

12-2016

# Early Childhood Professionals' Perspectives: Physically Moving and Attending to Structured Tasks

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*Culminating Projects in Child and Family Studies*. 9.  
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**Early Childhood Professionals' Perspectives: Physically Moving and  
Attending to Structured Tasks**

by

Danielle Bailey

A Thesis

Submitted to the Graduate Faculty of

St. Cloud State University

in Partial Fulfillment of the Requirements

for the Degree

Master of Science in

Child and Family Studies

December, 2016

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## **Dedication**

This thesis is dedicated to my loving husband and daughters for their endless love, support, and encouragement.

### **Acknowledgements**

It is a pleasure to thank those who made this thesis possible and to whom I am truly grateful.

I owe my deepest gratitude to my loving, dedicated, and inspiring husband, Jared, for his endless support and encouragement through this educational venture.

To my precious children, Harper and Reese, for their unconditional love and joy for life, even when “I always have to work late.”

I would like to thank my loving family: my parents, Tim and Lisa, my in-laws, Jon and Betty, and all my siblings and in-laws. They all provided me with ongoing support, encouragement, prayers, and help with my children.

To my advisor, Jane, for her encouraging words, advice and professional insight that guided me in numerous ways in writing this thesis.

I am also very grateful for my two colleagues, Jen and Julie. Together the three of us stepped out of our comfort zone together, and cheered each other on through laughter and tears. It’s been a blessing to complete this huge accomplishment with you two by my side.

And above all, utmost appreciation to my Heavenly Father for His unconditional love, comfort, and strength throughout all my life journeys.

Thank you,

Danielle Bailey

### **Abstract**

Limited research is available on how physical movement affects attending behavior in preschool-aged children. The primary purpose of this case study was to identify how early childhood educational team members perceive the use of physical movement to increase attending behavior in structured activities within inclusive preschool classrooms in one Minnesota public school setting. A survey was electronically distributed to 22 early childhood professionals and 17 surveys were returned. Overall, the participants in this survey agreed that physical movement activities increases preschool-age children's attending behavior in structured activities within an inclusive preschool classroom. Participants' responses also indicated that they perceive improvements in preschoolers' communication, cognitive, motor, and social skills when movement activities are combined with early childhood structured activities. As a result of this study, participants expressed their understanding of the importance physical movement has on young children's overall learning and development

## Table of Contents

	Page
List of Tables.....	7
Chapter	
1. Introduction.....	8
Overview.....	8
Importance of the Study.....	11
Statement of the Problem.....	13
Purpose and Research Question.....	13
Conceptual Framework.....	14
Conclusion .....	14
2. Literature Review.....	16
Opening.....	16
Theme #1: Whole Child—Nothing Happens in Isolation.....	18
Theme #2: Children’s Physical Movement and the Learning Connection .....	19
Theme #3: Roles of Early Childhood Program and Educators.....	27
Conclusions.....	30
3. Method.....	32
Opening.....	32
Research Question .....	32
Research Design.....	32
Setting .....	33

Chapter	Page
Participants.....	33
Data Collection Procedures.....	34
Data Analysis .....	34
4. Results.....	35
Overview.....	35
Demographic Results .....	35
Numeric Results.....	36
Narrative Results.....	37
Conclusion .....	38
5. Discussion.....	39
Numeric Findings.....	39
Narrative Findings .....	40
Study Limitations.....	43
New Steps in Research.....	44
Conclusions.....	45
References.....	46
Appendices	
A. Raw Survey Narrative Data .....	51
B. Survey Items .....	59
C. Adult Consent Form.....	64
D. Email Cover Letter to Participants.....	66

**List of Tables**

Table	Page
1. Participants Education Role and Years of Experience .....	36
2. Preschool Movement Activities Results by Participants' Perceptions and Results .....	36



## Chapter 1: Introduction

### Overview

Research in early childhood development has been accruing for almost 1 century. Child development is the term used to describe the process of how a child grows and develops starting at birth and continuing throughout their life into adulthood. Children progress through milestones that are categorized into five major learning domains: Communication, Cognitive, Social-Emotional, Motor, and Adaptive. While all skills develop typically for all children, each child changes and develops at their own individual pace. Even so, basic developmental milestones within each developmental domain can be identified through which children progress as developmental skills build upon each other.

The complexity of the human body allows learning domains to develop and function simultaneously, which creates a whole person (Meggitt, 2012). For instance, communication development begins at birth and increases dramatically through the first 5 years of a child's life. Bond and Wasik (2009) asserted that future language and literacy development are impacted by a child's early expressive communication skills. By the age of 5, a child has the potential of gaining about 10,000 vocabulary words that is dependent on exposure to language rich environments. In like fashion, cognitive development in the early childhood years is made up of multiple components such as a child's ability to understand, problem-solve, reason, attend, and use memory, imagination, and creativity. Research supports the idea that children learn best through play, as it is motivating, familiar and positive (Meggitt, 2012). Pawlina and Stanford (2011) shared that adults can support children's cognitive development by providing them with a wide spectrum of experiences. In addition, children's attitudes toward learning can be heavily

influenced by the adults who surround them. Young children's learning is also affected by a child's social-emotional development. Social-emotional development refers to a child's ability to understand how others feel, to self-regulate their own feelings and behaviors, and to engage in positive peer interactions. For optimal learning, a child needs to develop healthy social-emotional skills. For school success, according to Bagdi and Vacca (2005), children need opportunities that support their abilities to manage transitions, regulate their emotions and develop meaningful relationships with others.

All scholars within this field support the idea that development does not emerge in isolation or learning domain by learning domain. For instance, a child's cognitive skills are not solely gained during math and literacy tasks, expressive language does not only develop during repetitive 1:1 interaction with an adult labeling pictures, and gross motor skills do not only emerge through physical activity. Even though child development is broken down into multiple individual domains, each strand of development affects and is affected by the other domains of learning. Thus, teaching from a "whole" child approach can result in positive results in school achievement (Son & Meisels, 2006). Viewing each individual child in a holistic way allows educators to see the child as a whole person, which validates children's thoughts, ideas, emotions, and relationships.

Children are constantly observing and learning from their surroundings. Drawing from many of the historical early childhood education theorists' ideas, such as Jean Piaget, Lev Vygotsky, John Dewey, and the Reggio Emilia Approach, children's potential is described as endless. It is best if young children's environments provide supportive opportunities for learning, curiosity, exploration, and positive interactions with others as they strive toward their

best learning potential. Yet, today educators have many responsibilities and requirements placed on them, one of which includes providing supportive learning environments. According to Hewett (2001), “young children learn through meaningful activities in which different subject areas [are] integrated” (p. 99). The results of a longitudinal study showed that there are strong correlations between kindergarten age children’s motor skills; specifically visual motor skills, and their first grade cognitive achievement; specifically, reading and mathematics (Son & Meisels, 2006). This study also suggested that the influence of children’s motor skills may impact cognitive achievement through their social-emotional skills such as self-regulation and peer relationships. Since young children begin to grow to their fullest potential in the early childhood years, early childhood educators can assist in their development by intentionally providing opportunities to learn when children are viewed holistically.

Over the years, research has determined that multiple environmental factors such as school, family life, and social and cultural influences impact children’s development and academic success (Guo, Sun, Breit-Smith, Morrison, & Connor, 2015). This research also highlighted a high percentage of U.S. children who begin their school careers unprepared; meaning they can be considered “a- risk” at some point in their lifetime (Bagdi & Vacca, 2006). Although the severity, frequency, and duration vary, these effects can adversely impact developmental outcomes. Asawa, Hansen, and Flood (2008) reported the social-emotional skills of at-risk children who experience maltreatment are hindered. These children have more difficulty forming positive relationships with others as well as difficulty in managing their emotions and behaviors.

Although research is limited and sometimes controversial, incorporating movement within daily classroom activities can help young children become more attentive and engaged in positive learning opportunities (Callcott, Hammond, & Hill, 2015). Positive effects can occur through movement experiences for young children as the groundwork for perceptual motor, cognitive, and social skills are promoted. Multiple areas of a child's brain, specifically the cerebellum and prefrontal cortex, are activated during movement activities and this stimulation promotes development. Also developed in the early childhood years are areas of the cerebellum, which are considered to be executive functioning skills. These skills include a child's ability to manage their attentiveness, working memory, and inhibitory control. With this being said, movement activities within the classroom have been assumed to promote brain development (Callcott et al., 2015; Pica, 2010). It is problematic to conduct experimental research on this topic as denying children with movement experiences to develop their skills in the areas of perceptual motor and sensory skills is unethical. In addition, this type of research is challenging due to the difficulty in seeing instant developmental results (Callcott et al., 2015).

### **Importance of the Study**

The first 6 years of every child's life is critical period for their overall development. During this important "window" of time, children need to experience many opportunities that will stimulate their senses--sight, hearing, taste, smell, and touch--in order for them to create many meaningful pathways in the brain (Pica, 2010). Connections between thousands of brain neurons occur resulting in the "architecture of the brain." These "wiring" pathways that form during this crucial time rely on "stimulation from the environment and experience in the environment" (Gabbard & Rodrigues, 2007, p. 1). The research literature has suggested that an

element of early brain development is physical movement (Gabbard & Rodrigues, 2007). An increasing number of studies have concluded that “exercise plays an important role in brain functioning” (Healey & Halperin, 2015, p. 468).

Furthermore, recent literature has stated that more than half of all U.S. children ages 3 through 5 spend at least 4 or more hours of their day outside of their families’ home when placed in childcare sites or early childhood programs. Over the last several decades, the need for high-quality early childhood settings has increased. The spike in enrollment is a result of parents need for childcare and a rise in awareness of the benefits of early life experiences (National Association for the Education of Young Children, n.d.). Early childhood professionals have an important role in the way our future generation grow and learn across all domains of development. The amount of time young children are physically active is assumed to be high for preschool-aged children, although surprising findings from multiple studies have not supported this case (Pate, McIver, Dowda, Brown, & Addy, 2008; Trost, Fees, & Dzewaltowski, 2008). During a typical day of a preschool, children spend over three-fourths of their time in sedentary activities (Alhassan, Nwaokelemeh, Lyden, Goldsby, & Mendoza, 2013). Pate, O’Neill, Byun, McIver, Dowda, & Brown (2014) conducted an observational study where they concluded that children who attend “traditional preschools” spend a large portion of their school day sitting due to teacher-directed instructional activities. Research also stated that young children’s physical activity tends to occur in short durations (Pate et al., 2014). Along with other researchers, Callcott et al. (2015) suggested there is limited research connecting the relationship of movement to cognition for young learners. Even so, it is essential for early childhood professionals to support young children’s learning by incorporating opportunities for movement

and sensory experiences (Alhassan et al., 2013; Burdette, & Whitaker, 2005; Hur, Buettner, & Jeon, 2015; Trust et al., 2008).

### **Statement of the Problem**

Today's generation of preschoolers are immersed in a fast paced society, which unfortunately results in fewer opportunities to be engaged in unstructured play. Currently, children's schedules can be overscheduled, have access to increased technology use and attend schools where academic demands are increasingly emphasized. Because of this, Gabbard and Rodrigues (2007) stressed that "stimulation in the form of movement and sensory experiences during the early developing years are necessary" (p. 1). Professionals in this field have a significant role in the way young children learn. Yet, research has demonstrated that preschoolers spend a large portion of their day in activities that require them to be seated or inactive (Alhassan et al., 2013; Pate et al., 2008; Pate et al., 2014). More specifically, research is limited and controversial as to how physical movement affects attending behavior in preschool aged children.

### **Purpose and Research Question**

The purpose of my study was to identify how early childhood educational team members perceive the use of physical movement to increase attending behavior in structured activities within an inclusive preschool classroom in public school settings. More specifically, my research question is: What are early childhood educational team members' perceptions of using physical movement to increase attending behavior in structured activities within an inclusive preschool classroom?

## **Conceptual Framework**

No two children are alike, including the way they process and retain information. Individuality and learning are created with a variety of factors that contribute to the makeup of each child. A few key factors that each child displays include their own unique personality, genetic makeup, and temperament. In addition to these factors, young children need a well-balanced physical diet, which includes whole-body movements and sensory stimulation (Connell & McCarthy, 2014). Holistic learning allows children to actively use their bodies through movement and interaction with the environment that surrounds them. Learning takes place when children are moving and socially interacting with other people and with objects in their environment (Hannaford, 1995; Healey & Halperin, 2015). Engaging in their surroundings, children are constructing and building upon their prior knowledge through these critical opportunities. Educators play a significant role in providing opportunities for children to have lasting learning by providing them with active, hands-on experiences, so they can learn and develop at their own pace. The active-constructive-interactive conceptual framework developed by Chi (2009), supports the idea that the type of activities a learner is involved in fosters learner outcomes. My research study is grounded in the premises of the active-constructive-interactive conceptual framework.

## **Conclusion**

Chapter 1 contained information regarding educating young children through the outlook of a whole-child approach when providing meaningful activities by integrating different developmental domains. Literature has supported that a young child's overall development relies heavily on the stimulation they received within the child's natural learning environments.

Research has shown that physical movement plays a significant role in brain growth in young child, as it lays the foundation for the child's perceptual motor, cognition, and social skills. With the way our society has changed over the decades, today's preschool-age children are found to spend more time in sedentary activities both at home and in schools. Early childhood educators play a crucial role in their student's growth and development. This purpose of this research project was to have a better understanding of early childhood educational team members' perspective on using physical movement to increase attending behavior in structured learning activities.

In the next chapter, I review the literature pertaining to the research of early childhood development and the use of movement and learning within the classroom. I also discuss how sensory stimulation is critical for brain development and the role early childhood programs and educators have on implementing physical movement within their preschool day.



## Chapter 2: Literature Review

### Opening

According to the literature, physical movement is essential for the human body, including the brain to grow and develop. The need for movement begins in utero and continues throughout an individual's lifespan. But in recent years young children in the United States spent less time engaged in physical activity and more time in sedentary activities. Numerous studies have shown the amount of time preschool-age children spent in movement and play are considerably less than what is recommended, yet necessary, for their little bodies, including their brains, to grow and develop (Alhassan et al., 2013; Pate et al., 2008; Pate et al., 2014; Trost et al., 2008). Many researchers have concluded that children's brains and overall development, which includes their cognitive, social-emotional, motor, communication, and adaptive skills, can have immediate and long-lasting positive effects when given opportunities to move and explore their environments (Alhassan et al., 2013; Burdette & Whitaker, 2005; Callcott et al., 2015; Pate et al., 2008; Pate et al., 2014; Ristuccia & Gretsche, 2011; Trost et al., 2008).

Due to today's lifestyle and modern trends, there are a number of reasons why young children have experienced fewer opportunities to move and be physically active. Such reasons include: spending less time outside, increased use of technology and screen time, the expectation to be seated during increased academic tasks within early-learning settings, overscheduled personal lives, and living in our fast paced society (Alhassan et al., 2013; Connell & McCarthy, 2014; Pate et al., 2008; Pate et al., 2014; Ristuccia et al., 2011). It has also been suggested by Callcott et al. (2015) that exposure to motor skills within early childhood settings can be limited because of educators' comfort level in teaching specific motor skills, as well as lack of school

time. In addition, Trost et al. (2008) noted that educators are challenged to find adequate time to fit gross motor opportunities into their overcrowded school day because it is often consumed with other curriculum priorities. Experimental studies conducted by both Callcott et al. (2015) and Trost et al. (2008) addressed these concerns. Callcott et al. (2015) in a quasi-experimental study showed that those preschool-aged children who were exposed to a 15-minute scripted lesson activity that combined explicit phonological awareness and movement performed significantly better on phonological awareness, invented spelling and spelling measurements compared to the control group. Findings from Trost et al. (2008) study concluded that the teaching staff of the early childhood classrooms where physical movement was integrated into existing curriculum over 8 weeks were well-received and students' moderate-to-vigorous physical activity levels within the classroom increased significantly.

Within the last decade of child development research there has been an increased interest in seeking to understand the relationship between physical activity and cognitive performance. Dating back to 1953, Piaget presented the idea that in order for young children to increase their cognitive performance, they need to be an active participant in activities and sensorimotor experiences (Piek, Dawson, Smith, & Gasson, 2008). Yet the literature remains unclear and even controversial as to what exactly the specific cognitive benefits are for preschool and elementary-aged children. More research is needed on this important topic to better tease apart the complicated connection between movement and learning. (Castelli, Hillman, Buck, & Erwin, 2007; Mullender-Wijnsma, Hartman, de Greeff, Bosker, Doolaard, & Visscher, 2015; Piek et al., 2008).

The following literature review addresses a variety of studies that are available as a beginning understanding of this topic. My literature review is organized into three overarching themes: 1) The Whole Child-Nothing Happens in Isolation, 2) Children's Physical Movement and the Learning Connection, and 3) Roles of Early Childhood Program and Educators. Within each of these three themes, I organized the relevant research studies into separate categories, which follow below.

### **Theme #1: Whole Child—Nothing Happens in Isolation**

The nature and continuum of the milestones of development during the first 5 years of a child's life work are interrelated and interdependent with one another creating the foundation and building the whole child for life-long learning. The learning process for preschool-aged children is made up of real-life experiences that occur when children are involved in hands-on opportunities to touch, physically move, and explore their surroundings (Connell & McCarthy, 2014). According to Hannaford (1995), "learning involves the building of skills, and skills of every manner are built through the movement of muscles—not just the physical skills of athletes, dancers, and artisans, but also the intellectual skills used in classrooms and workplaces" (p. 98). Preschool-aged children learn through play; and to play, they need to move.

Through the five major domains that make up child development: Cognition, Communication, Motor, Social-Emotional, and Adaptive, a child's brain and body work together simultaneously in order for growth and development. The well-being of a young child's overall development can be improved if they are given plenty of opportunities to actively play (Burdette & Whitaker, 2005). Connell and McCarthy (2014) suggested that 80% of a child's day should be spent in moving and learning activities such as floor play, make-believe, ball play, jumping and

hopping, dancing, climbing, roughhousing, and time on playground equipment. Quiet concentration activities such as creative play, avatars, and story time should make up the remaining 20% of their day. Through these play activities, children are building upon their social-emotional, motor, cognitive, adaptive, and communication skills.

## **Theme #2: Children's Physical Movement and the Learning Connection**

In organizing the literature reviewed for this second theme I created three categories of research studies: A) Brain Development, Movement, and Learning; B) Movement and the Learning Connection for Preschoolers; and C) Learning and Movement for Older Students.

### **A) Brain Development, Movement, and Learning**

Cognitive skills, specifically literacy and mathematics, are highly prioritized pillars of today's educational systems. This has become the case in many preschool settings as well. Before a young child's brain is ready to focus on ABCs and 1-2-3s, movement experiences are critical to prepare for learning. All skills and attributes a young child has acquired depends heavily on the foundation laid because of movement (Callcott et al., 2015; Connell & McCarthy, 2014; Pica, 2010). By beautiful design, the human brain and body work simultaneously together. Physical movement made by a child stimulates their brain, prompting the child to expand their capabilities, which results in the desire for more movement (Connell & McCarthy, 2014; Gabbard & Rodrigues, 2007). With the notion that movement is a top priority for brain development, literature has supported movement as essential for learning and growth (Connell & McCarthy, 2014; Hannaford, 1995).

Contrary to what was once suggested in brain research, that genetics alone determine an individual's brain "wiring" (Gabbard, 1998; Gabbard & Rodrigues, 2007), the latest brain

research supports that brain development begins in utero as a baby moves within their mother's womb and continues to develop through experiences during birth, infancy, toddlerhood, and preschool years. Newer developing researchers strongly believe that the "wiring" of the human brain is reliant on the stimulation of the environment (Connell & McCarthy, 2014; Gabbard, 1998; Gabbard & Rodrigues, 2007; Hannaford, 1995). Gabbard (1998) also stated that in order for an individual to develop a mature brain, it is necessary in the early years to stimulate the brain through physical movement and sensory experiences. The wiring and "architecture of the brain" is formed as a result of the stimulation an individual receives. With stimulation, the neural synapses are strengthened and create finer connections between neurons. When connections are weak or no longer used, they are "pruned away" and lost (Gabbard, 1998; Gabbard & Rodrigues, 2007). It is unethical and morally wrong to withhold positive stimulation and deny motor movement experiences, rendering experimental research on this topic problematic. Yet researchers have gathered information based on children who have experienced lack of stimulation due to environmental deprivation. These findings concluded that both the quality and quantity of sensory experiences play a critical role in the size and density of the brain and strength of the neural synaptic connections (Gabbard, 1998).

The learning process starts through a child's sensory experiences as they create a base foundation of patterns within the neural network. This information is inputted through their five senses; sight, hearing, smell, taste, and touch, and helps determine how a child thinks and learns. Connell and McCarthy (2014) reported 90% of neural pathways formed during the early childhood years created by movement and sensory experiences shape, mold, and set up a child for their journey of lifelong learning. Ristuccia et al. (2011) believed children are born naturally

to be kinetic learners. Through the use of movement, such as yoga, a child's overall learning can be positively affected by boosting their self-confidence and social skills, improving their ability to self-regulate, strengthening their gross motor skills—all while reducing anxiety.

Neuroscience is a complex subject with many unanswered questions, but what science does understand is that the brain develops from the bottom up. At birth an infant's brain stem allows for basic survival and use of primitive reflexes. As the child grows and learns, their desire for repetition increases, which creates muscle control, muscle memory, and motor skills, all being stored within their cerebellum. Also, as young children develop, their brains can only handle concentrating on one thinking task at a time. Once movements become automatic for children, cognitive processes become more efficient within their brain allowing success in higher thinking and reasoning tasks. Moving upward, the region of the brain known as the limbic system begins processing emotions and emotional memory, which influences a child's reactions and behaviors. The later-developing and most complex part of the brain, the cortex, is home to formal learning, abstract thinking, symbolic understanding and consequential thinking (Connell & McCarthy, 2014).

With the complexity of the brain there are a great deal of unknowns. The cerebellum may be linked not only to movement development but could also play an important role in cognitive functioning and even in the growth of a child's Executive Functioning skills (Callcott et al., 2015; Ristuccia et al., 2011). Executive Functioning skills are a set of skills which help an individual organize and regulate themselves in order to learn and complete tasks. According to Callcott et al. (2015), when given many opportunities to physically move and explore the environment during the critical years between ages 2 and 6, children are not only physically

more healthy and their gross motor skills more developed, but they are forming the precursor motor skills for later literacy skills such as reading, writing, and spelling. In separate quasi-experimental studies Callcott et al. (2015) and Mullender-Wijnsma et al. (2015) acknowledged that the link between movement and cognitive skills are still controversial, as there is limited research on this specific topic. Callcott et al. (2015) investigated how the overall effect of daily exposure to specific movement and teaching of phonological awareness and phonics impacted 5-year-old learners. The results of this study suggested combining pre-literacy and movement activities are more beneficial compared to teaching them separately. Mullender-Wijnsma et al. (2015) year-long study concluded that third-graders demonstrated improvements in their academic performance when their classroom teachers used physical active in academic lessons.

#### B) Movement and the Learning Connection for Preschoolers

When you think of the preschool-age years, many may think, “on the move.” According to Pate et al. (2008), past studies showed higher physical activity levels of children in the age group of 3 to 5 when compared to older age groups. Contrary to what many people believe, several studies documented that preschool-age children spent less time being physically active compared to the past. According to an opinion paper written by Burdette and Whitaker (2005), children’s play looked different than it once did. Young children spent more time in structured activities. During unstructured times children chose more sedentary activities to occupy their downtime. With this change, researchers believed play and movement are needed to be restored in young children’s daily routines (Burdette & Whitaker, 2005).

Approximately 5 million preschool-age children spent their day in the hands of caregivers in preschool or daycare settings (Burdette & Whitaker, 2005; Pate et al., 2008; Trost et al., 2008),

and most spent at least 8 hours in these settings (Alhassan et al., 2013). Educators, caregivers, parents, and society alike want all children to learn and be successful. According to Alhassan et al. (2013), early childhood settings are an optimal place for learning to occur naturally, and the way to make this happen is to increase play and movement.

Understanding that no two children are biologically alike, even identical twins are wired differently from one another because of how they experience what is around them (Gabbard & Rodrigues, 2007), the needs of each child are unique to themselves. This makes the way of learning individualized. The continuum of childhood development reflects the idea that children progress at their own rate and pace as they gain and improve their developmental skills. Pica (2010) believed children gain understanding to targeted concepts when the environment involved physical participation. The learning process described above is referred to as implicit learning. Pica (2010) also suggested in her opinion article that not only is implicit learning fun, she referenced neuroscience educator, Dee Coulter's, philosophy that the combination of songs, movement, and musical games simultaneously helped develop children's language development, self-management, and social skills.

In today's world, educators have limited control over experiences young children have off school grounds. Many students often experience high levels of stress and anxiety due to family home experiences. It is a known realization that each child's life experiences and their ability to handle stress and anxiety are different. With that being said, educators do have the capability to provide meaningful opportunities for their students during the school day. Recommended by two opinion articles, classroom environments are an optimal setting to incorporate more active learning opportunities such as movement (Pica, 2010) and yoga (Ristuccia et al., 2011). Using



implicit learning activities can engage all young children of all abilities by enhancing their learning in the areas of motor skills, self-regulation, social skills, and self-confidence (Ristuccia et al., 2011).

Boys and girls differ in their learning styles and needs as well. According to a cross-sectional study completed by Pate et al. (2014) and a direct observational study conducted by Pate et al. (2008), the findings of both studies were consistent when comparing activity levels between boys and girls during their preschool day. Boys spent a larger amount of their day being physically active compared to same aged girls. Pate et al. (2008) also found that 3-year-old children spend more of their preschool day in light, moderate-to-vigorous, and vigorous physical play when compared to older preschool-aged children. Based on results from the observational tool, they believed this finding is a result of older preschool-aged children spending more time in sedentary activities due to structured, pre-academic activities within their classroom.

The academic push has crept into the preschool years, decreasing times for free play and unstructured exploration. Connell and McCarthy (2014) supported the ideas that “everything is educational—including, and especially, play” (p. 255). Researchers and early childhood experts believe that play is a learning tool providing a child with movement, exploration, and imagination that develops their growing minds (Burdette & Whitaker, 2005). Callcott et al. (2015) reported that skills necessary for kindergarten, such as holding a pencil, cutting with scissors, coordination skills, and being able to concentrate during classroom tasks, all can be developed during the preschool years when given opportunities to utilize essential fine and gross motor movements. The foundation created in the preschool years through the use of play-based

learning opens the door to formal learning and success in kindergarten and beyond (Connell & McCarthy, 2014).

### C) Learning and Movement for Older Students

As children age, it is a known realization that due to standards and testing even more academic demands are placed on them starting in kindergarten and continuing throughout their school career (Tominey & McClelland, 2011). With that, Connell and McCarthy (2014) addressed that many elementary-age students have limited opportunities to play and be physically active during their school day. Recess is often shortened or skipped, playground equipment and space is unsafe, limited, or non-existent, and educators are pressured to teach standardized testing (Connell & McCarthy, 2014). It continues to be recommended by the Centers for Disease Control and Prevention (2015) that youth perform 60 minutes of physical movement every day. This daily activity helps to decrease heightened body mass index (BMI) and boost overall health.

Similar to the interest in the link between cognition and movement for preschool-age children, it is a hot topic for elementary-age children as well. Positive links between physical activity and academic achievement or other cognitive measures have been found in several studies. Research has shown positive associations between standardized testing and grades with physical fitness, which has led educators and health professionals alike to often believe that greater academic success in school occurs for children who are physically active and fit. Yet documentation of past research specifically focused on this relationship have found conflicting results (Castelli et al., 2007). To better understand this correlation, conclusions drawn from the Castelli et al. (2007) study indicated that third and fifth grade students' physical fitness is

generally linked with academic performance. These findings were measured through various fitness testing and two academic achievement tests. Much like in the early childhood years, more research is needed to have a better understanding of the benefits physical activities have on educational learning (Castelli et al., 2007; Mullender-Wijnsma et al., 2015).

Some of the recent literature reported connection either between physical activity level (Elleberg & St-Louis-Deschenes, 2010; Mullender-Wijnsma et al., 2015), motor skills (Son & Meisel, 2006), or physical fitness (Castelli et al., 2007) with academic achievement in the areas of reading and mathematics in elementary-aged children. The findings from the previously referred study done by Castelli et al. (2007) showed that pupils' aerobic fitness and BMI can be associated with mathematic and reading achievement in elementary years. It was also concluded that strength and flexibility have no relationship with general academic achievement. Results found from this study done by Castelli et al. (2007) had similar findings to previous studies done on elementary-aged children.

Son and Meisels (2006) conducted a longitudinal study to determine if kindergarteners' motor skills and reading and mathematics achievements in first grade were related. Baseline data were collected at the beginning of the kindergarten year for students' motor skills and reading and mathematics achievement. Final data were collected in the spring of first-grade year. Based on this study's results, it was concluded that a child's early motor skills, specifically visual motor, at the onset of kindergarten are connected to later academic achievement.

Within educational settings, physical activity and movement can be limitless and can occur in more places than the school building's gymnasium or the playground area. With that being said, according to Mullender-Wijnsma et al. (2015) the number of studies that focus on the

effectiveness of combining academic lessons with physical activity are limited. The findings collected through these studies concluded that improvements with students' motivation and time-on-task were evident after given an opportunity to be physically active. Mullender-Wijnsma (2015) reported literature also suggested that children who engage in physical fitness and physical activity stimulated areas of their brain that are important to cognition. Particular areas of the brain specific to learning have shown positive changes when an individual participated in regular physical activity (Mullender- Wijnsma et al., 2015). A study conducted by Piek et al. (2008) found that gross motor skills during the early childhood years may be a better predictor of school performance in school-aged children compared to early childhood fine motor and cognitive skills. ElleMBERG and St-Louis-Deschenes (2010) conducted an experimental study to determine if improvements of cognitive functioning occurs in elementary-age children after participating in short episodes of physical exercise across development. Specifically, this study gathered information from 36, 7-year-old boys and 36, 10-year-old boys whom were selected randomly. Findings of this study concluded that development of brain functioning, primarily in the sensori-motor and cognitive functions, performed better when children experienced exercise opportunities (ElleMBERG & St-Louis-Deschenes, 2010). It is unknown what specific types of movement and activities (Gabbard, 1998) and intensity and duration of physical activity (ElleMBERG & St-Louis-Deschenes, 2010) affects cognitive functioning in children.

### **Theme #3: Roles of Early Childhood Program and Educators**

Young children's exposure to physical movement during their preschool day are significantly reliant on early childhood programs and educators. An observational study completed by Pate et al. (2008) collected physical activity levels of children ages 3- through 5-

year-olds in 24 randomly selected preschool settings. Results concluded that the most influential factor in a preschool-aged child's physical activity level during their preschool day was based on what preschool they attended and not on the child's age, gender, race, or ethnicity. With that being said, numerous factors may possibly influence the current level of physical activity opportunities programs that classrooms across the United States are providing for children. Such factors could include, constraints due to available space, limited physical activity equipment, and availability in daily schedules for free play and outdoor play. It is unknown of what specific characteristics of preschool programs influence physical activity levels of their students, resulting in the need for more research on this specific topic.

Callcott et al. (2015) reported that early childhood settings often place movement-based learning opportunities off to the side because of higher-prioritized program curriculums and teachers' lack understanding of developmental appropriate practices, training, and experiences. Consistent with this finding, Alhassan et al. (2013) reported that gross motor skills, specifically locomotor skills and concepts, is an area in which teachers must have adequate training. But reality is that the majority of teachers' knowledge-base in this specific area of development tends to be inadequate. Pate et al. (2008), in referring to previous literature, concluded that the duration of time preschoolers spent in moderate-to-vigorous physical activity while playing on the playground was notably higher for children who had teachers with higher levels of college education experiences.

Supported by research-based findings, more opportunities for outdoor play has been linked to children's activity levels (Alhassan et al., 2013; Pate et al., 2008). Yet, Alhassan et al. (2013) also reported conflicting results from previous research that during outdoor play most

children chose sedentary activities. Based on those findings, two suggestions were made by researchers in order to increase physical activity levels in preschool-aged children while playing outdoors. First, increased supervision from educators during their gross motor routine is needed. Secondly, increased opportunities for structured outdoor physical activities. In addition to the benefits of providing time for outdoor physical activities, learning situations are created when children play outdoors as they test their minds and bodies in new-found and unexpected ways (Connell & McCarthy, 2014).

Recommended practices provided by the Division for Early Childhood (2014) stated early childhood “practitioners create environments that provide opportunities for movement and regular physical activity to maintain or improve fitness, wellness, and developmental across domains” (p. 8). Intentionally guiding children in movement activities throughout their school day can help achieve this best practice. According to Connell and McCarthy (2014), moving and learning should be the make-up of 80% of young children’s days.

Numerous programs and resources aimed toward preschool-aged children have been developed by experts in the areas of foundational gross motor movements and physical fitness. Such programs seem to be stand-alone programs and would need to be adding to already existing curriculum. With that being said, research is limited on the topic of incorporating movement into pre-existing curriculum and learning domains (Troost et al., 2008).

In 2008, Trost et al. explored the concept of integrating physical movement activities into pre-existing curriculum in a half-day preschool program. As part of the research design, members of the intervention classroom, which included teachers and staff, were trained in the “Move and Learn” curriculum. Based on concluding results of this study, teachers reported

incorporating motor movements into their daily routines and activities as practical. Data indicated in the classroom the level of moderate-to-vigorous physical activity for children who participated in the “Move and Learn” curriculum were significantly higher than children in the controlled classroom. The intervention classroom staff shared positive feedback regarding children’s learning behaviors during and after “Move and Learn” activities. Positive behaviors observed by staff included students as being enthusiastic, attentive, persistent, and self-regulated, both physically and verbally. Additional research is necessary to gain a better understanding of how curricula similar to the “Move and Learn” curriculum can enhance positive learning essentials, as well as promoting physical activities (Troost et al., 2008).

## **Conclusions**

Chapter 2 reviewed research relating physical movement and learning connections in young children, embracing the process of the whole child approach to learning, and the roles early childhood programs and educators have on implementing physical movement throughout a preschool day. Many of the studies concluded positive impacts and results from incorporating physical movement during preschool days (Alhassan et al., 2013; Burdette & Whitaker, 2005; Callcott et al., 2014; Ristuccia et al., 2011; Connell & McCarthy, 2014; ElleMBERG & St-Louis-Deschenes, 2010; Gabbard, 1998; Gabbard & Rodrigues, 2007; Hannaford, 1995; Pate et al., 2008; Pate et al., 2014; Pica (2010); Piek et al., 2008; Son & Meisels (2006); Troost et al., 2008). A few studies determined more research was needed in order to have a clearer understanding of the impact different physical movement and activities have on educational learning outcomes for preschool- and elementary-aged children (Castelli et al., 2007; Mullender-Wijnsma et al., 2015; Piek et al., 2008).

In the next chapter I review the purpose of my study to identify how early childhood educational team members perceive the use of physical movement to increase attending behavior in structured activities within an inclusive preschool classroom. I discuss the research design, research question, setting, participants, data collection procedures, and data analysis of my current study.



## **Chapter 3: Method**

### **Opening**

To foster young children's overall growth and learning, the nature of the children's brains and bodies rely heavily on the stimulation and experiences that occur during the first 5 years of a child's life, making physical movement a primary way a child learns. The brain's neural pathways that are created during these critical years set the foundation for the thinking and learning processes for every child. Considering the extensive body of research on child development, each and every domain of development affects and is affected by the other domains of learning. For instance, gross motor skills can affect language development while language development can affect cognitive development. The purpose of my study was to identify how early childhood educational team members perceived the use of physical movement to increase attending behavior in structured activities within an inclusive preschool classroom.

### **Research Question**

The research question for this present study was as follows:

What are early childhood educational team members' perceptions of using physical movement to increase attending behavior in structured activities within an inclusive preschool classroom?

### **Research Design**

This survey research design study involved the administration of an electronic survey distributed via email to one Minnesota school district, specifically to Individual Educational Program (IEP) educational team members. Written as a case study of this school district, I gathered qualitative and quantitative data from participants based on their responses to open and

closed survey items. I sought educators' opinions or experiences to collect qualitative data.

Educators' perceptions on using physical movement in their classroom activities and its effects on children's attending behavior in structured activities was gathered. Educators' demographic information provided me with quantitative data.

### **Setting**

The study was conducted within one Minnesota school district located in the northern portion of a large metropolitan region. The rural school district educates more than 5,000 students annually and employs over 800 staff members. Specifically, this case study collected data from educational team members working within the school district's early childhood center. The preschool program works in collaborate with the Early Childhood Special Education (ECSE) program and together staff members educates all children ages 3 through 5 within an inclusive environment. Also, this early childhood center houses the Early Childhood Family Education (ECFE) and Early Childhood Screening.

### **Participants**

Participants in this study included the following IEP team members: Preschool Teachers, Early Childhood Special Education Teachers, Speech Clinicians, Occupational Therapists, and Developmental Adaptive Physical Education (DAPE) Teachers. As defined by the state of Minnesota an Individual Educational Program team or IEP team is "a group of individuals that must include the parent of the pupil, at least one regular education teacher of the pupil, at least one special education teacher or special education provider of the student, a qualified an administrative designee, and other individuals who have knowledge or special expertise regarding the student, including related service personnel, as appropriate" (The Office of the

Revisor of Statutes Website). The selection of participants for this case study work with young children ages 3 through 5 years old with special needs both through direct services and consultation with classroom staff and parents. Their roles within the classroom are to support children's learning and development based on each individual's unique needs.

### **Data Collection Procedures**

Data were collected using the online survey program, Survey Monkey. Prior to disbursing the researcher developed survey, it was pilot tested with individuals who have similar experiences, training and education as my study's participants. Emails with an electronic link to directions on completing the survey and the electronic survey was sent to all participants at the same time. Staff members were given 1 week to complete my survey. All participants were also sent one reminder email, which was 4 days after initial dispersed. The reminder email was to increase the return rate of my electronic surveys.

### **Data Analysis**

The closed ended items that gathered quantitative data will be electronically tabulated and analyzed using descriptive statistics. Using the collected staff members' qualitative responses from the survey open ended items, data were reviewed and analyzed for supportive educator comments that augment the results from the closed ended items.

## Chapter 4: Results

### Overview

One research question was proposed for this research study, which was to seek early childhood educational team members' perceptions on how the use of physical movement increased children's attending behavior in structured activities within an inclusive preschool classroom. To address this research question, I distributed electronic surveys to 22 individuals and 17 were considered valid, resulting in a 77% return rate. The results of this case study are presented in the tables below and explained in the following sections of this chapter.

### Demographic Results

The participants in my research study, served in a variety of educational roles. These roles included: Early Childhood teachers (n=4), Early Childhood Special Education (ECSE) teachers (n=5), and Speech/Language Pathologists (n=2). "Other" (n=5) educational service providers also participated in the survey. This group of participants were identified as "other" in order to protect their confidentiality. Across each of these educational roles the number of years worked in early childhood settings also varied ranging from 1 to 3 years of experience (n=3) representing 17.6% of participants, 7 to 10 years of experience (n=3) representing 17.6% of participants, 11 to 15 years of experience (n=4) representing 23.5%, 16 to 20 years of experience (n=1) representing 5.9%, 20 to 24 years of experience (n=1) representing 5.9%, and 25 or more years of experience (n=2) 11.8%. The educational levels of the participants included some college (n=1) representing 5.9%, Bachelor's Degree (n=8) representing 47.1%, and Master's Degree (n=5) representing 29.4%.

## Numeric Results

**Table 1. Participants Education Role and Years of Experience**

Survey Item						
1. Educational Role	Early Childhood Teacher 23.5% (n=4)	Early Childhood Special Education Teacher 29.4% (n=5)	Speech Clinician 11.8% (n=2)	Other 29.4% (n=5)	--	--
2. Years of Experience	1-3 years 17.6% (n=3)	7-10 years 17.6% (n=3)	11-15 years 23.5% (n=4)	16-20 years 5.9% (n=1)	20-24 years 5.9% (n=1)	25+ years 11.8% (n=2)

**Table 2. Preschool Movement Activities Results by Participants Perceptions and Results**

Survey Items	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
1. Planning Movement Activities	5.9% (n=1)	--	47.1% (n=8)	47.1% (n=8)
2. Leading Movement Activities	5.9% (n=1)	--	23.5% (n=4)	70.6% (n=12)
3. Additional Resources	--	23.5% (n=4)	70.6% (n=12)	5.9% (n=1)
4. Improves Attending	--	--	5.56% (n=1)	94.44% (n=17)
5. Improves Communication Skills	--	--	47.1% (n=8)	35.3% (n=6)
6. Improves Cognitive Skills	--	--	35.3% (n=6)	47.1% (n=8)
7. Improves Motor Skills	--	--	5.9% (n=1)	76.5% (n=13)
8. Improves Social Skills	--	--	11.8% (n=2)	70.6% (n=12)

When participants were asked if they felt comfortable planning physical movement activities, 47.1% (n=8) strongly agreed, 47.1% (n=8) somewhat agreed, and 5.9% strongly disagreed. Participants' comfort levels for leading physical motor activities indicated that 70.6% (n=12) strongly agreed and 23.5% (n=4) somewhat agreed, while a smaller percentage of educators strongly disagreed, 5.9% (n=1). Of the educators who participated in the survey, 5.9% (n=1) indicated they strongly agreed that they need additional resources such as idea books,

equipment and materials, and training to incorporate more physical activities for their students' daily school experience. A higher percentage of 70.6% (n=12) indicated that they somewhat agreed and 23.5% (n=4) somewhat disagreed. The participants were asked if they believed that participating in physical movement activities at school improved children's attending to structured learning tasks and 94.1 % (n=16) strongly agreed with 5.9% somewhat agreeing. Based on their observations, participants were asked to indicate how students' participation in physical movement activities improved the development of communication skills, cognitive skills, motor skills and social skills. Based on their responses, 35.3% (n=6) reported strongly agreeing and 47.1% (n=8) somewhat agreeing to improvements in students' communication skills. Improvements in cognitive skills were observed where 47.1% (n=8) strongly agreed and 35.3% somewhat agreed. Further, 76.5% (n=13) reported strongly agreeing that motor skills improved while 5.9% (n=1) reported that they somewhat agreed. Finally, 70.6% (n=12) strongly agreed that preschoolers social skills improved while participating in physical movement activities and 11.8% (n=2) somewhat agreed.

### **Narrative Results**

Each survey item requested "why" or "why not" responses to better clarify participants' perceptions of movement activities. These responses were either directly related to the survey item content to unrelated personal comments. For a full record of the raw narrative data, please refer to Appendix A. Selected survey narrative responses are included in Chapter 5 to further explain my interpretation of this sample of participant perceptions.

**Conclusion**

Overall, the participants in this electronic survey generally agreed that physical movement activities increases preschool-age children's attending behavior in structured activities within an inclusive preschool classroom. Participants' responses also indicated that they perceive improvements in preschoolers' communication, cognitive, motor, and social skills when movement activities are combined with early childhood structured activities.

## **Chapter 5: Discussion**

The primary purpose of this present study was to gain educational team members' perceptions on how the use of physical movement increases attending behavior in structured activities within an inclusive preschool classroom. The findings of this study indicated early childhood educational team members' understood that involving physical movement activities into their daily classroom routine improved their students' attending to structure learning tasks. Furthermore, when physical movement activities are combined with early childhood learning activities, these participants have observed improvements in students' skills in the following developmental domains: communication, cognitive, motor and social.

### **Numeric Findings**

Overall, the knowledge of understanding the importance of exposure and opportunities of physical movement activities for preschoolers was high amongst my survey participants. An equal number of survey participants are comfortable planning physical movement activities for their students as they reported either somewhat agree ( $n = 8$ ) or strongly agree ( $n = 8$ ). With that being said, more participants have a higher comfort level leading physical movement activities for their students compared to planning movement activities. A smaller percentage of these participants (5.9%) reported having low comfort levels for both planning and leading physical movement activities for their preschool-age students. The majority of results indicated that educational team members need more resources linked to physical movement in order to incorporate more physical activities for their students. This finding is similar to what was reported by Alhassan et al. (2013) that suggested the majority of teachers' understanding of gross motor skills tends to be inadequate. Survey results also could suggest a link between the concern



early childhood educators have over prioritizing lesson plans and lack of resources available to them. Preschool programs and school districts need to be aware of this staff need in order to better support their staff.

### **Narrative Findings**

Based on the collection of qualitative data, I found positive examples to why physical movement activities at school improved children's attending to structured learning tasks. The following suggestions were made by participants. One participant responded, "Integrating numerous learning styles into your teaching repertoire that include sensory or movement, actively increases children's focus." Movement activities also allow students to recall information more easily when compared to simply having children sit and listen to the teacher talk. Along this same idea, participants made a connection between children's engagement and their learning and with that, physical movement tends to help children stay engaged. In addition, physical movement tends to be motivating for most children and they become enthusiastic when allowed to physically move their bodies. This response from the present study is similar to results found in Trost et al. (2008) experimental study, when physical movement was integrated into existing curriculum. Trost et al. (2008) noted that staff observed the following positive behaviors in their children: enthusiasm, attentiveness, persistence, and self-regulated, both physically and verbally. Participants in this study reported that being active learners not only allowed for motor skills to develop, but children learned how to move their body in their environment, recognized and learned body and spatial awareness, and gained understanding of movement concepts.

The responses of the present study are similar to what other literature supports as well. For example, Connell and McCarthy (2014) and Gabbard and Rodrigues (2007) suggested children's brains are stimulated when they partake in physical movement, which prompts the child to expand their capabilities, creating the desire for more movement. Surveyed participants reported that physical movement activates more areas of the brain and prepared the child's brain to learn and take in new information. In addition, one participant reported "Physical movement helped move targeted information into long term memory." Similarly, Connell and McCarthy (2014) reported 90% of neural pathways formed during the early childhood years created by movement and sensory experiences that help to shape, mold, and set up a child for their journey of lifelong learning. It should be noted that a negative or less ideal example was recorded by one participant in this study. "Participating in physical movement for some students can also create an opposite effect to learning. Students may become worked up and have a difficult time settling down."

Qualitative responses showed that educational team members have observed students' participation in physical movement activities that improved communication, cognitive, motor, and social skills. Although all participants either reported somewhat agreed or strongly agreed for improvements in each of these domains of learning, improvements in motor skills were more likely to occur when children partook in physical movement activities. This seems logical as physical movement increases muscle control, muscle memory, and motor skills.

The collection of positive examples indicated that physical movement improved whole body and hand-eye coordination and increased big and small muscle strength. Multiple

examples stressed the idea that children need to be physically active throughout their day in order to practice and improve developing motor skills.

Improvements in children's social skills are the second highest developmental domain that survey participants observed improvement when participating in physical movement activities. Examples of this occurred both inside classroom large motor areas and outdoors. Particular movement activities and integrating movement into routine classroom activities when children are paired with another peer increases children's social skills. For example, one participant reported, "Games such as Ring Around the Rosie, parachute games, and Red Rover are all movement activities that can improve social interactions. In the classroom, using a welcome song paired with movement/gestures can be used to work on peers' names, and building confidence." Specific positive social interaction skills observed in participants' classrooms included watching others, smiling, laughing, turn taking, learning peers' names and building self-confidence. One participant observed, "Children connect more on the playground using their large motor more than in the classroom where the activities are more structured."

Just under half of my study's participants strongly agreed that students' cognitive skills improved when participating in physical movement. One participant reported, "A child who struggles to sit still is better able to focus his attention and stay engaged in learning when physical activity is incorporated into learning." Participants acknowledged improvements in children's early literacy and mathematic skills when children participated in physical movement activities. Observations of specific early literacy skills that participants reported include syllable awareness, comprehension, recall of information, and positional concepts. Mathematic skills observed included patterns and counting.

A little over one-third of the participants in my study strongly agreed that children's communication skills improved while participating in physical movement activities. Although this developmental domain had the lowest percentage of strongly agreed responses, survey participants indicated observing positive improvements. Numerous participants reported improvement in communication skills while participating in songs that are paired with movement. Children with articulation difficulties and limited verbal expression have been observed singing along with movement songs. Children gained understanding of positional concepts through the use of movement songs. One survey participants reported, "One child on the Autism Spectrum who had limited communication and he was unable to ride a tricycle successfully. Once he improved his control on the tricycle, it was noted that he was able that his expressive language increased." More children participated verbally in learning activities when teachers incorporated motor movement into teaching syllables, rhyming words, patterns, counting, expanding vocabulary, and different ways to express themselves.

### **Study Limitations**

I have identified four limitations to my research study. First, I had a small number of survey participants. Relatively speaking, the response rate was good but because of the small number of participants the response rate was 77%. I originally planned on giving participants two weeks to respond to my survey, but due to limited time I chose 1 week. As this is a short window of time for survey turnaround, possibly allowing more time would have yielded a better return rate.

The second limitation to my study is that I recruited all my participants from one school district. With that being said, results cannot be generalized to any other district. As a case study,

this information can be considered useful for other early childhood programs in similar school districts. In addition to the small number of participants all from the same district, I was unable to identify and report specific examples based on the participants' educational role without violating confidentiality. The inclusive program design of this particular early childhood program is unique in itself.

The third identified limitation is the cross-sectional study design. The survey data were collected during one single point in time, which does not measure how the participants' perceptions may change over time. Since data collection was based on self-reported individual perceptions, interpretation is to be taken with caution.

Lastly, my personal bias toward the importance of physical movement is my fourth limitation. Starting at a young age I have found a love to be involved in some sort of physical movement, whether it being involved in organized sports as a student-athlete, exercising in my free time, or playing outside with my own children. With my early childhood special education teacher background and personal love for physical movement, I believe young children need the frequent experiences throughout their daily routine to participate in physical movement activities.

### **New Steps in Research**

More research needs to continue on the immediate effects of physical movement activities have on improving young children's attending behavior during structured classroom tasks. I would suggest creating an observational study to determine whether preschool-age children's attending behavior increases during structured tasks when consistent physical movement activities are incorporated into their preschool day. I would also suggest

incorporating physical movement activities into daily routine and record specific examples of either improvements or regression of skills in the developmental domains of cognition, communication, fine motor, gross motor, and social.

### **Conclusions**

The results of my research study indicated that early childhood educational team members observed preschool-age children, who are enrolled in an inclusive preschool program, attend better to structured learning tasks when physical movement activities were incorporated into their daily classroom routine. It can also be concluded that participants observed developmental gains in their students' communication, cognitive, motor and social skills.

With the findings of this study, there are several practical suggestions that can improve the impact my colleagues and I have on our students' learning and development. First of all, we all have the ability to intentionally plan and implement more opportunities for our students to move physically throughout our daily routine even with pre-determined curriculum lesson plans. Each educators' individual area of expertise brings background knowledge that can meaningfully impact students' learning. Secondly, we can also address our administrators for additional resources to incorporate more physical activities for our students. Lastly, my colleagues expressed their understanding of the importance that physical movement has on young children's overall learning and development. This is evident from their personal responses where they stressed that combining movement into classroom activities created opportunities for children to be active participants in their own learning. Children learn by doing and movement creates the connection that helps children maintain that necessary state of learning.

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## Appendix A

### Raw Survey Narrative Data

<p><b>Question 4: I believe that participating in physical movement activities at school improves children's attending to structured learning tasks. Why or Why not?</b></p>
<p>Activating multiple learning styles and including sensory or movement helps students remember the learning more vs sitting and listening to a lecture style teacher.</p>
<p>Better Focus</p>
<p>Combining movement with activity reinforces learning. Movement also helps the child to maintain an optimal physical state for learning.</p>
<p>Gets their body moving and keeps them focused</p>
<p>I believe that incorporating physical movement into activities improves children's attending to structured learning tasks because they are motivated, enthusiastic, and engaged in the activity.</p>
<p>I have observed children that have a chance to move and get their wiggles out do a better job of attending to non-movement activities. When kids are allowed to sit on their knees or stand to complete tasks, for some the focus improves.</p>
<p>I have seen it work great in helping some students to attend, but also have seen it rev students up and they have a difficult time settling down.</p>
<p>I think movement helps connect what they are learning when they are actively involved in moving at the same time.</p>
<p>I think that movement is very important for helping kids learn. It gets the blood flowing to the brain, and this helps them focus and attend to the rest of their learning.</p>

<p>It activates more areas of the brain and it helps move targeted information into long term memory. I have heard that research shows moving improves learning.</p>
<p>Keeps them focused, blood flowing to their brains, and engages them</p>
<p>little ones need to move.it helps them get wiggles out so their brain is ready to learn and take information in.</p>
<p>Movement is important part of learning.</p>
<p>Physical movement activities help children learn how to move in their environment. Not only do they learn motor skills, they learn body and spatial awareness, and movement concepts (force, pathways, shapes, levels...). So when asked to: sit next to; walk backwards; reach over; touch softly, children will have a better understanding of what is asked of them.</p>
<p>Research shows a link between movement and learning</p>
<p>Young children learn best when they are engaged.</p>
<p>Young children learn by doing. They are not wired to sit still and absorb information through listening. In addition, today's culture has contributed to short attention spans. Physical activity helps children re-focus and maintain interest</p>
<p><b>Question 6: I have observed students' participation in physical movement activities improve: communication skills.</b></p>
<p>Being active increases communication among peers since they are being active. Activities that promote learning actively encourage communication and working together.</p>
<p>Children will sing along with movement songs even if they have difficulty with articulation or a tendency to be less verbal.</p>

<p>I had a student with ASD who had limited communication to others. Very disjointed speech and talked to self and not others. He was given a trike to ride. He rode the trike like he talked. He went too fast, not aware of his surroundings, and crashed into things. When he improved his control of the trike, it was noted that he was able to communicate better his needs. It started while he was riding the trike. During a simple game (McDonald's) answering simple question with on topic answers of 2-5 words. He continued to make improvements with other motor skills and his ability to communicate his needs.</p>
<p>I have incorporated movement during counting of my calendar and now i have many more kids count with me. the song choices that we have actions for more kids sing too</p>
<p>I have observed an introverted child become much more willing to interact with adults and peers during physical activities than while sitting in a group.</p>
<p>I have observed preschool-aged children improve their communication skills while participating in physical movement activities such as in music time. While using their whole bodies, they are learning new words and different ways to express themselves.</p>
<p>I have seen increases in expressive language when children are engaged in movement activities such as pushing down on a toy or throwing a ball.</p>
<p>I think movement makes kids vocalize more, especially in young children.</p>
<p>Location gestures during songs like the bear hunt teach concept words while moving.</p>
<p>More focused and able to participate during large group activities. Raised hand to volunteer information.</p>

<p>Some teachers use motor movement to teach patterns, syllables, and rhyming words. Some children seems to catch on more quickly when the task is paired with an action or movement pattern.</p>
<p>When paired with music, there are opportunities to sing along with movement, and this promotes communication.</p>
<p><b>Question 6: I have observed students' participation in physical movement activities improve: cognitive skills.</b></p>
<p>A 20 month old student with Down Syndrome that quickly learned to identify body parts with Head Shoulders Knees &amp; Toes song and action.</p>
<p>A child who struggles to sit still is better able to focus his attention and stay engaged in learning when physical activity is incorporated into learning</p>
<p>Counting skills improved because counting was often used as the child jumped, hopped, etc. Attended better to academic tasks because able to get wiggle outs.</p>
<p>Counting, patterns, syllables of words paired with a movement activity is motivating for the children and gives practice opportunities for skills</p>
<p>During some movement activities, kids learn new rules and how to follow directions.</p>
<p>I have observed children begin to understand positional concepts, colors and counting, and direction following while participating in movement activities. Children seem more motivated to participate in these academic tasks when they are able to get up and move.</p>
<p>I have observed teachers using movement to teacher colors, shapes, patterns, numbers, and feel that attending and comprehension is improved through repetition and movement.</p>

<p>I have seen children's attention to a task and retention of information improve when they add movement to a learning activity.</p>
<p>I observed kids retain information when it was set to music and movement.</p>
<p>In the area of mat, I do movements where students have to count. They learn numbers are concrete. Example would be, jumping forward 5 times, or catching a ball 5 times. First we count together and then we progress through time were they count on their own.</p>
<p>last year I did me moves (they watch/copy somebody doing different movements with their arms) before small groups and their bodies were much calmer and ready to attend the task</p>
<p>Using balls at desks or standing improves attention in the classroom.</p>
<p>When students are working together and being active they are more likely to remember what they learned or are learning.</p>
<p><b>Question 6: I have observed students' participation in physical movement activities improve: motor skills.</b></p>
<p>A child who is not exposed to physical movement activities has a harder time successfully participating in movement activities. A child who was not exposed to movement activities and learned to jump with two feet together, will tend to jump with feet apart and move forward in a gallop pattern.</p>
<p>Both fine and gross motor skills can be improved through movement. Some children are better able to cut when standing vs. sitting. Kids practice balance, attending, and coordination by participating in Red/light/green light for example.</p>
<p>Gross and fine motor skills are improved during movement activities that incorporate many muscles and work on coordination.</p>



<p>I have observed children in physical movement activities improve their strength and coordination, and hand and eye coordination.</p>
<p>I have seen coordination and retention of directions improve with movement. This seems like an area of strong correlation!</p>
<p>Movement on a daily basis improved motor skills.</p>
<p>not sure if I have a specific example but the more they use their muscles the better they get. writing and drawing activities increase their fine motor skills to better write their name and draw things with more details</p>
<p>Physical activity helps strengthen muscles and improve motor skills</p>
<p>Physical movement activities promote practice &amp; improvement in motor skills.</p>
<p>The best way to improve motor skills is through using movement.</p>
<p>The more opportunities they have to practice the skill the more it helps.</p>
<p>The more you move your body in directed ways the more you become aware of your body and what it does or can do.</p>
<p>You cannot gain motor skills by sitting and discussing them. Kids need to be active to gain motor skills.</p>
<p><b>Question 6: I have observed students' participation in physical movement activities improve: social skills.</b></p>
<p>Children connect more on the playground using their large motor more than in the classroom where the activities are more structured.</p>
<p>During some movement activities, kids need to gain the attention of a peer. They also practice taking turns.</p>

<p>Games such as ring around the rosie, parachute games, red rover, etc. are all movement activities that can improve social interactions. In the classroom, using a welcome song paired with movement/gestures can be used to work on peers names, and building confidence.</p>
<p>I have observed children becoming more confident in their ability to interact with others, more aware of others children while participating in physical movements activities.</p>
<p>I have observed many children who are extremely shy and sometimes do not even respond to peers while sitting in groups or even playing quietly engage in play with peers during physical activities and large motor play.</p>
<p>Kids are more engaged when movement is incorporated into a learning/social opportunity, which means they are having more fun and bonding with each other. I have seen kids watch each other, smile, and laugh when adding movement to songs.</p>
<p>Many motor activities include the opportunity to interact with others, whether it is by having to take turns on a piece of equipment or shake a friend's hand during a movement song, children have opportunities for increased socialization.</p>
<p>Moving and being active increases the opportunity to talk with one another</p>
<p>Often when moving, it allows kids to have fun and be silly and tune into one another.</p>
<p>Some movement activities involved doing movement with a partner and this helped improve interaction skills.</p>

To be able to move in a developmental appropriate way, is detrimental to a child learning in their environment and their self-esteem. Children are aware when their motor skills are not as "good" as a peer. A child with poor coordination, during free time in the gym, would just walk around or play catch with an adult. The child's peers were actively participating in motor skills and enjoying playing with their peers. When this child got support and improved his motor skills, he started joining in with his peers during physical activities. He was no longer a "perimeter" kid or "likes" adults more than peers.

Turn-taking movement games increased the child's ability to participate in social exchanges with a peer.

**Appendix B****Survey Items****Effects of Physical Movement on Preschooler's Learning****Question 1:**

**I currently plan physical movement activities for my students throughout our entire school day.**

strongly disagree

somewhat agree

somewhat agree

strongly agree

**Question 2:**

**What is your comfort level?**

**a. I am comfortable planning physical movement activities for my students?**

strongly disagree

somewhat agree

somewhat agree

strongly agree

**b. I am comfortable leading physical movement activities for my students?**

strongly disagree

somewhat agree

somewhat agree

strongly agree

**Question 3:**

**I need additional resources (i.e., idea books, equipment and materials, training) to incorporate more physical activities for my students?**

strongly disagree

somewhat agree

somewhat agree

strongly agree

**Question 4:**

**I believe that participating in physical movement activities at school improves children's attending to structured learning tasks.**

strongly disagree

somewhat agree

somewhat agree

strongly agree

**Why or why not?**

**Question 5:**

**I have observed students' participation in physical movement activities improve: communication skills.**

strongly disagree

somewhat agree

somewhat agree

strongly agree

\*\*Please give an example of how a child's skills improved in this area (if you answered somewhat agree or strongly agree) OR an example of how a child's skills did not improve in this area (if you answered somewhat disagree or strongly disagree).

**cognitive skills.**

strongly disagree

somewhat agree

somewhat agree

strongly agree

\*\*Please give an example of how a child's skills improved in this area (if you answered somewhat agree or strongly agree) OR an example of how a child's skills did not improve in this area (if you answered somewhat disagree or strongly disagree).

**motor skills.**

strongly disagree

somewhat agree

somewhat agree

strongly agree

\*\*Please give an example of how a child's skills improved in this area (if you answered somewhat agree or strongly agree) OR an example of how a child's skills did not improve in this area (if you answered somewhat disagree or strongly disagree).

**social skills.**

strongly disagree

somewhat agree

somewhat agree

strongly agree

\*\*Please give an example of how a child's skills improved in this area (if you answered somewhat agree or strongly agree) OR an example of how a child's skills did not improve in this area (if you answered somewhat disagree or strongly disagree).

**Question 6: What is your current role in the classroom? (Select all that apply)**

Early Childhood Teacher

Parent Educator

Early Childhood Special Education Teacher

ASD Teacher

EBD Teacher

Speech Clinician

Occupational Therapist

Physical Therapist

**Question 7: How many years have you worked in an early childhood setting?**

1-3

4-6

7-10

11-15

16-20

20-24

25 or more

**Question 8: Education Level (Select the highest degree obtained)**

High School

Some College

Bachelor's Degree

Master's Degree



## **Appendix C**

### **Adult Consent Form**

#### Physical Movement and Learning in Early Childhood Study

#### Implied Informed Consent

You are invited to participate in a research study related to physical movement and the impact it has on learning in the early childhood years. You were selected as a possible participant because you are a current working in the early childhood program at ISD 15. This research project is being conducted by Danielle Bailey to satisfy the requirements of a Master's Degree in Early Childhood Special Education at St. Cloud State University.

#### Background Information and Purpose

The purpose of this study is to gain early childhood educational team members' perceptions on the use of physical movement to increase attending behavior in structured activities within an inclusive preschool classroom in public school settings.

#### Procedures

If you decide to participate, you will be asked to complete the online survey which is completely anonymous so no one will be able to identify a specific individual's form. It is important that we have as many people as possible complete and turn in this survey to compile an accurate representation.

#### Risks

There are no foreseeable risks associated with participation in this study.

#### Benefits

There are no benefits to the survey participants.

#### Confidentiality

Information obtained in connection with this study is confidential and will be reported as aggregated (group) results. To prevent identification of research subjects, data will be presented in aggregate form or with no more than 1–2 descriptors presented together.

#### Research Results

At your request, I am happy to provide a summary of the research results when the study is completed. Upon completion, my thesis will be placed on file at St. Cloud State University's Learning Resources Center.

#### Contact Information

If you have any additional questions please contact Danielle Bailey, at bada1302@stcloudstate.edu, or my advisor, Jane Minnema, at jeminnema@stcloudstate.edu.

#### Voluntary Participation/Withdrawal

Participation is voluntary. Your decision whether or not to participate will not affect your current or future position with the district or the relation the researcher. If you decide to participate, you are free to withdraw at any time without penalty.

#### Acceptance to Participate

Your completion of the survey indicates that you are at least 18 years of age, you have read the information provided above, and you consent to participation in the study. If you are interested in learning the results of the survey, feel free to contact me at [bada1302@stcloudstate.edu](mailto:bada1302@stcloudstate.edu). Thank you.

## Appendix D

### Email Cover Letter to Participants

#### Initial Email

Dear Survey Participants,

I am in the process of completing my Master's degree at St. Cloud State University. As a part of my thesis, I am conducting research on the topic of physical movement and learning. I would like your input on this topic to assist me in conducting my research. I'll be sending a survey out to you via email using SurveyMonkey and therefore your answers will be confidential. I would appreciate your willingness to assist me by completing this brief survey. Please complete the survey within the next 7 days. Thank you in advance for your participation.

Sincerely,

Danielle Bailey

#### Follow-up Email

Dear Survey Participants,

This is a follow up email regarding the survey that was sent to you via SurveyMonkey. If you have already completed the survey I thank you. If you have not yet completed the survey, would you please take a few minutes to do so by the end of the week? Thank you.

Sincerely,

Danielle Bailey