. The successful completion of this dissertation would not have been possible without the continued support that I received throughout this dissertation journey from all parties involved, and for that, I am eternally grateful. Thank you all from the bottom of my heart.

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Chapter 1: Introduction to the Study

Over 6 million children in the United States had attention deficit hyperactivity disorder as of 2016 (ADHD; Danielson et al., 2018). ADHD is a neurological condition that causes individuals to exhibit excessive hyperactivity, poor impulse control, and an inability to maintain focus (Deshmukh & Patel, 2019). As a result, students with ADHD are more likely to struggle academically than students without ADHD (Fried et al., 2016; see also Colomer et al., 2017). In comparison to students without ADHD, students with ADHD are more likely to repeat a grade, refuse to attend school, or drop out of school (Fried et al., 2016). Because ADHD symptoms negatively affect their academic performance, students with ADHD need effective interventions and support to overcome academic struggles (Prevatt et al., 2017).

In relation to potentially effective interventions, Das (2015) suggested kinesthetic learning strategies as a possible intervention to help students with ADHD to improve academically. Kinesthetic learning allows individuals to learn by using the five senses through actual experience and practice (Shah et al., 2017). Notably, kinesthetic learning was the chosen learning style among a significant number of college students in a recent study conducted in 2018 (Aboe, 2018). Kinesthetic learning has been found to benefit students generally (Anthamatten et al., 2018).

In this study, I explored parents' perceptions of kinesthetic learning as a possible factor to improve academic performance among students with ADHD. In reviewing the literature, I found no empirical data on parents' perceptions of kinesthetic learning and academic performance among students with ADHD. Firmin et al. (2019) recommended

that educational researchers include larger sample sizes and different parent populations and assess parental perceptions of specific factors that influence students' academic performance, such as learning styles. More insight on parents' perceptions of kinesthetic learning for students with ADHD may inform educators' decision-making regarding learning strategies to use with this student population. Research shows that parental perceptions of potentially effective interventions tend to impact students' academic outcomes (Dotterer & Wehrspann, 2016). A kinesthetic learning strategy adaptation may help to improve academic performance among students with ADHD.

In Chapter 1, I will provide an overview of the study, beginning with background information on the study topic. I will then state the problem and purpose of the study, present the research question, provide overviews of the theoretical framework and nature of the study, and define key terms. Discussion of the assumptions, scope and delimitations, limitations, and significance of the study are also included in the chapter.

Background

There is a growing body of research on the academic outcomes of students with ADHD. In one of these investigations, Fried et al. (2016) examined whether ADHD is an early determinant of school dropout among high school students (404 students with ADHD and 349 students without ADHD). Fried et al. found that 28% of students with ADHD repeated a grade compared to 7% of students without ADHD. A student with ADHD was 3 times more likely to drop out of high school than a student without ADHD. Hence, Fried et al. concluded that ADHD significantly contributes to school dropout among ADHD high school students. The researchers argued for the establishment of

more effective early ADHD interventions and identification programs to combat undesirable academic outcomes among ADHD students. Obtaining clarity of parental perceptions of potential ADHD interventions is a plausible next step to validifying the effective ADHD interventions advocated for by Fried et al.

Addressing the learning style(s) of students with ADHD may be helpful. Koifman (2017) categorized ADHD students as special education needs students. Koifman suggested that each special education needs student has one or two primary learning styles, whether visual, auditory, or kinesthetic. As a result, Koifman argued for teachers to develop multiple lesson plans to accommodate these students' primary learning style(s) to improve academic outcomes.

There is evidence of the effectiveness of tailoring teaching style with other student populations, based on parental perceptions. Using a phenomenological design, Firmin et al. (2019) assessed 15 parents' perceptions of factors impacting homeschooled students' academic success. Firmin et al. found that tailoring teaching style to homeschooled students' learning style was a common factor that parents perceived as impactful towards students' academic success. However, Firmin et al. noted that limitations to the study included a small sample size and lack of diversity among participants. For instance, all participating parents identified as White. To address this issue, Firmin et al. suggested that future researchers include larger sample sizes and various parent populations. Firmin et al. also suggested that researchers should explore parental perceptions of individual factors that influence students' academic performance, such as learning styles.

In addition, Morgan (2014) conducted a case study that focused on the effects of differentiated instruction on a struggling student's academic success. Differentiated instruction is defined as instruction tailored to a student's learning style and talents (Morgan, 2014). After the student in question was exposed to various differentiated learning strategies, the student's academic outcomes improved significantly. Based on the findings, Morgan encouraged the use of differentiated learning strategies among students struggling academically. This call also supports DuPaul and Jimerson's (2014) assessment of academic outcomes among ADHD students. DuPaul and Jimerson found that ADHD students require substantial support and increased understanding among school officials to thrive academically. DuPaul and Jimerson also encouraged researchers and school officials to clearly identify the interventions that are academically effective among ADHD students.

In relation to kinesthetic learning, Shah et al. (2017) studied the variation of learning styles among students. The findings showed 23 of the 49 students they interviewed preferred a kinesthetic learning approach. Shah et al. suggested the implementation of teaching approaches that accommodate students' learning preferences (in this case kinesthetic) to improve academic outcomes. By the same token, Hinshaw (2017) analyzed the complexity of ADHD and argued for the advancement of evidence-based intervention and assessment among the ADHD population. Hinshaw also noted the need for improved scientific translations that identity efficacious assessments and interventions utilized to maximize the quality of life among the ADHD population. The

point is it is plausible to assess kinesthetic learning as an educational approach that may or may not impact academic performance among students with ADHD.

Problem Statement

Research shows that parental perceptions of interventions are one of the many factors that impact academic outcomes among students (Dotterer & Wehrspann, 2016). Specifically, parental perceptions of academic interventions can cause parents to advocate, support, or rebuke the implementation of the intervention in question (Dotterer & Wehrspann, 2016). Students with ADHD are three times more likely to repeat a grade or drop out of school compared to students without ADHD (Fried et al., 2016). To address these issues, Dempsey (2017) suggested the implementation of structured and unstructured kinesthetic movement to manage ADHD symptoms among students with ADHD in a classroom setting. Generally, the research literature shows that kinesthetic learning benefits conventional students as well as students with ADHD receiving educational instruction in various academic subjects (Anthamatten et al., 2018). However, even though kinesthetic learning is gradually becoming known as an academic performance intervention among researchers, parental perceptions of kinesthetic learning and academic performance among students with ADHD remain unclear in the literature (Gapin & Etnier, 2014). I addressed this gap in the literature by exploring parents' perceptions of kinesthetic learning and academic performance among students with ADHD.

Purpose of the Study

The purpose of this research study was to address the gap in the literature concerning parents' perceptions of kinesthetic learning and academic performance among students with ADHD. Educational psychology is the study of how people retain and learn information (Duchesne & McMaugh, 2015). Educators use educational theories as guides to improve the learning process and promote academic success among students (Duchesne & McMaugh, 2015). This study contributes to the field of educational psychology by exploring parents' perceptions of the role of kinesthetic learning strategies in helping students with ADHD retain and learn information.

Research Question

What are parents' perceptions about kinesthetic learning and its role in academic performance for students with ADHD?

Theoretical Framework

I used the experiential learning theory as a framework for the study. The theory posits that learning occurs through EL or through hands-on real-world experience (Kolb & Kolb, 2017). According to Kolb and Kolb (2017), experiential learning theory operates under three levels, which are the learning cycle, the learning style, and the learning space. The experiential learning theory may be used as a guide to improve teaching efficiency, student participation, and learning (Kolb & Kolb, 2017). For these reasons, I concluded that the theory was an appropriate framework for exploring parents' perceptions of kinesthetic learning and academic performance among students with ADHD.

Nature of the Study

I used a generic qualitative approach in the study. A qualitative approach was appropriate due to the study's exploratory nature. In other words, the study was geared towards understanding a phenomenon from the participants' perspectives as revealed by their responses to interview questions that were analyzed to elicit key themes. Qualitative research involves collecting data from interviews and analyzing the data by reporting themes derived from participants' interview transcripts (Creswell, 2014). On the contrary, a quantitative approach involves discovering and measuring a phenomenon using psychometric tools that provide numeric statistical data that are assessed through statistical analysis (Creswell, 2014). To gather data, I interviewed 11 parents of students with ADHD. If the participant provided consent, the interview was recorded. In the interviews, I asked participants open-ended questions about their perceptions of kinesthetic learning and academic performance among students with ADHD.

Definitions

Academic performance: A student's utilization of various abilities, such as information processing, self-regulation, information recall, study skills, engagement, commitment, and self-confidence, to meet their educational institution's academic standards and attain academic success (Mason, 2017).

Attention deficit hyperactivity disorder (*ADHD*): A neurological impairment that affects executive functioning, self-regulation, the ability to sustain focus, and causes excessive hyperactivity and impulsivity (Martin, 2014).

Kinesthetic learning: A learning style that incorporates movement into the learning process and allows individuals to process information through experience and practice using the five senses, such as hearing, touching, smelling, tasting, and seeing (Shah et al., 2017).

Parent perception: A parent's impression of or feelings about an idea relating to their child or children (Ruggieri et al., 2020).

Parent: In this study, the mother or father, guardian, or adoptive parent of a student with ADHD (Wikle & Hoagland, 2020).

Assumptions

In this study, I sought to determine parents' perceptions of kinesthetic learning and academic performance among students with ADHD. I assumed that the topic was important because parents' perceptions of academic interventions and demands for their implementation tend to shape the student's academic environment (Dotterer & Wehrspann, 2016). Further, I assumed that participating parents would have preexisting knowledge of common academic struggles among students with ADHD. Finally, it was assumed that experiential learning theory would provide a suitable framework for interpreting the data regarding the exchange between school, parent, and child with respect to children with ADHD and kinesthetic learning strategies.

Scope and Delimitations

The focus of this study was on parents' perceptions of kinesthetic learning and academic performance among students with ADHD. Regarding scope, the inclusion criteria included parents who had or had had a child diagnosed with ADHD in

kindergarten through 12th grade. In addition, participating parents must have also had a child diagnosed with ADHD who participated in an academic environment that included elements of kinesthetic learning. Regarding delimitations, parents who did not have or had a child diagnosed with ADHD in kindergarten through 12th grade were not included in the study. Furthermore, parents of children who were diagnosed with ADHD but who did not participate in an academic environment that incorporated elements of kinesthetic learning were not included in the study. Due to the small sample size, the findings lack generalizability.

Limitations

This was a generic qualitative study using open-ended interview question data. The data came from a small sample of 11 parents, which means that the findings lack generalizability. I note this limitation for scholars who intend to duplicate this study or use it as a basis for further investigations.

Significance

Students with ADHD are more likely to drop out of school or repeat a grade level compared to students without ADHD (Colomer et al., 2017). For this reason, interventions that improve academic performance among ADHD students are needed (Arnold et al., 2015). Research indicates that kinesthetic learning benefits students generally (Anthamatten et al., 2018), but research is currently lacking on the intervention's impact on students with ADHD. Providing empirical evidence of parents' perceptions of kinesthetic learning and academic performance among students with ADHD may be helpful. Parents' perceptions of academic interventions tend to impact

intervention implementation (Dotterer & Wehrspann, 2016). This study's implications for positive social change include informing teachers and school administrators about a learning approach that parents may support and that may also help students with ADHD excel academically.

Summary

Research shows that ADHD affects students' academic performance (Colomer et al., 2017; Fried et al., 2016). It is thus impertative to investigate interventions that may improve these students' learning outcomes. Kinesthetic learning has been found to benefit students generally (Anthamatten et al., 2018), but research is currently lacking on its impacts on students with ADHD. Understanding parents'perceptions of kinesthetic learning and academic performance among students with ADHD may be helpful to teachers and school administrators who are considering implementing this strategy and to students with ADHD who may benefit. In Chapter 2, I review the literature related to the study.

Chapter 2: Literature Review

In this study, I focused on parents' perceptions of kinesthetic learning and academic performance among students with ADHD. Current literature supports the need for research on parents' perceptions of effective interventions that impact academic performance among students with ADHD (Prevatt et al., 2017). Kinesthetic learning has been found to benefit students generally (Anthamatten et al., 2018). Furthermore, research shows that parental perceptions of potentially effective interventions tend to impact students' academic outcomes (Dotterer & Wehrspann, 2016). However, empirical data on parents' perceptions of kinesthetic learning and academic performance among students with ADHD are lacking. I conducted this study to address this gap in the literature. In this chapter, I review the literature supporting this study. Before reviewing the literature, I discuss the literature search strategy and provide an overview of the theoretical foundation of the study.

Literature Search Strategy

I used Walden University Library to access various online databases. These included PsycARTICLES, PsycINFO, SocINDEX with Full Text, PsycBOOKS, PsycTESTS, SAGE Journals, Science Direct, Thoreau Multi-Database Search, CINAHL & MEDLINE Combined Search, ERIC and Education Source Search, Psychology Databases Combined Search, and PsycTESTS & Health and Psychosocial Instruments Combined Search. I also used the search engine Google Scholar. Key search terms that were used to locate relevant literature (with the number of results in parentheses) were as follows: *ADHD and parent perceptions* (24,100), *kinesthetic learning and parent*

perceptions (12,800), *ADHD* (57,994), *parent perceptions* (12,367), *and kinesthetic learning* (709), *ADHD and academic performance* (23,500), *ADHD and academic success* (428), *non-medicated ADHD students and academic performance* (396), *non-medicated ADHD and academic success* (744), *untreated ADHD and academic outcomes* (6,780), *untreated ADHD and elementary school* (2,050), *kinesthetic learning and ADHD* (2,750), *kinesthetic learning* (18,400), *untreated ADHD* (12,600), *kinesthetic learning and academic success* (16,800), *kinesthetic learning and academic performance* (17,300), *Experiential Learning Theory* (*ELT*; (74,900), *ELT and ADHD* (7,010), *Visual Auditory Kinesthetic (VAK) learning styles and ADHD* (90), *VAK learning styles* (4,740), *learning styles and ADHD* (17,200), *academic performance measurement* (824,000), and *academic performance psychometrics* (16,800).

Theoretical Foundation

I used the experiential learning theory as the foundation for this research. According to Kolb and Kolb (2017), experiential learning theory suggests that individual learning takes place through experience or hands-on experience. There are four levels of experience associated with the theory, which are concrete (physical experience), reflective (observation and evaluation of the experience), abstract (conclusive thought of the experience), and active experience (applying newfound knowledge of the experience to future approaches based on the entire experience; Kolb & Kolb, 2017). For example, if an individual's goal is to learn how to ride a bicycle, the concrete experience is getting on the bicycle and trying to ride the bicycle. The reflective experience is the individual determining what tactics are working or not working concerning riding the bicycle

successfully. Abstract conceptualization occurs when the bicycle rider determines ways to improve on meeting the goal of learning to ride the bicycle successfully (without falling). Active experience occurs when the individual trying to learn how to ride a bicycle uses all knowledge gained from the other three levels of experience to make an informed decision about how to ride a bicycle successfully.

Early Research Using the Experiential Learning Theory

One of the earliest studies featuring experiential theory was conducted in the 1970s. Corto and Peter (1976) conducted an exploratory analysis focusing on perceived learning dimensions in an experiential learning setting. In the study, 44 undergraduate students read the same article and followed directives from the instructor related to the reading of the article, such as creating a speech or project related to the article. The research instrument included 11 seven-point scales to assess the number of learning subjects perceived by participants. Almost three fourths (74.7%) of participants viewed learning as completing tasks as opposed to discussing, reviewing, or reading content. Corto and Peter recommended that future researchers compare experiential learning settings to traditional learning settings utilizing specific academic activity performance outcomes to measure the level of efficiency of both domains.

In the next decade, Specht (1984) used the experiential learning theory to examine the relationship between the degree of participation and students' characteristics regarding comprehension and retention. Specht compared lecture-based discussions to experiential learning-based discussions in terms of their effectiveness in improving comprehension of taught concepts among 188 undergraduate students. The researcher

found that the experiential learning-based approach was more useful in relation to improving comprehension and retention among the participants. Specifically, within the experiential learning domain, female students, students with lower grade point averages (GPAs), and older students performed better than male students, students with higher GPAs, and younger students. Specht concluded that participation improves students' understanding or comprehension of taught information. Specht recommended that future researchers focus on replicating the study by teaching more complex concepts, considering the student's cognitive abilities, or manipulating the duration of exposure to the approach.

Research continued on experiential learning theory in the 1990s. Siegal et al. (1997) used a video simulation of an audit to explore levels of comprehension among students. They showed a video simulation featuring effective auditing techniques to the treatment group. The video simulation was not presented to the control group. All other methods of teaching auditing skills were identically implemented among both groups by the same instructor. Further, auditing-related pre- and posttests were administered by the researchers to measure improvement in auditing comprehension. In analyzing results, Siegal et al. found that the treatment group's exam scores were higher that the control group's exam scores. As a result, Siegal et al. recommended that future researchers explore the use of experiential learning theory in various courses among a diverse population of students.

Current Research Using the Experiential Learning Theory

Experiential learning theory continues to be explored in the 2000s. Survey findings that showed that 14% of students with intellectual and developmental disabilities in multiple schools in Wisconsin reported attaining competitive employment after graduating from high school were the basis for one study (Molfenter et al., 2017). In the study, Molfenter et al. (2017) explored career coaching interventions as options to improving these students' chances of attaining a competitive job after graduating from high school. They based the study on experiential learning theory. The interventions utilized in the study included exposing students to hands-on evidence-based job transition curricula, providing relative training for school staff and all stakeholders, and developing relative and inclusive policies. Almost three fourths (73%) of the students with intellectual and developmental disabilities who participated in the intervention program attained a paid job experience, and the percentage of these students who attained a competitive job after graduating from high school in prior years increased from 15% to 24%. Given the increase, Molfenter et al. recommended that future researchers explore the impact of hands-on coaching and various aspects of learning among students with intellectual and developmental disabilities.

In the following year, Revens et al. (2018) published results from a qualitative study in which they explored experiential learning theory as a basis for learning best practices for developing Latino community advocacy protocol among social work students. Specifically, social work students participated in a course on social work practice with Latino communities (Revens et al., 2018). The course exposed the nine

students to hands-on Latino community interactions, activities, and assignments. The students participated in a recorded focus group and answered four open-ended interview questions. The results highlighted four emerging themes needed for developing Latino community advocacy policies, which included perspective taking, encounter, awareness, and advocacy. The results, Revens et al noted, add to a growing body of literature that encourages the application of experiential learning theory within social work education. In addition, Revens et al. argued that experiential learning theory-based courses be explored in more depth as tools to improve learning among various groups.

In another social work education setting, Kenney and Young (2019) explored using experiential learning as a tool to help social work students understand the impact of food shortages. Specifically, the researchers used experiential learning theory to improve students' understanding of the Supplemental Nutrition Assistance Program (SNAP) and food shortages. In the study, 50 students only spent $6.10 on food per day for six days, and each participant reported their experiences on the class discussion board. The overall objectives were to increase students' knowledge of SNAP and budgeting routines, gain insight on stigmatization associated with the use of SNAP benefits, and increase empathy regarding SNAP beneficiaries. Kenney and Young reported that all 50 students met the objectives. They recommended that future researchers use experiential learning theory to build awareness of how different groups live or experience various aspects of life to improve understanding and provide a basis for effective advocacy.

In a similar vein, Williams (2020) applied the experiential learning theory to provide college students with an opportunity to develop real world experiences

interacting with students form diverse backgrounds. Specifically, 12 students from diverse backgrounds traveled to a location together and engaged in activities (such as camping or canoeing) that prompted interaction. As a result of the hands-on experience, each student developed a personal knowledge about the other participants that they may not have developed prior to participating in the study. Williams recommended that future researchers use experiential learning to explore potential best practices for addressing diversity in academic settings.

Review of the Literature Related to Key Variables and/or Concepts

Attention Deficit Hyperactivity Disorder

Definition

ADHD is a neurological impairment that affects an individual's ability to maintain focus and manage impulsiveness; it causes individuals to exhibit excessive hyperactive behaviors (Sarver et al., 2015). Generally, licensed professionals diagnose an individual with ADHD before age 12. ADHD diagnosis criteria include a requirement that symptoms must interfere with an individual's ability to function in two or more environmental settings (such as school, social, or occupational settings; Lawrence et al., 2017).

Early Research

The earliest study mentioning ADHD-related symptoms, such as inattention, hyperactivity, and lack of impulse control, dates to 1902 (Barkley, 2009). In this study, George Still presented lectures based on data obtained from his clinical case studies conducted on 43 children exhibiting overactive motor spasms, struggling with sustaining

attention, and displaying unacceptable behaviors (Barkley, 2009). Still provided some of the earliest research data that described symptoms of ADHD among children.

By 1970, some researchers were questioning the impact ADHD has on people's quality of life. For instance, Hadi et al. (1970) conducted a study assessing health-related quality of life in mothers of children with ADHD. There were 100 mothers of fourth graders with ADHD and 100 mothers of fourth graders without ADHD in the study. Hadi et al. found that the quality of life among mothers of students with ADHD is significantly lower than that of mothers of students without ADHD. As a result, Hadi et al. suggested a need for programs that educate and support parents of children with ADHD.

Two decades later, DuPaul and DuPaul (1991) tested the reliability and validity of the ADHD rating scale by obtaining parents' and teachers' ratings of 653 and 564 students, respectively. DuPaul and DuPaul found teacher and parent ratings to be stable and consistent. As a result, DuPaul and DuPaul concluded that the ADHD rating scale is a reliable and valid psychometric tool in relation to assessment and screening capabilities. Furthermore, DuPaul and DuPaul recommended that more studies test the validity and reliability of the ADHD scale among a more diverse population as their study included primarily White participants.

Some years later, Byrne et al. (1998) conducted a study in which they assessed the effectiveness of stimulant medication (ritalin and dexedrine) on preschool-aged children diagnosed with ADHD. Sixteen preschoolers with ADHD taking stimulant medication and 16 nonmedicated preschoolers with ADHD participated in the study. Byrne et al. found that parents of the participants taking stimulant medication reported significant

reductions in ADHD symptoms among their preschooler with ADHD; the symptoms included hyperactivity, inattention, and behaviors that parents considered problematic. To obtain more data, the researchers administered the Picture Deletion Test for Preschoolers Revised (Corkum et al., 1995), the Continuous Performance Test for Preschoolers-Visual (Corkum et al., 1995), and the Continuous Performance Test Auditory (Prather et al., 1995) to the participating preschoolers. Byrne et al. found significantly improved scores among all tests except the Continuous Performance Test Auditory. As a result, Byrne et al. recommended that physicians and parents consider utilizing available methods to evaluate medication treatment effectiveness before deciding to place preschoolers with ADHD on stimulant medication.

In contrast, Trout et al. (2007) conducted a study reviewing non-medication interventions to improve academic performance of students with ADHD. Specifically, Trout et al. (2007) reviewed 41 studies evaluating the effectiveness of non-medicated interventions on academic performance among students with ADHD. As a result, Trout et al. found that traditional and nontraditional intercessions positively impacted academic performance among ADHD students. However, Trout et al. argued that the reviewed studies lacked clarity regarding clearly describing participant characteristics and classroom settings, which impacts the generalizability of conclusions. As a result, Trout et al. argued for the completion of more studies assessing the impact of non-medication interventions on academic performance among students with ADHD that clearly identifies and defines the most academically impactful interventions and settings for the ADHD student population.

Current Research

However, Molina and Musich (2016) conducted a study that assessed children with ADHD's perception of parenting styles' influence on ADHD symptoms. The study included a combination 120 child participants with and without ADHD and their parents (Molina & Musich, 2016). As a result, Molina and Musich found that children with ADHD perceived a higher level of pathological parenting and excessive autonomy among their parents than that of other children. As a result, Molina and Musich concluded that the abovementioned perception predicted externalizing ADHD symptoms. Moreover, Molina and Musich recommended that future research replicates the study and includes a larger sample.

Similarly, Climie and Mitchell (2017) conducted a study that focused on the effect of mother-child and father-child relationships on behavior outcomes in children with ADHD. According to Climie and Mitchell (2017), 74 children with ADHD, 74 mothers of children with ADHD, and 34 fathers of children with ADHD participated in the study. In addition, Climie and Mitchell used multiple measures to determine the findings. As a result, Climie and Mitchell found that mothers and fathers of children with ADHD commonly reported feelings of frustration within the parent-child relationship. In addition, results showed relational frustration consistently predicted negative behavior ratings among parents regarding behavior problems among children with ADHD (Climie & Mitchell, 2017). Thus, Climie and Mitchell recommended that practitioners utilize the findings of this study to develop interventions that will strengthen the bonds between parents and children with ADHD.

Comparably, Nuri and Direktor (2019) conducted a mixed methods study to determine the needs of parents of children with ADHD. Further, 200 parents participated in the study through special education teacher recruitment (Nuri & Direktor, 2019). In addition, Nuri and Direktor used various rating scales, semi-structured interviews, and case study analysis to obtain the data for the study. Regarding quantitative data, parental stress significantly predicted quality of life (Nuri & Direktor, 2019). Regarding qualitative data, school issues, community issues, and emotional disability are common themes that emerged (Nuri & Direktor, 2019). Given the findings, Nuri and Direktor concluded that parents of ADHD children need more training and education programs need to provide preparatory training that caters to the needs of the parents of children with ADHD.

Essentially, students with ADHD and their parents experience stress associated with managing ADHD symptoms. The abovementioned literature validates the need for additional studies that explore effective ways to improve a student with ADHD's quality of life academically and personally. Specifically, there is room for more research to be conducted that focuses on identifying and understanding operative ways to support students with ADHD and their parents.

Academic Performance and Students With ADHD

Early Research

By 1980, the American Psychiatric Association had reclassified hyperactivity as an attention deficit disorder (Weithom et al., 1984). As a result, Weithom et al. (1984) conducted a study exploring the relationship of hyperactivity level ratings and cognitive

impulsivity to task completion and academic achievement. According to Weithom et al., 90 second graders in general classes participated in the study, and second graders who were already classified as mentally retarded, emotionally disturbed, brain injured, bilingual, handicapped, or taking medication for hyperactivity were all excluded from the study. In addition, participating teachers selected a group of 45 non-hyperactive students and a group of 45 high-hyperactive students to participate in the study and compare both groups. Further, the Conners Abbreviated Teachers' Questionnaire (Conners ATQ; Conners, 1973) was utilized by the teachers to measure student's activity level (Weithom et al., 1984). According Weithom et al., six other assessments were used to obtain relative data to the study. As a result, Weithom et al. found that impulsivity and reflectivity (attention span) significantly impacts academic achievement and task performance than hyperactivity level ratings. As a result, Weithom et al. recommended that future studies focus on identifying effective task completion and compensatory strategies to aide hyperactive children.

However, Frick et al. (1991) conducted a three-year longitudinal study that focused on academic underachievement and disruptive behavior disorders. According to Frick et al. (1991), the study specifically concentrated on academic underachievement among male students with ADHD or conduct disorder (CD). In addition, 177 clinically referred males (ages 7-12) participated in the study (Frick et al., 1991). After participants underwent a series of tests over the three-year span, Frick et al. found that ADHD predicts academic underachievement, and CD predicts academic underachievement primarily as a co-occurring disorder alongside ADHD. As a result, Frick et al.

recommended that future research focuses on identifying the cause of the association between ADHD and academic underachievement.

In relation to academic underachievement among students with ADHD, Merrell and Tymms (2001) conducted a study assessing inattention, hyperactivity, and impulsivity's (ADHD symptoms) influence on academic achievement and progress. In addition, 4,148 children participated in the study over a two-year span (Merrell & Tymms, 2001). After undergoing teacher assessments and a behavior assessment during the designated school term, results showed that students exhibiting ADHD symptoms performed significantly lower on math and reading achievement tests than their counterparts (Merrell & Tymms, 2001). Results also showed that students exhibiting ADHD symptoms received higher ratings from teachers regarding demonstrating behavioral deficits in a school setting (Merrell & Tymms, 2001). As a result, Merrell and Tymms recommended that future studies focus on identifying effective teaching methods needed to improve the academic standing of students that exhibit ADHD symptoms.

Essentially, students with ADHD struggle academically (Martin, 2014). Based on a study sample of 136 students with ADHD, common academic struggles among students included: failing grades, repeating grade levels, refusing to attend school, frequent class and school changes, academic exclusion, and noncompletion of schoolwork (Martin, 2014). In the same study, Martin found that ADHD is a predictor of noncompletion of schoolwork, school suspension and expulsion, frequent changing of schools, and repeating grade levels. In addition, Martin also found that students with ADHD tend to

exhibit poor self-regulatory behavior, off-task behavior, seek attention and fail to complete a task.

Notably, Bellanca and Pote (2013) argued that social struggles among students with ADHD tend to lead to low self-esteem. For instance, concerning causes of low self-esteem among children with ADHD, Bellanca and Pote (2013) conducted a study to investigate stigmatizing attitudes towards mental health disorders (MHD) and learning disabilities (LD) among Typically Developing (TD) children. As a result, Bellanca and Pote found that TD children are less likely to interact with children who have ADHD than that of children with depression and LD.

However, on the contrary, Moldovsky et al. (2013) emphasized teachers' lack of understanding of ADHD as the culprit linked to academic failure among ADHD students. Specifically, Moldovsky et al. (2013) examined teachers' abilities to identify ADHD symptoms in children, and whether gender or ADHD subtypes played a role in their ability to identify those symptoms, and management of those symptoms. As a result, the authors found out of 496 teachers, a considerable number of teachers were unable to identify the inattentive subtype of ADHD in students with ADHD (Moldovsky et al., 2013). In addition, the authors concluded that teachers need more education on how to properly identify all subtypes of ADHD to provide the best academic interventions possible to help students with ADHD achieve academic success (Moldovsky et al., 2013). Similarly, Hardman (2017) also argued that teachers of students with ADHD often lack the proper training regarding how to instruct students with ADHD, and, as a result, many teachers fail to provide effective learning opportunities for students with ADHD due to

lack of training and understanding regarding best practices for teaching students with ADHD.

In addition, some students with ADHD attend special education classes to improve their behavioral and academic performance outcomes. For instance, Stoutjesdijk, et al. (2013) studied the differences in academic and behavioral progress among students with ADHD in special education classes versus students with ADHD in regular classes. As a result, Stoutjesdijk et al. (2013) found that emotional support and encouraging behavior reinforcement are teaching strategies that helped improve behaviors among students with ADHD in both traditional and special education classroom settings. However, what is not noted in the study is whether other factors contributed to the progress, such as receiving ADHD treatment.

Current Research

Students with ADHD are 2.7 times more likely to repeat a grade level or drop out of high school when compared to their non-ADHD counterparts (Fried et al., 2016). For instance, Fried et al. (2016) conducted a study that assessed whether ADHD is a risk factor for high school dropout. As a result, Fried et al. found out of 404 students with ADHD, 28% repeated a grade level or failed to complete high school, and out of 349 students without ADHD, 7% repeated a grade level or failed to complete high school, which led the authors to conclude that ADHD is a risk factor for high school dropout.

However, there are other academic struggles that students with ADHD encounter. For instance, among students with ADHD, academic performance is also significantly impacted by school attendance patterns, attitude towards attending school, behaviors

while in school, maintaining focus, motivation, and academic tasks completion behaviors (Colomer et al., 2017). A common academic performance issue among students with ADHD is poor grades (Colomer et al., 2017). Poor grades and school dropout rates are linked to the inattention and impulsivity symptoms of ADHD (Colomer et al., 2017). For that reason, students with ADHD continue to struggle academically.

Moreover, about 60% of students with ADHD suffer from a co-existing anxiety disorder (Zendarski et al., 2016). Anxiety in students with ADHD impacts school functioning through school attendance frequency, focus, motivation, and tasks completion due to students harboring feelings of academic inadequacy (cognitive issues and memory impairment), having issues with peer relationships (teasing or victimization), irritability, and sleep problems (Zendarski et al., 2016). For instance, DuPaul et al. (2017) also noted that psychological and emotional factors impact students with ADHD's academic performance. These psychological and emotional factors include feelings of embarrassment, shame, low self-esteem, and helplessness due to poor academic performance outcomes.

Regarding poor grades, lower GPAs, and failing classes, DuPaul et al. (2017) also reviewed a study where teachers reported that students with ADHD are more likely to turn in fewer assignments, and be tardy and absent from class, hence, increasing the likelihood of school failure. For example, Langberg et al. (2016) evaluated the importance of homework completion and academic performance among middle school students with ADHD. As a result, Langberg et al. (2016) found that teachers reported out of 104 middle school students with ADHD, the students turned in an average of 12%

fewer assignments each academic term in comparison to other classroom averages reported by teachers.

However, understanding how ADHD effects students with ADHD in college is also essential. Generally, students with ADHD requiring academic assistance in childhood tend to need similar assistance in college (Scheithauer & Kelley, 2017). About 25% of college students with ADHD require academic accommodations, such as extended time for testing, testing in a specified area with reduced exposure to distractions, copies of lecture notes, and special seating (Scheithauer & Kelley, 2017). However, despite the accommodations mentioned above, college-aged students with ADHD are less likely to attend college, and those who do attend college are more likely to drop out of college or have academic challenges, such as lower GPAs, and undergoing academic probation (Scheithauer & Kelley, 2017). However, finding literature supporting self-monitoring as a factor that improves on-task behavior, homework completion, and academic performance among young students led to Scheithauer and Kelley's study that assessed the effect of self-monitoring by college students with ADHD on academic performance. As a result, Scheithauer and Kelley found out of 41 participants with ADHD, 22 of the participant's academic behaviors and GPAs improved. Hence, these findings propose that self-monitoring is a possible intervention that can be utilized to improve academic performance among older students with ADHD (Scheithauer & Kelley, 2017). Per Scheithauer and Kelley, self-monitoring refers to observing and recording one's behavior with the goal of altering that behavior over time.

Notably, Arnold et al. (2015) conducted a study that synthesized published empirical data that assessed long-term outcomes of ADHD on academic achievement and performance. As a result, Arnold et al. (2015) found out of 176 studies, the disorder adversely effects 79% of students with ADHD's achievement test outcomes, and 75% of students with ADHD's academic performance is also adversely impacted by the disorder. However, Arnold et al. also found that 79% of students receiving treatment for ADHD improved their achievement test outcomes. However, 42% improved their academic performance (Arnold et al., 2015). Essentially, the findings of the study show that there is evidence in the literature demonstrating that ADHD treatment advances long-term educational outcomes, specifically achievement test scores among students with ADHD (Arnold et al., 2015).

Fundamentally, the literature supports the need for further exploration of effective academic supports to improve students with ADHD's learning experience. Further, the literature offers insight on factors future researchers need to consider when exploring academic performance and students with ADHD. Essentially, the literature postulates that building awareness among stakeholders regarding strategies that may improve the learning experience of students with ADHD is a plausible step towards impacting positive social change for students with ADHD.

Parent Perceptions

Definition

According to Wikle and Hoagland (2020), a parent is considered a mother, father, guardian, or adoptive parent. As such, this study adopts the definition of parent from the

abovementioned study. In addition, Ruggieri et al. (2020) defines parent perception as a parent's impression of or feelings about an idea relating to his or her child or children. This study also adopted the abovementioned definition of parent perception.

Early Research

Generally, researchers have studied parent perceptions in various ways for numerous years. However, it is unclear when parent perceptions first began being utilized in research. Nevertheless, by 1972, a study explored secondary students' parent perceptions of school and education (Wright, 1972). Per Wright (1972), 300 parents were surveyed to ascertain their perceptions towards the schools their children attended. Specifically, parents' perceptions explored the following areas: standards and evaluation, school and education, students' rights and responsibilities, and discipline and attendance (Wright, 1972). As a result, 6% of parents criticized teachers, 65% of parents believed their child's school met their child's academic needs, and 36% of the parents reported that they believe tax dollars are managed well in secondary schools. Furthermore, 34% of parents disagreed with involving the community in running secondary schools, 32% disagreed that school standards diminished over time, and 50% disagreed that administration focuses way too much on grades. Also, 43% of parents agreed that formal exams are necessary, 50% of parents disagreed with the idea that attendance should be voluntary, and 34% of parents believed discipline should be stricter. Lastly, 42% of parents reported that students should not have an input regarding school policies and rules, and 47% disagreed with students deciding what they want to learn.

By 1980, Dickson and DiPaola (1980) conducted a study that focused on parents' perceptions of helping develop an individualized education program (IEP). Essentially, 32 parents participated explaining their degree of participation in special education planning, referral, and placement procedures by responding to interview questions (Dickson & DiPaola, 1980). As a result, Dickson and DiPaola found that 93% of parents knew about an IEP meeting; 39% chose not to prepare for the IEP meeting; 63% perceived their opinions mattered in the IEP meeting; and 57% knew how and when IEP effectiveness evaluations occur. As a result, Dickson and DiPaola argued the need for programs that gives parents access to IEP experts or representatives that inform parents of the benefits and process of IEP's. Further, Dickson and DiPaola suggested the need for IEP trainings for parents, professional protocols for IEP meetings, and visual aids depicting effective parental participation regarding IEP's.

By 1990s, Zentall et al. (1993) conducted a study that explored parents' perceptions of their ADHD child's organization skills. According to Zentall et al. (1993), participating parents completed the Child Organization Parent Perception Scale (COPPS). As a result, Zentall et al. found that mothers of children with ADHD reported feelings of frustration towards the child due to the child exhibiting poor organization skills. Further, Zentall et al. also argued that findings suggests that fathers reported similar disorganization behaviors among their child, but fathers reported more instances of suggesting organizational strategies for the child to implement to improve his or her organizational skills. As a result, Zentall et al. recommended that future studies focus on administering the Child Organization Hyperactivity Index (COHI) and observing and

highlighting the outcomes in the following areas: task completion rates and establishing routines.

Current Research

Recent studies on parent perceptions also focus on diverse topics. For instance, Minnes et al. (2015) conducted a study utilizing parent perceptions to identify predictors of distress and wellbeing in parents of young children with developmental delays and disabilities. However, 155 mothers of developmentally delayed or disabled children participated in completing online surveys to share their perceptions of predictors of distress and wellbeing in parents of young children with developmental delays and disabilities (Minnes et al., 2015). As a result, Minnes et al. found a parent's choice of coping style influences parenting distress and relief; and, a parent's choice to reframe positively influences parenting distress and parenting empowerment. Moreover, Minnes et al. recommended that future studies focus on additional factors that may contribute to obtaining successful outcomes for students with disabilities or developmental delays and their parents in an academic domain.

In addition, Sterian and Martin (2016) conducted a study that focused on parental perception of the child's behavior and communication difficulties. In addition, 120 mothers participated completing three questionnaires sharing their perceptions about their child's behavior and communication difficulties (Sterian & Martin, 2016). As a result, Sterian and Martin found a significant number of mothers credited child behaviors and communication difficulties to their relationship with the father, living location, and the child's gender. According to Sterian and Martin, future research needs to explore other

factors that may influence parents' perceptions of their child's behaviors, such as parenting self-efficacy.

However, Lynch et al. (2017) conducted a study that explored the phenomenology of hoarding in children with comorbid ADHD. In addition, Lynch et al. (2017) obtained knowledge of significant hoarding symptoms from the parents of 10 children with ADHD who also struggled with hoarding. According to Lynch et al., parents completed semi-structured interviews to share their perceptions. As a result, Lynch et al. found that parental avoidance, parental insight and intercession, executive functioning, emotional distress, accommodating behaviors, and family response to hoarding influences hoarding behaviors among children with ADHD. As a result, Lynch et al. postulated that future research focus on exploring distress reducing early interventions to prevent the development of hoarding symptoms in children with ADHD.

Moreover, Shah et al. (2019) conducted a study that aimed to improve understanding of parental causal explanations and help seeking in ADHD. According to Shah et al. (2019), 52 parents participated in semi-structured in-depth interviews sharing their perceptions and perspectives on decision making, parental causal explanations, cognitive appraisals, early emotional reactions, and perceptions in relation to symptom labeling and diagnosis. As a result, Shah et al. found that 76.1% parents sought professional help for their child with ADHD symptoms. Also, 63.46% of parents attributed their child's ADHD diagnosis to psychosocial factors, 51.82% attributed the ADHD diagnosis to biological factors, and 19.23% attributed the ADHD diagnosis to

both. As a result, Shah et al. suggested that future studies focus on identifying culturally sensitive interventions for children with ADHD and their families.

However, Kapke et al. (2019) conducted a study using parental perceptions to examine Latino family participation in treatment for childhood ADHD. According to Kapke et al. (2019), 61 Latino families participated in the study. In addition, Kapke et al. found that acculturation, stigmatized ideas about mental health, and the belief that family issues are only manageable within the family influences Latino family participation in treatment for childhood ADHD. As a result, Kapke et al. suggests that future research focus on assessing culturally specific traditions, beliefs, and values related to Latino families or other cultures to improve treatment or intervention outcomes among children with ADHD.

In summation, the above literature covers various facets of perceptions that parents have concerning ADHD. Essentially, future researchers must be mindful that there is a need to keep parents informed of all resources available to help reduce the stress that impacts parents of individuals with ADHD and individuals with ADHD. As mentioned in the literature above, competence of resources influences perception of resources, which in turn, influences support of resources.

Kinesthetic Learning

Definition

Kinesthetic intelligence or learning is one of the perceptions of intelligence among the intelligences Gardner identified in the multiple intelligence theory (Shearer & Karanian, 2017). Essentially, kinesthetic learning allows the learner to process and retain

information through physically taking in information while using the five senses. According to Trilaksono and Santoso (2017), kinesthetic learning occurs through processing information utilizing the following five senses: touch, smell, taste, sight, and hearing. Similarly, Budin et al. (2016) define kinesthetic learning as an individual's ability to process information through utilization of the body or body parts, such as through bodily experience, practice, or simulation. In addition, Wagner (2014) defined kinesthetic learning as learning while actively moving and using the five senses to process information. For example, kinesthetic learning movement (associated with the lesson plan) includes underlining words while reading, creating artwork, piecing puzzles together, picture tracing, notetaking, and dance among other kinesthetic learning movements (Mousa, 2014).

Wagner (2014) also noted that incorporating movement into the curriculum is a necessity to kinesthetic learning techniques, which implicates teachers as important kinesthetic learning facilitators. In the same way, Trilaksono and Santoso (2017) noted that kinesthetically knowledgeable instructors ensure movements associated with the kinesthetic learning process connect to the content of the curriculum. Another name for a kinesthetically knowledgeable instructor is a kinesthetic lecturer or teacher, which is a kinesthetic learning instructor who delivers a kinesthetic learning experience to students in ways that allow students to retain and process information kinesthetically (Trilaksono & Santoso, 2017).

Notably, Shearer and Karanian (2017) conducted a study identifying the regions in the brain that react when an individual processes information via specific learning

domains by reviewing 318 neuroscience reports. In relation to kinesthetic learning, Shearer and Karanian (2017) found that the cerebral motor ship, thalamus, basal ganglia, and the cerebellum are the regions of the brain activated when kinesthetic learning commences. In addition, Shearer and Karanian concluded that the findings of the study validate a connection between cognitive neuroscience, instruction, and the MI theory.

Early Research

Essentially, researchers have conducted studies on kinesthetic learning for multiple years. One of the earliest studies conducted on kinesthetic learning assessed the behavior of birds in a maze (Sadovinkova, 1923). Initially, the scientist hypothesized that all five senses play a significant role in assisting the birds with finding their way through the maze (Sadovinkova, 1923). In addition, the maze consisted of a box containing alleyways created by nets that formed walls (Sadovinkova, 1923). Hunger served as the only known stimulus driving the bird's motivation to reach the food located at the exit of the maze (Sadovinkova, 1923). After the bird maze trials commenced, results showed that sight and motor (kinesthetic) memory played a significant role in helping the birds find their way to the exit and food (Sadovinkova, 1923). Further, when sight was hindered, motor (kinesthetic) memory exclusively aided the birds in finding their way more so than the sense of smell or touch (Sadovinkova, 1923). As a result, Sadovinkova recommended that future studies test similar trials on human subjects.

By the same token, Chase (1934) assessed the role of kinesthesis in ideational learning. Essentially, 57 psychology students participated in the study (Chase, 1934). Further, 27 students participated in learning the light maze, and 30 students participated

in learning the stylus maze (Chase, 1934). Light maze participants were instructed to learn the light maze by using a method of counting the squares and verbally telling the experimenter which direction to move through the maze (Chase, 1934). However, stylus maze participants were instructed to learn the maze by experiencing the maze kinesthetically (Chase, 1934). As a result, Chase found that more participants successfully completed the stylus maze kinesthetically with less errors than participants who completed the light maze non-kinesthetically. Essentially, Chase concluded that more research is needed to improve understanding of the link between kinesthetic learning and ideational or preferential learning among pupils.

However, McClinton (1981) conducted a study focusing on verbal problem solving in young children ranging from ages four to eight. Participants were asked questions verbally, visually, and kinesthetically (McClinton, 1981). Then, data was collected based on the participant's response accuracy (McClinton, 1981). As a result, McClinton found that four-year-old children performed significantly better under the verbal approach than they performed under the visual or kinesthetic approach. However, the results also showed that eight-year old participants performed better than the four and six-year old children under every condition and more so under the kinesthetic condition (McClinton, 1981). As a result, McClinton concluded that four-year old children need to be provided with a balanced educational approach that exposes them to more verbal learning approaches as opposed to overstimulating four-year old students with visuals aids. Furthermore, results also showed that age, the way a question is presented, and a

child's ability to accurately interpret the presented question, plays a vital role in assessing problem solving skills among young children (McClinton, 1981).

However, Rieger and Massen (2014) conducted a study that analyzed the impact of kinesthetic learning and visual learning among collegiate psychology students. As a result, Rieger and Massen (2014) found out of 36 collegiate participants 5% of the participants focused on the visual indicators given to aide in completing a task versus 4.3% of participants that focused more on kinesthetic learning abilities. According to Rieger and Massen, the findings indicated that visual learning is a significant aspect of kinesthetic learning. In addition, Rieger and Massen recommended that educators understand taking in information visually is a vital component of learning kinesthetically and implementing such ideology into teaching approaches is imperative to learning.

In addition, Hess and Frantz (2014) conducted a study to determine the most prevalent learning style preference among physiotherapy students. As a result, Hess and Frantz (2014) administered the Learning-Style Questionnaire (LSQ) to participating students and found out of 177 participants 40% preferred to learn kinesthetically, 36% preferred to learn visually, and 24% preferred to learn auditorily. Thus, findings indicate that the kinesthetic learning preference is more prevalent among physiotherapy students (Hess & Frantz, 2014). Furthermore, Hess and Frantz recommended that educators take the knowledge of this study and apply such knowledge to utilizing teaching practices that provide learning environments that are conducive to the majority of students' learning preference, conceivably improving learning among the majority of the students.

Likewise, Moyer and Savina (2015) conducted a study that assessed the impact of kinesthetic learning style among management course students. As a result, Moyer and Savina (2015) surveyed 109 management course students utilizing the Student Approach to Learning (SAL) survey receiving an 89% response rate indicating that students preferred learning kinesthetically in management courses, and management course students reported that kinesthetic learning improved focus, retention, and assessment scores. Moreover, Moyer and Savina recommend that teachers acknowledge movement reinforces learning, stimulates the brain, and promotes retention as opposed to serving as a disruptive tool.

Current Research

Presently, kinesthetic learning serves as an individual learning style among learners (Trilaksono & Santoso, 2017). There are educators that try to accommodate kinesthetic learners in the academic environment. For instance, in a lesson geared to teach numbers in word form, Roland (2017) gave kinesthetic learners a card labeled with a number in word form accompanied with fake coins. Then, Roland (2017) instructed the students to slide the correct number of coins on the card with the same number of coins. In addition to students having their workstation, Roland also provided a workstation in front of the class, allowing students to come up and take turns completing the task. This is one example of kinesthetic learning approaches in an academic environment.

In addition, Anthmatten et al. (2018) conducted a study that assessed whether using giant maps as a kinesthetic intervention improves academic retention among 163 elementary students learning geography and math. Specifically, students answered math

and geography assessment questions before and after participating in the kinesthetic intervention (Anthmatten et al., 2018). Prior to exposure to the kinesthetic intervention, Anthmatten et al. reported a 43.7% accuracy rate among the students in relation to math and geography test scores. However, after student's exposure to the kinesthetic intervention, Anthmatten et al. found a 9.3% improvement in assessment answer accuracy among all 163 students, which is roughly an additional two correct answers added to each student's test scores. As a result, Anthmatten et al. recommend that educators consider kinesthetic approaches, such as the giant map intervention to improve academic performance among students.

By 2019, a kinesthetic learning model called the math, dance, and music program was created to aide K-12th graders in learning computer science and math concepts (Shamir et al., 2019). In addition, Shamir et al. (2019) conducted a study testing the efficacy of the program on 39 seventh graders. Group one consisted of 19 seventh graders and group two consisted of 20 seventh graders that were different individuals from group one (Shamir et al., 2019). However, both groups were exposed to the program and were shown how to utilize coding, music and art, animation, and dance to learn computer science and math concepts (Shamir et al., 2019). In addition, both groups completed pre and posttest math and computer science assessments to measure the effectiveness of the program (Shamir et al., 2019). As a result, both groups test scores improved significantly in math and computer science (Shamir et al., 2019). Therefore, Shamir et al. recommended that schools consider implementing the math, dance, and music program

into math and computer science curricula to enhance learning and interest in those subject areas among K-12 students.

According to the literature, in general, kinesthetic learning is an effective learning approach among students. Essentially, the literature credits kinesthetic learning as an effective tool to improve focus, attention, and retention of information among students in general. Therefore, the literature collectively supports building awareness of kinesthetic learning among academic stakeholders as a plausible approach to improving learning experiences among students in general.

Kinesthetic Learning and Academic Performance

Early Research

There is a limited source of data available regarding the relationship between kinesthetic learning and academic performance among students. However, Helm (1991) conducted a study to highlight the differences between male and female learning preference modalities (visual, auditory, kinesthetic, and a variety of combinations of learning styles). The aim of the study was to propose a reconstruction of the American school system to better accommodate learners based on the learning style preference or preferences (Helm, 1991). In addition, 430 individuals participated in the study (Helm, 1991). Specifically, 298 males and 132 females participated in the study (Helm, 1991). Further, Helm compared learning style preference or preferences with each participant's GPA in an English communications course. As a result, Helm found that kinesthetic learners earned higher GPAs among both male and female learners compared to other learning modalities or preferences. Therefore, Helm recommended that the American

education system pair students with specific learning style preferences with teachers that have the same teaching style.

In addition, Lister and Ansalone (2006) conducted a study that evaluated students' performance and attitudes towards kinesthetic learning versus traditional learning. In addition, 93 students participated in the study and underwent traditional and kinesthetic learning instruction to compare the different outcomes (Lister & Ansalone, 2006). As a result, the findings showed that students performed significantly better with kinesthetic learning approaches as opposed to traditional learning approaches (Lister & Ansalone, 2006). Furthermore, results also showed that participating students preferred the kinesthetic learning approach (Lister & Ansalone, 2006). Therefore, Lister and Ansalone suggested that administrators consider providing more opportunities to utilize kinesthetic learning approaches in academic settings.

However, a similar study was conducted to assess the relationship between learning style preference and academic performance perceptions among 80 gifted middle school students (Rayneri et al., 2006). In addition, participants completed the Learning Style Inventory (LSI; Dunn et al., 2000) to determine learning style preference, and the Student Perception Inventory (SPI; Rayneri et al., 2006) to determine each student's perceptions of their academic environment (Rayneri et al., 2006). Further, Rayneri et al. compared all inventory results to students' GPA at the end of the designated school year. As a result, Rayneri et al. found that a considerable number of students perceived kinesthetic learning as a preferred learning style in an academic environment. Also, Rayneri et al. (2006) found that students who consistently earned their desired GPA also

perceived that their learning environment fit their learning preference or preferences; and, students also perceived that their teachers consistently exhibited exemplary skills in the classroom that effectively motivated the students. As a result, Rayneri et al. recommended that future studies duplicate this study and assess a larger sample or evaluate other learning groups as opposed to only gifted students.

Current Research

In an academic environment, kinesthetic learning occurs through processing information utilizing the following five senses: touch, smell, taste, sight, and hearing (Trilaksono & Santoso, 2017). Moreover, kinesthetic learning also requires daily, frequent, unstructured, and structured opportunities to move to utilize motor skills such as running, bouncing, jumping, dancing, throwing, catching, and other forms of movement, while processing information (Frey, 2018). Based on researchers' growing knowledge of how the brain learns and retains data, many educators realize that kinesthetic activity in the classroom can serve as a possible educational intervention to help students with information recall and information retention. For instance, Budin et al. (2016) conducted a study to determine the relationship between learning styles and academic performance, and the researchers found out of 326 college engineer student participants, 33% of those students identified as kinesthetic learners that successfully earned a diploma in mechanical engineering. As a result, Budin et al. (2016) concluded that there is a direct correlation between kinesthetic learning and academic performance among mechanical engineering students.

Similarly, based on improved test scores and faculty observations, Wagner (2014) found out of 40 nursing students, kinesthetic learning enhanced information retention, problem-solving, and critical thinking skills among all the nursing students that participated in a study that tested a kinesthetic learning activity on nursing students' overall academic performance in a nursing course. Also, Hoke and Robbins conducted a study that showed clinical grades improving from 84.19 to 87.03 among a small sample of 23 medical students exposed to kinesthetic learning strategies (as cited in Wagner, 2014). As a result, Wagner (2014) recommended that educators consider kinesthetic learning as an option to improve information retention among students.

In addition, Ronen and Grosu (2014) conducted a study analyzing kinesthetic learning's impact on students' ability to learn geometry. Specifically, 121 students from third and fourth grade classes participated in the study via two experimental and two control groups (Ronen & Grosu, 2014). As a result, about 72% percent of the experimental kinesthetic learning intervention groups successfully learned geometry as compared to about 60% of students in the non-intervention control groups (Ronen & Grosu, 2014). Therefore, Ronen and Grosu concluded that kinesthetic movement improves a student's ability to process and retain information.

Similarly, Grace and Ranadey (2018) conducted a study assessing learning style preference, perception, and academic performance among 140 nursing students. As a result, Grace and Ranadey (2018) found out of 140 nursing students 26.3% of students identified as kinesthetic learners, and results showed a significantly higher correlation between cumulative GPAs and kinesthetic learners in comparison to the other learning

styles. Specifically, kinesthetic learners yielded higher cumulative GPAs (Grace & Ranadey, 2018). Hence, Grace and Ranadey concluded that educators need to consider tailoring instructional approaches to student's learning preference to increase the likelihood of student's obtaining academic success.

However, Urval et al. (2014) studied the relationship between learning styles, gender, and prior academic performance among medical students. As a result, Urval et al. (2014) found out of 415 medical student participants, 33.1% preferred to learn kinesthetically. Notably, results also showed that learning style preference lacked significant influence from gender and past academic performance among the medical student participants (Urval et al., 2014). As a result, Urval et al. concluded that learning style preference is not significantly influenced by gender or prior academic performance.

Kinesthetic Learning and Students With ADHD

Early Research

One of the earliest studies conducted to assess the relationship between kinesthetic learning preference and students with ADHD was conducted in 2003 when Schilling et al. (2003) assessed the relationship between kinesthetic learning via utilization of a therapy ball and academic performance via word writing legibility and in-seat task completion. Specifically, three fourth grade students with ADHD participated in the study (Schilling et al., 2003). The participants attempted to complete writing assignments while sitting on a therapy ball that promoted movement (Schilling et al., 2003). As a result, findings showed improved in-seat task completion and legible word productivity among the participants (Schilling et al., 2003). In addition, the participants

and teachers involved in this study reported that they preferred the use of therapy balls in their classroom (Schilling et al., 2003). However, Schilling et al. suggested that future research focus on the relationship between therapy balls and academic performance in various academic subject areas and the quality of the work completed while using therapy balls.

Likewise, Kercood and Banda (2012) conducted a study that assessed the relationship between kinesthetic learning and listening comprehension skills among students with or without ADHD. In addition, according to Kercood and Banda (2012), four students participated in the study, and three students met the criteria for ADHD per their teacher's report via the completion of the Conner's Teacher Rating- Revised: Short Scales (CTRS-R:S; Conners, 1997). Further, one typically developing student also participated in the study (Kercood & Banda, 2012). As a result, Kercood and Banda assessed listening comprehension among the students by playing an audio recorded story for the students. Then, the students answered 12 multiple-choice questions related to the story (Kercood & Banda, 2012). In addition, during one session, all four students either doodled or bounced on an exercise ball while listening to the story (Kercood & Banda, 2012). During another session, all four students listened to the story without incorporating doodling or utilizing the exercise ball (Kercood & Banda, 2012). As a result, the three students that met the criteria for ADHD answered more questions accurately during the kinesthetic session that incorporated doodling and exercise balls into the learning environment. Also, the typically developing student answered the questions accurately with and without the kinesthetic intervention (Kercood & Banda,

2012). As such, Kercood and Banda recommended that future studies obtain feedback from teachers and other related authorities concerning perceptions related to the feasibility of adding kinesthetic interventions into classroom environments.

Current Research

Students with ADHD exhibit excess gross motor behaviors through hyperactivity (Sarver et al., 2015). As a result, an excess of oxygen is released to the brain causing neurocognitive functioning among students with ADHD (Sarver et al., 2015). Therefore, allowing a student with ADHD to remain physically active while learning can significantly improve the student's ability to retain information (Sarver et al., 2015). Therefore, kinesthetic learning is a practical alternative approach to improving academic performance among students with ADHD (Sarver et al., 2015). In addition, Sarver et al. led a study that intended to clarify whether kinesthetic learning among young males with ADHD versus typically developing (TD) children impacts their working memory performance and attention. As a result, young males with ADHD performed more favorably when energetically moving about 90% of the time (Sarver et al., 2015). Specifically, out of 29 young males with ADHD, 48.3% of those males improved their performance at the maximum level of movement in the working memory performance category as opposed to their TD counterparts, which improved in the same category, at the same level, by 8.7% (Sarver et al., 2015). As a result, Sarver et al. recommended that future studies should determine the extent of the relationship regarding duration, intensity, and various kinds of kinesthetic learning approaches. Furthermore, the

abovementioned future study recommendation supports this study's focus, which is kinesthetic learning and academic performance among students with ADHD.

In addition, Cerrillo-Urbina et al. (2015) conducted a systematic review and meta-analysis that assessed the effectiveness of physical or kinesthetic activity interventions on children with ADHD's symptoms. As a result, out of eight studies, 249 participants met the systematic review and meta-analysis inclusionary criteria (Cerrillo-Urbina et al., 2015). Physical activity included yoga and aerobic exercise, and aerobic exercise included swimming, dancing, and walking (Cerrillo-Urbina et al., 2015). Results suggests that yoga is less intensive than aerobics exercise and helps manage ADHD symptoms to some degree. However, aerobic exercises are more intense than yoga and significantly effective interventions for managing ADHD symptoms such as inattention, impulsivity, executive functioning, hyperactivity, anxiety, and social deficits in children with ADHD (Cerrillo-Urbina et al., 2015). In addition, Cerrillo-Urbina et al. concluded physical education programs lasting six to eight weeks should be considered to help mitigate ADHD symptoms among students with ADHD. In addition, Cerrillo-Urbina et al. also recommended that more research be conducted to further validify the abovementioned findings.

Similarly, Jae et al. (2015) conducted a study that focused on assessing the relationship between aerobic or kinesthetic exercise, ADHD, and brain activity. As a result, 35 students with ADHD participated in the study undergoing six weeks of aerobic or kinesthetic treatment, and results showed a significant reduction in ADHD symptoms and improvement in cognitive functioning among the group of students participating in

sports or kinesthetic activities (Jae et al., 2015). As a result, Jae et al. (2015) recommended that future research focus on clearly defining and developing specific kinesthetic exercises that target improving attention spans among students with ADHD.

Likewise, Rassovsky and Alfassi (2018) conducted a study examining the impact physical or kinesthetic activity has on students with ADHD compared to students without ADHD while students are performing tasks. Fourteen female students with ADHD and seventeen female students without ADHD completed the Conners Continuous Auditory Test of Attention (CATA) while walking on a treadmill at the same speed (5 kilometers per hour; Rassovsky & Alfassi, 2018). As a result, Rassovsky and Alfassi found that participants with ADHD displayed a faster reaction time (about 26 milliseconds faster) and a reduction in errors (1.5% better) than participants without ADHD. Participants without ADHD showed slower reaction times (about 16 milliseconds slower, .88% worse) than participants with ADHD (Rassovsky & Alfassi, 2018). As a result, Rassovsky and Alfassi concluded that students with ADHD perform like students without ADHD when learning activities coincide with physical or kinesthetic activity. In addition, Rassovsky and Alfassi recommend that educators consider and apply these findings to curriculum development, and more studies be conducted on a larger scale to further test the findings utilizing treadmill walking or stationary bicycles while processing information or learning to enhance cognitive abilities among students with ADHD.

In addition, Reeves and Bailey (2016) conducted a comprehensive scoping review examining peer reviewed literature from seven databases and journals reporting data regarding the effects of physical, sport, or kinesthetic activity on ADHD. Ten articles met

the inclusion criteria and yielded data that led Reeves and Bailey (2016) to conclude that physical or kinesthetic activity can plausibly serve as an effective intervention to manage ADHD symptoms. Regarding curriculum structure, Reeves and Bailey recommended that educators consider the benefits physical or kinesthetic activity provides students with ADHD highlighted in their review of the literature, such as increased attentiveness, improved behavior, improved cognitive functioning, and improvement in academic subjects.

Similarly, Gawrilow et al. (2016) conducted a study to determine the relationship between physical or kinesthetic activity, affect, and executive functioning among children with ADHD. As a result, Gawrilow et al. (2016) found that a reduction in physical or kinesthetic activity promotes depressed affect significantly in students with ADHD that exhibit severe symptoms of hyperactivity. However, students with ADHD exhibiting symptoms of hyperactivity improved executive functioning when undergoing vigorous physical or kinesthetic activity while learning. As a result, Gawrilow et al. concluded that physical or kinesthetic activity is beneficial to students with ADHD regarding managing ADHD symptoms and mood. Also, Gawrilow et al. recommended that future research focuses on identifying the most beneficial conditions surrounding the physical or kinesthetic activity that impact ADHD symptoms management, such as duration of the activity.

Summary and Conclusions

Essentially, this chapter provided a literary guide of why it is important to explore parents' perceptions of kinesthetic learning and academic performance among students

with ADHD. In addition, this chapter intended to provide a deeper understanding of the topic by operationally defining parent, parent perceptions, kinesthetic learning, academic performance, and ADHD. This chapter also covered the impact ADHD has on students' academic performance, the importance of parent perceptions when deciding interventions for their children with ADHD and utilizing kinesthetic learning as a plausible tool to improve academic performance among students with ADHD. As mentioned in the problem statement, there is no empirical data available that shows parents' perceptions of kinesthetic learning and academic performance among students with ADHD. As a result, Firmin et al. (2019) recommended that future research focus on larger sample sizes, different parent populations, and focus on assessing parental perceptions of specific factors that influence students' academic performance, such as learning styles. In conclusion and debatably, since this study found that parents' perceptions of kinesthetic learning and academic performance among students with ADHD was positive, then support for kinesthetic learning strategy adaptation may increase in classrooms, and academic performance among students with ADHD might also improve. Furthermore, gaining perspectives from the parents of students with ADHD is a step towards understanding such complex interactions. The next chapter discusses research methods.

Chapter 3: Research Method

In this study, I addressed the gap in the literature regarding parents' perceptions of kinesthetic learning and academic performance among students with ADHD. I used experiential learning theory as a guide to understanding whether kinesthetic learning impacts academic performance among students with ADHD according to their parents' perceptions. Knowledge from this study may provide educators with opportunities to improve learning environments and experiences for students with ADHD. Hence, this study may contribute to educational psychology practice. In addition, it may expand the research on effective interventions for students with ADHD. In this chapter, I discuss the research design and rationale and methodology for the study, including the population and sampling procedures; instrumentation; and procedures for recruitment, participation, and data collection. I also discuss the data analysis plan, threats to validity, and the ethical procedures that I followed to obtain the data for the study.

Research Design and Rationale

For this study, I used a generic qualitative research design to gain an understanding of parents' perceptions of kinesthetic learning and academic performance among students with ADHD. The research question for this study was, What are parents' perceptions about kinesthetic learning and its role in academic performance among students with ADHD? This research question was interpretive in nature. I used a generic qualitive design because, according to Liu (2016), this design interacts efficiently with interpretive research questions. The focus of the design is on common themes that

emerge from the data. By formulating interpretive research questions, the researcher can gather feedback (perceptions) from people regarding a specific topic.

Role of the Researcher

According to Creswell (2014), the role of a qualitative researcher is to obtain interpretive information by inductively collecting data. Given that, I actively listened to the participants and took notes during the interviews. In the past, I worked as a master's-level mental health therapist for children with ADHD and their parents. Most of my clients were diagnosed with ADHD, and each of them experienced various academic struggles (repeating grade levels, failing classes, frequent school absences, bullied at school, lack of self-confidence, etc.). The experience that I obtained as a master's-level therapist exposed me to conducting both non-structured and structured interviews with students with ADHD and their parents. Working with ADHD students and their parents also provided frequent opportunities for me to observe the students in their home and school environments. On many occasions, I served as an advocate for students with ADHD and their parents in academic settings, and I also served as a supportive liaison between teachers and parents of students with ADHD.

My past experience prompted a personal interest in understanding students with ADHD and how they learn best. Based on my past experiences, observations, and conversations with students with ADHD, their parents, and their teachers, I identified hyperactivity, impulsivity, and lack of focus as common concerns. As a result, I questioned whether learning environments allowing movement while learning (kinesthetic learning) are a plausible option to aid students with ADHD with improving

their overall academic experiences. Notably, I no longer work as a master's-level mental health therapist. However, my previous experiences prompted my interest in this research topic.

I took several actions to mitigate the potential for bias because of my previous experiences. To avoid potential bias, former clients were not recruited for this study, and all data collected were reviewed and confirmed by participants before results were reported. Essentially, my role was to find out participating parents' perceptions of kinesthetic learning and academic performance among students with ADHD by asking probing questions, documenting the responses, and accurately interpreting and reporting the findings.

Methodology

Participant Selection Logic

I based the sample size on a 2018 qualitative study whose authors aimed to include five to 25 participants to achieve data saturation (Teeroovengadum & Nunkoo, 2018). In the same way, I aimed to recruit five to 25 participants with a focus on data saturation as opposed to generalizability. Data saturation is collecting qualitative data until information given becomes repetitive and a sense of a conclusion is attained (Moser & Korstjens, 2018). I achieved data saturation from 11 participating parents who were recruited from ADHD parent support groups and ADHD affinity group pages on the social media platforms Facebook and Instagram. Population inclusionary criteria required that participating parents have a child who was in school or who had attended school in the past and had been diagnosed with ADHD by a licensed professional.

I used a purposive sampling strategy to acquire the participants needed for this study. According to Liu (2016), a generic qualitative design requires the use of purposive sampling. Purposive sampling allows the researcher to use their own professional judgment to determine the criteria that must be met for an individual to participate in a study to yield appropriate research data (Liu. 2016). As such, I gathered information pertaining to perceptions of kinesthetic learning and academic performance among students with ADHD from the parents of these students because I thought that they would be more likely to provide suitable data for this study. Hence, inclusion criteria for this study required participating parents to have a child who was diagnosed with ADHD and had participated in a kinesthetic intervention in an academic setting. Exclusionary criteria for this study included parents of students with ADHD who had not been exposed to a kinesthetic intervention in an academic setting. Clients whom I met during my time as a master's-level mental health therapist were also excluded. (This is no longer my occupation.). Regarding sample size, qualitative researchers base sample size on the attainment of data saturation (Moser & Korstjens, 2018). According to Moser and Korstjens (2018), data saturation involves collecting qualitative data until the information given becomes repetitive and a sense of a conclusion is attained.

Instrumentation

According to Creswell (2009), for validity to be achieved, the researcher has to ensure that the data collection techniques used in the study are actually measuring or capturing the overall essence of whatever is expected to be measured or captured. As a result, qualitative researchers often conduct unstructured interviews featuring open-ended

questions to collect data (Creswell, 2014). I based Interview Question 1 on an empirically published interview assessing the parents' perceptions of the suitability of an intervention in the following areas: their experiences and their child's experiences of the intervention, benefits of the intervention for them and their child, and circumstances that hindered or supported participation in the intervention in question (Wilkes-Gillian et al., 2015). Interview Questions 2, 3, and 4 were based on another study of parental perceptions of a stuttering treatment and behavioral self-management program for early developmental stuttering (Druker et al., 2019). I used the following interview questions to assess parents' perceptions of kinesthetic learning and academic performance among students with ADHD:

1. How has your child been exposed to kinesthetic learning? Can you give examples?
2. In what ways has kinesthetic learning impacted your child's academic performance? Can you give examples?
3. What is your perception of kinesthetic learning's impact on your child's classroom learning experience? Can you give examples?
4. What are some further thoughts, comments, or reflections you can share regarding kinesthetic learning and academic performance in relation to your child? Can you give examples?

Procedures for Recruitment, Participation, and Data Collection

I recruited participating parents from ADHD parent support groups and ADHD affinity group pages on the social media platforms Facebook and Instagram. The

invitation flyer to participate in the study (see Appendix) was posted across these platforms to recruit participants and explain the purpose of the research. In addition, I provided my contact information (phone number and email address) to answer any questions about the study, inform recruits about the research, build rapport, obtain consent, and schedule interviews. All interviews were conducted via the video chat platform Zoom.

All participants provided written consent by responding to the invitation to participate in the study that was posted on the two social media platforms. All participants consented to answering the interview questions. Once consent was confirmed, participants answered interview questions via the video chat platform Zoom. Prospective participants coordinated a date and time for their interview with me via Facebook Messenger or Instagram Direct Messenger. The interview provided detailed insights on parental perceptions of kinesthetic learning and academic performance among children with ADHD, specifically pertaining to their own child. To validate the findings, I instituted member checking by conducting impromptu follow-up conversations with participants via Facebook Messenger or Instagram Direct Messenger or via email. I also emailed the transcript of their interview to each participant to ensure accuracy in data analysis and interpretation, allowing me to clarify the results. The interview was structured to encourage participants to dedicate about 15-45 minutes of their time to answering open-ended interview questions. The follow-up email or private messenger correspondence required participants to dedicate about five to 10 minutes of their time.

As soon as parents consented to participate in the study, I coordinated an interview date and time via Instagram's or Facebook's private messengers. The participating parents responded to open-ended interview questions during the agreed upon day and time. I conducted interview sessions lasting between seven and 22 minutes covering all interview questions during the scheduled interview dates. Each Zoom interview was recorded on Zoom only after receiving participant permission. One participant opted out of being recorded, which meant that 10 out of the 11 interviews were recorded. I took detailed notes to log the non-recorded interview. I used Facebook Messenger, Instagram Direct Messenger, and email to conduct impromptu follow-up conversations with each participant to ensure accuracy of my interpretation of their interview responses.

Data Analysis Plan

Because I interviewed participants in this study via Zoom, and I was able to record all interviews except one, I was able to develop interview transcripts from the audio recordings and my detailed notes, which I then coded by hand. A qualitative research code is a simplistic label that typically assigns a collective, obvious, and remindful feature for a portion of graphical information (Creswell, 2013). For the sake of this study, I utilized the descriptive coding technique to manage and organize the data. Specifically, descriptive coding involves outlining the data obtained and providing a condensed version of the transcribed data (Taylor & Gibbs, 2010). As recommended by Taylor and Gibbs (2010), after reviewing interview responses, I identified and labeled key terms as descriptive codes for the transcript. In addition, the hierarchical coding (tree

coding) technique was used to organize and illustrate any codes that connected or stemmed from other codes. According to Taylor and Gibbs, hierarchical codes are defined as common codes that plausibly stem from other codes. However, as recommended by Creswell (2007), I also determined codes based on what I considered to be emerging patterns in interview responses, or, striking, unusual, and conceptually captivating interview responses.

Essentially, coding the data helps the researcher to develop comprehensive explanations and themes (Akinyode & Khan, 2018). I reexamined all codes to generate or identify themes because themes are derived from research codes, analytical reflection, analytical contemplation, and interpretive categorization among other things (Hedlund-De Witt, 2013). Once the themes were identified and categorized, data gained from the interviewees are easier to compare (Akinyode & Khan, 2018). Once themes are compared and analyzed, a final overarching theme can be determined to address the research question (Guest et al., 2012). My data analysis plan served as a useful guide throughout the data analysis process.

Issues of Trustworthiness

In relation to issues of trustworthiness, one strategy I used to ensure credibility was member checking, which is a validation strategy that encompasses transcribing the information gathered from interviews as accurately as possible, by taking notes and recording the interviews (Korstjens & Moser, 2018). Ensuring adequate data transcription reduces the number of issues related to interpretation of the data, as well as ensures that the data are expressed accurately (Korstjens & Moser, 2018). Seeking clarification and

allowing participants to review interview transcripts is also imperative if a participant's response is unclear during the interview process (Korstjens & Moser, 2018). Essentially, this technique reduces the researcher's chances of misinterpreting and inadequately presenting data. I emailed interview transcripts to each participant within two months of their completed interview requesting that they review their transcript for accuracy. One of the 11 participants responded to the email expressing that the transcript was accurate. There were no other responses to the member checking email.

Furthermore, I focused on any emerging themes that stemmed from the data obtained from the interviews. According to Morrow (2005), it is essential for the researcher to report themes that emerge from the data. It is also good practice to report new questions that arise from the obtained data (Morrow, 2005), which also increases credibility and trustworthiness. As a result, I provided recommendations for future research. In addition, it was vital that I remained objective and refrained from interjecting personal feelings or opinions into the research (Morrow, 2005), which also effects trustworthiness and credibility. Therefore, I strove to only note and report findings from the participants' perspective.

Also, I used thick descriptions to avoid issues of trustworthiness. This encompassed using participant quotes to maintain transferability (Korstjens & Moser, 2018). In other words, using interview responses that give detailed experiences and behaviors within the proper context ensures that the information is understandable to others who are not associated with the study (Korstjens & Moser, 2018). Further, the

notes obtained from the interviews ensure dependability and confirmability (Korstjens & Moser, 2018).

Ethical Procedures

I obtained Institutional Review Board (IRB) approval before collecting data, per Walden University guidelines (Office of Research and Doctoral Services, n.d.). The IRB approval code for this study was 02- 11-21-0541895. All study participants were required to provide informed consent to participate in the study to avoid ethical violations. In addition, the IRB requires researchers to limit the likelihood of risks as much as possible when conducting research (Office of Research and Doctoral Services, n.d.). Therefore, personal identifiers, such as names, and ages of participants were not published unless consented upon by all necessary parties. Further, protecting the confidentiality of the student with ADHD's condition, students' names and personal identifiers were not published either. Confidentiality agreements were also completed by anyone who had access to the data as directed by the IRB research (Office of Research and Doctoral Services, n.d.). Data was accessible to me, my dissertation committee as needed, and data was shared with participants. Data was stored on a flash drive that only stored data for the study, and the flash drive was locked in a special file case when it was not in use. The data will be destroyed after 10 years from its collection date.

Summary

Essentially, Chapter 3 explicated the detailed approaches taken to answer the primary research question. Specifically, Chapter 3 clarified the research design, population sample, data collection plan, and the data analysis plan. Chapter 3 also

described the interview questions, ways to obtain trustworthiness, and ways to mitigate possible ethical problems. The findings of the study are presented in Chapter 4.

Chapter 4: Results

The purpose of this research study was to address the gap in the literature concerning parents' perceptions of kinesthetic learning and academic performance among students with ADHD. The research question was, What are parents' perceptions about kinesthetic learning and its role in academic performance for students with ADHD? In this chapter, I present the results of the study. Information on the research setting, participant demographics, data collection, data analysis, and evidence of trustworthiness are also provided.

Setting

I conducted all interviews alone in a locked private room in my home via Zoom. All participants were alone in a private space during their interviews. However, Participant 1 was briefly interrupted by her son who entered the room to ask her a question, after which he left. Also, Participant 2 was also briefly interrupted by her son who wanted to ask her a question; he too left the room afterwards.

Demographics

To protect the participants' privacy, I assigned each participant a name code. For example, the first participant was Participant 1 (P1). All participants were parents of students who were diagnosed with ADHD and had been exposed to kinesthetic learning. P1 was an African American woman with two children with ADHD. The other participants had one child each. P2, P3, P4, P7, P8, P9, and P11 were White women with one child with ADHD. P5 was an African American woman with one child with ADHD, P6, a Hispanic woman with one child with ADHD, and P10, an Asian woman with one

child with ADHD. Table 1 shows the demographics of the 11 parent participants and their students with ADHD.

Table 1

Demographics of 11 Parents and Their Students With ADHD

Parent	Parent Ethnicity	Parent Gender	Student Gender	Grade Level of Student
P1	African American	Female	Female	Middle School
P1	African American	Female	Male	Elementary School
P2	White	Female	Male	Elementary School
P3	White	Female	Male	Middle School
P4	White	Female	Male	Elementary School
P5	African American	Female	Female	Middle School
P6	Hispanic	Female	Female	Elementary School
P7	White	Female	Male	College
P8	White	Female	Male	Elementary School
P9	White	Female	Male	Middle School
P10	Asian	Female	Male	Elementary School
P11	White	Female	Male	Middle School

Table 2 shows a summary of the duration of each interview with each participant and the number of transcript pages associated with each interview.

Table 2

Summary of Data Sources

Parent	Duration of interview (minutes)	Number of transcript pages in single-spaced, 12-point font
P1	22	6
P2	11	4
P3	14	4
P4	10	3
P5	14	4
P6	10	3
P7	10	4
P8	9	3
P9	7	2
P10	6	1
P11	15	5
Total:	128	39
Average:	11.6	3.5

I used the interview questions listed in Chapter 3. Ten of the 11 interviews were audio-recorded over Zoom providing timed transcripts. P10 opted not to be recorded. As a result, I timed P10's interview with a timer. The interview guide included four open-ended questions.

Data Collection

After receiving IRB approval via email on February 11, 2021, with an expiration date of February 10, 2022, I began the data collection process. I conducted 11 video chat interviews with 11 parents whose children with ADHD had been exposed to kinesthetic

learning as students. Ten of the 11 interviews were conducted and recorded using Zoom, a video chat platform. One interview was conducted via Zoom but not recorded at the request of the participant. Interviews ranged from seven to 22 minutes in duration. Initially, I was aiming for 45-minute interviews or longer, however, all 11 participants answered the four interview questions at their own pace, which was much quicker than I originally proposed. I recruited participants by posting my research flyer information on ADHD affinity pages on Facebook and Instagram. Once interested parents viewed the information on the flyer, they contacted me through private messages either on Facebook or Instagram to express interest in participating in the study.

Whenever a parent expressed interest in the study, I sent them a copy of the consent form as a file attachment that they could open in private messenger via Facebook or Instagram. Once each parent confirmed that they reviewed the consent form and still expressed an interest in participating in the study (via private messenger communication), I commenced scheduling an interview. In coordination with the scheduled interview times for each participant, I generated a Zoom invitation link for that specific time, day, or night, and each Zoom invitation had a different password code that I privately messaged each participant through Facebook, Instagram, or their personal email allowing them to access the Zoom interview session only by inserting the password I provided. At the beginning of each interview, the consent form was reviewed a second time, and each participant consented to participate in the study before commencing with the interview.

I created an audio file and video file of the 10 recorded interviews and saved the file on a password-protected flash drive. Detailed handwritten notes were taken for the

11th interview due to the interviewee opting not to be recorded, the duration of the 11th interview was captured with a timer. Then, I typed the notes for the 11th interview and saved them to the password-protected flash drive with the other interview transcripts. As such, 10 of the recorded interview audio files were transcribed using audio transcription technology acquired through Temi.com. I compared each recorded participant's transcript with each participant's audio file and changed any inaccurate words in the transcripts to match the correct words in the audio file. Impromptu follow-up conversations were conducted via Facebook Messenger or Instagram Direct Messenger and/or via email, and all transcripts were emailed to each participant to conduct member checks to ensure the accuracy of interview response transcriptions and interpretations.

Data Analysis

As mentioned in Chapter 3, I used the descriptive coding technique to manage and organize the data. Specifically, I took four steps to analyze the data. Step 1 included the initial review of each transcript. Then, I identified keywords from each interview response, which resulted in the identification of 440 initial descriptive codes. For Step 2, I organized those 440 initial descriptive codes into 10 hierarchical codes per interview question (total of 40). For Step 3, I engaged in analytical reflection, analytical contemplation, and interpretive categorization while reexamining all the codes to identify themes for the interview questions. For Step 4, 40 hierarchical codes were then organized into two themes for the research question.

Two themes emerged from the data collected to answer the research question. The research question was, What are parents' perceptions about kinesthetic learning and its

role in academic performance for students with ADHD? The two themes that emerged from the data collected are labeled as Theme 1 and Theme 2. Theme 1 is parents perceived kinesthetic learning as valuable, impactful, and generally accommodating pertaining to their child with ADHD. Theme 2 is parents perceived that kinesthetic learning influences academic performance through parental guidance, interaction with specialists, utilization of fidget tools, and participation in kinesthetic and classroom activities, and through impacting focus, work completion, movement, comprehension, retention, behavior, focus, enjoyment, engagement, and confidence.

Table 3 shows the four interview questions and the 10 hierarchical codes per interview question. Because four parents used the word “focus” to answer Interview Question 2, I labeled “focus” as a hierarchical code for that interview question. I also labeled the transcript section associated with the hierarchical code. This step allowed me to show the number of participants who contributed to each hierarchical code in Table 3 and the number of excerpts that were assigned to each hierarchical code.

Table 3

Hierarchical Codes per Interview Question

Interview question	Hierarchical code	No. of participants (N = 11) contributing to code	No. of transcript excerpts assigned to code
How has your child been exposed to kinesthetic learning? Can you give examples?	Homeschool	5	5
	Parental guidance	5	5
	Math or science	4	4
	Reading	2	2
	Writing or spelling	4	4
	Montessori	2	2
	Fidget tools	3	3
	Specialist	2	2
	Kinesthetic activities	11	11
	Classroom	5	5
In what ways has kinesthetic learning impacted your child's academic performance? Can you give examples?	Focus	4	4
	Retention	4	4
	Comprehension	4	4
	Grades	3	3
	Behavior	3	3
	Learning	8	8
	Movement	5	5
	Information processing	3	3
	Work Completion	3	3
	Engagement	5	5
What is your perception of kinesthetic learning's impact on your child's classroom learning experience? Can you give examples?	Focus	3	3
	Enjoyment	6	6
	Confidence	3	3
	Engagement	2	2
	Learning	8	8
	Experience	7	7
	Comprehension	4	4
	Accommodating	6	6
	Academic	1	1
	Provision	4	4
What are some further thoughts, comments, or reflections you can share regarding kinesthetic learning and academic performance in relation to your child? Can you give examples?	Valuable	10	10
	Provision	8	8
	Movement	6	6
	Success	6	6
	Inclusive	7	7
	Adaptability	4	4
	Self-esteem	4	4
	Learning	7	7
	Awareness and advocacy	7	7
	Training	4	4

The following information explains the data in Table 4. To obtain the data in Table 4, I engaged in analytical reflection and interpretive categorization by re-examining the data in Table 3 and translating the hierarchical codes into emerging themes. For example, the hierarchical codes for Interview Question 1 were homeschool, parental guidance, math or science, reading, writing or spelling, Montessori, fidget tools, specialist, kinesthetic activities, and classroom. Relatively, the theme for Interview Question 1 was kinesthetic learning exposure included acquisition through parental guidance, interacting with specialists, utilizing fidget tools, participating in kinesthetic activities, and participating in classroom activities. Table 4 shows the four themes that emerged from the related hierarchical codes shown in Table 3. Specifically, four themes emerged from the 40 hierarchical codes that were organized into 10 hierarchical codes per interview question in Table 3.

Table 4

Themes for Interview Questions and Related Hierarchical Codes

Interview question	Theme	Related hierarchical code
How has your child been exposed to kinesthetic learning? Can you give examples?	Kinesthetic learning exposure included acquisition through parental guidance, interacting with specialists, utilizing fidget tools, participating in kinesthetic activities, and participating in classroom activities.	Homeschool, Parental Guidance, Math or Science, Reading, Writing or Spelling, Montessori, Fidget Tools, Specialist, Kinesthetic Activities, Classroom
In what ways has kinesthetic learning impacted your child's academic performance? Can you give examples?	Kinesthetic learning impacted academic performance through impacting focus, work completion, movement, comprehension, retention, and behavior.	Focus, Retention, Comprehension, Grades, Behavior, Learning, Movement, Information Processing, Work Completion, Engagement
What is your perception of kinesthetic learning's impact on your child's classroom learning experience? Can you give examples?	Kinesthetic learning impacted classroom learning experience through impacting focus, comprehension, enjoyment, engagement, and confidence.	Focus, Enjoyment, Confidence, Engagement Learning, Experience, Comprehension, Accommodating, Academic, Provision
What are some further thoughts, comments, or reflections you can share regarding kinesthetic learning and academic performance in relation to your child? Can you give examples?	Further thoughts, comments, or reflections shared regarding kinesthetic learning and academic performance included building awareness of the valuable impact that various aspects of kinesthetic learning have, advocating for more kinesthetic learning to be implemented in education, and advocating that more teachers undergo kinesthetic learning instruction training.	Valuable, Provision, Movement, Success, Inclusive, Adaptability, Self-Esteem, Learning, Awareness and Advocacy, Training

The following information explains the data in Table 5. The research question for this study was, What are parents' perceptions about kinesthetic learning and its role in academic performance for students with ADHD? I repeated the step of engaging in analytical reflection and interpretive categorization by re-examining the four themes in Table 4 and condensing and categorizing each theme based on whether it addressed parents' perceptions of kinesthetic learning or kinesthetic learning and academic performance. For example, in relation to kinesthetic learning, Theme 1 is parents perceived kinesthetic learning as valuable, impactful, and generally accommodating pertaining to their child with ADHD; and, in relation to kinesthetic learning and academic performance, Theme 2 is parents perceived that kinesthetic learning influences academic performance through parental guidance, interacting with specialists, utilizing fidget tools, participating in kinesthetic activities, participating in classroom activities, and through impacting focus, work completion, movement, comprehension, retention, behavior, focus, enjoyment, engagement, and confidence. As a result, Table 5 shows the two themes that emerged from Table 4.

Table 5

Themes for Research Question

Research question	Theme
What are parents' perceptions about kinesthetic learning and its role in academic performance for students with ADHD?	Theme 1- Parents perceived kinesthetic learning as valuable, impactful, and generally accommodating pertaining to their child with ADHD. Theme 2- Parents perceived that kinesthetic learning influences academic performance through parental guidance, interacting with specialists, utilizing fidget tools, participating in kinesthetic activities, participating in classroom activities, and through impacting focus, work completion, movement, comprehension, retention, behavior, focus, enjoyment, engagement, and confidence.

Evidence of Trustworthiness

Credibility

To ensure credibility, all interviews were conducted via Zoom, and 10 out of the 11 interviews were recorded apart from one participant that opted not to be recorded. However, I also took detailed notes of each interview as planned. Member checks were conducted via email.

Regarding member checking, I emailed interview transcripts to each participant within two months of each participant's completed interview requesting for each participant to review their transcript for accuracy of interview responses. One of the 11 participant responded to the email expressing that the transcript was accurate. There were no other responses to the member checking email.

Emerging themes were reported in the data, and questions that arose from the data obtained are explored in the recommendations for future research section. As intended, I

remained objective and did not interject my personal feelings or opinions into the research. To also ensure credibility, I only noted and reported the data results.

Transferability

To maintain transferability, thick descriptions were used. In other words, I used each participant's quotes or interview responses to give detailed accounts of their experiences and behaviors within the proper context. This strategy ensures that the information is understandable to others who are not associated with the study.

Dependability

I ensured dependability by taking detailed notes and by saving interview transcripts, audio, and video recordings. By doing so, I created an audit trail. In other words, if the detailed interview notes, interview transcripts, audio, and video recordings were audited, I am confident that the auditor would conclude that the data collected aligns with the reported results accurately.

Confirmability

Similarly, I ensured confirmability by providing an audit trail. Detailed notes transcripts, audio, and video recordings of the interviews have been saved and can prove confirmability of the research findings. In other words, the audit trail confirms that the research findings are based on the participant's interview responses and not my own.

Results

This research study had one research question. The research question for this study was what are parents' perceptions about kinesthetic learning and its role in academic performance for students with ADHD? In addition, two themes that emerged

from the data collected were labeled as Theme 1 and Theme 2. Theme 1 is parents perceived kinesthetic learning as valuable, impactful, and generally accommodating pertaining to their child with ADHD. Theme 2 is parents perceived that kinesthetic learning influences academic performance through parental guidance, interacting with specialists, utilizing fidget tools, participating in kinesthetic activities, participating in classroom activities, and through impacting focus, work completion, movement, comprehension, retention, behavior, focus, enjoyment, engagement, and confidence.

Interview Responses That Align With Theme 1

P1 commented, “It definitely helps his learning, and it helps his learning because he is able to focus on something else as he is learning.” “It's a powerful technique and it can really work, especially if he’s enjoying the activity, such as playing hopscotch, and that’s a way to count while incorporating some type of movement.” “He’s getting exercise in, but then also he’s able to learn and doesn’t really know that he’s learning.”

P2 commented, “I think that it helps his classroom learning experience.” “I think that it helps him refocus.” “He has struggled because of his ADHD, keeping up with kids his age, um, like really badly.” “And we happened to get a teacher this year who teaches, kinesthetically, so she uses hands to and fingers to tap when they are writing and learning a word, she has kind of a bumpy screen or something underneath the paper as the writing, and then they go over it with their finger and it just clicked for him.” “It's been amazing, and it's been the first thing that has just clicked.”

P3 commented, “I think it just, it was helpful for all the kids, but especially him.” “That year when he had it in school, it went from a teacher who was calling us every

week to I don't think I went in there (meaning the school).” “I made meetings because I was like, I want to know what's going on.” “But like I never got called in.” “He had good grades the whole year.”

P4 commented, “He really, really responds to anything to do with movement anyway.” “Um, he's constantly moving because I presume because the ADHD, because I'm ADHD as well.” “He moves as part of his processing, and I think that it gives him the sensory stimulation he needs in order to let his brain do the academic business.” “It gives him that sensory feedback, so I think it really, really supports his academic development.”

P5 commented, “It helps to regulate her emotions.” “It helps her with focus.” “It helps her when she's sensory overloaded and she's able to regroup.” “Um, when we were partially homeschooling her, um, never fully homeschool, but when we were partially homeschooling her, um, she definitely, uh, enjoyed being able to move while, um, doing her work, whether it was didactic learning or whether it was more, um, hands on experiential learning, um, outdoors, indoors, um, with curriculum, or just through field trips, outings, and such like that.” She's always been a mover.” “But she's not hyperactive ADHD, she's inattentive ADHD, but she does have the sensory processing disorder as well, which explains a lot of her kinesthetic tendencies.”

P6 commented, “She is a very like, um, tactile learner when it comes to like most of the subjects, but it has to include like movement.” “She clearly does well with it, and she's always been that kind of learner.” “That was like the best way for her to be able to understand whatever she was learning.”

P7 commented, “It helped him.” “I think if I had put him in school and that wasn't available, I don't think he would be the writer that he is today.” “The physical act of writing was like, his handwriting was sloppy and gross. “Um, and we, when you screen it's something I used in my classroom, just regular screen that you see on a window, if you tape the sides so that the kids can't hurt themselves, I would put paper on top of it and he would draw, um, the feedback.” “It helped him build the muscles in the upper arm and in the wrist that were needed in order to write better.”

P8 commented, “He does have a standing desk, so he's allowed to stand while he's learning.” “I think that helps him a lot.” “It helps him get out some of that energy.” “The fidgets are also very helpful for him.” “He does more things with like Play-Doh and coins and things like that to help him with writing.”

P9 commented, “I think he's way more engaged.” “He did well, uh, better on the projects that were more engaging to him, which were more hands-on.” “He really can kind of work through with his hands and like see, touch, feel, manipulate, and gauges more.”

P10 commented, “He stand and sit while doing schoolwork or homework and using a swing chair, having frequent movement breaks, walks outside.” “I think it’s a good thing.” “It relieves his urge to move.” “It helps him have more energy to focus.”

P11 commented, “I think kinesthetic learning is beneficial.” “If we had been able to intervene earlier and introduced that right from the get-go, I think that would have been a much more positive thing for him.” “We would practice spelling or practice math when we were hiking.” “We've always found that that's less stressful for him.”

Interview Responses That Align With Theme 2

P1 commented, “It's a tool that gives them the ability to focus so they can learn; both of my children are diagnosed.” “My daughter has great reading skills now.” “She's really good at math too.” “When my son doesn't apply himself, he messes up on his homework and then he gets mad, so then he applies himself, and then he gets good grades.”

P2 commented, “He was learning about the ten’s place and the one’s place and numbers, and they were using dimes and pennies to do that, but they were just having it on the screen, and his teacher was saying, okay, draw the circle on your paper.” “So rather than just have him look at the screen and these little circles, I went and got dimes and pennies for him to hold.” “And, he held them (the coins) and then placed them where they were supposed to be, and that made a huge difference on him learning the dimes were in the ten’s place, the pennies were in the one’s, and that helped him to be able to understand when he sees the two digit number, he's like, oh, okay, ten’s place and one’s place, and he can count the tens because he was able to touch it.”

P3 commented, “He had one fourth grade teacher who also had ADHD, and it was amazing because she basically did a lot of this kind of thing where the kids were always getting up and moving around and learning different ways and doing activities and using their senses.” “He had good grades the whole year and was much happier.” “So those were the days when like he actually remembered what he did at school.”

P4 commented, “If he's learning something or concentrating, even just in conversation, he constantly moves.” “So, he's concentrating, and so if there's kinesthetic

learning in the learning process already, if it's sort of like it's an activity that's set up that involves kinesthetic learning." "It gives him that sensory feedback (comprehension through sensory)."

P5 commented, "So I think that, um, definitely the lack of movement opportunities had affected her." "Um, so definitely if I look back through all of her educational years, she did the best when she was able to move." "My middler is the most impacted by the need to be able to move."

P6 commented, "She is in the gifted program where they use her learning style as well to nurture her talents and provide a behavioral safe place, and since we worked with an OT (Occupational Therapist) and Speech Therapist, we would try to get that learning carry over through every discipline." "It (learning) has to include like movement; she has to be there, like drawing on the floor or on an easel." "We use like sand to trace letters, um, we also used, um, like hopping when we were doing sight words, and she'll hop to the word, pick it up and then like, try to repeat it and put it back, and her teacher has been pretty good when it comes to communication, and she's been able to provide her with opportunities to be like helper, writing on the easel, and um like stand up and do what she needs to do and standing with other peers; so, she is like super into learning unless it's reading."

P7 commented, "He's always been homeschooled." "And, I do think that had he been in a classroom and not given some kinesthetic learning, I think it would have impacted his confidence level that was already so fragile." "This year's the first year he's

in pre-calculus, and this is the first year he's like, wow, mom, I'm actually really good at math."

P8 commented, "Standing to learn is very helpful to him, and helps him get out some of that energy." "I like the fidgets (movement tools)." "Fidgets are very helpful for him."

P9 commented, "If they do a test or a quiz, like he's getting the majority of them right." "And sometimes he needs to get up and walk away for a few minutes and sort of think about something or pace a little bit." "And then he can refocus."

P10 commented, "It reduces overwhelmingness, and I think it has helped him because he is not as hyper." "Movement helps his need to move." "It helps him have more energy to focus."

P11 commented, "So we have tried to incorporate kinesthetic learning." "We've encouraged things like wobble stools and fidgets when he was trying to do book work." "One of the things that he had a deficit in was basic math facts when we pulled him out of public school at the beginning of fifth grade, and so doing math facts while we were walking or hiking really helped to get those basics down so that he could move on with math."

Discrepant Cases and Nonconforming Data

There were no discrepant cases among the interview responses gathered from 11 participants. However, one participant (P11) did opt out of having her Zoom interview recorded. All the information obtained from the participants was relevant to the study.

Summary

Chapter 4 covered the interview responses of 11 parents' perceptions of kinesthetic learning and academic performance among students with ADHD. Video chat interviews were conducted using Zoom, and 10 out of 11 of the interviews was recorded. The non-recorded interview was logged by hand, then typed and saved to a password protected flash drive, along with the other 10 interview transcripts. Two key themes emerged from the participants' interview response transcriptions. The first theme was Theme 1, which is parents perceived kinesthetic learning as valuable, impactful, and generally accommodating pertaining to their child with ADHD. The second theme was Theme 2, which is parents perceived that kinesthetic learning influences academic performance through parental guidance, interacting with specialists, utilizing fidget tools, participating in kinesthetic activities, participating in classroom activities, and through impacting focus, work completion, movement, comprehension, retention, behavior, focus, enjoyment, engagement, and confidence. Chapter 5 covers a discussion of the findings, conclusions, and recommendations.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this research study was to address the gap in the literature concerning parents' perceptions of kinesthetic learning and academic performance among students with ADHD. I used a generic qualitative approach that focused on understanding parents' perceptions of kinesthetic learning and its role in academic performance among students with ADHD. I collected data from 11 participants and presented the results in Chapter 4.

The participants answered four open-ended questions on their perceptions of kinesthetic learning and academic performance among students with ADHD. Overall, two themes emerged from the data. The first theme was that parents perceived kinesthetic learning for their child with ADHD to be valuable, impactful, and generally accommodating. The second theme was that parents perceived kinesthetic learning as influencing academic performance through receiving parental guidance, interacting with specialists, utilizing fidget tools, participating in kinesthetic activities, and participating in classroom activities. Participants also perceived kinesthetic learning as impacting focus, work completion, movement, comprehension, retention, behavior, focus, enjoyment, engagement, and confidence in ways that influenced academic performance. Notably, and in terms of kinesthetic learning and academic performance, 10 out of 11 participants perceived kinesthetic learning as valuable. In this chapter, I further interpret the findings in relation to existing literature on the study topic, discuss the limitations of the study, offer recommendations, consider the study's implications, and draw general conclusions.

Interpretation of the Findings

The key finding of this study is 10 out of 11 participants perceived kinesthetic learning as valuable in relation to academic performance among students with ADHD. As mentioned in Chapter 4, two themes emerged from the data. Theme 1 was parents perceived kinesthetic learning as valuable, impactful, and generally accommodating pertaining to their child with ADHD. Theme 2 was parents perceived that kinesthetic learning influences academic performance through parental guidance, interaction with specialists, use of fidget tools, and participation in kinesthetic and classroom activities, and through impacting focus, work completion, movement, comprehension, retention, behavior, focus, enjoyment, engagement, and confidence. Although one of the 11 parent participants expressed skepticism regarding kinesthetic learning, that same parent also expressed her perception of kinesthetic learning as accommodating for her child 50% of the time, in terms of academic performance. Her child also has a coexisting diagnosis related to motor skills.

Findings Related to Theory

The experiential learning theory was the theoretical framework for this study. The theory posits that learning occurs through experience or hands-on experience (Kolb & Kolb, 2017). The findings of this study confirm that hands-on learning, such as kinesthetic learning, influences learning among students with ADHD in various ways. Parents who participated in this study perceived kinesthetic learning as valuable, impactful, and generally accommodating to their child with ADHD. Parents also perceived that kinesthetic learning influences academic performance through parental

guidance, interaction with specialists, use of fidget tools, and participation in kinesthetic and classroom activities, and through impacting focus, work completion, movement, comprehension, retention, behavior, focus, enjoyment, engagement, and confidence. Essentially, participants perceived kinesthetic learning as having a positive impact on academic performance among students with ADHD.

Findings Related to Similar Outcomes

As mentioned in Chapter 2, Helm (1991) recommended that administrators pair students with teachers who present learning based on the preferred learning style of the student. Helm made this recommendation based on study results showing higher GPAs among students taking English courses that aligned with their preferred learning style. Notably, many of the parents who participated in my study supported their child's learning preference being considered in academic settings. In addition, Echoing Helm's finding that kinesthetic learners achieved higher GPA, 10 of the 11 participants in my study perceived that kinesthetic learning is valuable and helps their child with ADHD excel academically (when kinesthetic learning approaches are used to promote learning). Furthermore, seven out of 11 parents advocated for their child to either have the option of a more inclusive or accommodating educational plan, removal from traditional school, or placement into a homeschool or a nontraditional school, such as a Montessori school or a school of the arts.

Similarly, Rayneri et al. (2006) found that, out of 80 gifted students, 56.45% of students perceived that they were kinesthetic learners and were meeting their desired GPA. This perception was due to their learning in an environment that fit their learning

preference and having teachers who consistently displayed exemplary skills in the teaching space that efficiently motivated the students. In the same way, eight of the 11 parents in my study perceived that more kinesthetic learning opportunities need to be provided to their child with ADHD, seven out 11 perceived that more parents need to be aware of kinesthetic learning's benefits or advocate for more kinesthetic learning in education, and four out of 11 perceived that more kinesthetically trained teachers are needed in education. The results of this study confirmed the importance of having teachers who are kinesthetically trained to teach kinesthetically inclined students with ADHD to help them excel academically.

Whether the student with ADHD is a kinesthetic learner or another type of learner, results suggest that including learning preference in the academic plan of a child with ADHD is essential for achieving academic success for that child with ADHD. Also, in relation to academic success, seven out of 11 parents perceived that kinesthetic learning impacted their child's focus, four out of 11 perceived that kinesthetic learning impacted their child's retention and comprehension, and eight out of 11 perceived that kinesthetic learning impacted learning. These findings align with Wagner's (2014) finding that kinesthetic learning enhanced information retention, problem-solving, and critical thinking skills among nursing students.

In addition, 10 of the 11 parents in this study perceived kinesthetic learning to be a valuable learning approach to teaching their child with ADHD, and seven of the 11 parents want to build awareness or are advocating for more kinesthetic learning exposure for their child. These findings concur with Lister and Ansalone's (2006) findings that

students preferred kinesthetic learning over traditional learning and that they performed significantly better with kinesthetic learning approaches as compared to traditional learners. Regarding students with ADHD, 10 of the 11 parents who participated in this study perceived kinesthetic learning as a valuable asset to academic performance among their children with ADHD.

In relation to Ronen and Grosu's (2014) study that found kinesthetic learning improved students' ability to process and retain information among students learning geometry, four out 11 of the parents that participated in my study confirmed that they perceived kinesthetic learning helped their child with ADHD learn or improve math skills. Furthermore, three out of 11 of the parents perceived that kinesthetic learning impacts their student with ADHD's information processing ability and four out of 11 perceived that kinesthetic learning impacted their child's ability to retain information. In addition, eight out of 11 parents perceived that kinesthetic learning impacts learning overall.

In addition, the findings of my study also extended the knowledge found in Kercood and Banda's (2012) study that found kinesthetic movement through doodling and the utilization of exercise balls helped students with ADHD recall and comprehend information given by way of storytelling. In the same way, 11 out of 11 participants perceived structured kinesthetic activities as valuable, four out of 11 participants perceived kinesthetic learning as an aide for helping their child focus, retain, and comprehend information. In addition, eight out of 11 participants perceived that kinesthetic learning assists with overall learning, in general. In other words, some of the

parents that participated in my study perceived that kinesthetic learning helped their child with ADHD comprehend and recall information. Specifically, some of the information recall and comprehension areas mentioned by some of the parents in my study were math or science (four out of 11 parents), reading (two out of 11 parents), and writing or spelling (four out of 11 parents).

Moreover, 11 out of 11 participants perceived kinesthetic learning as valuable. In addition, five out of 11 of the parents that participated in my study agreed that various degrees of kinesthetic movement impact their child's academic performance. Further, four out of 11 participants perceived that movement helped their child with ADHD focus. This finding aligns with Cerillo-Urbina et al.'s (2015) study that found that intense movement helps manage ADHD symptoms, such as inattention. Specifically, fidget tools, wobble stools or chairs, and various physical activities were mentioned as helping students with ADHD to manage focus by parents that participated in my study. However, one parent essentially expressed the importance of understanding that kinesthetic movement must be used practically and strategically to avoid becoming a distraction and to assist her child academically.

Similarly, eight out of 11 parents perceived that kinesthetic learning impacts learning, which entails movement, and five out of 11 parents that participated in my study perceived that specific kinesthetic movement, such as sports helped their child with ADHD in regard to academic performance. This finding aligns with Jae, Hyon, Kyung, Hye and Renshaw's (2015) study that found a significant improvement in cognitive functioning among a group of students with ADHD that participated in sports or various

kinesthetic activities. Specific to my study, some of the specific kinesthetic movements or activities mentioned by parents that participated in my study were, catching and throwing, hiking, martial arts, and dance among others.

In addition, three out of 11 parents perceived that kinesthetic learning impacted academic performance by impacting behavior. Also, six out 11 parents perceived that kinesthetic learning impacted their child's learning experience by impacting their child's enjoyment (six out of 11), confidence (three out of 11 parents), improving the classroom experience (seven out of 11 participants). Likewise, Gawrilow, Stadler, Langguth, Naumann, and Boeck (2016) found that a reduction in physical or kinesthetic activity can lead to students with ADHD exhibiting a depressed mood, specifically among students with ADHD that have severe hyperactive symptoms. By the same token, five out of 11 of the parents that participated in my study perceived that when movement was reduced, their child with ADHD enjoyed school less or lacked self-confidence (three out of 11 parents).

As mentioned in Chapter 2, Helm (1991) conducted a study that assessed learning preferences among 430 participants. In addition, Helm (1990) compared each participant's grades in the same course and found that kinesthetic learners' grades were higher compared to learners with other learning preferences, which prompted Helm (1990) to recommend pairing students with specific learning styles with teachers that utilize the same teaching style. To add to such knowledge, 10 out of 11 of the parents that participated in my study perceived kinesthetic learning as valuable in regard to academic performance among their child with ADHD. Relatively, one participant in my study

specifically noted that she perceived her to child to be a kinesthetic learner, and her child with ADHD performed better academically when her child was paired with a teacher that taught kinesthetically.

Similarly, Lister and Ansalone (2006) found that study participants attitudes and performance were better when given kinesthetic learning opportunities versus traditional learning opportunities. Notably, regarding their children with ADHD, 10 out of 11 of the parents that participated in my study perceived kinesthetic learning to be beneficial or valuable in various ways. Some parents confirmed that they perceived kinesthetic learning positively influenced their child's attitude or enjoyment (six out of 11) and academic performance (11 out of 11) in agreement with the Lister and Ansalone (2006) study. One parent noted that due to her child's co-occurring diagnosis, she perceived that kinesthetic learning helps her child 50% of the time.

In relation to improving retention, Wagner's (2014) study found that information retention improved among medical students exposed to kinesthetic learning-based instruction. In the same way, in my study, four out of 11 of the parents perceived that kinesthetic learning impacted retention among their student with ADHD. In close relation, four out of 11 parents perceived that kinesthetic learning their child's academic performance by impacted their focus, and three out of 11 parents perceived that kinesthetic learning impacted their child's classroom learning experience by impacted their focus. In total, seven out of 11 parents perceived that kinesthetic learning impacted focus.

As mentioned in Chapter 2, Washington et al. (2003) conducted a study that showed when students with ADHD completed writing assignments while sitting on a therapy ball promoting movement, in-seat task completion and legible word productivity among the participants improved. Similarly, in my study, parents perceived that kinesthetic learning impacted their child's academic performance by impacting work completion (three out of 11 parents). In addition, the results of my study supported the findings of the Washington et al. (2003) study by indicating that participants perceived that kinesthetic learning impacted their child's academic performance by impacting their child's focus (four out of 11 parents), retention (four out of 11 parents), comprehension (four out of 11 parents), grades (three out of 11 parents), behavior (three out of 11 parents), learning (eight out of 11 parents), movement (five out of 11 parents), information processing (three out of 11 parents), and engagement (five out of 11 parents).

Limitations of the Study

This section explores possible limitations of the study. One limitation included the lack of sample size generalizability. Specifically, 11 parents of students with ADHD participated in my qualitative study. Qualitative studies generally focus on gaining insight on a phenomenon from those who have experienced the phenomenon, and sample size is based on data saturation (Moser & Korstjens, 2018). Given that, qualitative studies tend to have smaller sample sizes and tend to lack generalizability.

A second limitation included the lack of gender diversity among participating parents. For instance, all 11 parent participants were female. As a result, there were zero

male parent participants, and male participants would have offered a more diverse perspective. Markedly, Grzymala-Kazlowska and Phillimore (2018) noted the importance of including diverse perspectives in research to obtain a more inclusive variety of perspectives. However, notably, participation in the study was voluntary and recruitment to participate in the study was inclusive of any parent (regardless of gender) of a student with ADHD that was exposed to kinesthetic learning.

A third limitation of the study included the lack of previous research on my topic. Even though there is relative research, this study is the first study to explore parent perceptions of kinesthetic learning and academic performance among students with ADHD. Arguably, this constitutes the need for further research and exploration of kinesthetic learning and academic performance among students with ADHD.

In general, there are students with ADHD that sometimes have more severe symptoms than others. Parents' disclosure of their child's level of ADHD symptom severity was voluntary. Given that, this limitation is noted to diminish the development of unreasonable assumptions among researchers that intend to replicate or use this study for academic purposes.

Recommendations

Recommendations for future research are covered in this section. For my study, parents providing information about the type of ADHD that their student possessed, and the severity of the symptoms was voluntary. Given that, I recommend that future researchers assess kinesthetic learning's impact on academic performance among students with ADHD, focusing on the severity of the student's ADHD symptoms. For

instance, the study can explore parents' perceptions of kinesthetic learning's impact on academic performance among students with inattentive ADHD or hyperactive ADHD.

Another recommendation is for future researchers to consider conducting a qualitative study focusing on how kinesthetic learning relates to academic performance among students with ADHD in a traditional learning setting and a homeschool setting. For my study, there were parents that exposed their child to kinesthetic learning through homeschooling sometimes using research and their own creativity to develop kinesthetic learning teaching techniques. Conducting a qualitative study on this subject may provide a more in depth understanding of how the two kinesthetic learning academic settings are different, similar, and how each academic setting impacts the student with ADHD academically. The kinesthetic learning strategies utilized in both settings may also be compared.

Further, findings also showed that provision of more kinesthetic learning opportunities in academic settings was warranted. As a result, I also recommend that future researchers consider conducting a qualitative study documenting various educators kinesthetic learning strategies utilized in academic settings and their perceptions of the effectiveness of those strategies in academic settings. Such a study will provide data on kinesthetic learning strategies utilized by certified professionals or teachers and their perception of kinesthetic learning's effectiveness in an academic setting. I recommend that the target population of teachers are teachers or tutors of students with ADHD. I recommend a qualitative approach conducting in-depth interviews. Potentially, such a study will create a clearer understanding of certified educators' perception of kinesthetic

learning and academic performance among students with ADHD, thus balancing out the research surrounding the subject.

In essence, future researchers developing variations of my study contributes to the literature relative to kinesthetic learning and academic performance among students with ADHD. This study is the first of its kind to explore parent perceptions of kinesthetic learning and academic performance among students with ADHD, so there is much room for empirical contributions related to the subject. The next section covers implications of the findings.

Implications

Implications for Practice

Results imply that kinesthetic learning is effective when implemented by an instructor that is knowledgeable of how to teach kinesthetically. The results also implied that more knowledge about kinesthetic learning is needed among teachers and parents. Another implication is if an increase of knowledge regarding the impact kinesthetic learning has on academic performance among students with ADHD occurs, then that heightened awareness may lead to an increase of kinesthetic learning advocacy among parents. In the same way, an increase of kinesthetic learning opportunities may arise in classrooms due to heightened awareness among teachers and administrators. Furthermore, such heightened awareness may also lead to an increase in students with ADHD attaining academic success.

Furthermore, the results imply that students with ADHD may need to be given an option to learn in an environment that offers kinesthetic learning opportunities. Based on

the results of the study, incorporating movement associated with kinesthetic learning into academic lessons or during traditional learning breaks should be considered when constructing an academic plan for students with ADHD. Results implied that opportunities for guided movement or fidgeting is useful and sometimes necessary to aid the student's academic performance. This plausibly implies that kinesthetic learning is a vital part of assisting students with ADHD with attaining academic success due to kinesthetic learning's perceived impact on the students' academic performance.

The results also suggest that the parent's level of involvement and awareness of their child's learning behaviors played a vital role in how or why their child was exposed to kinesthetic learning. Some parents served as their child's homeschool teacher, helped develop a kinesthetically inclusive learning plan for their child, created kinesthetic learning opportunities for their child, or found kinesthetic learning opportunities for their child. Essentially, parents achieved the abovementioned feats individually, or through communicating with teachers or other specialists.

The results of the study also imply that kinesthetic learning impacts academic performance by impacting some students' classroom experience by offering the students a more positive classroom experience. For instance, some parents perceived that kinesthetic learning helped their child enjoy learning more, boost their child's confidence, self-esteem, engagement, work completion, and plausibly reduced classroom reprimands from teachers, as a result. For instance, there were some parents that perceived that their child's exposure to kinesthetic learning helped improve academic performance. Specifically, some parents perceived that kinesthetic learning helped

improve class participation, work comprehension, focus, confidence, and information recall.

Implications for Policy

Essentially, the results of the study imply that kinesthetic learning serves as a lucrative learning approach to assist with academic performance among students with ADHD. When strategically and appropriately used, parents (that participated in the study) perceived that kinesthetic learning is an effective learning approach for their child with ADHD. Given that, on the school level, parents, teachers, administrators, and all other stakeholders ought to consider kinesthetic learning as a useful tool to assist students with ADHD academically. On the district and State levels, policies ought to be created to ensure that students with ADHD are provided with a kinesthetic learning option in academic settings. Relatively, when exposed to kinesthetic learning, Anthmatten et al. (2018) found a 9.3% improvement in assessment answer accuracy among all 163 students, which is roughly an additional two correct answers added to each student's test scores. As a result, Anthmatten et al. (2018) recommend that educators consider kinesthetic approaches in academic settings.

Specifically, regarding school-level policy, the results implied that kinesthetic learning is plausibly inclusive and accommodating regarding academic performance among students with ADHD. For example, some parents perceived that their child's desire to move is met when engaging in kinesthetic learning. This implies that incorporating movement into the education plan for students with ADHD is a considerable approach. The findings also imply that structured and non-structured

movement can be used to impact academic performance. For example, on the school level, allowing students to have unstructured movement breaks, using fidget tools during learning, standing while learning, sitting on yoga balls while learning, or incorporating structured movement while learning are all examples of ways to allow students with ADHD to move without reprimand in an academic setting. Notably, Dempsey (2017) suggested the implementation of structured and unstructured kinesthetic movement to manage ADHD symptoms among students with ADHD in a classroom setting.

In addition, regarding school-level policy, the findings implied that kinesthetic learning needs to be more adaptable to an online learning environment for students with ADHD that are taking online classes. This notion was implied when one parent perceived that her child was struggling to grasp the concept of counting coins by looking at the screen, so instead, the parent helped the child use real coins to grasp the concept of counting money. Given that, making kinesthetic learning more adaptable in an online learning environment is a considerable notion. As a result, on the school level, teachers and administrators ought to develop kinesthetic learning curriculum for online learning. Similarly, Shah et al. (2017) suggested the implementation of teaching approaches that accommodate students' learning preferences (in this case kinesthetic) to improve academic outcomes.

Also, on the school level, the findings also implied stakeholders in the education system should consider providing more kinesthetic learning opportunities for students with ADHD. The findings implied that opportunities for students with ADHD to engage in kinesthetic learning at traditional schools are scarce. The implication is that a

traditional school setting needs to offer more kinesthetic learning opportunities. As mentioned earlier, Shah et al. (2017) also suggested the implementation of more accommodating teaching approaches in schools specifically tailored to students' preference.

Moreover, on the district and state levels, policies should be created that encourage school administrators to assess students with ADHD's learning preference and ADHD symptoms when developing educational plans for students with ADHD. Poor grades and school dropout rates are linked to the inattention and impulsivity symptoms of ADHD (Colomer et al., 2017). Relatively, the findings of my study implied that students with ADHD's learning preference needs to be considered when developing their educational plan, and whether the student with ADHD has co-existing diagnoses that may impact learning should also be considered. In the same way, whether the student with ADHD is inattentive or hyperactive should also be considered when considering kinesthetic learning as an academic approach. The findings also implied that kinesthetic learning helps students with ADHD learn. By the same token, it is implied that kinesthetic learning can serve as a main source for learning or a supplemental aid to learning.

Implications for Theory

The results support the use of experiential learning theory as a practical theoretical framework for this study. The theory notes the impact that the learning routine, learning style, and learning environment have on a student's ability to recall, retain, and comprehend information taught (Kolb & Kolb, 2017). The results confirm that

the experiential learning theory is a workable guide to understanding how kinesthetic learning impacts academic performance among students with ADHD.

In conclusion, providing the evidence in this study of parents' perceptions of kinesthetic learning and academic performance among students with ADHD may result in positive social change as it informs teachers and school administrators about a learning approach that 10 out of 11 parents supported in this study, and other parents may support as well. In addition, the findings also imply that parent involvement is a key component to kinesthetic learning provision through kinesthetic learning awareness, advocacy, and guidance. Essentially, the study found that parents' perceptions of kinesthetic learning and academic performance among students with ADHD is positive. Given that, the implication is support for kinesthetic learning strategy adaptation may increase in classrooms, and academic performance among students with ADHD might also improve if kinesthetic learning opportunities increase in learning settings. The following section states the conclusions of my study.

Implications for Social Change

As mentioned in Chapter 1, students with ADHD struggle more academically than students without ADHD (Fried et al., 2016). The findings in this study show that participants perceived kinesthetic learning as a valuable asset to impacting academic performance. Implications for social change include providing students with ADHD kinesthetic learning strategies in academic settings which may reduce in-class reprimands, improve self-esteem and confidence, improve engagement, and improve academic performance, among other things.

Conclusion

In this study, I explored 11 parents' perceptions of kinesthetic learning and academic performance among students with ADHD. The participants perceived kinesthetic learning as valuable, impactful, and generally accommodating pertaining to their child with ADHD. Participants also perceived that kinesthetic learning influences academic performance through parental guidance, interacting with specialists, utilizing fidget tools, participating in kinesthetic activities, participating in classroom activities, impacting focus, work completion, movement, comprehension, retention, behavior, enjoyment, engagement, and confidence. Given that, the findings imply that kinesthetic learning is a practical approach to assist with academic performance among students with ADHD.

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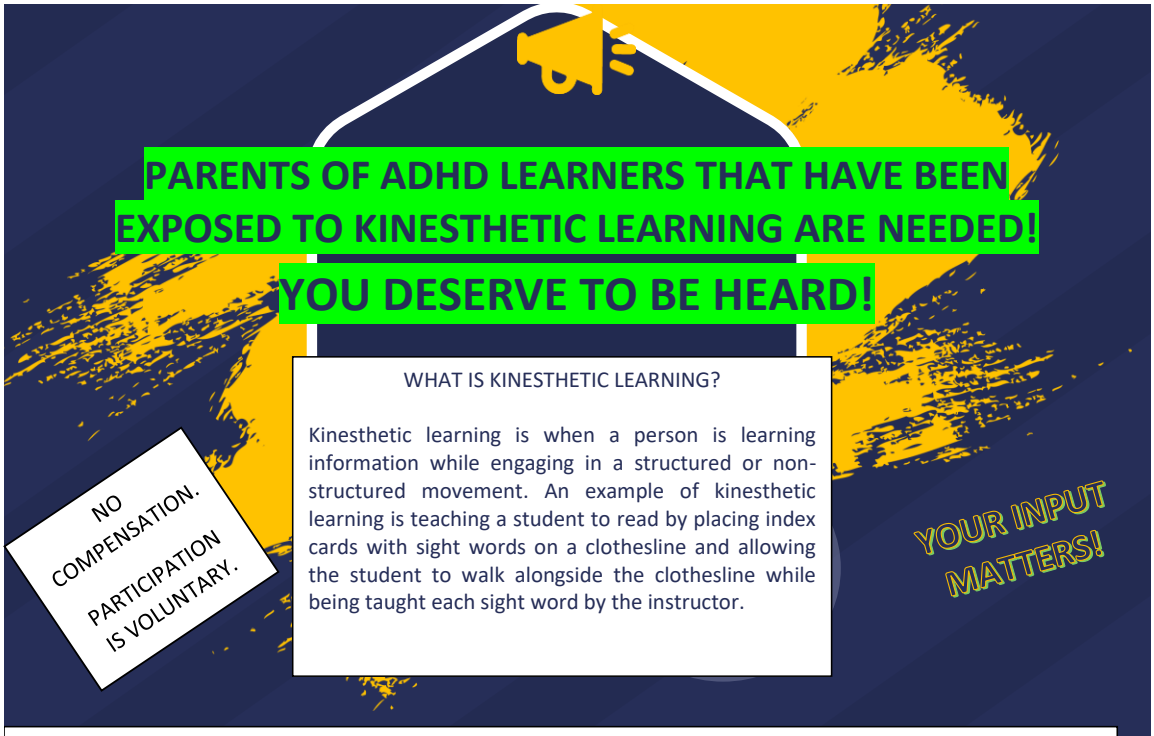
Appendix: Recruitment Flyer



WHO IS NEEDED?

10 PARENT VOLUNTEERS OF ADHD LEARNERS THAT HAVE BEEN EXPOSED TO KINESTHETIC LEARNING ARE NEEDED

FOR WHAT?

TO PARTICPATE IN A STUDY THAT EXPLORES PARENTS' PERCEPTIONS OF KINESTHETIC LEARNING AND ACADEMIC PERFORMANCE AMONG STUDENTS WITH ADHD

WHY ARE PARENTS OF ADHD LEARNERS THAT HAVE BEEN EXPOSED TO KINESTHETIC LEARNING NEEDED?

SINCE PARENTS' PERCEPTIONS OF ACADEMIC INTERVENTIONS TEND TO IMPACT INTERVENTION IMPLEMENTATION, PROVIDING EVIDENCE OF PARENTS' PERCEPTIONS OF KINESTHETIC LEARNING AND ACADEMIC PERFORMANCE AMONG STUDENTS WITH ADHD MAY RESULT IN POSITIVE SOCIAL CHANGE AS IT INFORMS TEACHERS AND SCHOOL ADMINISTRATORS ABOUT A LEARNING APPROACH THAT PARENTS MAY SUPPORT AND MAY ALSO HELP STUDENTS WITH ADHD EXCEL ACADEMICALLY.

WHEN ARE PARENTS OF ADHD LEARNERS THAT HAVE BEEN EXPOSED TO KINESTHETIC LEARNING NEEDED?

ALL INTERVIEWS ANSWERING 4 QUESTIONS ARE EXPECTED TO BE CONDUCTED AS SOON AS POSSIBLE.

WHO TO CONTACT TO PARTICPATE?

BEVERLY MOUNT IS THE RESEARCHER FOR THIS STUDY, AND SHE CAN BE CONTACTED VIA EMAIL AT [redacted] OR CALL MS. MOUNT DIRECTLY AT [redacted]

INTERVIEW INFORMATION

INTERVIEWS WILL LASTS 45 MINUTES TO 1 HOUR.

INTERVIEWS WILL BE CONDCUCTED USING A VIDEO CHAT PLATFORM OF YOUR CHOOSING, SUCH AS ZOOM.