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# A STUDY OF PRESCHOOL TEACHERS' INCORPORATION OF NUTRITION AND PHYSICAL ACTIVITY IN THEIR CLASSROOMS

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A STUDY OF PRESCHOOL TEACHERS' INCORPORATION OF NUTRITION AND  
PHYSICAL ACTIVITY IN THEIR CLASSROOMS

by

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B.A., Arizona State University, 1999  
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A Dissertation  
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Department of Curriculum and Instruction  
in the College of Education  
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May, 2017

DISSERTATION APPROVAL

A STUDY OF PRESCHOOL TEACHERS' INCORPORATION OF NUTRITION AND  
PHYSICAL ACTIVITY IN THEIR CLASSROOMS

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March 30, 2017

## AN ABSTRACT OF THE DISSERTATION OF

Brandi Schumacher, for the Doctor of Philosophy degree in Education, presented on March 30, 2017, at Southern Illinois University Carbondale.

TITLE: A STUDY OF PRESCHOOL TEACHERS' INCORPORATION OF NUTRITION AND PHYSICAL ACTIVITY IN THEIR CLASSROOMS

MAJOR PROFESSOR: Dr. John McIntyre

Young children in the United States spend a considerable amount of time in preschool settings. Preschool teachers have an opportunity to incorporate nutrition and physical activity into their interactions with these children in order to positively influence the health of the children. This qualitative, case study explored how teachers at a Reggio Emilia inspired preschool integrate nutrition and physical activity into their teaching. The research questions that guided this study included, "In what ways do preschool teachers in a Reggio Emilia inspired preschool in the Midwest incorporate nutrition and physical activity in their classrooms?" and "What influences if and how these preschool teachers specifically teach about these fundamental health aspects?"

Data collected through interviews and focus groups were organized into categories, both organizational and substantive, and they were supported by a document analysis. Once the substantive categories were determined, category zooming was used to focus on one aspect that surfaced from the data in order to create themes. Specifically, among other strategies, the teachers in this study use introduction, reinforcement, and encouragement to engage children in nutrition and physical activity. Primarily, the teachers in this study indicated that they incorporate health-related activities into their teaching because they care about the health of the children.

## DEDICATION

I dedicate this dissertation to my mom, Deborah Nesler Oliver. Thank you for always loving me, encouraging me, and emphasizing the importance of education.

I also dedicate this to my husband, Darrell Buettner. Thank you for your wisdom and practicality as I wrote. You are a great sounding board.

Finally, I dedicate this dissertation to Dr. Joyce Fetro, who helped me focus my scholarship on health education.

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## CHAPTER 1

### INTRODUCTION

#### Statement of the Problem

Early childhood, categorized as birth to age eight, is a time of rapid growth. Optimal learning and development take place during this period. In order for children to maximize their potential across all of the developmental domains (cognitive, language, physical and social-emotional), overall health must be considered. Therefore, early childhood programs are a prime place for health, specifically nutrition and physical activity, to be endorsed and effectively taught. Mistry et al., (2012) proposed linking policies and programs to outcomes by considering family and community involvement in health promotion during the early years. While children are certainly part of larger, interrelated systems, school offers a substantial opportunity for targeted learning about health. The purpose of this study is to examine how preschool teachers at a Reggio Emilia inspired preschool teach about nutrition and physical activity at their school, and what influences how these teachers approach these essential health aspects.

Children's health is a current issue in the United States. In one prominent example, former First Lady Michelle Obama launched the Let's Move! campaign to address childhood obesity. With the increase of obesity, extremely overweight children face the potential of developing type 2 diabetes, high cholesterol, high blood pressure, and social and psychological problems (Wechsler, McKenna, Lee & Dietz, 2004). Obesity is just one of the many health related issues that are affecting children's wellbeing in the United States. Accidental injury, oral health and conflict management are others, just to name a few (Bales, Wallinga & Coleman, 2006; Guyer et al., 2009). Early childhood educators are in an optimal position to address health with young

children for several reasons. First, children are interested in exploring their surroundings and understanding how they fit into the world (Nation Association for the Education of Young Children [NAEYC], 2012). By discussing aspects of health, such as what our bodies need to be healthy or how to keep our bodies safe from harm, early childhood educators can instill lasting health knowledge and attitudes (Haflon, 2009). Moreover, by addressing nutrition and physical activity in child care settings, both the child's physical health and educational experience can be impacted (Derscheid, Um oren, Kim, Henry & Zittel, 2010). Children can potentially perform better academically if their health needs are addressed (Action for Healthy Kids, 2006), in addition, through education they can better establish lasting, positive health habits.

In another contemporary example addressing children's health, Katie Couric spearheaded the documentary, *Fed Up* (2014), addressing incongruent messages about diet and exercise for children. For educators, focusing on the need to better understand nutrition and physical activity points to an opportunity for preschool teachers to address nutrition and physical activity in their classrooms. Early childhood educators can specifically teach children about nutrition and physical activity and they can promote healthy behaviors in the classroom to address health issues that young children potentially face.

Once more, the purpose of this study is to establish if health education teaching is taking place in a Reggio Emilia inspired school and, if so, in what ways. In order to teach about nutrition and physical activity, teachers must be prepared to teach health. In most cases, early childhood teachers are responsible for covering a variety of curricula and may not have specific training in, or knowledge of, health education curriculum. A

particular challenge in regards to teacher preparation is that most classroom teachers are not trained to teach health curriculum (Fetro, 2010). Yet, these teachers are frequently responsible for delivering health related information to their students. With this in mind, I am interested in if and how a group of preschool teachers address nutrition and physical activity in their classrooms. What influences how these teachers incorporate nutrition and physical activity into their classrooms and lessons? There are potentially many influential factors from teacher's personal attitudes about health to child care facility policies and state and federal mandates that can impact how health is taught to young children in preschools in the United States.

Notably, the teachers being considered in this study are part of a Reggio Emilia inspired preschool. Reggio Emilia is an area in Italy where the Reggio Emilia approach to education was established. If a school adheres to the Reggio Emilia philosophy and is not in the region of Reggio Emilia, it is typically referred to as utilizing the Reggio Emilia approach (Edwards, Gandini, & Forman, 2012) or being Reggio Emilia inspired. Curriculum in "Reggio Schools" is determined by what the children are interested in learning and how the teachers respond to these interests through their interactions with the children and the how the environment is set up (Arseven, 2014). That is to say, teachers who follow the Reggio Emilia approach are not trained to teach specific content; rather they are encouraged to follow the lead of the children. Presumably, the Reggio Emilia inspired philosophy of the school will have some bearing on the teacher's practices around teaching health.

Regardless of philosophy or approaches to teaching, preschools are in a unique position to address the obesity epidemic, as well as other health related issues and

challenges in the United States, because over 60 percent of young children are enrolled in preschools (National Center for Education Statistics, 2014). Further, as noted by Story, Kaphingst and French (2006), in regards to school in general, "...no other institution has as much continuous and intensive contact with children during their first two decades of life" (p. 72). For many children, preschool is their first exposure to an educational environment. A tenet of early childhood education is to address the needs of the whole child; that is, to address all of the developmental domains (NAEYC, 2014). By simultaneously meeting the health and learning needs of preschool aged children by teaching about nutrition and physical activity, preschool teachers have an opportunity to prepare children to be healthy citizens.

As stated by former First Lady Obama (2010) in her Let's Move! kick off, "The physical and emotional health of an entire generation and the economic health and security of our nation is at stake," in reference to the preventable, growing health problems of America's children. Notably, more exploration is needed to determine if addressing food quality in preschools has persisting economic benefits (Guyer et al., 2009). To that end, it is important to understand if and how children are being taught about health at the most foundational level of their educational experience, and to consider how this might have long term effects on the broader culture.

### **Purpose of the Study**

Every ten years the Center for Disease Control (CDC) establishes a list of topics and objectives for improving the health of people in the United States. This decennial report, entitled Healthy People, incorporates a broad variety of approaches to address the health needs of Americans. The most recent publication, Healthy People 2020,

includes for the first time the topic “Early and Middle Childhood” in order to address the growing health needs of young children. When health is addressed during early childhood, people have the advantage of being healthier during crucial stages of development and are better able to prevent long-term health related problems (Halfon, 2009). The benefit of addressing health during the early years is twofold; people benefit from learning how to be healthy when they are young which can affect their wellbeing when they are both young and old.

In 1995 the Joint Committee on National Health Standards presented the National Health Education Standards (NHES). The committee had two goals for the use of the NHES, including guiding curriculum development centered on health and promoting health literacy overall. In order to define traits of a health literate person, Fetro (2010) asserted, “A health-literate person is a self-directed learner, a critical thinker and problem solver, an effective communicator and a responsible and productive citizen” (p. 259). These qualities are often the aim of education in general, even in early childhood programs. According to the CDC (2010), early childhood (defined as birth to age 8) and middle childhood (defined as ages 6-12) are the most optimal developmental periods for establishing health literacy and other related skills. If health literacy and health behaviors are to be addressed in school settings, teachers and childcare providers need high quality curricula to address these topics (Bales et al., 2006). Teachers also need basic knowledge about being healthy and the support from the early childhood programs where they work, such as access to nutritious foods and adequate space to exercise, in order to effectively teach about health. With the working knowledge of health literacy and health education, considering if and how preschool

teachers approach these concepts is valuable in understanding how health education has made its way into preschools, if at all.

### **Overview of Research Methodology**

In order to explore how preschool teachers in a Reggio Emilia inspired preschool in a small, Midwestern town construct approaches to physical activity and nutrition in their classrooms, I used a qualitative methodological approach to my research. A qualitative approach is the most appropriate design for my study because of the complex influences that determine whether these early childhood educators do or do not teach about nutrition and physical activity in their classrooms and the specific influences on what is taught. Further, I looked at how children in this particular environment are enabled to embrace opportunities for a healthy lifestyle through nutrition and physical activity and how these opportunities are exhibited in children's play and learning through the teachers' interpretations.

The specific methodology I used is a case study. The case study approach is suitable because I exclusively studied the teaching and learning opportunities in preschool classrooms in a preschool in the Midwest. All of the classrooms were in the same school, in a mid-sized area with similar demographics and overarching school and state policies. "Children's School," as it will be referred to in this study, is a private school that provides services for families and children aged six weeks to twelve years old.

## **Research Questions**

**The following research questions guided my study.**

**Research Question #1:** In what ways do preschool teachers in a Reggio Emilia inspired preschool in the Midwest incorporate nutrition and physical activity in their classrooms?,

**Research Question #2:** What influences if and how these preschool teachers specifically teach about these fundamental health aspects?

## **Participants**

For my group of participants, I used a convenience sample (Merriam, 2009). I did not originally intend to specifically study a Reggio Emilia inspired school. However, the preschool is a place where I had access to the teachers and staff. I gathered data in three classrooms and each of the classrooms included children aged 3-5 years old. I interviewed and conducted focus groups with 12 teachers, and 2 staff members, including the cook and the administrative assistant. I provided a survey for the director, I obtained school related documents from her and I included her in follow up questions, as needed. I gathered 7 surveys from family members, including 5 mothers, 1 father and 1 grandmother. All of the employees were female, white and had been working the early childhood field in a range of 3 to 40 years. The employees ranged in age from 26 to 67 years old. The teachers and staff had educational backgrounds spanning from high school diplomas to master's degrees.

The preschool is located in the town where I grew up. It has been open for nearly forty years. I approached the director for permission to conduct my study at her school and I was granted access. I previously worked for the school's partner school for less

than six months as an infant-toddler teacher, and the director of the school where I collected data was my supervisor. We have a history of a social and professional relationship; however, I do not personally know any of the teachers I interviewed or who participated in the focus groups.

The nature of my study and the sample size contribute to the limitations of my study. I conducted my case study research in one school, so I only examined a small representation of how certain preschool teachers in a Reggio Emilia inspired school were potentially teaching health. Further the study has racial, cultural and regional limitations. All of the teachers are white. What teachers are addressing regarding health (or not) in the Midwest might look very different than what is being promoted in other parts of the United States. With that in mind, teachers might also have different perceptions of what is considered healthy based on their personal knowledge and experience.

Additionally, some of the teachers might have been aware that I have an affiliation with the director as a former employee and social contact. This knowledge could have influenced the way teachers behaved when I interviewed them, as they might have been concerned about me adversely reporting back to their boss about their responses to my questions. I did not perceive that the teachers were concerned about me sharing their responses with the director.

### **Bounding the Case**

A case study approach allowed me to examine how a group of teachers are influenced by a variety of systems regarding their approaches to teaching health, including school policies, family and demographic influence, and state regulations. I



looked at how teachers incorporated the topic of health overall, by integrating nutrition and physical activity into their teaching and classroom practices. Rather than focusing on specific health concerns in childhood, such as obesity, this approach addressed the employment of broader health tactics to address the health needs of young children in schools. The focus of my study was on how the teachers are approaching health.

Classrooms serving children aged 3 to 5 years were the focal point of my study. The school accommodates children from infancy through adolescence. The limited focuses of my study enabled to me closely examine practices that specifically influence children during formidable preschool years. Further, the snack and lunch schedules, as well as the indoor and outdoor play opportunities for these classrooms are comparable.

### **List of Terms**

Health – a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (World Health Organization [WHO], 2015).

Health-enhancing physical activity - Activity that, when added to baseline activity, produces health benefits. Brisk walking, jumping rope, dancing, playing tennis or soccer, lifting weights, climbing on playground equipment at recess, and doing yoga are all examples of health-enhancing physical activity (CDC, 2015).

Preschool – learning environment for children aged three to five years (NAEYC, 2012).

Nutrition –the intake of food, considered in relation to the body's dietary needs (WHO, 2015).

Teacher – individual who provides learning opportunities and care for children (synonymous with “caregiver”) (NAEYC, 2012).

### **Summary**

The impact of teaching young children about being healthy through the regular promotion of physical activity and nutrition is wide-ranging. In addition to learning how to make healthy choices in a general sense, children can also benefit from improved gross motor skills through regular physical activity. Children can become healthy food consumers, benefitting both their bodies and the environment. By promoting health to young children, teachers can introduce controllable risk factors for disease prevention early on for long-term effects. And, perhaps most directly, a study of this nature can help teachers and child care directors recognize systemic supports, as well as barriers, to teaching young children about nutrition and physical activity in their programs.

## **CHAPTER 2**

### **REVIEW OF LITERATURE**

The purpose of this study is to examine how preschool teachers at a Reggio Emilia inspired preschool teach about nutrition and physical activity at their school and what influences how these teachers incorporate these essential health aspects into their classrooms. I originally planned to review early childhood health curricula, in general, to determine the quality of teaching materials available to early childhood educators. I was interested in finding out if the materials included aspects of the National Health Education Standards (1995) and health literacy promotion. When I started my research, there was not a substantial amount of curricula available, so I began to consider what influences how a teacher includes health into lessons and the daily classroom routine. If the amount of curricula is limited, what other factors affect how nutrition and physical activity are included in early childhood environments? Because I studied teachers in a Reggio Emilia inspired school exclusively, I also considered if a school's philosophical approach to learning can influence health instruction, rather than looking at the particular curriculum that is being utilized (or not) in the school.

When evaluating the Reggio Emilia approach to teaching and learning, there are several angles to consider. Hewett (2001) examined the Reggio Emilia approach by considering three contextual theories including (a) the image and role of the learner, (b) the role of the instructor, and (c) the nature of the knowledge to be learned to frame her discussion. In this literature review, I explore health practices in early childhood settings, including Reggio Emilia inspired schools, by looking at (a) the role of the school in supporting the child, (b) the teacher as a facilitator of physical activity and nutrition, and

(c) community influences, such as family involvement, on the health behaviors and practices in the school. In my discussion of the role of schools in supporting the child in the course of health promotion, I included the integration of health literacy and National Health Education Standards into early childhood curricula and presented how this can overlap with the Reggio Emilia approach. I then analyzed research on physical activity and nutrition in early childhood settings, touching on topics such as teacher's attitudes and teacher's roles as decision makers. I compare how typical Reggio Emilia teaching practices align with or contradict these findings. Further, I explored various facets outside of the classroom that potentially influence teacher practices and how children learn about health, including findings on parental perspectives and persuasion regarding how children learn about health both in childcare settings and at home.

### **Role of Schools and Childcare Facilities**

In the United States, children are increasingly spending time in child care settings. Approximately 13 million preschool aged children spend some or all of their day in child care programs (National Center for Education Statistics, 2012). One example of effectively addressing young children's health needs is that the trend toward obesity can be reversed if children have access to and eat nutritious foods and engage in physical activity in child care settings (Story et al., 2006). The challenge is that there are few regulations addressing nutrition and physical activity for most early childhood programs (Paxson, Donahue, & Orleans, 2006). Arguably, if teachers have specific standards and guidelines for addressing health, they would be more likely to incorporate teaching topics such as healthful eating and health-enhancing physical activity. In the situation of schools inspired by the Reggio Emilia approach, the child acting as an

investigator and constructor of his or her own knowledge is more important than having a teacher pass along facts on a topic (Hewett, 2001). So, how do teachers in a Reggio Emilia inspired school approach health related topics with the children in their care? The potential for teaching about health lies in the effective implementation of the Reggio Emilia approach itself. The teacher serves as a collaborator to the child's learning experience by providing an environment and materials rich with opportunities for investigation. Teachers of the Reggio Emilia philosophy collaborate by offering ample time for play, by supplying a variety of objects promoting or supporting interest in any given topic, and by conversing with the children about their expressed interests, including posing questions for further thinking and discovery (Edwards, 2012).

In general, child care programs can use a variety of strategies to promote healthy habits. In a Reggio Emilia inspired school, an example of such strategy could include teachers following the lead of children who are talking about their favorite foods during snack or lunch or by observing a type of health-enhancing physical activity in which the children prefer to engage, such as riding bikes or playing on outdoor equipment, in order to promote interest or buy-in to the topic. While eating healthy and physical activity are extremely important health factors, the concept of health literacy can also be introduced to bolster learning about nutrition and staying physically active. As determined by the CDC (2010), early childhood is an optimal time for specifically establishing health literacy. Ratzan and Parker (2000) offered the following definition of health literacy: *The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.* Learning about being healthy goes beyond simply being told what to

eat and how to effectively engage in physical activity. Children need to explore and investigate why being healthy is important. For teachers in the Reggio Emilia approach, one of the roles of the teacher is to listen carefully to what the children say and to record and document what is seen and heard in order to support the children in decision making (Edwards, 2012). Health literacy instruction can be tailored to the developmental level of students, thus promoting interest, through the use of children's books to address reading, writing and health literacy (Benham Deal & Hodges, 2009). In other words, teachers can use books and other materials that are already available in their classrooms to introduce or reinforce interest in health related topics in order to promote curiosity and buy-in, in addition to following the lead of the children through conversations and expressed interest in activities. In the Reggio Emilia approach, documentation of children's thinking and learning is a hallmark of indicating children's growth (Forman & Fyfe, 2012). By presenting photos, drawings, and children's thoughts in their own words, teachers can entice children to delve deeper into topics in which they have expressed interest and to show what they have learned.

In line with establishing the promotion of healthful eating, physical activity engagement and health literacy, early childhood educators may be able to utilize the National Health Education Standards (NHES) to guide decision making, and for clarification of topics and terms. The NHES are comprised of 8 standards outlining what students need to be healthy. The standards include topics such as Essential Health Topics, Skills to Analyze Influences on Health Behavior, and Skills to access Health Resources. Tappe, Wilbur, Telljohan and Jensen (2009) delineated specific performance indicators for each of the eight standards, per the CDC's *Health Education*

*Curriculum Analysis Tool (HECAT)*. For example, under *Standard 3: Accessing Health Resources*, the performance indicators for Pre-K to grade 2 include students being able to:

- Identify trusted adults and professionals who can help promote health
- Identify ways to locate school and community health helpers

In my experience as an early childhood professional, I have witnessed several teachers incorporating lessons about community helpers (police officers, doctors, teachers, etc.) into their planning. With that in mind, early childhood educators can already be teaching aspects of health promotion without realizing that is what they are doing or without giving their lessons a specific health label. Asking teachers to take on more than they already do professionally may seem daunting to the teachers. If early childhood educators are already teaching some of the health indicators, conceivably they can be supported in identifying their existing practices as health education. A starting point could be to recognize teachers who have community helpers and family members come in to teach about various health-related topics and identify this practice as a form of health education.

Wechsler et al. (2004) summarized a list of 10 key strategies that the CDC has put forth to support schools in establishing policies and practices around healthy eating and physical activity. They suggested that schools should

- Address physical activity and nutrition through a Coordinated School Health Program (CSHP) approach.
- Designate a school health coordinator and maintain an active school health council.
- Assess the school's health policies and programs and develop and plan for improvement.
- Strengthen the school's nutrition and physical activity policies.
- Implement a high-quality health promotion program for school staff.

- Implement a high-quality course of study in health education.
- Implement a high-quality course of study in physical education.
- Increase opportunities for students to engage in physical activity
- Implement a quality school meals program.
- Ensure that students have appealing, healthy choices in foods and beverages offered outside of the school meals program.

While this list is geared toward elementary and secondary schools and their roles in preventing obesity, it is also relevant in the broad topic of early childhood. Child care settings are inherently different than schools for older children, yet these guidelines may be able to influence practices at the early childhood level. The authors emphasize the particular importance of specifically strengthening the school's nutrition and physical activity policies in order to implement the other nine strategies. That is, child care directors and preschool teachers can manageably focus on what they are serving children for meals and snacks and how much physical activity children have in their programs to specifically promote health. In a Reggio school, decisions about food (and presumably exercise) are made based on the belief that the adults in the school, including families and the community, are responsible for providing a quality experience (Cavallini & Tedeschi, 2008). Elaborating on this claim, the authors stated:

[Reggio Emilia teachers] believe that it is the responsibility of adults to offer positive opportunities to encounter food that is suitable in quality and quantity, so that each child can construct a sort of autonomous dialogue and personal path of eating habits and tastes, also respecting religious choices and medical conditions (p. 17).

In other words, in a school that utilizes the Reggio Emilia approach, it is up to the teachers and other adults in the schools to support the healthy habits of the children so the habits are long lasting and specifically appropriate for each child.



Schools have many roles in our nation, namely teaching academics to students. Yet, for young children, health and learning cannot be separated (Story et al., 2006). Early childhood teachers have a responsibility to address the health needs of students. The quality of the learning experience offered in any preschool is only as good as the scope of the teacher's knowledge on the topics being presented, whether the school adheres to the Reggio Emilia approach or not. In order to gain the knowledge necessary to teach about health, teachers may need strategies and guidelines for teaching health and utilizing existing materials and lessons. In the Reggio Emilia approach, teachers are researchers who investigate, reflect and generate knowledge (Fu, Stremmel & Hill, 2002). Teachers can learn about health through their own exploration. However, even with a working knowledge of health related activities, teachers still need the support of their programs or centers. Policies, guidelines and strategies can all be useful for teachers in supporting the promotion of nutrition and physical activity in the classroom.

### **Teachers as a Facilitator of Physical Activity and Nutrition**

Simply being enrolled in a child care program can be the best opportunity for a child to be physically active. Enrollment in child care centers was the highest individual predictor of activity for children (Finn, Johannsen & Specker, 2002). Preschool teachers have an opportunity to offer physical activity on an intervention level in child care settings. With support, initiative and a perceived value of physical activity, early childhood educators can begin to instill movement not only as a habit in young children, but also as a preferred and enjoyed activity that can be beneficial for a lifetime.

Preschool teachers can incorporate physical activity into their programs on a daily basis. Locke & Graber (2008) pointed out that to truly be effective with the

incorporation of physical activity, teachers must be aware of specific skill behaviors, and that most teachers do not have this content knowledge. To that end, early childhood educators may need assistance in offering developmentally appropriate and effective opportunities for physical activity. In their evaluation of Let Me Play (LMP), a comprehensive physical activity program utilized in Head Start, researchers discovered that supporting preschool teachers in the implementation of a targeted physical education for young children will result in more activity for children (Mazzeo, Germeroth, Arens, & Hein, 2012). Preschool teachers participating in an obesity prevention program in their preschool found that having a professional implement and plan developmentally appropriate physical activities greatly increased the children's physical activity involvement (Brewer & Rieg, 2013). These findings beg the question whether teachers need policy, curriculum, training or trained professionals to ensure that children are getting the proper amount of physical activity or whether they can provide it themselves? If teachers are trained to promote and increase physical activities daily, in order to maximize the effectiveness of these interventions, trainings should target the teachers as the key decision makers (Copeland, Kendeigh, Saelens, Kalkwarf & Sherman, 2012).

Young children are intrinsically motivated to play. Play is a developmentally appropriate way for children to acquire skills and grow (NAEYC, 2012). Nevertheless, a preschool aged child's experience with outdoor play is often in the hands of the teacher because preschool teachers serve as "gatekeepers" to the playground, a place where children can engage fully in physical activity (Copeland, Kendeigh, Saelens, Kalkwarf & Sherman, 2012). Deterrents, such as inclement weather and teachers not feeling like

moving portable, outdoor equipment, can determine if a child has a rich gross motor and socio-emotional experiences on the playground. These findings suggest that regardless of policy or available space or equipment, teacher's attitudes and efforts concerning the playground and outdoor physical activity are significant. Teachers' willingness to support children in their outdoor play by taking them outside and encouraging them to move their bodies in a variety of ways can tip the balance between the children getting enough physical activity or not. Again, teachers may need explicit support in offering these opportunities in a consequential way. Notably teachers' perceptions of the benefits and barriers influence how much they are willing to promote physical activity (Copeland, Kendeigh, Saelens, Kalkwarf & Sherman, 2012). In other words, if teachers see outdoor play as advantageous they are more likely to promote it and if they see it as challenging to facilitate, they are less likely to encourage children to engage.

Preschool teachers can promote physical activity as a chance for fun and enjoyment, as well as a requirement for constructive health and development. Locke & Graber (2008) noted that, "To make [physical activity] seem merely a means to gain some external objective, no matter how desirable the goal, is to rob playful movement of what makes it joyful" (p. 272). If children have pleasurable experiences with physical activity, they will most likely continue to engage in them throughout their lives. Isn't this what we hope for our nation's children, to engage in physical activity in the name being healthy *and* developing skills and habits that will enrich their lives? Kretchmar (2008) asserted that, "When activity becomes personally meaningful, when students convert from, say, riding bicycles to becoming cyclist, then [teachers] have succeeded" (p. 164).

Teachers' attitudes, as well as their philosophical approaches to physical activity promotion, can certainly shape the way children engage in movement.

While physical activity is clearly important for the healthy development of young children, it is not the only factor influencing wellbeing. Addressing physical activity and nutrition in tandem is a way to effectively endorse health with young children. Dietary habits are formed during the early years of life (Birch, 1999). Due to the high enrollment of the nation's youth in child care programs, early childhood educators and caregivers might have a strong influence on the dietary habits and preferences of young children.

In a systematic review of types of healthy eating intervention in preschools (Mikkelsen, Husby, Skov & Perez-Cueto, 2014), authors found that the most effective interventions influencing the fruit and vegetable consumption by young children included some type of educational component. That is, in the 26 studies reviewed, the researchers found that children were most likely to change or improve their eating habits when they were taught what is healthy. These findings tie in with determining if teachers have the background knowledge, accurate perceptions about nutrition, training and materials to effectively teach children about eating healthy. Further, in a study on nutrition policies at child care centers, researchers found that caregivers perception about how they should model healthy eating behaviors and the caregivers personal dietary practices in front of the children do not always align (Enrlisho, Hales, McWilliams, Emunah & Ward, 2012).

During an informal visit to the preschool where I conducted my research, three different fast food deliveries were made for teachers. When the third delivery driver arrived, the director questioned what was on the lunch menu that day and suggested to

me that the teachers probably didn't like it. When the school lunch menu item was confirmed by someone else, the director commented, "No, [the teachers] don't like that!" In their review of research addressing preschool children's fruit, juice and vegetable consumption, Nicklas et al. (2001) pointed out that further research of the impact of teacher modeling on such eating should consider the circumstances more holistically (characteristics of teacher, teacher behavior, setting, and children) to determine how effective the food modeling is.

### **Community Influences on Health Behaviors**

The physical activity and nutrition offerings in a Reggio Emilia inspired preschool setting, as well as potential health lessons that are already embedded in classroom activities are the focus of this study. Children's health opportunities and habits are shaped by a variety of factors, both in and outside of school. For example, parents' eating (Nicklas et al., 2001; Savage, Fisher & Birch, 2007) and activity practices directly affect a child's propensity for healthy behaviors. Specifically, the mother's nutritional knowledge has been shown to influence the quality of food her child consumes (Webb & Block, 2004); while a father's body mass index (BMI) influences the physical activity of young children in the home (Finn et al., 2002). Further, parental involvement in physical activity and nutrition interventions during the early stages of child's development is necessary to support regular exercise and healthy eating in the home (Paxson et al., 2006; Hopper, Munoz, Gruber & Nguyen, 2005). Families have a significant impact on the healthy habits of their youngest members and their involvement in shaping health behaviors is imperative.

When considering the crossover between children developing healthy behaviors at home and at school, parents recommend that preschool teachers focus on improving the quality and variety of nutritional offerings, and that they incorporate teacher-led, planned physical activities in order to address the health needs of the young children in their care (Benjamin, Haines, Ball & Ward, 2008). Parents making suggestions about teacher's practices is an example of how systems interact to potentially influence health outcomes for children. In a study addressing mothers of preschoolers reading storybooks about nutrition and physical activity to their children, researchers discovered that mothers agreed that using children's books was an effective way to communicate and promote health messages to their young children (Bellows, Spaeth, Lee & Anderson, 2013). Remarkably, the study did not look at preschool teachers using storybooks in their classrooms to promote nutrition and physical activity. The study also revealed that the mothers were concerned about children being picky eaters and needing balanced diets, and the mothers responded more readily to the label "gross motor development" than to "physical activity." If parents struggle with picky eaters and health related terminology when attempting to support healthy habits in their children, teachers might also have specific concerns about food preferences and the ways in which we culturally describe health related topics.

A breakdown in communication about health practices between teachers and families might be prevalent. As suggested in a study to assess preschool staff members' perceptions of the implementation of an intervention program designed to combat childhood obesity (Brewer & Rieg, 2013), many preschool teachers were unclear about "what was healthy" and "what was a snack" and that these particular

teachers were a bit stuck in their ways concerning nutrition based on these misconceptions. Families and teachers need to be clear about what healthy practices are and they need to be able to communicate those understandings effectively to each other. When discussing the philosophy of Reggio Emilia, a founder of the program, Loris Malaguzzi, stated in an interview that:

[An amiable school] must embody ways of getting along together, on intensifying relationships among the three central protagonists, of assuring fullness of attention to the problems of educating, and of activating participation and research. These are the most effective tools for all those concerned-children, teachers, and parents-to become more united and aware of each other's contribution (Gandini, 2012, p.43).

In order to best serve the health needs of children, parents and teachers can share ideas, concerns and knowledge. By doing so, a clear understanding about expectations between home and school can be established.

Arguably, creating effective, community supports concerning health for young children can be beneficial to these youth for a lifetime. Children spend a considerable amount of time in child care settings and their health practices can be encouraged in these environments. Nonetheless, children are part of other environments. Mistry et al. (2012) promote the incorporation of families and communities for children's health promotion. Including families and the community in health related activities at school could both support children in improved health practices and support teachers in the implementation of healthful eating and physical activity promotion in the classroom. Focusing on broader systemic features can also indirectly impact how teachers

approach health in the preschool classroom. In a discussion about eating practices, researchers describe influences at this level as, “Macro-level factors operating within the larger society [including] food marketing, social norms, food production and distribution systems, agriculture policies, economic price structures” (Story, Kaphingst, Robinson-O’Brien & Ganz, 2008, p. 245). These factors can certainly influence to what degree early childhood educators are able to promote healthy eating in the classroom, and also what they have to consider as challenges to their instruction. For example, if children are exposed to a barrage of commercials specifically advertising sugary foods aimed at them, then teachers might find it more challenging to promote eating fruits and vegetables as desirable. Additionally, the financial expense of fresh fruits and vegetables might be beyond the teacher’s or program’s budget.

### **Summary**

I previously presented how preschool teachers can benefit from an understanding of health literacy and incorporating the NHES into their health instruction. Integrating health literacy into teaching about physical activity and nutrition teaches the children why being healthy is important and the specific behaviors necessary for a healthy lifestyle. Fetro (2010) emphasized that, “...as we move forward to enhance health literacy, we must consider three contexts: the culture and society, the educational system and the health care system” (p. 260). These three systems certainly include early childhood programs and how they are incorporating health into their curriculums. These systems may also have a distal impact on how preschool teachers directly teach about physical activity and nutrition in their classrooms because of a broader impact of health beliefs and practices. Teachers do not act alone in their implementation of any



teaching strategies; they are influenced by larger systems. Teachers can have influence on these systems by educating groups of young people who eventually become parents, consumers and policy makers. Examining specific approaches to health in a preschool setting can shed light on the learning experiences children are getting; in this case nutrition and physical activity is the investigative focus. Understanding these health-related learning experiences can help identify what is shaping health practices and behaviors for generations to come.

## CHAPTER 3

### METHODOLOGY

#### Theoretical Perspective

Using a constructivist theoretical point of reference, with some post-positivistic assertions (Wrona & Gunnesch, 2016), I apply a qualitative, case study approach, exploratory in nature, with a simultaneous triangulation design (Baxter & Jack, 2008; Stake, 1995) as the process by which I address and analyze the following research questions.

#### Research Questions

**Research Question #1:** In what ways do preschool teachers in a Reggio Emilia inspired preschool in the Midwest incorporate nutrition and physical activity in their classrooms?;

**Research Question #2:** What influences if and how these preschool teachers specifically teach about these fundamental health aspects?

In order to explore how preschool teachers were constructing approaches to physical activity and nutrition in their classrooms, I used a qualitative methodological approach to guide my research. A qualitative approach is the most appropriate design for my study because my research was exploratory (Patton, 2002) in nature. That is, my aim was to uncover what factors influence how and why some early childhood educators do or do not teach about physical activity and nutrition in their classrooms. Using the constructivist paradigm, I suppose that the way these preschools teachers perceive their practice is based on meaning previously assigned to their roles. As the researcher, I also chose the constructivist lens to frame my study because it aligns with

how I perceive meaning is created and choosing a personally compatible paradigmatic stance is useful in approaching research (Maxwell, 2005).

The specific methodology I used is a case study technique. The case study is suitable because I exclusively investigated preschool classrooms at Children's School, a small, private childcare facility in the Midwest. All of the classrooms were in the same school in a mid-sized, urban area with similar demographics and state policies. Children's School provides services for families and children aged six weeks to twelve years old. I gathered data in three classrooms with children aged 3-5 years old.

### **Analytic Generalization**

The analytic generalization (Yin, 2014), or working hypothesis, that I used as the theoretical foundation for my study implies that the data I uncovered will fit into practices that may be generalizable. Generalizations in a case study are made when the case is considered in context and an explanation of how the situation studied produced results, or not (Yin, 2013). One way of applying analytical generalization is through category zooming (Halkier, 2011). By utilizing category zooming, I was able to focus on the details and complexities of a single aspect of the study and "...build some analytical generalization that could represent contradictions, exceptions and processes..." (Halkier, 2011, p.792)."

As noted in my literature review, what teachers are including in their classrooms and on the playground (or not) regarding physical activity and nutrition can be influenced by a variety of systems. For example, Children's School adheres to state requirements that lead to certain practices regarding nutrition; that is they follow the state's Food Program for meal and snack planning. I was interested in learning if these

requirements were considered by staff as influential to their teaching practices.

Children's School provides most of the snacks and meals that are served at the school; sometimes children bring food from home for breakfast or snacks. Because of this, I was also curious how the culture of families influences nutrition and physical activity in the school. For instance, is a school's philosophy that incorporates health important to families? Not all preschools adhere to state regulations or the same philosophical orientation, but almost all have a specific approach to serving food and involving families. Therefore, closely examining these practices is useful in understanding what influences teachers' practices.

This case study is primarily an instrumental case study (Stake, 2005), meaning that I am most interested in how preschool teachers, generally speaking, teach about health, rather than an intrinsic case study, in which I would be focusing specifically on the case. However, Stake (2005) noted that the lines between instrumental case studies and intrinsic case studies are often blurred. That is, as the researcher, I must deeply consider the case I am investigating in order to make generalizations about the findings. Yin (2013) asserted that drawing out ideas that are more abstract in a case study through analytic generalizations can make the study's findings more broadly applicable, perhaps by asserting a theory. This is an example of how a qualitative case study can be (post-) positivistic in nature (Wrona & Gunnesch, 2016). Identifying broadly applicable approaches through analytic generalizations is a way that the findings in this study can be comprehensive when considering how health practices are approached in various preschool settings.

## Participants

Defining, or bounding, a case in a case study is multifaceted (Patton, 2002). The case in this study included a group of teachers at a contemporary, Reggio Emilia inspired preschool. In order to understand the case as a whole, each of the individual cases must be considered (Patton, 2002). Through this bounded case (Yin, 2014), I examined these preschool teachers' practices regarding nutrition and physical activity.

I used a convenience sample (Merriam, 2009) for my case and context in this study. I did not originally intend to specifically study a Reggio Emilia inspired school. However, the preschool is a place where I had access to the teachers and staff. In hindsight, not focusing on specific type of preschool setting might help me make my findings more generalizable or transferable. At Children's School, I gathered data in three classrooms and each of the classrooms included children aged 3-5 years old. I interviewed and conducted focus groups with 12 teachers, and 2 staff members, including the cook and the administrative assistant. I asked the director to complete a self-report survey; I also obtained school related documents from her and included her in follow up questions, as needed. I gathered 7 surveys from family members, including 5 mothers, 1 father and 1 grandmother. All of the employees who participated in my research were female, white and had been working in the early childhood field in a range of 3 to 40 years. The employees ranged in age from 26 to 67 years old. The teachers and staff had educational backgrounds ranging from high school diplomas to master's degrees, at the time of the study.

The preschool is located in the town where I grew up. I attended Children's School when I was a child aged 2 -10 years old. I do not think my attendance at

Children's School as a child in any way influenced my research, as the school has changed considerably since I attended. None of the teachers or staff interviewed was my teacher and the school did not incorporate the Reggio Emilia approach when I was a student at the school. As when I attended, Children's School still maintains a strong sense of community and a focus on addressing the developmental needs of children.

### **Procedures**

Children's School has been open for nearly forty years. I approached the director for permission to conduct my study at her school and was granted access. Upon gaining access, I considered the fact that the school adheres to the Reggio Emilia approach. Considering the school's philosophical underpinnings became a focal point of my study. On one visit to the school, I asked the director (who was also the director when I attended) what motivated her to become a Reggio Emilia inspired school. She walked me toward the back of the school, past several classrooms situated around a common area to see poster boards containing pictures and print (also known as documentation panels). As I began to read the school's history on a documentation panel, I spotted a picture of me at age 4 in a dated, class photo. The director and I had a laugh about it.

The school was founded by the director, her sister and her mother. In 1991, the director read about the Reggio Emilia approach to education and she was interested. She and a teacher boarded a flight to Italy and met with the director of the Reggio Emilia preschool. They showed up without an appointment and were seen, which is unheard of today. From that point forward, the director and her staff have continued to study and incorporate the Reggio Emilia approach at Children's School.

I previously worked for the school's partner school for less than six months as an infant-toddler teacher, and the director of the school where I will be collecting data was my supervisor. The director and I have a history of a social and professional relationship; however, I do not know any of the teachers that I interviewed and conducted focus groups with personally.

I initially requested that the Children's School's director complete the Child Care Nutrition and Physical Activity Assessment Survey, a self-report survey. The survey contains 74 questions assessing four areas related to nutrition and physical activity: center philosophies, practices related to the social environment, physical environment and nutrition quality. The survey was created at the Rudd Center for Food Policy and Obesity at Yale University, and was pilot tested on 146 preschool directors upon development (Henderson et al., 2011). According to Henderson et al., the survey demonstrated "adequate criterion validity" upon testing the instrument through reports from directors, interviews, observations and document (menu) comparisons at 33 child-care sites. In other words, the survey is a valid instrument to use to assess nutrition and physical activity in a child-care setting.

During an informal meeting at the school, I asked the director when the best time would be to conduct interviews. She indicated 1:00-3:00 p.m. (the children's nap time) on Mondays and Fridays. Teacher participation in the study was completely voluntary. I provided a sign-up sheet to the front desk administrative assistant and she informed teachers and staff of my request for participants. If the employees of Children's School were interested in participating and taught children aged 3-5 years, they signed up. The

teachers rotated through the interviewing process as they were available during the specified times.

During the initial visit, I provided a consent form for each participant before I interview her. I conducted semi-structured interviews, lasting approximately 30 minutes in length (they were shorter or longer depending on how much each participant disclosed). I based my interview questions for the teachers and staff on the research questions posed in the study and what the director shared in the aforementioned self-reporting survey. As each teachers sat down to meet with me, I introduced myself as a doctoral student who was collecting data for dissertation research, and I explained that the study is to determine if and how teachers at Children' School are teaching about health and what influences these factors. The following is a list of sample questions (see Appendix A for interview format and questions):

- Tell me about how you approach nutrition in the classroom with children?
- What influences how you approach nutrition (e.g., school policy, families, your own beliefs or behaviors/ personal attitudes – *use only if needed*)?
- Describe how lunchtime looks? What are you doing during this time?
- Tell me about how you approach physical activity?
- What influences how you approach physical activity?

In many cases, as the interview progressed, I asked additional, follow-up questions pertaining to what the teachers revealed. I audio recorded each interview and took notes indicating the nonverbal communication of each participant.

I completed the teacher interviews within three months of approaching the director for access to her school. I conducted focus groups two weeks following the



completion of the interviews. I based my focus group questions on the dialog that emerged during my interviews and exploration of Children's School documents. For example, I used segments from the school's mission statement to formulate questions about the school's approach to viewing the child as an individual. Once the interview responses were collected, I met with the teachers as a group to discuss ways that they saw themselves teaching about health at their school. Two focus groups were conducted during the children's nap time on a Monday and a Friday. Five teachers attended the first focus group and three teachers attended the second focus group (see Appendix B for Focus Group Questions).

For this study, I labeled teachers by number in the order in which I interviewed them, information that is only known by me. For example, the first teacher I interviewed is referred to as "Teacher 1." I gave the school cook the moniker "SC" and the administrative assistant, "AA". For the focus groups, I used the same numbers for the teachers that I used when I interviewed them. In order to provide context, the following descriptors of the teachers are included.

Teacher 1 recently earned her bachelor's degree in early childhood education. She is the only participant who spoke of having any coursework in her schooling related to teaching health to young children. Interestingly, she also commented health is something that should be taught at home.

Teacher 2 wanted to be a P.E. teacher when she was growing up. She has taught at Children's School for 6 years. Teacher 2 was mentored in the Reggio Emilia approach by Teacher 5.

Teacher 3 is a practical joker who loves to laugh! She was raised on farm and was forced to drink unpasteurized milk when she was a child so she does not drink milk as an adult. She sympathizes with the children who do not like milk. She is, however, a water drinker and promotes staying hydrated for good health.

Teacher 4 enjoys eating at restaurants but she is concerned about the quality of food served. She has noticed that more children are getting Type 2 diabetes. On that note, she exclaimed, "Really it's no wonder...we're an obese nation!"

Teacher 5 is in her late 60s and she has been a teacher at the school since it opened. She was interested in sports growing up. Tall in stature, she shared she was good at basketball. She recalled that she learned to cook in a Home Economics class in high school, and from her mother (who was a wonderful cook).

Teacher 6 has been at the school for 1 year. She loves nature and works with the children at Children's School to connect food and well-being with the natural world. Teacher 6 was mentored by Teacher 10.

Teacher 7 shared that she goes to the local farmer's market on the weekends to buy fresh produce. She practices yoga and tries to take walks in the evening, weather permitting. She admitted that she occasionally enjoys junk food, even though she mostly "eats right." Teacher 7 was mentored by Teacher 9.

Teacher 8 has been at Children's School for 8 years. She is taking classes at the local university and she wants to take a nutrition class. Teacher 8 divulged that she is a picky eater, but she encourages the children to try everything. She has invited people who are not on staff at the school to come in and help implement physical activities with her class.

Teacher 9 is fit and energetic. She has been at the school for 30 years. Teacher 9 brings her own lunch to school and encourages families to send healthy foods from home.

Teacher 10 was a runner when she was younger and she enjoys birthday cake during class celebrations. She enjoys cooking with the children and introducing them to new foods and recipes. She had been at the school for 23 years.

Teacher 11 loves the outdoors! During her free time, she hikes, kayaks and camps outdoors. She is a strict vegetarian and she enjoys eating healthy. Teacher 11 has applied for various grants to obtain funding for unique opportunities for the children. For example, she was awarded grant funding for her idea to have the children study lights.

Teacher 12 has been at Children's School for 33 years. In her free time, she loves to travel and experience new places and things, including food and drink. She has fond memories of her grandmother's garden and she was instrumental in implementing Children's School's garden.

I planned to include family members (mothers, fathers and other caregivers) in the focus groups to gain an understanding of their perceived role in the promotion of health at the school. I asked the director to invite family members in the school's community who would be willing to participate in focus group discussions. I also offered to invite family members by providing a sign-up sheet at the front desk of the school. The director ultimately stated that getting family members in for the focus group would not be possible. She agreed to distribute a questionnaire to families. Family member participation was voluntary and the family members were not asked to provide any

information indicating their identities (see Appendix C for Family Questionnaire questions). I do not have any additional information about the participating family members.

According to Baxter and Jack (2009), data from a variety of sources in a case study are meant to be examined concurrently, rather than solely looked at individually. Therefore, I simultaneously conducted a document review of the parent handbook (including the school's mission statement), the school's website, and photographs and PowerPoints (provided by teachers during the interviews) and the director's responses on the Child Care Nutrition and Physical Activity Assessment Survey. The photographs and PowerPoints were shared freely by the teachers; I did not request them as part of my data collection process, as I did not know they were available. I also examined the applicable state guidelines for the Food Program, comparing the information gleaned from the school's documents and what I learned in the interviews and focus groups. I analyzed and incorporated the family member's written responses on the questionnaire, as well.

### **Data Analysis**

As I conducted my interviews and focus groups, examined the director's responses on the Child Care Nutrition and Physical Activity Assessment Survey and reviewed documents described above, I began to organize the data using organizational categories that would be further divided into substantive categories (Maxwell, 2005). That is, as I studied my data sources, I began to devise more complex organizational categories and, in turn, substantive categories. Initial organizational categories that I used were derived from the first research question posed in the study, "In what ways do

preschool teachers in a Reggio Emilia inspired preschool in the Midwest incorporate nutrition and physical activity in their classrooms?” The categories became *Incorporation of Nutrition and Incorporation of Physical Activity*.

After creating initial organizational categories based on the research questions, I generated more specific organizational categories. For each specific organizational category, I read through the interview and focus group responses several times to formulate substantive categories and to identify supporting quotes. I identified supporting quotes for the various substantive categories during each read through of the interview and focus group transcripts. I placed these relevant quotes under the corresponding subcategories. Occasionally, a quote would fit under more than one substantive category so I would put it in both places. After I completed the placement of the quotes for the subcategories, I determined the best subcategory for quotes that were put into two subcategories. I also noted any potential systemic influences and emerging themes by highlighting words that were the same or similar in each subcategory. An occurrence of this included the words “conversation” or “discussion” under the subcategory of Planning.

Further, I studied the seven family responses on the questionnaire to check for similar and different points of view compared to the teacher and staff responses during interviews and focus groups. Coding data by examining information as it is presented can also be considered categorical aggregation, wherein data are arranged based on an ongoing collection of information (Stake, 1995). Using categorical aggregation allowed me to answer questions as they arose, derived from the data presented. I was also able to deepen my ongoing analysis of the data.

In addition, in my experience, both teaching and health are personal topics. With that in mind, as I collected data, I employed an audit trail (Merriam, 2009, p. 223) by keeping a continuing journal of my questions, decisions, and discovery. This journal supported my placement of data into the various organizational and substantive categories as I conducted the research.

### **Steps to Increase Validity**

In order to increase the validity of this study, I triangulated data sources (Patton, 2002). I compared the interview and focus group responses obtained from the teachers with what the director indicated in the self-reporting survey and what the family members shared in the questionnaire. I checked these findings against a document review, the school's website, mission statement and parent handbook. I also studied photographs and PowerPoints provided by the teachers during the interviews. I read the state regulations for implementation of the Food Program utilized by the school. By considering these sources, I was able to generate consistent subcategories, thus validity of the findings.

I also presented the data analysis to the employees at Children's School to conduct member checks (Merriam, 2009). I emailed a copy of the data analysis to the director and requested that she distribute the findings to the participating teachers. I offered to provide hard copies via mail to anyone who requested them. This enabled the participants to confirm that I captured their experiences accurately or to correct any miscommunication. I did not receive any feedback or corrections from any of the employees at Children's School.

In case study research, there is not one specific way to report findings, and telling a story addressing the research questions is one plausible way of reporting (Baxter & Jack, 2009). In order to assist the reader of the study to form naturalistic generalizations (Stake, 1995), I paint a picture of the data collection process, including the time, people and place, adding my personal experience as a former childcare provider and administrator. In my discussion, I share what I discovered about how teachers are teaching about health and what influences their practices at this particular school.

### **Researcher Perspective**

The researcher can be viewed as the research tool in a case study (Patton, 2002). As the researcher in this study, my experience and perspective is relevant. First, health is important to me as an individual. I work to incorporate healthy nutrition and physical activity into my own life. I think addressing nutrition and physical activity is important for the growth of young children. My professional and academic backgrounds are primarily in early childhood education. I have been a preschool teacher, an assistant director at a preschool, a special educator in a preschool setting and I have extensively studied early childhood. These experiences all inform my outlook on the data collected. However, I consciously worked to remain as objective as possible during the data collection and data analysis processes. My perspective as the researcher inherently influenced my claims for generalizations. While generalizations are not always accepted in qualitative research (Maxwell, 2005; Patton, 2002; Stake, 1995), they are possible if data are closely examined (Yin, 2014). As stated, I have carefully and simultaneously studied the material I have collected for this study.

## CHAPTER 4

### RESULTS

The following organization and analysis of data includes an overview about how teachers are incorporating nutrition and physical activity at Children's School. This chapter presents data organized into categories, both organizational and substantive, from several data sources. Category zooming was used on substantive categories to focus on one aspect of teacher practices that surfaced from the data in order to create themes.

One way of presenting findings in a case study is sharing about the data collection process and telling the story of the case so that the reader will be able to infer naturalistic generalizations (Stake, 1995). Below is an example to offer context.

During a follow up discussion, the director, a relaxed woman who was knowledgeable about her school, shared that she has always included nutrition and physical activity as part of the school's practices, even before the Reggio Emilia philosophy was introduced. She remarked, "I mean, yeah, you know, we've always promoted being healthy around here." Her staff supported that claim during the interviews and focus groups. When asked about why she incorporated physical activity, Teacher 3, an earthy and knowledgeable teacher with twenty-four years of teaching experience at Children's School, shared, "It's the expectation of the school and the boss that we're active." During a focus group, Teacher 5, a sturdy, thirty-five-year veteran teacher at the school, described a meeting held at the director's house when the Food Program was implemented,



Remember our last meeting at the director's house on the Food Program? She showed us what a cup of milk looks like and what an ounce of meatloaf is. It's this big (showing a circle with her hand). For some kids, it's just a bite.

The SC also shared that the director will often go to the local farmer's market and brings fresh produce to school for the children to eat. Further, the school's website includes a photograph of the playground where the children engage in physical activity. The website also includes a photograph of students and a teacher looking in a refrigerator together with the caption, "The close spatial, emotional, and cognitive relationships between children, cooks and the kitchen offer many opportunities for giving shape to ideas and projects," taken from *The Language of Food, Recipes and Thoughts* (2008). Nutrition and physical activity are an integral part of Children's School.

### **Incorporation of Nutrition**

Teachers used mealtimes, play, enrichment activities, the garden and celebrations to present topics related to nutrition. During meals and snacks the children are often introduced to new foods. Most teachers also talked about children using the dramatic play area to explore food and cooking. When the children take a field trip, they might have a cooking opportunity and the chance to try a new dish. The children are also introduced to foods they may have never tasted that are grown in the school's garden. Teachers mentioned families from various cultures bring foods to the school-wide celebrations. The children appear more willing to try new foods when there is an activity associated with it.

Teachers reinforced healthy eating by modeling healthy eating behaviors, keeping a list of new foods eaten for picky eaters, and requesting that families bring in healthy treats and snacks. By creating a space that promotes nutrition, the teachers support the expectation that the children make healthy choices. Part of the Reggio Emilia philosophy is that teachers are researchers and co-learners (Edwards, 2012). By studying opportunities for children to explore nutrition and engaging in activities centered on nutrition with the children, the teachers are adhering to the school's overall philosophy.

The first research question posed in this study was, "In what ways do preschool teachers in a Reggio Emilia inspired preschool in the Midwest incorporate nutrition and physical activity in their classrooms?" The first organizational category I created based on the data was *incorporation of nutrition*. Upon analyzing the data, further organizational categories that emerged were (a) interactions with children, (b) interactions with families and community, and (c) planning. I identified several substantive categories based on these organizational categories. The organizational and substantive categories helped organize my data (see Table 1).

### **Influences of Nutrition Incorporation**

The next organizational category I considered was *influences of nutrition incorporation*, based on my second research question, "What influences if and how these preschool teachers specifically teach about these fundamental health aspects?" The notable organizational categories derived from this category included (a) eating tendencies and development, (b) family practices, and (c) personal beliefs and

behaviors. Again, several substantive categories materialized from these organizational categories (see Table 2).

### **Incorporation of Physical Activity**

The next set of organizational categories was also drawn from the first research question, “In what ways do preschool teachers in a Reggio Emilia inspired preschool in the Midwest incorporate nutrition and physical activity in their classrooms?” The focus on the broad organizational category was on the *incorporation of physical activity*. The more specific organizational categories that surfaced for the incorporation of physical activity included (a) outdoor play, (b) indoor activity and (c) interactions with children. Various substantive categories arose from these organizational categories (see Table 3).

Children are introduced to an array of physical activities both indoors and outside. When the children are outside, teachers reported making suggestions regarding available activities such as using the climber or the swings. One teacher discussed that she was interested in incorporating yoga in her classroom. Even though many of the teachers described following the lead of the children, they also indicated they regularly introduce physical activities including games and practice on balance beams.

When the children accomplish a new physical task, often they are met with celebration. Teachers mentioned cheering and taking photos of the children as the conquered new feats on the playground. This type of acknowledgement is certain to reinforce the child’s desire to continue trying new physical activities.

### **Influence of Incorporation of Physical Activity**

The final set of organizational categories centered on what *influenced the incorporation of physical activity*. As with the second extensive organizational category of what influenced the incorporation of nutrition, this category was drawn from the second research question, “What influences if and how these preschool teachers specifically teach about these fundamental health aspects?” The influences were divided into similar, more narrowly focused organizational categories as were those that influenced the incorporation of nutrition, including (a) health and development of children, (b) family practices, and (c) personal beliefs and behaviors. Many substantive categories materialized from these organizational categories (see Table 4).

For both nutrition and physical activity, teachers encouraged children to try new things. Whether it was food that a child claimed to not like or children not having ideas for play on the playground, all teachers claimed to encourage the children, such as pumping their legs on the swing and asking their moms if they could try different foods at home. While encouragement might not be a direct form of teaching, it can certainly add force to what the children are willing to engage in. Encouragement from a respected adult, such as a teacher, might tip the balance toward a child trying a new food or engaging in a new activity.

### **Category Zooming**

Maxwell (2005) asserts that substantive categories can be used to establish a more generalized theory. I used category zooming to determine a single area to focus on the study, based on these narrowly focused, substantive categories. By carefully examining each substantive category, and zooming in on a category, I aspired to

summarize themes around nutrition and physical activity. The themes I determined were primarily based on discussions, focusing on introduction, reinforcement and encouragement as they relate to the children engaging in healthy eating and physical activity. Introduction can be defined as presenting the children with unfamiliar foods or new activities, typically through modeling or direct teaching. Reinforcement is supporting the children when they are willing to try foods or activities that they previously have not tried. Encouragement is cheering the children on with praise and documentation, such as taking photographs that can be shared with families.

### **Presentation of Categories**

Data from the interviews and focus groups are presented as they relate to the categories discussed above. Data are supported by the website, self-report survey and other documents I reviewed as I conducted the interviews and focus groups. The two research questions were analyzed in tandem; the first question examined the ways in which preschool teachers incorporate nutrition and physical activity in their classrooms and the second question examined what influenced these practices. Unless otherwise noted, the quotes included are from the one on one interviews with teachers and staff.

*Research Question 1 (RQ1): The ways in which teachers are incorporating nutrition*

#### *RQ1- Category 1: Interactions with Children*

All teachers interviewed spoke of interacting with the children as a way to incorporate nutrition in their classrooms. The specific interactions varied in approach, but all teachers shared that they encourage children to try new foods. As Teacher 2, who is shy but focused, shared, “We encourage the kids to try new things. Kids will often say they don’t like things before they try it. We ask, ‘Can you try one bite?’” The

teachers agreed that encouraging the children to try new foods often ensured that they would eat things they otherwise may not. A mom shared,

My son came home from school last week and told me that his teacher told him that he should try carrots. I said sure, we have some. He tried them and did not like them. The fact that his teacher was discussing nutrition and different foods with him tells me that [the teachers] are already supporting his nutrition.

This mom's account of her son saying that his teacher told him to try carrots supports the teachers' claim that they are encouraging children to try new foods.

*RQ1- Interactions/Children-Substantive Category 1a: Modeling and encouragement.* Several teachers described having meals and snacks with the children in their classroom. They stated that this was a time when they could model healthy eating behavior. Teacher 1, an eager, novice teacher, asserted, "Kids set up meals. They set the table and handout food. Teachers eat with the children and model healthy eating." The teachers believe that eating together also encourages the children to try unfamiliar foods. Teacher 12, a gentle, dedicated teacher who had taught at the school for 33 years, revealed, "Eating together encourages them to try new foods. When your friend tries it, you're more likely to try it. It's exciting when they try something new. We notice it." Personal anecdotes are also offered to the children regarding teachers' food preferences to model healthy eating practices. Teacher 2 shared that during meals in her classroom, "We say 'I like green beans' or, for authenticity, 'Corn is not my favorite.' Teachers play off of each other, 'Corn is my favorite, though.'"

*RQ1-Interactions/Children-Substantive Category 1b: Teaching opportunities.*

During mealtimes, teachers also described opportunities to embed content. Teacher 11 explained,

We do have a lot of discussions when we're sitting with the kids. This is broccoli; it's a vegetable. This is a fruit. We talk about where it comes from. This comes from the ground, this comes from a tree. Cookie Monster – C is for cookies. It's a literacy thing. P is for potatoes. What else is on your plate? What does it start with?

Teachers also have social and behavioral expectations during meals. Teacher 12 pointed out that the children were expected to “put their hands in their laps, pray, and talk quietly during mealtimes.” She added, “They understand that mealtime is a special time with value. It's not just what we're eating; it's how we're eating. They have to be excused [at the end of mealtime] and they clean up.”

*RQ1-Interactions/Children-Substantive Category 1c: Enrichment activities.*

Several of the teachers shared about taking the children on fieldtrips and cooking with the children in order to incorporate nutrition. These aren't regularly scheduled activities; rather they're activities that are done for enrichment. Teacher 9, fit and energetic and recently celebrated her 30<sup>th</sup> anniversary as a teacher at Children's school, discussed an upcoming fieldtrip to the local grocery store where she planned to “look at fruits and vegetables” with the children. She added that she will ask, “What's the difference between a can of corn and an ear of corn?” Teacher 10, a leader at the school, who had been teaching at the preschool for 23 years, described a trip to the apple orchard and a healthy cooking opportunity that arose from that trip,

Traditionally, we've cooked apple cobbler, then we asked, "What else can we make that's more nutritious?" Apple salsa! It was a hit. It had apples, cilantro, avocados and garlic. A little bit healthier because we researched something more nutritious. And the kids try new things.

*RQ1-Interactions/Children-Substantive Category 1d: Play.* Food is used for nutritional purposes, and, for some children, play. Many teachers discussed the materials in their dramatic play or housekeeping areas and how healthy eating emerges during play. Teacher 1 shared, "We have food in the dramatic play area, also cookbooks. Mostly healthy pretend food. We sometimes talk about food when they're playing, like ice cream. The kids like Dairy Queen and they pretend to have that." Teacher 4, a direct woman who had been teaching at the school for 15 years, pointed out that the children love the kitchen area and when they are pretending to cook, she says, "Oh, what a healthy snack you're making." Teacher 11, soft-spoken and enjoys the outdoors, tries to entice the children into the dramatic play through sensory experiences, "We put real things in the dramatic play area, like sprigs of basil, rosemary and mint. We also put spice jars that haven't been rinsed out. Whatever we can get!" The dramatic play area offers the children an opportunity to incorporate food, eating, and nutrition into their play. For example, in a letter home to families, Teacher 12 wrote, "The children have been using the unit blocks to build furniture. A small group of children built a table and chairs. They also built a freezer to store the food. This area became a place to enjoy a meal in dramatic play." Exploring real life activities, such as using blocks to represent a kitchen during play, is a way children can develop



perspectives about their place in the world. This type of activity represents opportunities offered in a Reggio Emilia inspired environment.

During one visit to the school, I noticed a story with pictures posted on the wall. The title of the story was *The Day Owen's Squash Came to School*. The story was told by Owen. He had grown two squash and brought them to school. The story detailed how his classmates took the squash into the loft and wrapped them in scarves and put them in the bed with the babies (there was a photograph of the squash in bed with dolls). Owen got to tell the class about the squash; he described their variations in color and texture. His teacher later shared that he originally ended his story by cutting up the squash and having his classmates eat them with dip. He ultimately decided to have that part taken out (even though the class did cut up the squash and eat it with dip). Owen brought squash, a vegetable and a healthy food, to school to play with in the loft with friends, to tell a story and to study. This is an example of how nutritious food is incorporated beyond mealtimes to include activities.

*RQ1- Category 2: Interactions with families and community*

*RQ1-Interactions/Families-Substantive Category 1a: Written correspondence.*

The teachers described the correspondence with families about nutrition as mostly written in the form of newsletters. Teacher 2 recalled, "A couple of summers ago we sent a newsletter encouraging parents to send healthy foods, then we followed up with a list." Further, Teacher 9 shared, "I have really great parents. I sent a newsletter home requesting healthy breakfast, like oatmeal. And they send healthy birthday treats." Artifacts shared by Teacher 12, who generously shared classroom documents, included newsletters sent home that detailed various fruits and vegetables harvested in the

school garden so that the families would know they different foods the children tried that week. Teachers corresponded with families about the types of foods their children eat at school and asked for their support nutritious diets by sending healthy foods for breakfasts, snacks and celebrations. The parent handbook does not provide a list of foods that are appropriate for families to send to school. Further, the handbook does not suggest that families avoid sending unhealthy foods to school (although candy and gum are discouraged). The parent handbook indicates the school provides nutritious meals and snacks based on the Food Program guidelines and families are instructed to fill out a food substitution form if their child has food allergies.

*RQ1-Interactions/Families-Substantive Category 1b: Celebrations.* Including families in school events is often centered on celebrations that involve food. The celebrations are an opportunity for families to share cultural foods that represent what they eat at home. Teacher 2 remembered, “One summer we did favorite recipes and did a recipe book. We had an end-of-summer party with all the foods in the book. There was an Indian family that brought an unfamiliar dish and the kids and teachers really liked it.” Teacher 12 emphasized that having celebrations with food promotes community,

We do fall and spring celebrations the week before Thanksgiving and in May. The director makes turkey and stuffing and everybody brings something. It’s a big old potluck! We get different things from families, like Chinese families. In May, we have a fire truck come. We serve hotdogs. Someone’s dad cooks them and everyone brings fruits and veggies and desserts. Food equals community.

Teacher 10 indicated that food provided at celebrations is healthier than it was in the past. When asked about her approach to incorporating nutrition, she exclaimed,

Parties! We celebrate everything. Traditionally, cookies, cupcakes and treat bags were given out in past years. Now it's fruit and cheese cubes. We are providing healthier snacks and we do have control over that. I'm all about balance; I'm gonna eat birthday cake.

The parent handbook includes the following,

Occasionally, your child will have the opportunity to cook or otherwise prepare special foods at school for a snack or a meal. Mothers frequently desire to furnish treats for a special occasion such as a birthday. Please notify the teacher of this special event and plan simply. This time could be used to cook with your child. Ask the teachers for some suggestions or appropriate recipes. Your child's teacher will add special stories, songs, games, etc. to make this a memorable time for your child.

Based on this information, it appears the school encourages families to talk to teachers about suitable foods for classroom celebrations. A list of acceptable foods could help families make decisions about appropriate foods to send for celebrations. A clear, written food policy in the Parent Handbook would support teachers' efforts to provide healthy food in their classrooms.

*RQ1-Interactions/Families-Substantive Category 1c: Learning Opportunities.*

Due to her concern about 3 and 4 year olds in her class being overweight and also promoting health with families, Teacher 10 claimed, "This is the age to deal with these things. It also influences the parents. I've invited parents to come in and share

what they do and a nutritionist came in.” She added, “A child’s aunt is a bee keeper in Illinois. We did a conference call about bees. I wanted the kids to remember bees are good for us and they make honey.” Families are invited to Children’s School for more than just celebrations; they are invited to share their knowledge about health-related activities.

Further, presented in a PowerPoint slide created by Teacher 12, “In March, we held our annual Family Work Day, and Will, from the Purple Class, worked with his parents and grandparents with wheelbarrows and buckets to unload and spread a trailer load of garden soil.” Families are invited annually to come to the school to help with school improvement projects. Volunteering at the school is part of the Reggio Emilia approach so that children can learn to be of service to their community. Inviting families to come in a work with their children also suggests families are a valuable part of the learning community, as family members can offer unique perspectives and skills.

#### *RQ1- Category 3: Planning*

*RQ1-Planning-Substantive Category 1a: Books.* Several teachers mentioned using books to incorporate nutrition. Teacher 5 shared, “We’ve read Eric Carle’s *The Very Hungry Caterpillar* and the kids brought things the caterpillar ate.” Another favorite was the Dr. Seuss book *Green Eggs and Ham*. Teacher 1 said that her class cooked green eggs and ham after they read the book. Teacher 5 also mentioned using garden books, “We put words from the books in the writing center. We have kids match seeds with their food pictures.” Additionally, Teacher 3 added, “We read books about nutrition sometimes. We have a garden to teach where the food comes from.”

*RQ1-Planning-Substantive Category 1b: Garden.* All teachers mentioned the garden as a tool to teach about nutrition. When asked how she incorporates nutrition, Teacher 5 explained, “Garden, planting, taking care of the garden. We cut and wash lettuce and vegetables, like cucumbers. We take our clipboards to draw what’s growing in the garden.” Teacher 9 stated, “Next week, we are going to do a whole unit on vegetables when they are ready in the garden. We’ll stump [the children] about what they’re eating. We’ll have them try it first and then tell them.”

Further, Teacher 10 suggested, “The garden is good...a huge way to teach nutrition. Plant it, watch it grow, harvest it, cook it. That’s what they call farm to table.” Again, the garden is also way teachers have gotten families and the community involved, in addition to using it as a teaching tool. Teacher 12 shared,

We held a conference two years ago at the Methodist church. Our presentation was on the garden, how it got started, how it grew. We had slides of the kids planting seeds. We shared pictures of the kid’s journals, the vocabulary, the words that come from plants. Somebody put a turnip in [the garden] and the kids just thought it would grow. It wasn’t connected at first. It’s also a community-building thing because parents get involved.

Additionally, Teacher 12 shared her notes from when the teachers planned the school’s garden. In her notes, she wrote, “Children will be involved in all aspects of the garden; weeding, watering, sowing seeds, planting and helping determine what to do with the flowers, vegetables and herbs.” This indicated that, since the garden’s inception, the teachers planned to use the garden as a tool to promote children’s learning and involvement. In a newsletter sent home to families, Teacher 12 wrote,

“This week in the garden, we thinned the cucumbers, squash and bean plants. We harvested oregano and sweet basil. The dill is ready for families to take. We enjoyed cucumbers, beans and yellow squash at lunch.” The letter indicates the children have been actively involved in tending the garden, sharing the produce with families, and consuming the garden’s bounty during meals.

*RQ1-Planning-Substantive Category 1c: Children’s interests.* Several teachers discussed following children’s interest and planning based on topics that came up in conversations with the children. Teacher 5 indicated, “We used to do a unit with food, but we don’t do units anymore. We just work [nutrition] into discussions daily.” Teacher 6 added, “We follow the interest of the kids rather than teach set information about nutrition.” Teachers help the children make connections with their interests. As Teacher 11 described,

We follow the kids’ lead. I have a little bug in my room and we have to find out what it eats and what eats it. Our conversations about food had led to other creatures. What inspires me to do this is that my kids are younger preschool and they’re curious about the world around them. They seem more willing to try [new foods] if there is a discussion around it. It’s all very hands on, discussion oriented. It’s got to go beyond meal time. It’s cool you came in and asked about this because I had to think for a minute [...incorporating nutrition] is part of the everyday flow around here.

In examining the data collected, I noticed that the teachers genuinely follow the lead of the students. Referring to RQ1, I was curious how teachers were incorporating nutrition and physical activity and, for the teachers at Children’s

School, focusing on the children's interest is a primary way of accomplishing this. I read a classroom journal entry describing how the children thought they should solve the problem of bunnies in the garden when asked what they should do. The teachers spoke of having a responsibility as Reggio teachers to expose children to various types of food and physical activity and "see what they do with it." During a focus group, in response to the question, "How does approaching the child as a *whole* organism influence the ways you teach about nutrition and physical activity?" the following conversation occurred,

Teacher 3: As Reggio teachers, It's our responsibility to see the whole child. At least getting them exposed to [nutrition and physical activity] and letting them do it.

Teacher 1: They're learning through play and kind of with that comes physical activity and social emotional. You know, digging for worms and playing in the sandbox.

Teacher 5: Aren't worms nutritious? (Laughter)

Teacher 1: We kind of just build it in.

Teacher 10: I would hope that the bottom line of all this is that these kids live here. This is their childhood. It's not about Reggio.

As indicated by Teacher 10, more than incorporating the Reggio philosophy, she was concerned about the overall quality of life the children are experiencing at the school.

### *Research Question 2 (RQ2) – Influences of Nutrition Incorporation*

A variety of factors influenced how and why the teachers incorporate nutrition into their interactions with children and families, their teaching, and their planning. These factors ranged from the teachers responding to the individual nutritional needs of the children in their care to the policies the teachers follow regarding nutrition. As Teacher 10 considered important influencing factors, “This is their childhood, 5 days a week, 7-8 hours a day. Not just a preschool. We’re not just a school; we’re a home away from home. What do we want it to look like?” Teachers are focused on the holistic experience the children are having at the school because most of the children spend a considerable amount of time in the teachers’ care. In part, the teachers are making decisions about what the children eat at school because the children are in their care for extended periods of time. However, in the Child-Care Nutrition and Physical Activity Survey administered to the director, “lack of staff training on nutrition education” was selected as a barrier to promoting healthy eating. This lack of training or education could hinder the teachers’ ability to know what is best for the children nutritionally.

#### *RQ2- Category 1: Eating tendencies and development*

*RQ2- Eating tendencies and development-Substantive Category 1a: Eating concerns.* Teachers described two main concerns: picky eaters and food allergies. The following was discussed at a focus group:

Teacher 4: “Picky eaters are a real problem. We have 3 or 4 who are extreme.”

Teacher 2: “We recently had a parent concerned about a particular child. We keep a list for this picky eater to show him what he eats now. He eats what his friends eat.”



Teacher 6: “It makes me sad that [the children] won’t try new things.”

For children with food allergies, teachers had a heightened awareness about what is served in their classrooms. Teacher 2 pointed out, “I’ve seen an increase in food allergies and it influences how we handle things. Peanut allergies are life threatening. We are more aware of what the children are eating because of it.” Teacher 11 continued, “You know, I have one with a peanut allergy and [the other children] want to know what they can have because they can have tree nuts. So, what’s that? So we talk about foods that way.” Food allergies have contributed to class discussions about food. Teacher 9 reflected, “This year has been interesting. We have a child allergic to red dye. We have another allergic to dairy. As a class, we discuss why they bring their own food.” The increase of food allergies in children could indicate a larger, systemic problem regarding health and food quality in the U.S. culture. If teachers are concerned about the increase in children’s food allergies, noting food quality, in general, could be a culprit points to teachers dealing with challenges that are beyond their immediate control.

*RQ2- Eating tendencies and development-Substantive Category 1b: Healthy bodies.* Many teachers stated they focus on nutrition so the children will be healthy. Teacher 5 claimed, “I think it’s important for development. We discuss food and it influences your development.” In support of the children’s overall, long-term health, Teacher 10 added,

Like I said before, it’s for the children. I’m influenced by the knowledge that it’s important for them to develop some kind of understanding of nutrition and physical activity. Just like we teach kindness and everything

else at this age. It's important for them to have as they get older. There are so many benefits.

These responses indicate teachers are tying nutrition to development and promoting comprehension of the topics of nutrition and physical activity in order to promote lasting health benefits for the children.

*RQ2- Category 2: Family Practices*

*RQ2- Family Practices-Substantive Category 1a: Time* Numerous teachers commented on how families do not have time to focus on nutrition. Therefore, teachers believe it is important to incorporate at school. Teacher 4 said, "I mean, parents are so busy. We see them eating in the car." The AA commented, "Parents are so busy. They drive through McDonald's. Kids come in with chocolate milk AND chocolate donuts. And we're talking about the kids who don't need it. The parents are busy and it's easy." Additionally, teachers voiced concerns about parents having time to prepare meals. Teacher 9 suggested, "[The children] need things without preservatives. We are educating parents because of the way they grew up. They don't have time to focus on making a healthy meal."

Family members at the school filled out a questionnaire regarding their perspectives about how nutrition and physical activity is incorporated at the school. One mom commented,

I think that it is very important for children to receive nutrition education in preschool. As a busy working mother, I do not feel that I always provide a nutritious meal for my children or educate them about nutrition.

The mom who provided this comment appears to agree teachers should be providing learning opportunities concerning nutrition because she is busy and might not provide these opportunities at home.

*RQ2- Family Practices-Substantive Category 1b: Food from home.* Children at Children's School can bring food from home. They mostly bring breakfast because lunch and snack are provided. Teacher 1 divulged, "None of the kids who bring food from home bring healthy. They bring Bug Juice, donut holes, Little Debbie's [snack cakes], Pop Tarts and Honey Buns. They bring sandwich baggies full of sugar cereal and the kids want to share." Teacher 10 pointed out, "You can't do a lot about the parent who brings in unhealthy breakfast. We just sort of set it aside and forget about it. We don't see it as much as we used to...Pop Tarts, chocolate donuts." In an effort to counteract poor food quality at home, Teacher 8 shared, "We just want to teach them healthy ways of eating. Kids this age want unhealthy snacks. You never know what they are getting at home." Again, families might not have the time or information to provide healthy foods to their children. Further, the Parent Handbook does not suggest that parents send nutritious foods to school. As teachers indicated, however, they are making an effort to communicate the importance of healthy eating by requesting healthy foods be sent from home and by providing fresh foods for families from the garden.

*RQ2- Category 3: Personal Beliefs and Behaviors*

*RQ2- Personal Beliefs and Behaviors-Substantive Category: Preference for healthy foods.* Teachers explained that they, themselves, want to eat healthy as is a motivating factor of incorporating nutrition into their classrooms. Enjoying what they eat is also considered important. As Teacher 3 expressed, "I want to

be healthy myself so I want the kids to be healthy.” Teacher 10 shared, “I just want [healthy food] for them. I want them to know something else is there. It’s nice for me, too. Hey, I’ve never made apple salsa and it’s really good.” Teacher 12 said that eating is important to her and her family and that she really loves food. She added, “My own grandkids eat sushi...everything. Do you really think there are kid foods? No way! Who says a two year old can’t eat sushi?” Teacher 12 was indicating that culturally, in the United States, children are often limited to food choices that are considered “kid foods” and children can have the opportunity to enjoy all types of healthy foods if they are given the chance.

Teacher 9 indicated that she always brings a healthy lunch (usually salads, chicken and beans). Teacher 11, vocal about her personal health practices, discussed being a strict vegetarian. Both teachers shared that the children are curious about what they eat and the teachers discuss their dietary preferences with the children openly. By doing so, these are modeling their personal nutritional choices to be healthy.

#### *RQ2- Category 4: Policy*

*RQ2- Policy-Substantive Category 1a: Food program.* Teachers expressed gratitude for the Food Program. The Food Program is based on the state’s required serving size and food components by age group for provided meals and snacks. These regulations help the school’s cook plan and create balanced meals. Teacher 9 said, “We try new foods. We’re lucky because we have the Food Program.” Teacher 12 remarked, “I appreciate that we are part of the Food Program. We have nice food here because of it.” The SC, who purchases and prepares the food, indicated that she was

trained to implement the Food Program. She adjusts the menu according to the children's preferences. The SC shared, "[The director] wants good food for the kids so she's pretty lenient on the budget. We got rid of chicken potpie and chicken fried rice. We served it mainly because it had all the components [of the Food Program requirements]. If they didn't like it, they just ate fruit and then they were hungry and grouchy."

*RQ2- Policy-Substantive Category 1b: Teacher control.* Teachers expressed a lack of decision-making regarding nutrition practices in their classrooms. The teachers stated this sentiment in a rather matter-of-fact manner. This perceived lack of control is based on the policy at the school. Teacher 1 shared, "At my old school, kids weren't allowed to bring food from home." While Teacher 10, grateful for the overall changes in food quality, expressed, "The food served is a lot healthier now. Not nearly the sweets, more fruit, fresh fruit, not just canned. And vegetables. The kids are getting adequate portions. We don't have a lot of control as classroom teachers [about the food being served in the school]."

Further, survey data indicates the director shared how the school has an "informal policy (spoken but not written)" about food brought from home for meals, snacks and celebrations. This corroborates the teachers' claims that there is not a clear policy about food brought from home, therefore the teachers may not have control over what foods are brought in because the dietary and nutrition expectations at the school are not communicated in writing to the families at the school.

*Research Question 1 (RQ1): The ways in which teachers are incorporating physical activity*

As with nutrition, teachers reported that they incorporate physical activity in a variety of ways. The main categories for including physical activity in their classrooms and schedules included outdoor play, indoor activities, and encouragement. For example, the AA, who is always smiling at her desk by the school's entrance declared,

We have great physical activity. The kids go outside three to four times a day, year round! They get vitamin D from the sun. We have a great playground. Rain? Put on the boots. Snow? Put on the gloves and make a snowball. We are big advocates of physical activity.

*RQ1- Category 1: Outdoor Play*

*RQ1- Outdoor Play-Substantive Category 1a: Playground.* As asserted by the AA, the common consensus at the school is that the school's playground is a desirable place for the children to play and where most of the physical activity in the school takes place. It is an expansive lot behind the school, with a custom built, wooden climbing area, a variety of manufactured swings, slides and climbers, a Teepee, a garden, and a grassy field. Teacher 1 acknowledged, "The playground out there is part of why I chose to work with preschoolers instead of toddlers at this school." During a focus group discussion, when asked if there are any barriers to incorporating physical activity, two teachers denied having any barriers by commenting on the quality of the playground. Teacher 3, who grew up working on her family's farm, said, "There really are no barriers to physical activity. We have CDs inside and a great playground outside," and Teacher 5 agreed, "We have such a great playground." Having a "great" playground, a place where children and teachers want to be physically active, influences the level of physical activity of adults and children alike. Teachers' appreciation of a quality

playground indicated they are more likely to provide time for the children to use it and to encourage children to engage in a variety of activities outdoors.

*RQ1- Outdoor Play-Substantive Category 1b: Weather.* Teachers also talked about the weather as a factor in their decision to utilize the playground for physical activity. Teacher 3 remarked, “We spend a lot of time outside. We go out in really cold weather. Sometimes we run with the children.” Teacher 10 pointed out, “Kids move a lot if you [incorporate physical activity] intentionally or not. We go out in all kinds of weather. In short segments so they’re active.” Reiterating that inclement weather is not a deterrent, Teacher 11, an avid kayaker and hiker exclaimed, “We’re the backwards class! We play outside in the rain if there’s no thunder and lightning. Take off your shoes!”

*RQ1- Outdoor Play-Substantive Category 1c: Behavior management.* Several teachers mentioned utilizing physical activity to aid in managing behavior. Teacher 1 expressed, “We have lots of boys this year. It’s more about crowd control than physical activity. The ultimate goal outside is for the kids to get their energy out rather than being fit and healthy.” During a focus group discussion, Teachers 3 and 5 had the same opinion. When asked about how they approach physical activity, Teacher 3 said, “Children’s behavior. Management. To get energy out.” Teacher 5 admitted, “To be honest, some are a little hyper. They get energy out and they focus better.” Teacher 12 shared,

We have conversations if we see a problem, too. Do you see them climbing over there? Then we can make a plan here. We have all the equipment for that. We have bikes, swings, the climbing bars, and ladders.

Even just the landscaping timbers on the playground. We do follow the leader for balancing. We have an open field for playing ballgames, kicking [balls].

The teachers view the playground environment as an opportunity to promote physical activity as a means for the children to release energy. This is an example of the environment serving as a “third teacher,” which is a component of Reggio Emilia philosophical implementation.

*RQ1- Outdoor Play-Substantive Category 1d: Exposure to nature.* Playing exposes the children to the natural world. Teachers mentioned that this as an important factor. Teacher 6 shared,

A hope that they are getting physical activity in their lives. They watch so much T.V. It worries me that they are not getting out in nature. Not getting enough vitamin D. Unless you’ve been out in nature, you won’t understand the crisis [of children not having the experience]. It even teaches simple things. Life and death. Spiders help address fears.

Teacher 8 suggested, “They need it...being outside with fresh air and nature. We do a whole unit on respecting nature. Bugs, bark, and animals.”

In a photo taken of a documentation panel, a prominent way to display learning and activities in a Reggio Emilia inspired school, Teacher 12 indicated, “In the summer of 2011 our school wide intentions were the “Wonder of Nature” across all age groups.” The panel also included photos of the garden expansion project and a description of the DVDs each preschool class made to share their learning about nature with their



families. Documenting student learning and sharing the process with families is a cornerstone of the Reggio Emilia approach.

*RQ1- Category 2: Indoor Activities*

*RQ1- Indoor Activities-Substantive Category 1: Various media.* Children's School is located next to the local public library. Teachers mentioned using books as a way to incorporate physical activity. Teacher 3, a former librarian, said, "I've used some books on physical activity, we use the public library. There aren't as many [children's books on physical activity] it seems." Using books for teaching specific types of activity was also discussed. Teacher 10 remarked, "I've always wanted to get some yoga in our classrooms. I've never done it, but I'd like to get some books or something."

Teachers talked about integrating music and movement as a way for physical activities indoors. They discussed using CDs and exercise videos as tools they use for indoor activity. Teacher 8 informed, "We exercise a lot. Besides being on the playground, we do lots of exercise tapes, yoga, stretching and side bends. Teacher 5 described using "action CDs" in the classroom to promote physical activity. She added, "In the hallways we hop, skip and go backwards in small groups." Several other teachers mentioned incorporating music, movement and dancing as successful means of promoting exercise indoors.

*RQ1- Category 3: Encouragement*

Teachers agreed that, often times, the children need encouragement to engage in physical activity and often do not know what to do with their outside time. Teacher 1 explained, "If the kids are looking for something to do, we tell them to ride bikes or run to the fence. Some need encouragement." Teachers also use encouragement to

promote independence. Teacher 5 shared, “When the kids are swinging and they want to be pushed, we encourage them to show us they can do it.”

*RQ1- Encouragement-Substantive Category 1: Photo documentation.* Teacher 5 also discussed how she encouraged a student who typically does not engage in physical activity. She said, “We do different things. There was a quiet boy on the playground who would just stand. He ran today! We took pictures and cheered.”

Teacher 11 also documents achievements in physical activity to encourage children,

We do notice milestones, like when they make it to the top of the tires. That’s a huge endeavor. Like, “How did you do that?” We take pictures and we share with the parents, the family, that they’ve mastered a new skill.

#### *Research Question 2 (RQ2) – Influences of Physical Activity*

The final category described was what influenced if and how teachers incorporated physical activity into their teaching. Three categories emerged to suggest what teachers deemed as significant influences: 1) health and development of children, 2) family practices, and 3) personal beliefs and behaviors. These categories are similar to the categories that influenced teachers to incorporate nutrition. The overarching theme influencing physical incorporation was health. Teacher 3 said, “We encourage kids to play. We tell them it makes them healthy and strong.”

#### *RQ2- Category 1: Health and Development of Children*

*RQ2- Health and Development of Children -Substantive Category 1a: School Readiness.* Teachers discussed preparing the students for kindergarten. Teacher 5 described, “We do things they need to know for school like balance beam, we bring one in the classroom, parachute, ball, *Ring Around the Rosie* by the Sycamore tree.” When

asked about why she focuses on physical activity in her classroom, Teacher 11 shared, “They get ready for kindergarten. It’s important at this age.” School readiness is not a specific aim of the Reggio Emilia approach. Rather, the Reggio Emilia approach recognizes children as competent citizens and aspires to prepare them for life as such.

*RQ2- Health and Development of Children -Substantive Category 1b: Motor Development.* Teachers included the domain of gross motor development as a reason for integrating physical activity in their daily activities. Teacher 11 indicated, “We talk about bodies while they are playing... We focus on motor development. We focus on balance, coordination [such as] ‘Let’s use both arms at the bar.’” Teacher 4 shared, “We tell the little kids, ‘When you get big and strong, you’ll be able to use the outside equipment.’ Swinging? ‘Pump your legs!’ Climbing? ‘Use your muscles!’”

Gross motor skills are also promoted by access to a variety of equipment on the playground. The younger preschool children use a playground with smaller equipment in the front of the school, while the older children use a larger playground with bigger equipment in the back of the school. Teachers indicated that the younger children are excited about eventually using the “big kid’s equipment.”

#### *RQ2- Family Practices*

*RQ2- Family Practices-Substantive Category 1: Time and space.* Similar to the *influences of nutrition incorporation*, teachers expressed concern about what was going in the children’s lives at home as a reason for including physical activity at school. Teacher 3 asserted, “This is a different time. Families might not let children go outside at home. Children live in apartments. I’m aware that kids might not have outside time at

home.” Teacher 8 explained, “We encourage [going outside to play] as much as possible. When they get home, they don’t have any outside time.” A mom indicated,

The physical activity component is also very important. Most of the physical activity that my child participates in is at school. We do not have as much room to play at home and do not have as many outdoor activity centers as the preschool has.

Physical activity at school is seen as necessary to ensure that children have an opportunity to be active by both teachers and parents. All of the family members who responded to the questionnaire indicated physical activity is important for the children. For example, a dad commented, “I find [physical activity] to be very important considering these early years are the influential years and the building blocks for learning healthy habits.”

*RQ2- Personal beliefs and behaviors*

*RQ2- Personal beliefs and behaviors- Substantive Category: History of fitness.*

Finally, many teachers expressed being physically active is personally important to them. They reflected on their prior, personal engagement or interest in physical activity. Teacher 2 declared, “I personally think [physical activity] is important. I wanted to be a P.E. teacher.” Teacher 5 also shared her perspective, “I was interested in sports growing up. I just think it’s important. We are the first class outside every morning. We take walks.” In addition, Teacher 10 remarked, “You’re talking to an ex-runner. I’ve always been about exercise. Not just to lose weight, but to reduce stress.” Teacher 12 mirrored Teacher 10’s perspective,

We know we have to keep moving. So much of my focus as a mother and a teacher is on movement, but my [mom and dad] are getting older. Physical activity is not just about losing weight or being skinny. It's life. In the end, it's about behaviors and the happiness of our lives, but if you don't feel good...we need better behaviors.

### **Summary of Themes**

Several of the teachers at Children's School have been teaching there for over 20 years; a few have been teaching at the school since it opened in 1974. Because the teachers have worked together for several years, I sensed a closely connected community among the teachers. Teacher 10 confirmed this by sharing, "We've formed close relationships. We are a support system. We bounce ideas off each other and help each other out." This is also evidenced by the mentoring model the school utilizes. Teachers 5, 6, 9, 10 and 12 have visited Reggio Emilia schools in Italy and have presented their work with children at Reggio Emilia conferences. These experienced teachers mentor new teachers at Children's School, including Teachers 1, 2, 3, 4, 7, 8 and 11, on the philosophy of Reggio Emilia. They also demonstrate how a team of teachers, who have a long, rich personal and professional history, work together effectively. I noticed during the focus groups that the teachers also shared a strong sense of humor, as there were several jokes and quips exchanged. Also, on a more serious note, they share a dedication to the school. Teachers' dedication to the school seems to influence why they are invested in incorporating health.

The teachers were welcoming and open during the interviews and focus group discussions. They willingly shared about their teaching practices regarding nutrition and

physical activity. Based on the data I collected while meeting with the teachers and reviewing documents, Children's School teachers appear to maintain a collective atmosphere of promoting health. As stated in the school's mission statement,

Teachers will plan and individualize the program for each child based on the child's developmental level and interests. They will observe your child, listen and talk with your child, assess your child's abilities, ask for your input, maintain a portfolio or make your child's learning visible in other ways.

Through category zooming, I discovered that the teachers honor the mission statement by engaging with the children through discussion in three ways: (a) by using introductions to new foods and activities, (b) reinforcement when the children willingly engage in new experiences and activities and, (c) encouragement, primarily through verbal praise and documentation of skills demonstrated, to incorporate nutrition and physical activity. Several of the teacher's own children attended Children's School and now their grandchildren are students there. Teachers shared that there are children in their classrooms who are the children of former students. Generations of young children in the community have been in the teachers' care. The teachers' investment in the school and the community is one of commitment.

While the Reggio Emilia philosophy was an integral part of this study, the focus was more on how the teachers were incorporating health and why. The teachers, loyal and dedicated to the school, the children and the community surrounding the school, are invested in the children. Incorporating nutrition and physical activity is part of that aim. Teachers include nutrition and physical activity because they believe it is what is best for the children, the families, and themselves.

## CHAPTER 5

### DISCUSSION

The research questions that guided this study were, “In what ways do preschool teachers in a Reggio Emilia inspired preschool in the Midwest incorporate nutrition and physical activity in their classrooms?” and “What influences if and how these preschool teachers specifically teach about these fundamental health aspects?” Using the case study method, I explored how teachers at Children’s School are educating children about nutrition and physical activity and why they employ specific practices. As much as it is important to uncover teachers’ practices to assess what is happening in a school, it is equally imperative to understand why these practices are utilized.

Now, more than ever, it is essential for young children to learn to become independent thinkers who can make informed decisions in order to take care of themselves and to also contribute to the community. This is the goal of Children’s School. It is also a principle of the Reggio Emilia approach to education. It can also be viewed as the foundation of democracy. In a time when federal funding for school lunches is threatened and tension is ever increasing around the democratic process in the United States, preschools have an opportunity to establish a foundation with children that promotes problem solving, critical thinking and health so that the children are capable of taking care of themselves and the world around them as they grow into adulthood.

Likewise, Haflon (2009) emphasized early childhood is the time to address establishing healthy habits, rather than waiting until disease and illness appear later in life. Teachers at Children’s School are invested in influencing the lives of young

children, as witnessed by their long-term dedication to the field of early childhood. As Teacher 10 suggested, the children at Children's School are experiencing a large portion of their childhood at the preschool and it is up to the teachers to consider what that experience should include.

Teachers at Children's School are intentional about their teaching practices around health. Intentionality can be viewed as assessing the children's learning and then planning in order to meet the children's developmental needs and increase their knowledge and learning (Mogharreban, McIntyre & Raisor, 2010).

Teachers eat meals with the children and the children are involved in the entire process of setting up and serving the meals. Further, the teachers exercise with the children, both indoors and outside. Epstein (2014) asserted that by modeling these healthy behaviors for children, teachers promote an atmosphere in which making healthy choices through diet and physical activity is essential for both children and adults.

The philosophy of Children's School is centered on the Reggio Emilia approach to learning. The teachers embraced this philosophical shift toward the Reggio Emilia approach when the director read about it in a popular news publication and decided to implement it. The shift was essentially a top down directive, but I believe the teachers embraced it because of their commitment to the children and to the school. The culture of Children's School is one of unity and dedication, as witness by several of the teachers' employment longevity.

A tenet of the Reggio Emilia approach is that the teachers follow the lead of the children in order to introduce topics. Through the Reggio Emilia approach, learning is



assessed by observing children's play, creating and discussing their findings and understanding of their experiences (Forman & Fyfe, 2012). Teachers at Children's School reported having discussions with children in order to introduce topics related to nutrition and physical activity. For example, Teacher 11 shared that a bug in her classroom sparked interest about what the bug eats and what eats the bug. She was able to tie the children's interest in the bug's diet to their own nutritional needs. Teacher 1 introduced ways for the children to be active when they claimed they could not find something to do on the playground.

When children try new foods at Children's School, particularly children who are resistant to unfamiliar foods, their efforts are reinforced in various ways. Teacher 5 reported making a list of new foods a child was willing to try. This documentation helped the child and his peers and family see his growth. Teachers shared when they see children try something new to eat, they highlight the behavior with acknowledgment. The same applies to children who master a new skill on the playground. Again, the teachers maintained that their efforts to reinforce children engaging in healthy behaviors are so the children will continue to engage in the activity.

Encouragement is also a way teachers connect with children regarding nutrition and physical activity. Teachers encourage children to try new foods by modeling, making suggestions, and offering new culinary experiences. Teachers encourage children to engage in novel or challenging physical activity by providing an environment and materials for the children to develop new skills. The teachers urge the children to try new activities. Teachers believe that encouragement entices children to engage in a variety of healthy behaviors.

In sum, direct teaching through introduction to new topics, acknowledgement and encouragement are all ways teachers can be intentional about supporting children's learning (Epstein, 2014). Teachers can also pose questions to the children for further inquiry and critical thinking, a tenet of the Reggio Emilia approach (Edwards, 2012). Teachers reported that they want the children to be healthy as why they incorporate health-related topics. Further, as Teacher 4 noted, obesity and the health problems associated with it are a concern. Story et al. (2006) suggested that the trend around obesity can be reversed in nutrition and physical activity are addressed in the preschool setting. Teachers shared that they personally like to try different foods and think being physically active is important for both the children and themselves. Teachers are intentional about their practices in support of healthy opportunities for everyone at the school.

### **Interpretation of findings**

Teachers in a Midwestern, Reggio Emilia inspired preschool teach about nutrition and physical activity in a variety of ways. I discovered that direct interaction with the children through discussions is primarily how teachers incorporate these health practices in their classrooms and on the playground. Based on what the teachers shared with me during interviews and focus groups and by examining the school's website, mission statement, Parent Handbook and artifacts provided by the teachers, it is evident the teachers are invested in incorporating nutrition and physical activity at their school. For example, the school has expansive, custom built equipment for the children to use for physical activity on the playground and the children, families and teachers created a garden so they would have access to fresh food they have grown

themselves. The data provides supports of these efforts and agenda geared toward health.

Systemic influences, such as teacher behavior and program policy can influence the way health is taught in schools (Derscheid, Um oren, Kim, Henry & Zittel, 2010; Copeland, Kendeigh, Saelens, Kalkwarf & Sherman, 2012; Emunah & Ward, 2012; Enrlisho, Hales, McWilliams, Mistry et al, 2012). Teachers serving as gatekeepers to playground access and modeling healthy eating for the children during meals are examples of teacher behavior. At Children's School, the teachers' behaviors around nutrition and physical activity support health being incorporated because, for the most part, they are encouraging children to be physically active and to eat nutritiously. Further, an example of program policy includes a clear indication of what foods are acceptable as healthy and nutritious. At Children's School, the types of acceptable healthy foods are unclear per the Parent Handbook.

As indicated, teachers at Children's School are incorporating nutrition and physical activity in their classrooms. While I did not directly assess their attitudes toward health, I did look at what influenced their practices. Teachers specified that they believe nutrition and physical activity is important for children. However, the director indicated in the self-report survey that the school has an unwritten, informal policy about food brought from home. As such, lack of a clearly defined policy, specifically regarding nutrition, appears to be a challenge that can be addressed to improve health incorporation at the school and with families. This policy should also apply to teacher behaviors. As noted, when teachers at Children's School dislike a lunch menu item, some order food from fast food restaurants. Policy about food brought into the school

from home and other places needs to be consistently applied to children, families, and school employees.

The data also suggest that there are systemic issues that serve as barriers to teachers teaching about health. Only one teacher reported having any formal training or coursework centered on health and young children. By providing training on the implementation of nutrition and physical activity, the director at the school can support the teachers in deepening teacher's efforts to integrate nutrition and physical activity into daily activities. Teacher 5 mentioned that the director held a staff meeting about the Food Program to introduce new requirements. The director can continue to use staff meetings to promote discussions around health related issues.

In order to address macro-related issues that potentially sway teacher practices (Story, Kaphingst, Robinson-O'Brien & Ganz, 2008), acknowledging bigger issues encompassing health practices in a culture is necessary. When teachers teach young children about health, they have the opportunity to impact the health of the children and their future behaviors as consumers and citizens. By involving children in the decision-making process of their own health practices through introduction, reinforcement and encouragement, teachers can promote citizenship and health literacy.

The Reggio Emilia approach focuses on promoting democracy and citizenship (Lindsay, 2015). Children are expected to be involved in their own learning by questioning, examining, exploring and thinking. To recap, the attributes of a health literate person, *a self-directed learner, a critical thinker and problem solver, an effective communicator and a responsible and productive citizen*, are the same attributes of a democratic citizen (Fetro, 2010). By addressing health in a way that intentionally

promotes the direct involvement of the children, teachers at Children's School are honoring the Reggio Emilia philosophy and teaching health in an effective manner. In a Reggio Emilia inspired setting, children are architects of their own knowledge through inquiry and hands-on experience (Hewett, 2001). Below are examples of how teachers at Children's School are involving children in this process.

Teacher 9 talked about how she planned to take her class to the grocery store where she was going to ask about the difference between a can of corn and an ear of corn. This type of open-ended question gives children a chance to think critically about where food comes from. Teacher 12 pointed out that a child put a whole turnip in the garden on top of the soil and thought more turnips would grow that way. Teacher 12 noticed that the children were not making connections about where food comes from. In turn, this became a goal of utilizing the garden.

Teacher 11 indicated that she had to stop and think about nutrition incorporation at the school because the practice is embedded daily. Physical activity for many of the children at the school also appears to be a daily occurrence. As Teacher 12 suggested children tend to be [physically] active whether the teachers are intentional about incorporating [physical activity] or not. This awareness points to the complexity of teaching young children. For some of the teachers, the innate activeness of children became a behavior management issue, while for others, it was a teaching opportunity. When teachers are acting with intention, they choose to notice what is going on in their classrooms and involve the children in the process of making changes and addressing issues.

Preschool is a place where many children throughout United States spend much of their time. Teachers have opportunities to teach about nutrition and physical activity. Teachers at this Reggio Emilia inspired preschool in the Midwest report using discussion and conversation as a primary way of incorporating nutrition and physical activity. Specifically, among other strategies, teachers use introduction, reinforcement, and encouragement to engage children in these health-related activities.

### **Limitations of study**

The case in this study was bounded to a set of teachers, staff, and families at a preschool in a specific region in the United States. Regional variations toward health could certainly influence nutrition practices and physical activity in a school. Again, this points to systemic influences of dietary and physical activity practices in different areas of the country. For instance, nutritious eating and physical activity may be viewed as an integral part of daily life in places other than the Midwest. For example, I grew up where the study was conducted and I now live in a state on the West Coast. Health practices centered on nutrition and physical activity appear to be more prominent in the place where I currently reside.

Further, state requirements for schools regarding nutrition vary. As Ratzan and Parker (2000) suggested, being health literate, including being able to obtain and process health-related information, has bearing on one's ability to be healthy. If teachers and families are not in a region or state that promotes nutrition and physical activity overall, obtaining health-related information might be more challenging.

In this study, the teachers were all Caucasian and female. Culture, race, and gender could have a bearing on the way teachers incorporate health and also on the

influences of their practices. Moreover, I did not directly observe any of the teachers implementing the practices they claim to use. The preschool is private and this could influence approaches to health because the school may not be required to follow the same guidelines as a publicly funded preschool.

The cultures and behaviors of the families at Children School are also a limitation, as many of the families are invariably influenced by the aforementioned systems, such as regional influences on eating and exercise practices. Finally, me as a researcher is a limitation. As objective as I attempted to remain, I inevitably bring my bias about health and Children's School to the research.

### **Future research**

There are several recommendations for future research. First, while I interviewed teachers and staff and studied various documents related to the practices and policies at the school, I did not observe any teachers directly engaging in incorporating nutrition and physical activity. As a result, in order to gain a more thorough understanding of preschool teachers' approaches to health, direct observations of teaching practices could be useful. In addition, I perceived a difference in responses from seasoned teachers versus novice teachers. For example, a teacher who had only been at the school for less than a year expressed that she thought health was something that should be taught at home, while teachers who had been at the school for decades unanimously stated that teaching about nutrition and physical activity is part of their job. Thus, examining teacher experience across the spectrum of experience as a catalyst for health promotion could be another key to what influences teacher practices around health. This finding supports suggestions that newer teachers may be more prone to

following closely to prescribed teaching guidelines, where veteran teachers rely on their experience in order to teach health (Derscheid, Um oren, Kim, Henry & Zittel, 2010).

Considering other variables that influence teacher's practices is also necessary. For example, is training key in teacher preparation or does life experience and personal health habits control whether or not a teacher is incorporating nutrition and physical activity? A study could be done to compare the difference between preschool teachers who have directly been trained in preservice or inservice trainings to teach health and those who have not in a Reggio Emilia environment. Further, as suggested, clear, written policy about nutrition and physical activity at the school could be valuable in incorporating health. Per the CDC's list of 10 key strategies for establishing school policies regarding health, Weschler et al. (2004) proposed the most vital policy concern should focus on nutrition and physical activity. Children's School has not yet unmistakably established this policy in writing.

Family and community involvement in creating policy around nutrition and physical activity in schools can have a positive impact (Kehm, Davey & Nanney, 2015). Taking into account family and community involvement in the development of policy as well as the implementation of the policy is significant. Future research can be done to determine how family and community involvement in an early childhood setting influences health-related practices at the school. A pre/post survey can be given to both the families and the teachers to assess their views about the impact of the policy change when families are involved in the process. Additionally, families and teachers collaborating to establish health-related policy at Children's School supports the aim of



the Reggio Emilia approach of adults in the school working together to ensure that children's nutritional needs are met (Cavallini & Tedeschi, 2008).

### **Implications of Findings**

Teachers at Children's School indicated that they do not feel that they have much control of what the children eat at school. While several teachers pointed out that they are appreciative of the improvement of food quality at the school since the implementation of the state's Food Program, they still have children bringing unhealthy foods from home. A clear, written policy about nutrition standards for the school that are decided collectively by staff and parents could help the teachers perceive more control and help communicate nutrition expectations at the school to the families.

At Children's School, play and exploration are the ways children are encouraged to learn about the world. The teachers emphasize problem solving, communication and critical thinking, the same aforementioned attributes of a health-literate person (Fetro, 2010). In the Reggio Emilia approach, teachers are considered learners and researchers and they consistently seek ways to support children in their explorations (Edwards, 2012). While teachers typically follow the lead of the students, books and other learning materials can be an entry point for teachers to discuss health related topics as indicated by the data (Benham Deal & Hodges, 2009).

Additionally, the school has a gardening space, parent taught cooking activities, and a variety of toys and materials for the staff and children to use related to nutrition and physical activity. Teachers can be shown how they are already incorporating nutrition and physical activity by using available materials in their environment is

considered health education. By pointing out how teachers are already teaching health education, teachers may be more confident about teaching health-related topics.

“Process use” is when individuals change their thinking or practices as the result of being involved in the research process (Patton, 2002). An example of this occurred when I initiated conversations with the teachers during the focus groups to identify how health is taught and how the teachers could be supported in further introducing the topic of health to the children. For the focus groups, I formulated some of my questions from the interview responses, as they related to topics from the Child-Care Nutrition and Physical Activity Survey. Perhaps, this indirect approach to learning about what influenced the teachers’ practices helped them to think more critically about teaching health related topics. For example, on a follow up visit a teacher had changed her dramatic play area to include cookbooks and other books about fruits and vegetables after she participated in the focus group discussion. While I wasn’t assessing the physical environment for evidence of nutrition and physical activity incorporation, I observed that this change had been made.

Moreover, the environmental set up is essential to effectively implementing the Reggio Emilia approach (Arversen, 2014). When the teachers intentionally change the environment, such as adding materials to the dramatic play area or installing a garden, they give the children opportunities for new discovery. Teachers can then follow up with appropriate responses through discussion and conversation to promote further inquiry and interest.

This study came about as a result of my personal interest in health and my professional interest in early childhood education. When I discovered that teachers at a

specific preschool were incorporating nutrition and physical activity, I examined the primary ways the teachers are doing so.

Teacher's discussions with children are a natural and accessible way to incorporate nutrition and physical activity in the classroom and on the playground. To that end, I also had to deeply consider who these teachers are as individuals and their influence on their practice. Children's School is a unique preschool in that many of the teachers have been teaching there for decades. With a high turnover rate in childcare programs, this is rare. In addition to the reasons why the teachers shared they incorporate health, I considered who these teachers are collectively. Again, several of the teachers have been working together many years. They have a long-standing connection as colleagues and, it appears, as friends. Teachers who are willing to support each other at work might have an easier time working collaboratively to incorporate health and influencing incoming teachers to do the same.

If I had this study to do over, I would have asked the teachers more about themselves in order to understand the individual teacher's impact of health incorporation. I would have explicitly asked the teachers about their personal health habits, such as dietary preferences and history of physical activity, because many of them volunteered this information as influences of their incorporation of nutrition and physical activity. I would have also encouraged them to speak freely about their interests and hobbies, as I now see that these individual aspects can also have an impact on teaching health-related content.

Integrating conversations and discussions with children is best practice in early childhood (NAEYC, 2012). Teachers who do not work at Reggio Emilia inspired schools

and who are interested in incorporating nutrition and physical activity into their teaching and interactions with children can intentionally use strategies such as introduction, reinforcement and encouragement to include the health topics in their work with children. These interactive aspects described in this study are generalizable to other preschool settings as teachers can work with what they already have available to them in the way of nutrition and physical activity, such as books, toys, meals and snacks and playground equipment, in order to promote overall health and development.

### **Summary**

Early childhood teachers need practical ways to incorporate nutrition and physical activity when other factors, such as policy, training, and philosophical orientation, may not support their efforts. Systems can influence the way health is introduced and taught, and a school's philosophy can also have similar influence. Teachers at Children's School engage directly with children through discussions and conversations, specifically using introduction, reinforcement and encouragement to incorporate nutrition and physical activity. Many factors influenced how the director, the teachers and staff, and the families at Children's School address health through nutrition and physical activity. Overall, the teachers expressed that they care about the children's health and that this is the driving force for incorporating nutrition and physical activity into their interactions with the children in their care.

Table 1

*Organizational and Substantive Categories of the Incorporation of Nutrition*

Organizational Category	Substantive Category
Incorporation of Nutrition:	
Interactions with children	<ul style="list-style-type: none"> <li>a. Modeling and encouragement</li> <li>b. Teaching opportunities</li> <li>c. Enrichment activities</li> <li>d. Play</li> </ul>
Interactions with families and community	<ul style="list-style-type: none"> <li>a. Written correspondence</li> <li>b. Celebrations</li> <li>c. Learning Opportunities</li> </ul>
Planning	<ul style="list-style-type: none"> <li>a. Books</li> <li>b. Gardening</li> <li>c. Children's interest</li> </ul>

Table 2

*Organizational and Substantive Categories of the Influences of Nutrition Incorporation*

Organizational Category	Substantive Category
Influences of Nutrition Incorporation:	
Eating tendencies and development	a. Eating concerns b. Healthy bodies
Family practices	a. Time b. Food from home
Personal beliefs and behaviors	a. Preference for healthy food
Policy	a. Food program b. Teacher control

Table 3  
*Organizational and Substantive Categories of the Incorporation of Physical Activity*

Organizational Category	Substantive Category
Incorporation of Physical Activity:	
Outdoor play	<ul style="list-style-type: none"> <li>a. Playground</li> <li>b. Weather</li> <li>c. Behavior management</li> <li>d. Exposure to nature</li> </ul>
Indoor Activity	a. Various media
Encouragement	a. Photo documentation

Table 4  
*Organizational and Substantive Categories of the Influences of Physical Activity Incorporation*

Organizational Category	Substantive Category
Influences of Physical Activity Incorporation:	
Health and development of children	<ul style="list-style-type: none"> <li>a. School readiness</li> <li>b. Motor development</li> </ul>
Family practices	a. Time and space
Personal beliefs and behaviors	a. History of fitness



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## APPENDICES

## Interviewing Format and Questions

Semi-structured

30 minutes

### **Introductions:**

Teachers signed up for the study in advance. They will be coming in during nap time, as they are available. I will tell a little about who I am (SIU doctoral student, former student at their school), briefly describe study (looking at how preschool teachers approach or address health, specifically nutrition and physical activity). I will tell the teachers that I will be audio recording the interviews, and I will be taking notes. I'll let them know that their names will not appear in my dissertation, but that I will use a pseudonym for them.

### **Sample questions:**

Tell me about how you approach nutrition in the classroom with children?

Do you teach specifically about nutrition?

What influences how you approach nutrition (e.g., school policy, families, your own beliefs or behaviors/ personal attitudes – *use only if needed*)?

Have you taken trainings or classes on teaching nutrition?

Describe how lunchtime looks? What are you doing during this time?

Tell me about how you approach physical activity?

Describe what are you doing while children are engaging in physical activity?

What influences how you approach physical activity?

Have you taken trainings or classes on teaching physical activity?

Is there anything else you can tell me about your approaches to nutrition and physical activity?

**Closing:**

Thank the teacher for her time. Let the teacher know that I will be on campus interviewing for several weeks, so if she thinks of something she wants to add to what she has shared to please let me know.

## Appendix B

### Focus Group Questions

According to your school's mission statement, you emphasize free choice, play, individualization and creating environments to support learning. How do you feel this emphasis influences your approaches or teaching of nutrition and physical activity?

Also in your mission statement, as a school you "respect the whole child as an individual." How does approaching the child as a *whole* organism influence the ways you teach about nutrition and physical activity?

What are some barriers you see to being able to teach about nutrition in your classrooms? Physical activity?

In what ways do you feel supported in teaching about nutrition? Physical Activity?

What would help you be able to teach more effectively about nutrition and physical activity (e.g., materials, training, school wide policy, etc.)?

In my interviews a teacher stated that health is something that should be learned at home, and a couple other teachers stated that their practices around nutrition and physical activity are because they are concerned children not getting enough exercise and nutrition at home. What are your thoughts about the school's responsibility to impart teaching centered on nutrition and physical activity?

## Appendix C

**Family Questionnaire**

How important is it for your children to be specifically educated about nutrition and physical activity at this age?

What do you feel your influence is on the nutrition and physical activities practices at the school?

Describe what you think the teachers and staff should be doing to support your child's health through nutrition and physical activity.

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