Elementary school teachers' perceptions of the role of physical activity in schools

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DEDICATION

This thesis is dedicated to my husband

John Harrison

who is an amazing person whom I'm glad to share my life;

to my children

Lauren Elizabeth and Molly Elliott

who are my rays of sunshine

and who have shown me how to enjoy every moment of life

and to my late poodle,

Sugie

who brought so much joy and love to all who knew her.

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ABSTRACT

The purpose of this qualitative study was to examine and describe elementary school teachers' perceptions of physical activity among children in an urban, Title I, school in Tennessee. Twelve elementary teachers in Second and Third grade were interviewed using a semi-structured interview. The interview protocol was developed to guide participants from broader concepts regarding physical activity to more focused discussions on the use of physical activity during the school day.

Data presented examines the perceptions of teachers' overall view of physical activity among children during school hours, the amount of physical activity children engaged in during school hours, the impact of physical activity on children's overall wellbeing and academic performance, and ways physical activity is used as a behavior modifier. Findings suggest that the majority of teachers believed that physical activity was important to the wellbeing of children. Obstacles to increasing physical activity among children while at school included a strict focus on academic instructional requirements that do not afford time for additional activities, the perception that physical activity is not an end-of-year test requirement for children, pressure on teachers to increase standardized test scores as a measure of their performance evaluation, and the perception that physical activity is met simply through time allocated to PE and recess. Perceptions of social and mental benefits of physical activity, as well as, perceived benefits of physical activity for increasing academic performance are discussed.

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CHAPTER I
INTRODUCTION TO THE STUDY

Childhood obesity represents a rising epidemic in the United States (1, 2). Physical activity plays a key role in preventing and combating obesity. Establishing healthy life-long habits, such as physical activity, is critical. Extensive research has focused on the relationship between physical activity and childhood obesity (3-7) There are many factors that impact physical activity levels among children including the amount of time children spend watching television, playing video games, and the perceptions of caregivers such as parents and teachers (8). In order to better understand physical activity habits among children, studies have examined the perceptions of parents regarding their children's physical activity and daily routine (6, 7). However, given the extended hours that children spend in school on a weekly basis, the perceptions of teachers are also important to understanding the environment where children are engaged in activities such as Physical Education, recess, and other activities that provide an opportunity for physical activity.

As gatekeepers for activity opportunities such as recess and classroom-based activities, teachers may play a critical role in developing ways in which legislation, school guidelines, and academic programming can positively impact physical activity outcomes at school. Teachers may also provide insight into curricula that incorporates innovative methods and increased levels of physical activity into the daily school routine. Research suggests that physical activity may have a positive impact on retention, focus and test scores among children (9, 10). A dialogue with schoolteachers is needed to gain insight into their perspectives and beliefs of the practicality and impact of physical activity in the school environment. Professional development offers an

opportunity for school districts to focus on assisting teachers in understanding the importance of physical activity and the impact it has on academic achievement in children as well as in preventing childhood obesity. Through professional development, such as teacher in-service, a dialogue on the impact of physical activity may be opened and can lead to a better understanding of ways that physical activity may be incorporated seamlessly into a child's daily routine at school.

Statement of the Problem

Obesity rates among children have grown over the past 30 years leading to the need to understand physical activity behaviors among children. Perspectives from those caregivers who spend extended periods of time with children are extremely important (11). Physical activity has the potential to positively impact children through establishing healthy habits that last a lifetime. As children spend the majority of weekdays at school, teachers may play an important role in shaping the physical activity behaviors and habits of children.

In many school districts across the United States, student achievement on standardized tests has been tied to teacher retention and promotion (12, 13). The strict focus on standardized tests may hinder teachers' ability to provide physical activity opportunities in the classroom. This may act to hinder, not encourage, children to move, as the extraneous activities are seen as taking time away from instruction. Taking time away from physical activity may negatively impact standardized test scores and also impact teachers through end of year evaluations. These changes leave little room for physical activity and may contribute to the growing obesity epidemic. To address this problem, the focus of this study was to provide greater insight into the perceptions of

elementary school teachers related to the physical activity of children during school hours.

Purpose of Study

The purpose of this study is to examine and describe elementary school teachers' perceptions of physical activity among children in an urban Tennessee school. The study will be conducted using a semi-structured interview protocol intended to guide interviews with participating elementary school teachers. The perceived role of physical activity in the education of children as it relates to academics, physical, and mental wellbeing is examined, as well as, the perceptions of physical activity in the daily school routine of children.

Research Questions

Specifically, the study is guided by and addressed the following questions:

1. What are teachers' perceptions of the role of physical activity in children during school hours?
2. What are teachers' perceptions of how much physical activity children are engaging in during school hours?
3. What are teachers' perceptions of the impact of physical activity on children's overall wellbeing?
4. What are teachers' perceptions of the impact of physical activity on children's overall academic performance?
5. What are teachers' perceptions of how physical activity is used as a behavior modifier?

Significance of Study

This study is intended to provide insight into teachers' perceptions of physical activity during school hours and the impact that physical activity may have on factors such as students' academic success, mental wellbeing, and childhood obesity. It is the intent that this study will contribute to current research through examining teacher perspectives of the role of physical activity at school, potential perceived benefits of incorporating physical activity into the daily school environment, and on the ways that physical activity can be used to support or enhance school activities.

First, it is important to understand the teacher perspective about physical activity and its role in an elementary school setting. As children spend the majority of their day during the week with teachers, it is important to understand teacher perceptions of children's physical activity during the school day. There is a gap in the literature, related to the teacher's perceived role in addressing the contribution physical activity makes in students' daily school life.

Second, teacher perceptions of physical activity during school hours have the potential to inform legislation and address policies as well as illustrate the need to incorporate more physical activity into the school day. With much focus placed on academics, little time is allotted for children to engage in physical activity. In addition to assisting in the reduction of obesity, studies suggest that physical activity may positively impacts students' academic success (14). In this study, teachers' perceptions of the academic benefit of physical activity and the ways in which teachers connected physical activity to academic achievement will be assessed.

Finally, the time teachers spend incorporating physical activity into the school

day will be examined. Teachers must be innovative and creative in order to assist their children in learning grade appropriate skills and content knowledge. To that end, teachers may already envision ways to incorporate movement and physical activity into the daily experiences of children. Exploring ways physical activity is incorporated into the school day could shed light on the ways that teachers believe that physical activity may be used to enhance and support curriculum in order to teach grade level skills and knowledge.

Assumptions

This study is designed under the following assumptions. First, it is assumed that teachers have some degree of control over the nature of activities in their classroom. By extension, teachers are therefore able to impact activities that may increase the amount of physical activity a child receives during the school day, whether it is at recess or in the classroom tied to curriculum. Second, teachers are able to recognize and express their beliefs about physical activity during school hours and the impact of physical activity on children and their academic, physical, and mental wellbeing.

Limitations

A limitation of this study is the lack of ability to generalize findings beyond the sample interviewed. The lack of generalizability is a limitation that is found when conducting qualitative research studies utilizing a small number of participants. The tradeoff is that while in-depth information is collected through the use of interviews, the findings may not be generalized beyond the teachers interviewed for this study.

Participants may not be able to recall specific instances of the impact of physical activity related to their experiences in the classroom. For example, specific times when

increasing or decreasing physical activity led to a change in outcomes (i.e. academic test scores) for a student in their class may not be recalled. Teachers may instead talk about their experience in general terms or idealize their experiences.

Bias may exist among participants in what they feel is worthy of communicating with the researcher. In this case, participants may downplay or embellish their experiences or opinions of time in the class with students. Some participants may not believe that their experience is noteworthy or worth bringing to the attention of the researcher.

Researcher bias may exist in the analysis of data for this study. A positionality statement addresses researcher bias by outlining the researcher's beliefs and perceptions related to the topic. Every effort has been made to provide an accurate account of the researcher's background and world lens.

All participants interviewed for this study were Caucasian, female teachers. As the participants do not represent a diverse group of teachers, data collected represents homogeneous sample. This may lead to

Finally, interviews were conducted in the participants' work setting. This provided participants with a familiar environment where they may be more willing to share their perceptions. However, the environment may also be a limitation as participants may have concerns about confidentiality and the type of information that they are willing to share. For example, teachers may have concerns about discussing administrators while interviewing in the school setting where they are employed.

Delimitations

There are several delimiters associated with this study. Only one school within an urban area in Tennessee will be used. All twelve second and third grade teachers will be interviewed and this information will be analyzed in order to examine perceptions of physical activity among teachers. In order to facilitate the interview process, a purposeful, snowball sample will be used. This sampling method is deemed appropriate as the researcher identifies teachers in the second and third grade as potential participants. These participants will then speak with other teachers who are aware of the study and chose to participate as well.

Conceptual Framework

This study employs a qualitative design. The purpose of this study is to explore the perceptions of elementary school teachers relative to the physical activity of children in the school environment. To facilitate this process, the study is situated within the framework of grounded theory using semi-structured interviewing. Data will be analyzed using interpretive theory to assess and connect the participants' views. In addition, teacher perceptions of the amount of physical activity children engage in during the day will be examined.

Definition of Terms

The following terms related to physical activity and obesity among children were used throughout this study. These terms are defined in the following section:

Curriculum. Courses of study and defined learning structure used when teaching students.

Grounded Theory. An inductive methodology that provides a researcher with the

opportunity to develop an account of a topic of research while grounding that theoretical account within a set of empirical data and/or observations (15).

Obesity. Used to describe individuals who have excessive amounts of body tissue and are not proportionate between their weight and height (16).

Physical Activity. Can be defined as any movement of the body that is made by the skeletal muscles where energy is expended (16). Any voluntary muscle movement is considered physical activity.

Qualitative Research. According to Creswell (17), qualitative research is “an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting”.

School Hours. For the purpose of this study, school hours are defined as the time a child spends at school from the official start of the school day until the time that the school officially dismisses students at the end of the day.

Wellbeing. “The condition of good physical and mental health, especially when maintained by proper diet, exercise, and habits” (18)

Outline of the Study

In Chapter I, an introduction to the study, a statement of the problem, and the research questions are presented. Chapter II provides a review of literature on childhood obesity, physical activity initiatives and challenges associated with children, and current physical activity issues related to legislation and education in the United States. In Chapter III, the population and sample, interview protocol, data analysis

procedures, the role of the researcher, and the trustworthiness of results are discussed.

CHAPTER II
REVIEW OF LITERATURE

Obesity represents a growing epidemic in the United States. With over 35% of American adults categorized as obese (19), there is mounting concern over the health of the population and the drain on healthcare and resources as a result. These concerns are compounded when examining the obesity rate among children and adolescence. Nearly 17% of all children were classified as obese according to the Centers for Disease Control (CDC) (20). This is especially troubling, given that the prevalence of childhood obesity increased in children 2 to 5 years old by 30% between 2001 and 2004 (21). There is a need to address the obesity epidemic among children in the U.S. in order to establish healthy eating and physical activity habits that will track into adulthood (10).

The reasons cited for the increase in obesity among children include, but are not limited to: (a) lack of physical activity in public schools (b) an increase in the amount of time spent engaging in sedentary activities such as watching television and playing video games, (c) eating less nutritious meals and increasing caloric intake through fast food, and (d) psychological factors associated with engaging in physical activity such as peer pressure and negative perceptions of exercise and play.

This chapter offers a review of the literature related to the obesity epidemic among children in the U.S. The first section examines the obesity epidemic and the causes and preventions for obesity. The second section presents research and writing on the response to child obesity through nutrition and physical activity awareness in the schools. The final section examines government initiatives aimed at stemming obesity through health programs and legislation.

Obesity Epidemic

Childhood obesity is defined as an individual having a body mass index (BMI) at or above the 95th percentile (22). Because a child's body composition changes as they grow, age and sex-specific percentiles for BMI are used to determine a child's weight for children ages 2 to 19 years (11). National Health and Nutritional Examination Surveys (NHANES) from 2009-2010 found that 18.6% of boys and 15% of girls are considered obese in the US (20). The US has seen a drastic increase in childhood obesity, with rates 3 to 4 times higher than they were 4 decades ago (23). Obesity among adults and children may be tracked along multiple variables including age, gender, racial and socioeconomic lines with all variables showing fluctuation towards increased obesity (24).

Research has identified possible causes for childhood obesity that include: the placement of vending machines in schools, increased time with technology such as gaming or watching television, a focus in schools on academics over physical activity, larger meal portion sizes, a lack of physical activity in childhood, and medical conditions.

Causes and Preventions for Obesity

Access to foods that fall outside of a school's planned meal schedule, such as having vending machines on school grounds, à la carte foods in cafeteria during meal times, special events, and class parties, have been linked to increased childhood obesity. Clark and Fox (2009) examined the diet of 2,314 children in public schools and assessed nutritional quality. Data was collected and analyzed from the third School Nutrition Dietary Assessment Study (SNDA-III). From this study it was suggested that

removing vending machines and other competitive food sources, such as snack bars and fundraising events that promote unhealthy food options within schools, could impact a child's diet positively. Vending machines, snacks bars, and other related options, provide children with high fat, high sugar foods, which contribute to obesity. Limiting unhealthy food options for children while in school, could lead to a decrease in the likelihood of obesity and improve a child's weight status. Their findings have implications for school policies regarding outside food sources in schools.

The prevalence of technology in households, including video games, and increased television viewing among children has been found to have a serious impact on the weight of children (3, 6). Perez et al. (2011) examined the prevalence of obesity among Texas teenagers and how their physical activity and television viewing times influenced their weight status. Data was collected during the school year of 2004-2005 on students in grades 4, 8, and 11 who participated in the School Physical Activity and Nutrition survey. These researchers found that greater amounts of television viewing time and lower physical activity levels led to an increase in the teenager's risk of becoming obese.

In addition, Baranowski (2012) researched the impact of active video gaming on the physical activity levels of children. This study examined whether children who received a new active video game would immediately become more physically active in other parts of their life. Video game playing has been shown to lead to obesity as children are more likely to snack during play and are less physically active (6). This study found that children who received active video games did not engage in additional physical activity when compared to those who received inactive games. This finding has

implications for the use of video games as a way to increase physical activity among children.

Both Baranowski (2012) and Perez et al. (2011) have examined the prevention of childhood obesity. Parental involvement in monitoring the viewing time for television and the amount of time that children spend playing video games would begin to address childhood obesity. Each study (3, 6) suggests that children should spend a greater percentage of their time engaged in outdoor play and physical activity. Establishing healthy habits at a young age may lead to healthy behaviors as adults.

Lack of physical education and activity also contributes to childhood obesity. Academics, such as math and science are a major focus for schools. STEM (Science Technology Engineering Math) initiatives have taken the forefront in K-12 education. This focus exists in order to improve student's test scores and as a result, reduces the time students spend in physical education classes and recess (10). Van Dusen et al. (2011) sought to examine the possible link between physical activity and student's academic achievement. Physical activity is rarely assessed in schools since school funding is based on test scores and student's academic success. Data were collected on students in grades 3 to 11 in Texas schools. A convenience sample was used, which linked standardized academic and physical activity scores individually to 254,743 students. The study found that physical activity was significantly related to better academic performance outcomes (10). The findings from this study have strong implications for the prevention of childhood obesity as a key component to funding preschool-12th grade schools, through both federal and local sources, in showing yearly academic progress. In order to make physical activity, and by default, obesity

prevention a priority, policy makers must see a clear connection and benefit to academic achievement through an emphasis on physical activity.

Another function is changes in meal portion sizes. Larger meal portion sizes have significantly increased since the 1970's and have contributed to obesity (25). Rolls, Engell, and Birch (2000) studied the effect of portion sizes for preschool age children and found that children ages 5 years and older were prone to eating larger portion sizes than children ages 3 years and younger. Another study indicated that the average portion sizes of fast-food and restaurants have grown significantly over the past 40 years (25). This has consequences of children who are eating more fast-food, as this is the area with the greatest gain in portions sizes (25). Further research is required; it may be advisable to allow children to select their own portion sizes for meals in order to reduce obesity among children.

Treatment of obesity in children, related to portion sizes, may come through behavior modification. Ford, et al. (2010) studied the eating habits of 106 obese children between the ages of 9-18. A Mandometer, which provides information to participants about their eating habits in real time, was used to indicate when participants needed to slow down eating and also to reduce total food intake. The study found that the intervention group who used the Mandometer showed a significantly lower BMI than the control group at both 12 and 18 months from baseline (26). Implications from this study are that active behavior modification may lead to a reduction in intake and healthy lifelong decisions regarding food.

The overall reduction in the physical activity of children has been cited as a major contributor to childhood obesity (27). The increase in television viewing (6, 28)

highlights the sedentary physical habits as children spend a greater number of hours viewing programming. This not only contributes to obesity through the lack of energy expenditure, but also leads to increased snacking. In addition, children develop unhealthy eating and sedentary habits that plague them in adulthood. Actively monitoring television viewing and eating habits while also encouraging children to play through physical activity will help to establish healthy behaviors and assist in the prevention of obesity.

Thyroid dysfunction is also a contributor to childhood obesity. Triiodothyronine, also known as T3, has been found to control the body's metabolic and energy balance. This balance is crucial and impacts body weight and thermogenesis, as well as, cholesterol metabolism (29). There have been a number of studies linking T3 levels to obesity in children and higher BMI levels (30, 31). Other hormones such as TSH have also been linked with obesity (32). At present, hormonal treatment for obesity has not led to decisive results that may cause it to be used as a widespread treatment. This stems from an active line of research that seeks to determine if increased levels of certain hormones including T3 and TSH are the result of, or a precursor to obesity (29). Until more information is gathered and analyzed, using hormones as a treatment for obesity in children is not considered to be a viable option (29).

Childhood obesity is a growing epidemic in the United States and must be examined through a multitude of facets and approaches that include both physical activity and nutritional components. Through understanding the causes of obesity, researchers and practitioners may begin to address prevention. While nutrition is an active contributor to obesity in children, the aforementioned causes of obesity highlight

the importance of physical activity as a preventative measure. Active involvement by parents and educators, monitoring television viewing time and electronic or static game play, and engaging children in active, physical activity begins to form the foundation for preventing obesity in children and helping every child to establish the healthy life practices that lead to active lives as adults.

Psychological, Psychosocial, and Physical Impact of Obesity on Children

The physical, psychological, and social toll that comes with obesity has lasting effects on the lives of obese children as they approach adulthood. Children who are obese face challenges that impact their self-image, confidence, and create negative behaviors and views of physical activity that may follow them for life. When faced with engaging in physical activity and sports, many obese children have negative experiences tied to the reactions of peers, their personal view of the potential for failure, and a poor self-image (5) These negative perceptions impact the decisions of obese children leading many to disengage from sports and physical activity all together. Through positive reinforcement and assisting children in making the connection between positive outcomes and engaging in physical activity, children may begin to develop healthy behaviors and habits.

Weight associated stigma plays a significant role in the psychosocial development of overweight and obese children (33). Overweight children face bias and stereotypes and are often bullied at school (21, 34, 35). Educators, principles, and even college selection committees have been found to hold negative attitudes towards obese children (33). Additional psychological factors include an increase in suicidal thoughts and attempts (36, 37), negative perceptions of body image (38), eating issues (14, 36,

39) and lower self-esteem associated with the internalization of negative stereotypes (40). These factors may have a significant impact on children as they develop emotionally and physically into adulthood.

Nutrition and the Role of Education in Addressing Obesity

Because children are in school for the majority of waking hours during the weekday, school personnel have the opportunity to assist students in developing positive habits and knowledge that may have a positive impact on their bodies. For example, this assistance can occur via delivery of nutritious school meals, nutrition education, and incorporation of healthy eating habits into the curriculum. Standards, initiatives and recommendations are set by the government to address child health, of which weight status is a critical piece.

The U.S. Department of Agriculture (USDA) establishes nutritional standards for schools through the implementation of the School Meals Initiative for Healthy Children (SMI) (41). Recently, the USDA updated these standards in an effort to provide schools with guidelines for preparing healthier breakfasts and lunches (19, 41). Monitoring of achievement of healthy meal offerings is the responsibility of the School Nutrition Dietary Assessment Study (42).

Government Programs Addressing Physical Activity

Legislation and the use of standards provide a foundation for approaching childhood obesity prevention in preschool-12th grade schools. The focus on standardized testing and academics in preschool-12th grade schools may lead to the decrease in physical activity among children during school hours. As federal and state funding for school districts are based on standardized test scores and Annual Yearly

Progress (AYP) in terms of academics, schools are pressured to move away from engaging children in active, physical learning environments. While some states have a mandate on the amount of time, per week, a child must engage in physical activity in elementary and secondary schools, creating legislation and regulations that require physical activity in schools will align education as a major contributor to the fight against childhood obesity. Legislation must be based on current standards and programs that have been developed to get children to engage in physical activity. Programs such as the Let's Move! Campaign and the President's Fitness Challenge, as well as, the standards developed by the Centers for Disease Control (CDC) may act as the cornerstone for future legislation.

Lack of physical activity is a major concern and needs to be addressed. Reduction in physical activity among children has led to a need for policies and standards that may be implemented within schools nationwide by legislators and school professionals. Physical activity guidelines for Americans are viewed simply as recommendations, not requirements for a healthy lifestyle. According to the 2008 Physical Activity Guidelines for Americans, children should accumulate at least 60 minutes or more of moderate-vigorous physical activity each day. Aerobic activity should account for most of the 60 minutes, while muscle-strengthening and bone-strengthening make up the rest of remaining 60 minutes (43). In order for children to acquire the needed physical activity, they must be encouraged and engage in fun, and enjoyable activities that are age appropriate.

Since few regulations are in place, there is little regulatory oversight to keep children engaged in physical activity in the schools. Some initiatives have been

developed that can combat the lack of physical activity among children. The Let's Move! campaign first launched in 2010 by Michelle Obama, promotes physical activity among children (44). Let's Move! provides information to the public that includes: tips to become physically fit by setting goals and counting steps with a pedometer, nutritional information and ways to prepare healthy meals, and finally, tips on beginning a healthy lifestyle that involve incorporating the entire family in becoming more physically active. A few of the many activities listed by the initiative include: playing, dancing, walking, bike riding, and cleaning.

The President's Fitness Challenge is a comprehensive initiative that seeks to improve the quality of life for Americans through setting and achieving a healthy lifestyle (45). This initiative includes the Physical Fitness Test, geared towards children and adolescents with an emphasis on school educators. Students are assessed based on their physical fitness levels in curl-ups, the shuttle run, endurance run/walk, pull-ups, and the V-sit reach (45). Schools are recommended to perform these assessments at least two times per year in order to show fitness improvement by each student. In addition to providing an outline of the measures of fitness for use by school professionals, the initiative has support software that can track a student's performance on each assessment and disseminate the information in meaningful ways. If used properly, The President's Fitness Challenge is a valuable resource available for educators and parents to combat childhood obesity.

Increased attention is being given to the role of physical activity as a preventative measure for childhood obesity with legislation being proposed for mandatory physical activity in preschool-12th grade schools in several states. Senator John Miller of Virginia

proposed legislation in the 2012 Virginia Assembly mandating a minimum of 30-minutes of physical activity, every day, for children in Virginia's public schools (46). In Ohio, similar bills, Senate Bill 210 and House Bill 373, have been proposed that require 30-minutes of moderate physical activity, daily, for children in public schools and also increases the required physical education credits for high school children (47). A federal standard could assist in solidifying and standardizing requirements across states.

Nutritional components are included in the Ohio legislation calling for healthier menu options for school lunches, healthy food options in vending machines, and required BMI screening for children in third, fifth, and ninth grade (47). Acknowledging the impact that parents have in the weight and healthy habits of their children, the bill includes providing parents with educational materials that provide them with the tools to make healthy lifestyle choices for their children (47).

While strides are being made to increase the amount of physical activity in schools, states still struggle with laws that promote, instead of prevent childhood obesity. As of 2011, state law in Kentucky stated that children may not exceed 30-minutes per day of physical activity in school (48). Instead of setting a minimum physical activity level, Kentucky set a maximum allotted time. Recognizing that need to curve childhood obesity levels in Kentucky, legislation has been proposed that requires children to have a minimum of 90-minutes of exercise per day in public schools (48). The movement for new legislation highlights the attention that states are giving to the obesity crisis and the serious nature of the epidemic.

Increasing the level of physical activity among children through health initiatives and legislation provides an initial foundation for improving the wellbeing of children in

the United States. While states push to address the trend in the obesity of children, other initiatives on the federal level strive to educate parents, children, and teachers on the importance of a healthy lifestyle through physical activity and nutrition.

Research supports the positive implications that result from physical activity (4, 7, 49, 50). Nutrition and physical activity are major components of healthy living. Combining nutritional and physical activity standards, along with measures to assess criteria, within schools, would have a positive impact on children's weight status.

Perceptions of Physical Activity in K-12 Education

Research on the perceptions of staff, teachers, and administrators in K-12 education in the United States is limited (51). Huberty, Dinkel, Coleman, Beighle, and Apenteng (2012) examined the perceptions of physical activity during the school day and in after-school functions among staff at 12 randomly selected elementary schools in the Midwestern United States from the lens of Grounded Theory. Focus group participants were selected using purposeful sampling and included 8 participants per focus group, per school. Purposeful sampling allowed for the inclusion of "paraprofessionals" that were responsible for recess supervision, a teacher from each grade level from third to sixth grade, and the Physical Education teacher and nurse from the school. Sessions were recorded and transcribed then later analyzed using QSR NVivo 9. The study found that most participants believed that physical activity leads to improved learning and behavior in the classroom. While the importance of PA was noted among participants, few were aware of the national guidelines for PA among children. When discussing the responsibility of the schools, teachers suggested that children should receive a greater amount of PA while in school but cited competing

priorities, such as academic requirements and a lack of time during the school day, as barriers to added PA. Administrators and teachers suggested that the pressure on academics led to a reduction in the amount of time that could be allocated to PA. In addition, a teacher who suggested that math and English could be measured and were therefore deemed as important cited a lack in the ability to measure the outcomes of PA as a reason that it was not included in performance standards. Overall participants favored the inclusion of PA in schools but pointed out the barriers as contributing factors to the lack of added PA in schools. The Huberty, et al. (51) study represents one of the only studies that expands the focus of PA research to include the perceptions of teachers, administrators, and staff in K-12 education.

Summary

In conclusion, childhood obesity in the United States is a growing concern that requires the active attention of those who work with and care for children. The causes of obesity include, but are not limited to, the lack of physical activity, an increase in unhealthy eating habits and television viewing time, and medical issues. In order to make a positive impact on this generation, a combination of legislation, health initiative programs, and education is needed. A concerted effort from those involved in a child's life and those who make policies regarding education is necessary to prevent or reduce childhood obesity in the United States. In understanding the perceptions teachers have about the role of physical activity among children during the school day, insight may be provided into ways that schools can take a role in addressing the overall physical, mental, and academic wellbeing of children.

CHAPTER III
METHOD

The purpose of this study was to understand the elementary school teacher's perception of physical activity as it related to children in the school environment. Grounded theory, a qualitative research method, was used to guide the design of this study and will be discussed in detail in this chapter. Chapter III describes the framework of the study, procedure developed from the use of social constructionism as an approach to grounded theory, the participant selection process, the interview protocol, and data analysis procedure. A description of the role of the researcher concludes this section.

Research Questions

The purpose of this study was to explore the perceptions of teachers as it relates to children and physical activity in the school environment. Specifically, this study addressed the following questions:

1. What are teachers' perceptions of the role of physical activity in children during school hours?
2. What are teachers' perceptions of how much physical activity children are engaging in during school hours?
3. What are teachers' perceptions of the impact of physical activity on children's overall wellbeing?
4. What are teachers' perceptions of the impact of physical activity on children's overall academic performance?
5. What are teachers' perceptions of how physical activity is used as a behavior modifier?

The research questions provided the foundation for the development of the methodology used in this study.

Study Approach and Qualitative Methods

The worldview of the researcher in this study was firmly rooted in the social constructionism perspective. It is important to express the epistemology of the researcher as it guided the study and acted as the lens through which the study was employed. According to Creswell (2007), an epistemology is a person's assumptions about the formation, or nature, of knowledge. Social constructionism views knowledge as both subjective and objective, seeing knowledge as created through social interactions as opposed to solely created through individual experience (52, 53). This notion is carried through in the idea that the world and "knowing" occurs objectively through people engaging the society and society impacting the habitual actions and routines of people. Eventually, the habitual acts become routine and then are institutionalized into general ways of knowing, according to Berger and Luckmann (54) leading generations of people that follow to view the knowledge as objective.

A subjective reality occurs through the secondary socialization of individuals as they are given an identity and a proper place within the society they function within (55). In addition, language becomes an important factor in socialization and the internalization of socially constructed identities. Language conveys meaning and understanding of the social world and identities as conveyed by someone close to the individual (54). Through these subjective interpretations, individuals begin to "know" the world.

The researcher in this study believed that teachers socially construct ways of

knowing in terms of identifying as a teacher and interpreting interactions between the students, the school environment, and other teachers. It was through this lens that the researcher believed that teachers would view the appropriateness and practicality of physical activity among children during the school hours as a socially constructed reality.

Social constructionism is a congruent epistemology with grounded theory as the guiding methodology. Grounded theory is used to explain a social occurrence or process through creating a theory that is firmly grounded in data collected from participants (15). This methodology was appropriate for this study as it allowed for the researcher to explore participants' experiences and develop an understanding of their perceptions of physical activity among children in the school environment. The research questions guided the examination of teacher experiences and beliefs in an effort to understand the ways in which teachers perceived value associated with engaging children in physical activity throughout the school day.

Role of the Researcher

An important issue in qualitative studies is understanding the researcher's background and perspective on the topic being studied as this perspective may influence the interpretation and analysis of data (56, 57). The potential for bias is constantly present in qualitative research as it is inherent in the researcher. It is necessary to understand the potential influence bias may play in the interpretation of findings by being aware of any preconceived beliefs the researcher may hold about the topic and exploring the philosophical perspectives that guide the researcher.

Reflections on Data Analysis and Positionality

Positionality of the Researcher

A bracketing interview was conducted in order to surface bias that I may hold in relation to physical activity and the responses of teachers. A trained doctoral student and qualitative researcher at the University of Tennessee at Knoxville conducted the bracketing interview. During the interview the interviewer asked the questions from the interview protocol for this study in order to assist me in surfacing responses that would lead to a better understanding of the beliefs of the researcher.

I hold a firm interest in physical activity as a means to stay healthy and to reduce childhood obesity. My personal background includes a regular physical activity routine and a commitment to educating children as a PE teacher at a Montessori School in Louisiana that promotes healthy lifestyles in children while students in grades first through eight engage in PE every day during school and Kindergarten once a week.

Physical activity is viewed as a crucial part of an individual's routine to stay healthy and lead a healthy lifestyle. I believe that physical activity is overlooked in the public school system and that teachers should provide maximum opportunity for their students, when appropriate, to engage in physical activity. I feel teachers should be allowed flexibility during school hours to incorporate physical activity for students. I acknowledge that academics are important to a child's development but also believe in a holistic approach to education that includes the Arts and physical activity to educate children.

At the time of this study, I relocated to Louisiana with my family. I have a husband, John and two children, Lauren and Molly. My children are enrolled at a

Montessori school where physical activity is viewed in high regard. As a PE teacher at the Montessori school, I ensure that children are physically active during school and make learning about PE a top priority. I teach physical activities and games to children three years to Kindergarten four days a week before school starts. In addition, I encourage teachers to incorporate physical activity by tying PE academics in their classroom. Academic learning at the Montessori School occurs through a hands-on approach by incorporating movement in the classroom throughout the day. This method for teaching is very important to me, as I believe that positive experiences with physical activity at a young age can lead to healthy life habits as adults.

Study Context

Context is an important consideration for qualitative researchers as it can provide a localized in-depth perspective on the topic being examined in the natural environment where the phenomena take place (57, 58). The setting must be considered when exploring perceptions of physical activity in the school environment, as each school is different and could illicit different responses from teachers at different locations. The school selected for this study is described in detail later in this chapter.

Data Collection Procedures

The following section outlines the sampling process employed for this study, a description of study participants, and data collection and analysis procedures.

Sampling Strategy

Purposeful convenience sampling was used to select participants for this study. This sampling technique involves selecting participants that are information-rich and may shed the most light on the topic or issue being examined (57). The selection was

considered criterion-based as participants were required to have a minimum of 2 years of classroom experience in order to be interviewed for this study. The criterion was chosen to ensure that participants had adequate experience on which to reflect. Through reflection and experience the participants could provide information-rich descriptions about their perceptions of physical activity among children during school hours.

To recruit participants, teachers were given an informational letter during a teacher meeting at the participating school (Appendix B). An email was also sent to the teachers via their school email address with the informational letter attached. Teachers were provided with the contact information of the researcher to indicate a willingness to participate. In addition, an informed consent form explaining the study in detail was provided to the teachers with the informational sheet. Teachers were notified that a $10 gift card would be provided for participation in the study. Participants could stop the interview at any time without the loss of the gift card for participating. A total of 12 teachers were interviewed for this study. Assessing the saturation of data and the reoccurrence of themes is an ongoing process in qualitative research and may be reached when interviewing between 8-12 participants for many studies.

Site Description

Participants for this study were recruited from an elementary school in an urban community in Tennessee with a population approaching 50,000. The school served a diverse population of students and had been identified by Federal guidelines as a Title I school. Title I schools serve students that come from an economically disadvantaged background. Classification is based on the percentage of the student body that qualifies

for free and reduced lunch. At the time of this study, the participating school had 97% of its students who qualified for free and reduced lunch.

Study Participants

Participants in this study included 12 teachers who were teaching in second or third grade and who had indicated being interested in participating in the study. The grade levels were selected as the second grade prepares students for statewide standardized testing that occurs in the third grade. As teachers are focused on preparing and testing students at these grade levels, the potential impact of the testing on the perceptions of teachers could be examined. There was a 100% participation rate among teachers in both grade levels. To be selected, teachers must have worked in a school environment for at least 2 consecutive years, inclusive of the current school year. The experience requirement was necessary in order to insure that teachers had substantial experience working with children in the school environment. Experience as a teacher provided participants with adequate familiarity with a school setting in order to reflect and respond to questions during the study interview. The researcher had prior experience at the school selected for this study, which enhanced the ability to recruit participants.

Connections between self, the participants, and the research site.

The researcher did not know the potential participants personally prior to the start of this study. However, the researcher was connected to the site as an instructor in a fitness program for students that was delivered prior to the start of the school day, three days per week. Being associated with the school gave the researcher access to the administration at the participating school, thus making the study possible. No job-related

contact was made with teachers prior to the start of this study.

Human Subjects and Institutional Review Board

The researcher submitted a protocol for review by the University of Tennessee's Institutional Review Board. An Informed Consent Form was given to the participants of the study prior to engaging in the interview and was signed by the participant for the interview to begin. The Informed Consent Form provided information on the rationale for the study, any perceived risks of participation, benefits to participants, and contact information for the researcher and the University of Tennessee should questions arise.

Types of Data Collected

Semi-structured interviews were the primary method of data collection for this study. Data was generated in the form of transcripts and researcher notes taken during and following the interview session with the participants. All data were collected within 30-days following the standardized tests required by the state where the school resides.

Selected participants were interviewed to gain perspective on their views of physical activity among children in the school environment. Interviews took place on school grounds.

Interviews. This study was designed to employ the use of a semi-structured protocol when interviewing individual teacher participants. All interviews were conducted in person with interviews lasting between 25 minutes to 1 hour each. The interviews were conducted over a 30-day period following mandatory state testing of children in the elementary school.

In order to elicit responses from participants, the researcher developed questions that provided participants an opportunity to offer interpretations of their experiences with

physical activity in the school (59). Charmaz (2006) explains that both grounded theory and intensive interviews are flexible approaches that utilize directed open-ended questions that allow for further exploration as the interview unfolds (p.28). The semi-structured interview protocol was developed with open-ended questions that were intentionally sequenced to take the participant from general, broad concepts to more focused questions about experiences. As the interview progressed, participants were asked more challenging questions that required greater levels of reflection on personal experience.

Semi-structured, qualitative interviews allowed the researcher to follow-up with additional questions that deviated from the protocol when further clarification was warranted (56, 59). To minimize the need to provide further clarification for participants and to increase the flow of the interview protocol, two sets of pilot interviews were conducted with teachers from similar backgrounds as those that participated in this study prior to soliciting participants from the participating school. Pilot testing provides insight into ways the protocol may be refined in order to limit bias that may be inherent and increase the likelihood of rich and thick data from the participant. All questions were reviewed by the pilot group for clarity with any areas for misunderstanding, or needs for further explanation, addressed. Changes were made in the interview protocol to enhance the flow of the questions and also address areas that required further clarification or were otherwise confusing for participants in the pilot study. For example, physical activity was defined in order to give all participants a common starting point for the discussion on physical activity among children in the school day. Following the pilot, the interview protocol was finalized with no further changes required.

Prior to the start of each interview, participants were asked to read and sign an Informed Consent Statement (Appendix B). Each interview was recorded upon the approval of the participant. The researcher transcribed all recordings. Following transcription, the researcher examined the transcriptions for accuracy and rendered the data anonymous using pseudonyms prior to data analysis. Following this process, audio recordings were deleted. Notes taken during the interview meeting were used to focus the examination of data and capture primary points from the interview session. In order to maintain confidentiality, public school participants and officials were prohibited from accessing raw data related to the study.

Interview Protocol

Participants were asked to complete a Demographic Form (Appendix C) and were interviewed using an interview protocol developed for this study. The Interview protocol is included as Appendix D. The benefit of the developed interview protocol is that it provided the opportunity to ask all participants the same questions while also giving the interviewer the chance to explore participant insights through open-ended questions. This added to the richness of data collected by allowing participants to expand on their ideas and allowing the interviewer to move beyond the immediate question should the need present itself.

Data Analysis and Interpretation Procedures

Coding. Data were coded using Atlas Ti qualitative coding software. All codes were determined using a three-tier approach that was aimed at reaching a point when the data had been saturated. In this case, saturation was the point at which the researcher found redundancy in the data and was no longer gaining new insight and

clarification into the categories generated from coding (60). Open-line coding was used to go line-by-line through the data to gain insight and begin to conceptualize ideas (59). The second level of coding involved the reduction and clustering of categories into families of codes (60). Finally, the transcripts were read again in order to reveal relationships between the codes.

Trustworthiness

Trustworthiness was an important focus throughout the design of the research study. In order to achieve trustworthiness in the reporting of data, participants were asked to verify the information given to the researcher during the interviews and the interpretation of that information by the researcher. This was an active process that occurred during the interview as the researcher clarified meaning through dialogue with the participant. Each participant in this study was provided with the opportunity to review, fact check, and make edits to the transcript from her interview. Participants made no significant changes to the transcripts.

In addition, the researcher triangulated data. Triangulation occurs when multiple sources of data are used to confirm information reported by study participants (60). Multiple teacher interviews were conducted to verify information provided by the participants of this study. Through engaging multiple participants in the study, the researcher remained true to grounded theory by gaining multiple perspectives on the topic being researched. The researcher could confirm the comments and ideas made by participants when hearing same themes and topics immerge among other participants.

Finally, the researcher maintained an analytic journal in order to keep memos on thoughts, personal feelings, and reflections that occur while conducting interviews. The

analytic journal assisted the researcher in surfacing existing biases and judgments associated with the process and the data collected. The journal was kept during the research process and provided insight into the coding of data (56, 61).

Chapter Summary

This study utilized a social constructivist grounded theory approach for the research design. The intent of grounded theory research is to conceptualize social patterns and occurrences while developing a theory of these occurrences that is grounded in the data collected (62). From the collection and analysis of data, the researcher was able to explain the social patterns observed through coding. Social constructionists believe that knowledge is built, or constructed, not created. In other words, reality is subjective and constructed through social interactions with others.

Surveys and questionnaires are limited in the richness of data that can be collected and flexibility required to understand the perceptions and experiences of teachers related to physical activity among children. To acquire the depth of data needed, a semi-structured interview protocol was used to guide the interviews conducted. The semi-structured interview provided a standard set of questions to each participant, but allowed the researcher to ask follow-up questions should further clarification be required or an unanticipated theme emerge during the interview process.

CHAPTER IV
RESULTS OF STUDY

The purpose of this study was to examine and describe elementary school teachers' perceptions of physical activity (PA) among children during school hours. Twelve teachers were interviewed for this study using a semi-structured interview protocol. With their consent, participant's interviews were recorded. Following the interview, recordings were transcribed and rendered anonymous by the researcher. The transcripts were then coded following the procedures outlined in Chapter 3. In this chapter, the data will be presented by addressing each research question for this study. A discussion of the findings will be presented in Chapter 5.

Participants

Participants in this study included 12 Caucasian, female teachers in the second and third grade level at an elementary school in Tennessee. The elementary school was designated as a Title I school as 97% of students qualified for free and reduced lunch. The participation rate among teachers in the selected grade levels was 100%. The experience of teachers ranged from four years (inclusive of the year interviewed) to 31 years.

Table 1 describes the participants of this study. The years of teaching experience and the education level attained are provided in the table. All participants had extensive teaching experience from which to draw upon and met the selection criteria for the study. A limitation of the study was that the participants represented a homogenous sample of all Caucasian females.

Table 1. Description of Participants.

*Name**	*Years as a Teacher*	*Education Attained*
Dorothy	31	Ed.S.
Carla	27	Undergraduate
Sophia	20	Undergraduate
Diane	20	Master's
Charlotte	19	Undergraduate
Miranda	18	Master's
Rose	18	Ed.S.
Carrie	14	Master's
Samantha	13	Master's
Rebecca	11	Master's
Blanche	5	Master's
Lilith	4	Master's
Mean Years Experience =	16.667 Years	

* Participant names are pseudonyms assigned by the researcher.

Coding

The codes presented in Table 2, on page 37, emerged from the coding process and guided the analysis of data:

Table 2. Code Names and Frequency.

Code	Frequency of Code
PA in Class	39
Pressure away from PA	37
Academic Outcome	35
Negative Reinforcer/Impact	26
Positive View of PA	23
Time on PA	18
Negative View of PA	16
Social Outcome	15
Sponsored PA – Recess	15
Sponsored PA – PE	13
Learning Tool	11
Psychological Outcome	8
Sponsored School Activity other than PA & Recess	5
Physical Outcome	4
Positive Reinforcer/Impact	4
Lack of Knowledge of PA Activities	3
Learning Tool – Lack of Knowledge	3

Research Questions and Examination of Data

1. What are teachers' perceptions of the role of physical activity in children during school hours?

Teachers who were interviewed for this study had mixed views on the role of physical activity among children during school hours. For most, recess and PE classes represented the main avenue for PA among children. It was noted by many participants, that while small amounts of instructional time could be allocated for physical activity, the focus of the school day was on instructional time. Although small breaks during the day took the form of movement breaks that included music, dance, and other activities, recess and PE appeared to be the "appropriate" time for physical activity.

As teachers shared their experiences with PA, it appeared that they viewed the day in terms of blocks of time. Structured activities were the focus of much discussion. Each time of the day had a purpose; making PA a function that was simply allocated to prescribed times like recess and PE. When asked about ways that children engaged in physical activity, participants such as Miranda shared their views. Miranda highlighted that PA was prescribed to certain times of the day when she noted, "Well of course in their PE class, in their recess" while Charlotte added "Ah, it's obviously easy when there's PE and recess".

Lilith echoed this view:

> "We will do exercises sometimes between activities or on a testing day, between tests, we might stop and do some stretching, do some exercises. And that's probably about it other than recess and PE class" and "they go to PE class, and we have recess outside and sometimes inside, but that doesn't necessarily mean

that they're not moving. We have field day and we have and I don't know, I can't think of anything else."

When asked about ways PA was incorporated into the classroom, teachers began to share their experience with stretching, dancing, and other ways in which they get children moving in the classroom. Brain breaks, or giving children a break from planned instruction, was a popular method for engaging children in movement.

Blanche explains:

"Definitely halfway through our morning, so about 9:30, we always have a snack and we have a bathroom break, and that's usually when we do a big brain break, pretty good 10 minute, 15 minute one. But I do them as needed. Sometimes we'll work for another hour and then if you see just really restless we'll get up, and like I said, either we'll walk the track, sometimes we'll go outside and walk around grass for a couple of times, anything to get them sort of moving and cleared out a little bit."

These breaks often involved movement such as dancing, stretching, and running in place.

"We dance and we, we do exercise. We do a little mixture of, we do some Tae Bo, we do, we just do some different things like sometimes we'll just stand up and just do those things, especially after we've like had to sit for a long time" (Rose)

Giving children the opportunity to move addressed issues where children were distracted, lethargic, or were having trouble sitting as Carla points out:

> “I do sometimes get them up, usually once or twice a day, and we stretch just because we seem to be getting very lethargic and groups of children are different and this particular group of children is just very (pauses) easily distracted and easily off task and they seem to be tired all the time. So we stretch, try to wake up before we go on to something else. There may be a 2 or 3 minutes a day when we’re doing stretching and stuff so.”

Teachers interviewed for this study reflected Carla’s view of PA. Activities such as stretching and brain breaks were perceived as giving children the opportunity to move as they would become “off task” and get “wiggly” otherwise. Teachers acknowledged the children require PA to stay focused and alert during the day. Carrie stated:

> “I think it just goes back to them being little kids and I think now we expect, it’s not a bad thing but we do expect a lot of them and a lot of what we expect of them requires them to be really focused and really use all parts of their brain. And in order to get all those parts going, I think they do have to also be able to move around and be active so that they can get all the parts moving and going in their brain”

Diane related PA to that needed by adults saying, “As adults, we can’t sit that long, but we’re asking children to, so I just think, especially for struggling students who that they need that release, that physical release, and I do believe it helps them”. This was echoed by Rose stating “I feel like it’s an outlet, it’s just, I mean, there’s nothing, there’s nothing negative about it. It’s just an outlet for kids that they can expend some energy”.

Other participants had similar views of the importance of physical activity during a child's school day:

> "I feel that it's very important. I think that not only does it help them academically, I think especially, I think recess is vital to a kid's, not only for a physical reasons, but for social as well, it's the only part of the day, I even see at lunch they have to keep them on silence a lot because they're getting wild and out of control, but on the playground, that's 30 minutes a day that they can do what they want, they can interact with who they want to, they can have their social time and their physical time and we all like that as people, you know, we all look forward to having social time and so I think it's really important, yes." (Samantha)

Lilith built on this idea saying:

> "I think it's really good for them to be up and moving and if we, you know, sitting all the time, it's you know, we lose their attention pretty quickly, so, if we can just give them small breaks between the big things we are doing, I think it is very important for them."

Another participant felt that allowing children to move could assist in raising scores on standardized tests and classroom academics:

> "We had TCAP recently, and they had to sit in their seat for 2 hours straight and watching my 8 year olds, they're trying so hard and I just thought, if we could just break and have a moment where they could, you know, just get some, just get their heart rate up and just get some of that out, it just clears your head. They would be able to focus and do so much better." (Samantha)

While PA was viewed as positive, the challenges to engaging in PA in the classroom were quickly communicated by participants. Many pointed to concerns such as the demand for instructional time, teaching standards, the perception of administrators as considering engaging children in PA as an inappropriate use of a teacher's instructional time, and the belief that PA was covered through recess and PE as reasons that PA could not be incorporated into the classroom. These concerns highlight the pressure placed on teachers to perform to teaching standards that do not include PA as a "testable" subject.

While teachers had an overall positive view of PA, they appeared to struggle with ways to meet the demands placed on them while also trying to give children in their class the opportunity to move. When asked if she believed that schools should take a lead in incorporating physical activity inside and outside of the classroom Miranda stated:

> "I do, but as a classroom teacher, as long as it is in small chunks so that we can still get the unbelievable standards included, but I feel like if it is included, it does help with behavior, which helps us in turn with our teaching time. So, but I, yes I do think that it should be."

This view expanded on by Carla who felt that the pressure for academics and the items that were on standardized tests kept teachers from being able to do PA and other activities in the classroom. When asked about physical activity she stated:

> "I think it's an important part of a child's day. I guess this sounds bad, but we are getting so swamped with all of the things that we are supposed to do with the children that I feel like they may need it. The breaks are in many ways beneficial,

but it gets so hard to give up any time when you think, *they don't test that (screams).* And that's really awful and I find more and more that it's, it's becoming something you get this automatic gut reaction, *they don't test that, we can't do that! (screams).*"

The lack of time for PA was a commonly relayed by participants. Carrie built on this idea when she explained:

"There's just not enough time in the school day anymore, I mean this sounds pitiful but 30 minute recesses are hard for some people to get in and that's just a 30 minute recess, so, and I mean it would be awesome if they could have PE 30 minutes every day but, I'm not in charge of schedules and I don't know what kind of a scheduling nightmare that may be".

The pressure for time and meeting the instructional goals of the education system were echoed by Diane:

"The State keeps putting more and more things that they are mandating that we do during the course of a day, and right now you're running out of time for anything, um cause the State just fed another reading portion on top of that for struggling readers. We're figuring how a school of full of struggling readers. It's hard to get everything in that the state is mandating."

When a follow-up question was asked concerning adding more PA in the school, Diane said, "It would be great if they did, but the State is having us, there's not enough time they've given us all this certain hours to do everything. There's not enough time in the day to do it." This was reflected in Rose's response as well when she said, "I think

it's important for them to know about it. I don't know if you're going to get everybody to do it. I know I don't have time to do it."

This perception was reflected and emphasized in the way that the curriculum was structured and the demands for meeting teacher expectations:

> "I hate to say it, but there's really not a lot of, with Common Core and expectations that they have for us, there's not a whole lot of time to do anything fun, so regimented in what I have to do. 60 minutes of small groups and 30 minutes of whole group, it's just tough." (Rose).

Underpinning the obstacles was the focus on using allocated time to focus on testable items that were on the academic curriculum and the lack of time allocated to breaks that would allow for additional activities. Blanche explained, "With our schedule this year in particular, we had our core subjects in the morning and we didn't have a "break". We didn't have it scheduled". One participant, when asked if she would be interested in learning more about PA as an in-service opportunity, embodied the perception that testing comes first when she stated, "it wouldn't be my first choice, because like I said, we don't test it. I'm sorry." (Carla).

The views and support of administration also played a role in the perceptions of teachers related to their ability to use PA in the classroom. The teachers in this study were supported by their administration but noted that support from administration helps to try new things in the classroom. Lilith noted:

> "Just because I think a lot of times we don't do those things but we're so busy doing other things. And we're worried that we'll be off track or be off schedule or forget to do something or have so much to do and so little time that we don't stop

and do those things, so if we had a program that we followed or like you said, you know, word from them that it was ok, that it would be good."

Other participants also noted the need for administrative support and system wide acknowledgement of efforts to use PA in the classroom:

"I definitely think they should give teachers the tools to do it, so maybe some PE classes or just some ideas. I don't necessarily think that they have to develop a structured program, but I think any kind of help and ideas would be appreciated." (Blanche)

Blanche's view was echoed in a statement by Dorothy:

"We went through a time if where they were up doing those kind of things, the administrator we had, were like we were playing, you know, and that wasn't helping. So I think we have a whole new vision and understanding of that. That encourages it more." She continued by stating, "We used to put a testing sign outside the door and turn on the music and move around, hoping they didn't stick their head in. I think all that's changed."

While teachers felt the pressure for standards and the responsibilities to use instructional time "appropriately", administrative support seemed to allow teachers to feel comfortable in exploring ways to build PA into the normal classroom schedule. Most teachers in this study perceived PA as having a positive influence on the lives of children and believed that, if viable, an increase in PA would benefit children in their class.

There were only a small number of comments that pointed to negative views of PA. While the overall perception of PA was positive, there were areas where PA was

perceived as presenting obstacles for teachers and children. Participants indicated that unstructured PA could exasperate behavioral issues such as “distracting other students” (Rebecca) and making it difficult to get children back on task following a PA related break.

Sophia explained:

> “They come in, they’re a little bit rowdy, you know, but I think that’s to be expected. If they go to gym, we have gym on a certain day of the week, sometimes when they come in from gym, they’re a little bit rowdier, but not anything that’s uncontrollable.”

It was clear through discussion that a positive perception of PA prevailed among the teachers interviewed and that negative perceptions of PA stemmed from the pressures related to meeting academic demands and the perceived difficulty that distractions can play to keeping students on track.

2. What are teachers’ perceptions of how much physical activity children are engaging in during school hours?

Teachers were able to identify the amount of time that children attended PE as one day per week for a period of 45-minutes. Recess was also highlighted as a prime time for physical activity and was identified by participants as 30-minutes in duration on a daily basis. Participants also were able to describe time spent on non-structured activities including brain breaks, deskercizers, and Take 10’s.

Time spent doing PA in the class was outlined by many participants:

> "About 10 minutes in the morning, if we can go outside and then like a, throughout the day we might do two 5 minute ones, so, you know 20ish, 15, 20ish minutes of trying to get up and move around if we can." (Blanche)

Blanch expanded saying:

> "I have a jar and I'll just pull out some sort of, you know, 10 jumping jacks, or you know we do some kind of partner, you know, help each other stretch, and if it's pretty we'll go outside and walk the track a few times. And that's what we're going to do today."

Samantha acknowledged that with large blocks of time set aside for academics, she still tries to make time for movement:

> "I would say, 3rd grade has a huge chunk in the morning, I mean we're in our classroom from 8 and to almost noon when we go to lunch, so I guess we spend, probably, at least 15 minutes of that time, not all together at one time, but 15 minutes of you know, getting up and moving around or doing some type of deskercise or something like that."

The perceived time spent doing PA grew when recess was factored into the overall daily time that was consistently reported by teachers. Teachers reported that PA made up approximately 40 to 45 minutes of the school day. Dorothy stated that PA represents "Maybe 40 to 45 minutes. At the beginning of the year, maybe a little more because we do have more time for brain breaks and the weather is better, but I would say 45 minutes." This was echoed by Samantha, "I would only trust what they get here, which would be 45 minutes… I think that they get 30 minutes of recess now… I'm giving them 15, so that's 45 right there".

Overall, teachers highlighted that the reason they are able to give a minimum number of breaks during the day to students is due to the pressure to attend to academic requirements outlined by the state as outlined in the first research question for this study. Teachers appeared to have a similar view of the incorporation of PA into the class by understanding the time required for academic instruction and where movement, through brain breaks, stretching, and other condensed motion activities could be incorporated throughout the day.

3. What are teachers' perceptions of the impact of physical activity on children's overall wellbeing?

Teachers who participated in this study believed that PA could have a positive impact on the social and mental wellbeing of children in their classrooms. The benefit of social interaction comes from PA that involved group play such as organized sports during recess, movement activities that involved teams, and other activities that place children in social cooperative roles.

Carrie spoke of the benefit of organizing activities during recess and other play times:

> "I do feel like for their social when like if I organize the movement or activity they are more involved. Like free play at recess I think that's great, but you will see some kids that have nothing to do or no one to play with or whatever. So I do feel like if I organize it, socially, everyone's involved and everyone has a partner and everyone plays their role and everyone has a job to do, everyone is a little more involved in what's going on, which socially I think I have seen in the past does

help some students who have trouble engaging in physical activity in social situations.

She continued:

> "Like they may want to play soccer, but they're a little intimidated with recess when it's just free for all versus if we go out and play kick ball or soccer or something then they are a little more involved, so I think it does help them socially"

This quote highlights the benefit of organizing PA for children who may otherwise not participate in recess or feel that they are unable to participate because of shyness or other social concerns. Through positive PA experiences, children may begin to see PA as a fun and engaging experience.

Diane makes this point when she says, "socially it seemed like they helped, because everyone's doing the same thing and they start laughing and giggling and they just enjoyed it." The social benefit extends to learning social skills through organized and unorganized PA as Rose explains when she noted that PA allows children to "learn about teamwork and how to get along with others and, you know, and being a part of a group". Blanche also sees the social benefits as she states:

> "I think physical activity, that's a great time to bring in the social aspect, like we were saying, the kickball game. That to me, that's why I've always said I want my kids to play sports, the social aspect of when they play together and when they're moving and having to take turns and do things".

The idea of taking turns and learning to function in a team included the notion of self-control as further discussed by Blanche:

"I think that's kind of a good self-control thing that it teaches them. You know when they have to control their actions and like I said, especially work in a group, which is a big standard now. Listening and speaking in control and taking turns, I mean all that in a game with physical activity that's all those standards".

Beyond social outcomes, participants discussed the physical and mental benefits perceived when incorporating PA into a child's school day. The physical and mental benefits were often discussed together as a joint or related benefit.

Diane shared a story about a girl who benefited mentally and physically from physical activity:

"Well just even this year, I had a little girl, her goal was her mother wanted her to lose some weight and the doctor had advised it, and just even her more self-confidence she lost some of her weight and she was exercising and she was talking about doing it at home and saw her just being more confident in herself through that process. It helped her just getting that little bit in during the day."

This view was reflected in a different manner by Miranda who discussed the impact that a lack of PA can have for children later in their school career:

"Because it impacts my mental wellbeing, I assume it positively impacts their mental wellbeing and social. Especially if it prevents them from being one of the, I mean this may sound really negative, but one of the overweight children that in middle school and older ages when they're really made fun of."

The idea that PA links to health and impacts obesity was discussed by Sophia who shared her belief that there is an overarching connection between PA and mental, physical, and academic wellbeing:

> “Health wise, everyone, you know, fighting the whole obesity epidemic with children and I think that it helps to have more energy when they’re physically active and they come into the classroom and I think they’re able to maintain an attention span to turn to the task that we do in the classroom. I think that they can keep the pace if they’ve got more energy. If they come in and they’re all sluggish you can’t get much out of them.”

In a statement of her belief about children in general, Samantha summed up her thoughts by saying that in the end children “want to be healthy”. Healthy included mental health. Several participants made this connection. Rose felt that PA and sports were good for children who may not excel or be above average in academics:

> “It’s positive too, like a mental health way, not every kid in here is going to be good at academics. They’re going to be good at something else. They’re going to excel at something, somewhere. And for a lot of kids, that’s sports. So, I mean, it helps promote that.”

Samantha also discussed that a feeling of accomplishment comes when children find other ways to be successful beyond academics. She explained:

> “The feeling of accomplishment on the playground when kids are outside and they, you know, they’re racing, or they, um are playing a game or something and they win and, you know, they haven’t had that self-confidence in themselves throughout the year. I have seen them be like, “Oh yes, I did it!” or you know that feeling of way to go me. Yeah.” (Samantha)

The perceived benefits of PA for the mental wellbeing, physical health and socialization of children were evident in the discussion with teachers interviewed for this

study. Combined with social outcomes from a perceived increase in team play, cooperation, and the development of social skills, PA was viewed as positively impacting children.

4. What are teachers' perceptions of the impact of physical activity on children's overall academic performance?

When examining the academic outcomes that teachers believed were tied to PA, several positive benefits emerged. Participants frequently mentioned that students were more focused if they were able to take breaks that involved movement such as stretching, running in place, and group movement activities like walking the track or organized kickball. Many acknowledged that children could become restless and distracted after focused sessions of instruction when they are unable to leave their seat. There were perceived multiple benefits associated with allowing children to move. Participants indicated that allowing children brief opportunities to move seemed to assist them in being ready to sit and learn. Carrie explains:

> "I mean they're little kids so I think that if I can get them moving some then they're more likely to sit and listen to me when I need them to. So usually if I know we're about to have to sit and listen a pretty intense amount of time then, we'll get up and move. Cause if I can wear them out doing some jumping jacks or running in place then they're ready to sit down"

She continued by adding:

> "That's been my experience, once they've moved or done whatever, when they can sit and they can focus, I mean and I don't really have data for you, but yes, I mean my experience of watching them over the years is yes, once they have

moved, once they have exercised, once they have done something, they are able to sit, I mean even the kid that are always busy can sit and focus for a little bit of time at least."

Other participants echoed the view that moments of PA could assist children in focusing, which in turn prepared them to learn. Lilith felt that PA could benefit instructional time, as teachers could lose the attention of children if they were not provided breaks:

"I think it's really good for them to be up and moving and if we are sitting all the time, we lose their attention pretty quickly. So, if we can just give them small breaks between the big things we are doing, I think it is very important for them."

Diane felt that PA benefits children as it provides them with an outlet for expending energy and allowed children to stay seated and attentive throughout the day. It was particularly important to allow PA in the morning, she added, if the skills that were going to be taught were more strenuous. In her interview she stated:

"It just helps them concentrate… if they get a lot of [PA], especially. That's why I do it in the morning, to get a lot of the energy out. Sometimes, it would just help them be able to get through, because we do ask them to sit for quite a while. Especially, if it is the more strenuous skills that are coming up, it helps." (Diane).

As Samantha added that PA is "vital to helping them [children] stay focused and on task. I really feel like, especially at this age, children just aren't able to sit still for you know 30 minutes or even an hour at a time."

This idea was highlighted by Carla who said that "if we can use some of the energy in a more constructive manner then, yes, that's a definite good thing…. for some

children it makes them more alert and it brings them, allows them to focus". Samantha felt that PA was a means of intervening when children begin to lose focus during a lesson. She stated that as soon as she begins to lose the children's focus, she has them get up and move saying, "it just gives them that little, you know, get the ants out of their pants that they need, so that they can be ready to go" (Samantha).

Miranda believed that the benefit of PA was clear for academics and the overall wellbeing of children. She explained saying, "I think that in turn positively impacts their learning" going on to say that PA is beneficial for "better learning ability, better behavior, and a better mental outlook". Supporting this perspective was Carla who believed that some children were wired to move adding, "Some of the kids need the movement. They think when they move. So for those kids it's necessary for their cognitive development." This view was reflected in a discussion with Samantha who felt that getting the whole school involved could increase academics and productivity in the classroom. She felt that "physical activity does help. I don't have one child in my room that it doesn't help focus them more, like before we do a writing task, I always do, you know, something." She summarized this belief saying:

> "I think that it helps academics so I think that if the school would get involved and show the importance of it that I think that everybody would be more apt to get on board because academics and physical activity go hand in hand, that you're going to increase your scores, increase your productivity in the classroom."

Beyond school involvement, cognitive benefits of taking breaks for PA were also noted by Dorothy who expressed that, "it does give their brain a break and it stimulates some activity and oxygen to their brain, and then they're better able to sit and do things

at their desk and afterwards." Blanche echoed this belief:

> "I feel like once they get some fresh air a lot of times or we take a little break, then they're much more, almost relaxed. When they sit back down, they're like ok, and I think, I mean adults are like that. I know if I've sat in a meeting all morning, just that little bathroom break even when you get to get up and move around and get your blood flowing it kind of helps, so absolutely, I think it makes them more focused."

Other participants shared the view that children require PA to focus on academics:

"If they do not have the opportunity to do movement, they do not do their best in their academics. They are young and their body can only sit so long before their brain starts wandering and doing other things. So they absolutely have to have movement" (Charlotte)

The direct impact of a lack of ability to move was discussed by Blanche, who believed that having to sit for long periods of time could lead children to distract others and impact the class as a whole. She stated:

> "Truly, they can't sit that long and so that effects them of course and that effects everyone around them, so it absolutely, I feel like directly it affects their academics, if they need to get up and get some energy out, they can't focus on what I'm teaching or focus on their group work. So, absolutely, I think that they need to be moving."

The ability to move and engage in PA was clearly illustrated by the teachers interviewed for this study. As Dorothy expressed, "I think the focus is much more

improved and therefore the, that their work is much better after a brain break when they're more focused, definitely." In the end, impacting grades and academic outcomes is crucial for teachers to meet the rigorous demands placed on them each school year. Making the connection between PA and transfer of learning and grade outcomes may impact the child and the school in ways that benefit all stakeholders. Sophia makes the connection between readiness for learning, retention, and grades when she stated, "I think it makes a big difference in how well they're able to, especially for some who are already restless or high energy, they need the breaks often. And I think it impacts grades and what they're able to retain." Academic benefits to PA were clearly noted by participants and suggest that providing time in the classroom for movement may positively impact academic factors such as focus, grades, and readiness to learn.

5. What are teachers' perceptions of how physical activity is used as a behavior modifier?

Teachers who participated in this study were asked about the use of PA as a behavior modifier, especially as it relates to disciplining children. While the majority of teachers indicated that PA was not used to discipline children, several teachers indicated that students were made to walk the track and sit instead of play during recess. When asked if a participant had ever used PA to discipline a child, Lilith said while laughing, "Walking laps… very guilty, very". She went on to explain that walking laps was used when a child misbehaves or is disruptive. The number of laps were usually limited and only used to get the attention of the class. She elaborated:

> “Usually a number, 2, 1. There’s been a couple of times where my whole class, I have made my whole class walk, but it’s been, it’s been a bad day, so. There’s been I think twice this year, maybe just a couple of laps”.

Beyond Lilith, others indicated that they did not use PA as a form of discipline and then would state that they’d make students walk the track for a portion of recess or walk around the playground as opposed to doing free play during recess. Other teachers shared that they used PA as a disciplinary measure. Carla shared her use of walking the track:

> “If I need a punishment or to take something away from someone, a lot of times it ends up, ‘well you’re going to miss your recess’. But, I try, rather than having them miss their recess to say, ‘you have to walk around the track for five minutes’, so at least their still getting their time of physical activity time that they have.”

The perception among teachers was that walking the track, while a form of discipline, was still positive for the children. This form of correction was seen as exercise and therefore positive as it assisted in misbehavior issues. Blanche provided the most discussion on the topic explaining that a system known as “clip chart” was used to track student behavior and could lead to walking the track as she explains:

> “The system most of us use is called a *clip chart*. And they start out in the middle and clip up for positive behavior and they clip down for like we call it *think about it moments.* So it’s warnings and basically that’s what we track. When they walk for me, depending on how many times they’ve clipped down and what they did, they walk a certain amount of laps and we talk about it before they walk…. what they

need to think about as they walk. So if they were yelling in the bathroom, they need to think about how that affected everybody else, why they think they clipped down, and basically how they think they can change it.

Blanche proceeded to justify walking the track by saying, “to have them sit, that’s not what they need. They don’t need to be sitting. They need to be moving.”

Carrie also expanded on the idea that while walking the track sounds like “boot camp”, it was her belief that the children with discipline issues need PA. She explained, “Instead of the consequences of losing recess, it might be they walk 5 laps on the track at recess (laughs). I know that sounds cruel, a boot camp or something, but they need to move”. She continued by talking about other available options for disciplining children during recess, adding that the activities that children engage in may be limited as punishment and that these options are, in her opinion, better than having children miss part of recess by sitting out. She explains:

> “You know like the only thing you do is play in the central of the track where they are playing soccer, you can’t go swing and you can’t go, you know. I guess that’s kind of a punishment, like you kind of limit their recess choices, they still get to have recess, but it’s still not totally free, which also sound really cruel too (laughs), but at least they’re moving…. I guess the flip side of that coin is that you lost 10 minutes of recess, you have to sit out”

The teachers’ comments suggest that recess may be a highlight in a child’s day at school and can be leveraged as a means of modifying behavior. As PA is a natural part of recess, the time spent engaging in PA by children and potentially the view children have of activities used as discipline is impacted.

A few participants shared opposing views of the use of PA for discipline. From being concerned about how parents would view it to a belief that it would be seen as punishment and a detractor from future PA. Participants shared reasons why they opted to minimize or not use PA to modify behavior. Rose felt that the use of PA to discipline children could be trouble for a teacher. When asked if she had ever used PA to discipline a child she said, “I’ve seen teachers get in trouble for that. Cause you make them run too hard and hurt them *(sarcastically)*. So I don’t do that”. Miranda echoed this view stating:

> “I don’t use physical activity because when I was an intern, the children had to walk laps instead of just sitting for time out. Their time out was walking laps and parents complained that that was unfair, brutal behavior. I’m afraid to do that.”

The fear, or perceived trouble that might come from parents, led these teachers not to discipline through PA. This impacted the teachers’ view of the options available for discipline and behavior modification.

Overall teachers acknowledged that PA was used to discipline children as a form of behavior modifier. Only a small group of teachers stated that they opted out of this practice. The use of PA in this manner was used in all of the grade levels in which participants worked. Primarily, participants justified discipline through PA by indicating that the alternative would be having children sit out at recess. Participants indicated that they believed that many of the discipline problems that manifest in the classroom are a result of the very limited amount of movement and PA during the general instructional periods of the day.

Theory Grounded in Data

The following theory found in Fig. 1 was developed to explain factors that influence the perceptions of teachers regarding the physical activity among children during the school day. The three factors identified as influencing teacher perceptions of PA during the school day as a part of this study included the perceived responsibility for the role of PA in the school day, academic performance standards, and administration's view of physical activity. Each factor will be discussed in this section.

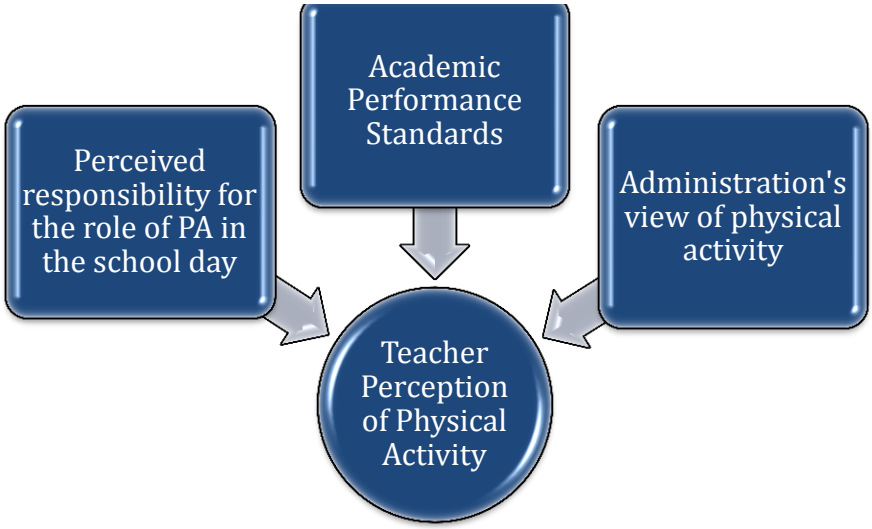

Figure 1. Factors influencing teacher perceptions of PA among children.

The "perceived responsibility for the role of PA in the school day" was the first of three factors associated with the model developed for this study. Teachers interviewed identified PE and recess as the primary means for children to engage in physical activity during the school day. Physical activity such as stretching, dancing, and deskersizes were secondary to more traditional means in the public school. Teachers appeared to view their role as instructional with physical activity being the delegated to PE and recess as these times were specifically allocated so that children could move and be active. Increasing awareness among teachers of their ability to impact the amount of

physical activity children engage in during the day by shifting perceived responsibility to the school as a whole, could positively impact children's access to physical activity during the day.

The second factor influencing teacher perceptions of physical activity was "academic performance standards". Teachers identified the standardized test as the primary focus of their classroom time. Instructional time was well defined with teachers focused on the academic content needed to prepare the children in their classrooms to pass the standardized test for Tennessee. As Carla pointed out during her interview, "it gets so hard to give up any time when you think, *they don't test that (screams).* And that's really awful and I find more and more that it's, it's becoming something you get this automatic gut reaction, *they don't test that, we can't do that! (screams).*" Portions of teacher evaluations in the state of Tennessee are tied to standardized testing and the scores of children in each teacher's classroom. Teachers appeared to be acutely aware that taking time away from instruction in the classroom could impact their yearly evaluations. This factor appeared to impact the perceptions of teachers and their willingness to increase the time allotted for physical activity in the classroom.

Finally, the administration of the school appears to impact the level that teachers engage the children in their classroom in movement and physical activity. Blanche highlighted the impact of administrator's on the perception of teachers when including physical activity in the classroom when she stated, "We used to put a testing sign outside the door and turn on the music and move around, hoping they didn't stick their head in. I think all that's changed." Teachers in the school that participated in this study felt that prior administration did not approve of any instructional practice that included

movement or strayed from traditional methods. Participants indicated that the new administration in the schools looked more favorably on the use of physical activity in the form of movement, stretching, and dancing. As administrators have oversight in the school environment, their influence is important to allowing teachers to engage children in innovative practices that include physical activity.

Together, the three aforementioned factors emerged as influencing the perception of teachers in relation to the physical activity among children during the school day. By impacting any of the factors, a school or district may have the opportunity to enhance physical activity offerings beyond recess and PE. This may provide school districts with the opportunity to meet or exceed physical activity standards set by the state through engaging children in the classroom and through instructional methods that connect physical activity to standards measured on the standardized test.

Chapter Summary

Chapter IV outlined the data around the participating teachers' perceptions of physical activity among children during the school day. Data were presented through the examination of the research questions that guided this study. In Chapter V, the implications of the data, the major findings, and recommendations for future research will be discussed.

CHAPTER V
DISCUSSION AND CONCLUSIONS

Chapter V provides a summary of the study of elementary teacher perceptions of physical activity among children. Sections include: (a) Major Findings, (b) Discussion and Implications, and (c) Recommendations for Future Research.

Major Findings

This study led to the following findings based on the responses provided by participants and the analysis of data to address the five research questions posed:

1. The majority of participants indicated a belief that physical activity was important to the physical and emotional wellbeing of children. While physical activity was identified as important, many participants did not actively incorporate it into the daily routine of the classroom beyond recess and mandatory Physical Education classes.
2. A general lack of knowledge of techniques such as deskersizes, NC energizers, and Take 10, was prevalent among participants leading to the potential for professional development opportunities in the future.
3. Obstacles to the inclusion of physical activity through in-class activities and additional time for recess included pressure on teachers for increased academic performance among students. This is especially true as it relates to scores on the state standardized tests. There is a lack of time to accomplish academic related curriculum and provide time for physical activity.
4. Many participants indicated that, in their experience, physical activity led to increased academic performance by providing children with an opportunity to channel energy during play time and assisting them in focusing during

instructional time.

5. In examining wellbeing, teachers noted instances where children seemed more engaged, happier, ready to learn, and demonstrated higher levels of focus when they were given opportunities to move and engage in physical activity.
6. Participants were able to identify times when physical activity was used as a behavior modifier for discipline by taking away recess time or using walking or “laps” as a way to modify behavior among children.
7. While most participants were aware of national standards and state standards related to the amount of time a child should spend engaging in physical activity per day, most participants indicated that they believed the standard was not attainable during the school day given the current demands on teachers for academic performance.

Discussion and Implications of the Findings

As a qualitative study with a sample of 12 elementary school teachers, this study is not generalized to elementary teachers as a population. However, the findings of this study may provide insight into the perceptions of teachers from similar populations and also assist in leading to future studies that employ larger samples around the research questions and the implications of the findings from this study.

In examining the data from this study, the majority of participants indicated a belief that physical activity has a positive impact on the wellbeing of children in their classroom. Participants identified times when children appeared to have greater focus, were happier, and were more ready to learn after engaging in physical activity such as recess. These findings suggest that teachers see a benefit to children in both their

attentiveness when participating in classroom academic activities, and their perceived levels of happiness and engagement throughout the school day. This was consistent with research by Huberty, et al. (51) that suggests that teachers view physical activity in a positive manner.

While teachers identified benefits for the wellbeing of children through physical activity, many participants did not incorporate physical activity into the classroom routine and curriculum. Participants were asked about a time when they used physical activity as a learning tool, specifically, times when they may have used Take 10, instant recess, deskersizes or NC energizers. Some participants indicated that they were not aware that learning tools like those aforementioned were available while others knew, but did not implement them into the classroom. For the few participants that were utilizing physical activity as a learning tool, they noted improvements in the overall behavior of children in the classroom and an increased focus during instructional time.

The perceptions of teachers regarding the pressure of standardized testing appeared to impact the number of opportunities children had for physical activity directed by their teachers. Teachers who were interested in physical activity for their class but, who were also deeply concerned about standardized tests, appeared less likely to incorporate extended blocks of time for physical activity during the school day. This may suggest that while teachers understand that physical activity can assist children, they are ultimately concerned with their personal evaluations and maintaining their employment. Huberty, et. al (51) also found that teachers felt pressure to perform and the focus was placed on standardized testing within the classroom. This suggests that school districts dictate policy and can assist in validating teacher concerns for

physical activity in the classroom by incorporating physical activity into teacher evaluations.

Administrators at the school and district level impacted the ability of teachers to blend physical activity into the school day, especially into the classroom. One teacher noted that they would place a “testing in progress” sign on their door to keep administrators from coming in the classroom while they were engaging in jumping jacks or other activities. Other teachers noted that former administrators placed very little value on physical activity. This caused teachers in the school to be cautious in using activities that incorporated movement as these techniques were considered a waste of instructional time, as opposed to enhancing that time. Utilizing professional development that highlights learning techniques that incorporate physical activity into the curriculum could assist teachers in increasing the tools that they have available for instruction. As professional development is sanctioned by the school district and individual schools, teachers may be more likely to attempt new techniques that have children moving if they are presented through the district where the teachers are employed.

Most participants were aware of national and state standards for physical activity among children, although few were able to provide the current requirements for recommended daily time for physical activity among children according to the National Guidelines for Physical Activity. The National Guidelines for Physical Activity (43) states that children and adolescence should attain 60-minutes of moderate to vigorous physical a day. Tennessee House Bill no. 3750 dictates that local education agencies are responsible for integrating a minimum of 90 minutes of physical activity into the

school day for elementary and secondary school students (63). However, participants quickly acknowledged that the standards were often not met due to perceived conflicting requirements for instructional time and academic pressure for higher standardized test scores. The data suggested that teachers were faced with a conflict between the perceived benefit to the wellbeing of children as brought by the inclusion of physical activity during the school day and the goal of the school system and state to press academic achievement as measured by the state's standardized test.

Physical activity was often viewed as separate of instructional time, as opposed to inclusive of instructional time. This was likely due to the limited knowledge of the participants for the use of physical activity as a learning tool and the pressure for academic yearly improvement on standardized tests. This raises a number of potential opportunities for increasing physical activity in K-12 schools by gaining buy-in among teachers for the inclusion of physical activity into their daily instructional time, illustrating the link between physical activity and academic achievement, and providing meaningful professional development opportunities for teachers that provide information on incorporating practical learning tools that utilize physical activity through deskersizes, Take 10's, and NC energizers, for example, into the classroom.

Overall, teachers interviewed suggested that an addition 15 minutes of physical activity could be found in the school day by incorporating physical activity into everyday activities like going to the bathroom, getting water, and moving during instruction and while going from one location to another. From participant responses, it appears that the school is meeting the physical activity requirements of the state and has the potential to exceed the standards through the creative incorporation of physical activity into the day.

When teachers take the lead in encouraging physical activity in the classroom and engaging children through active play, children may begin to build or expand on personal views of the importance of physical activity. Participants in this study noted that the children who may typically chose not to participate, would engage in kickball and outdoor games or in stretching and indoor physical activity if the teacher was also participating. This suggests that teachers may play an important role in impacting a child's perception of the importance or value of physical activity. Through active participation, teachers model that movement and physical activity is important and this modeling may impact the actions of the children that they teach. This finding may assist in developing healthy perceptions of physical activity among children.

Many participants indicated that they used or viewed others using physical activity as a behavior modifier during the school day. Participants were asked about times when they used physical activity as a positive (incentive) or negative (punishment) behavior modifier. In the instances discussed, children were made to walk laps, or had their participation in recess altered if they misbehaved during class time. Physical activity was also used, while indicated less frequently, as a positive behavior modifier. In these cases, recess was viewed as the primary outlet for physical activity. Participants provided additional recess time or opportunities to children to reward good behavior or offered recess as an incentive to elicit favorable behavior among children.

The use of physical activity as a behavior modifier, as it relates to punishment, may warrant further research in the future. The long-term impact on the physical activity choices of children, who are conditioned, by many teachers, to view physical activity as a punishment, as opposed to a reward, should be explored. As the nation faces

challenging obesity rates among children (1), teaching them to make healthy lifestyle choices, that include physical activity, may have a long term impact on the health of the nation.

Limitations

There were limitations associated with this study. This study was limited to twelve second and third grade teachers in an urban school in Tennessee. The small sample size means that findings are not generalizable to the broader population of teachers beyond this study.

Participants were able to recall their experiences with physical activity among children during the school day. However, at times they were challenged to recall specific examples that would expand on their comments. This presented a minor limitation that was offset by the richness of data collected through the interviews.

Finally, participants were often guarded in their initial responses to interview questions. As the interview progressed, participants began to expand upon their answers and would provide candid responses. On occasion, they required additional follow-up questions to be asked in order to probe deeper into topics as participants may have believed that some information would not be valuable or worth sharing.

Recommendations for Future Research

This study examined teacher perceptions of physical activity among children during school hours. Conducting further research on the perception of teachers would expand the literature and understanding of the challenges facing teachers and obstacles to implementing physical activity into the classroom and school environment. Recommendations for future research include:

1. Exploring obstacles to physical activity among children in school and teacher perceptions of solutions to addressing these obstacles. Teachers indicated that increased focus on academics tied to teacher evaluations led to a reduction in the amount of time teachers could or were willing to allocate to physical activity. Studies may examine the academic benefit to incorporating physical activity into the curriculum, tied to initiatives such as the Common Core Curriculum.
2. Studies may explore children's perceptions of physical activity and readiness to learn. Participants in this study indicated that physical activity appeared to assist in focusing children and increasing their readiness to engage in the classroom instruction. Exploring children's perceptions of wellbeing in schools that successfully incorporate physical activity into the curriculum could provide information that shapes curriculum development initiatives that connect wellbeing to engagement in learning activities.
3. Further research is needed to understand the use of physical activity as a behavior modifier in K-12 classrooms. Teachers identified situations where physical activity was used to punish children who misbehaved or instances when time that was allocated for recess or other physical activity was instead used for academic activities such as the completion of homework or other academic related endeavors. Exploring the underlying beliefs that lead teachers to use physical activity as a behavior modifier could assist in practitioners addressing misconceptions about physical activity and ways that physical activity can be used to promote a healthy

lifestyle as opposed to deter children from engaging in physical activity as a lifestyle choice.

Concluding Comment

This study was intended to explore the perceptions of teachers and physical activity during the school hours. Interviews revealed that teachers believe that there are obstacles to incorporating physical activity into the daily school routine beyond state mandated Physical Education and recess opportunities. This is especially apparent in the pressure on teachers to increase the academic performance among children on state standardized tests. Teachers indicated that they feel they are under increased scrutiny and that time spent on perceived non-academic related activities, such as providing physical activity for children, takes away from classroom instruction time that they perceive will impact students' standardized test scores and ultimately the teacher's yearly job performance review.

An opportunity exists to further explore the connection between physical activity and academic performance, and ways to communicate potential benefits through professional development opportunities for teachers that provide both information and practical avenues for application to the classroom. Understanding and illustrating the practical means through which physical activity can be utilized to meet the objectives of the school systems for the academic growth of students, while also assisting teachers in meeting their yearly performance goals, would be a benefit for the long term wellbeing of students and education alike.

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APPENDICES

Appendix A
Information Sheet for the study

THE UNIVERSITY of TENNESSEE KNOXVILLE
COLLEGE of EDUCATION, HEALTH, & HUMAN SCIENCES

April 20, 2013

Dear Teacher,

The purpose of this letter is to invite you to participate in a research study entitled: *Elementary school teachers' perceptions of the role of physical activity in schools.* This study will be open to all teachers with a minimum of 2 years teaching experience, including the current school year, teaching in grades 1, 2, and 3 at the Lenoir City Elementary School. Should you choose to participate, the study will consist of a brief questionnaire and interview that will take about 1 hour to complete. The specific details of the study are provided in the attached consent form. This study is being conducted by Amanda Harrison, a graduate student in the Department of Kinesiology, Recreation, and Sport Studies. To take part in this study please contact Amanda Harrison via email: aharri78@utk.edu. Participants will receive a $10 Target gift card after completion of the study. Please contact Amanda Harrison with any questions concerning this study before signing the consent form (Amanda Harrison email: aharri78@utk.edu and/or 865-974-5091).

Thank you for your consideration.

Regards,

Amanda Harrison

Appendix B
The University of Tennessee
INFORMED CONSENT STATEMENT

INTRODUCTION

You are invited to participate in a research study. The purpose of this study is to examine teachers' perceptions of children's physical activity during school hours.

INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY

A minimum of two years teaching experience (inclusive of the current school year) is required for participation. If you agree to be a part of this study, you will be asked to complete an interview and a demographic form. The interview will require about one hour of your time. You will receive a $10 Target Gift Card for completion of this study.

RISKS

There is minimal risk to participants in this study. The risks are no greater than expected for a person reflecting on personal experiences, inside and outside of the classroom, related to the physical activity of children. Participation in this study is strictly voluntary.

BENEFITS

There is no direct benefit to participating in this study. The results from the study may lead to a better understanding of teacher perceptions of the benefits of physical activity for elementary school children and may contribute positively to the development of future professional education and legislation.

CONFIDENTIALITY

Interviews will be digitally recorded with transcripts made from the recording. All digital copies will be stored on the researcher's password protected computer and will be deleted upon transcription. Transcripts will be rendered anonymous prior to data analysis with all data using pseudonyms for reporting. Personal identifiers, including participants' name, consent, and demographic forms, will be kept separate of all transcriptions.

CONTACT INFORMATION

If you have questions at any time about the study or the procedures used during this study (or you experience adverse effects as a result of participating in this study), you may contact the researcher, Amanda Harrison via email at aharri78@utk.edu or via phone at (865) 974-5091. If you have questions about your rights as a participant, contact the Office of Research Compliance Officer, Brenda Lawson at (865) 974-7697 and/or blawson@utk.edu.

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed your data will be destroyed.

CONSENT

I have read the above information. I have received a copy of this form. I agree to participate in this study.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

Appendix C
Elementary School Teacher

DEMOGRAPHIC FORM

1. Age: _____
2. Gender:
    - ○ Male
    - ○ Female
3. Racial and Ethnic Background (Choose one):
    - ○ American Indian
    - ○ Alaskan Native
    - ○ Asian
    - ○ Black, African American, African Descent
    - ○ Hispanic origin or descent
    - ○ Native Hawaiian or Pacific Islander
    - ○ White
4. Years as a teacher: _____
5. Highest level of education?
    - ○ Associates/Trade School
    - ○ Undergraduate
    - ○ Graduate/Masters
    - ○ PhD. Or Equivalent
    - ○ Other
6. Do you know there are physical activity recommendations for school-aged children?
    - ○ Yes
    - ○ No

Appendix D
Interview Protocol

Interviewer:
Thank you for taking the time to speak with me today. I am interested in understanding teacher perceptions of the role of physical activity among children in the school environment. Specifically, I would like to ask you questions about your perception of the impact, or the lack of impact, of physical activity on behavior in the classroom, social development and academics. The interview will be recorded to assist with transcription. All recordings will be destroyed following transcription and all transcriptions will be rendered anonymous prior to analysis. Is it okay if I record this interview with you today?

[Participant Responds]

If the participant agrees then:
Interviewer: Thank you for allowing me to record our discussion today.
We will start with a discussion of physical activity and then move on to looking at how physical activity may impact children in the school environment.

If the participant does not agree then:
Interviewer: Per your request, I will not record this interview.

Question 1: When you hear the phrase “physical activity”, what does it mean to you?
[*Interviewer comment: Thank you for that information. In adding to you what you are saying, another way of thinking about physical activity is any muscle movement.*]

Question 2: Can you tell me about ways in which children engage in physical activity in your school?

Probe – 1. In your classroom?
2. at recess?
3. PE?

4. at other times during the school day?
5. anything else?

Question 3: Can you tell me about a time when you have used physical activity as a teaching and learning tool?

Probe: 1. Take 10?
2. instant recess?
3. deskersizes?
4. NC energizers?
5. anything else?

Question 4: How do you feel physical activity impacts children while in school?

Probe – 1. Such as outcomes in children's behavior?
2. impacts academics?
3. readiness for learning?
4. mental or social wellbeing?
5. anything else?

Question 5: Reflecting on your experience, can you think of a specific time where you've seen physical activity **positively** impact students?

Probe - Examples include:
1. behavior
2. social status/relationships
3. academics
4. readiness for learning
5. anything else?

Question 6: Reflecting on your experience, can you think of a specific time where you've seen physical activity **negatively** impact students?

Probe - Examples include:
1. behavior

2. social status/relationships
3. academics
4. readiness for learning
5. anything else?

Question 7: Do you feel that physical activity is an important part of a child's day in school?

Probe: Why? Why not? Can you elaborate?

Question 8: Can you tell me about ways that you personally incorporate physical activity into the school day?

Probe: Why? Why not?

Question 9: Do you think it's important for teachers to know about physical activity?

Probe: Why? Why not? Can you elaborate?

Question 10: Do you believe that school should take a lead in incorporating physical activity inside and outside of the classroom?

Probe: Why? Why not?

[*Interviewer Note: If the participant responds with "yes" to the following question "Do you know that there are physical activity recommendations for school-aged children?" then ask question 11.*]

Question 11: What do you think is the recommended minimum amount of physical activity a child should receive each day?

Question 12: The Physical Activity Guidelines for Americans recommend a minimum of 60-minutes of moderate to vigorous physical activity a day for children ages 6-17 years. Considering this suggested level of daily physical activity, do you think that it is possible for schools to meet these guidelines for physical activity? Why? Why not?

Probe: What recommendations, if any, could you suggest for schools that would increase children's physical activity?

Question 13: On average, how much physical activity do you believe children in your grade level receive each day at school? Why? Why not?

Question 14: Can you tell me about a time when you used physical activity to discipline a child?

Probe - Examples might include:

1. running laps or push-ups at recess for misbehavior or for work not completed
2. taking time away from recess for misbehavior or for work not completed
3. anything else?

Question 15: [*Interviewer Comment: The Power$^{up®}$ program is held prior to the start of school in the mornings and helps get Kindergartners through third graders physically active before heading to class*]. Have you heard about the Power$^{up®}$ program at this school?

Question 16: How do you feel about the Power$^{up®}$ program in this school?

Question 17: Can you tell me if you have seen any differences in the kids who are enrolled in the program verses the kids who are not in it?

Probe – For example:

1. behavior
2. social status/relationships
3. academics
4. readiness for learning
5. anything else?

Question 18: Would you be interested in learning more about physical activity as an in-

service topic/opportunity?

Question 19: Is there anything else you think is important for me to know?

Closing Comments:

I would like to thank you again for your time and for providing your insight into physical activity among children in school. Do you have any questions for me? Thank you again. This concludes the interview.

VITA

Amanda M. Harrison was born in Gastonia, NC and currently lives in Louisiana with her husband and two children, Lauren and Molly. Amanda graduated from the University of North Carolina at Greensboro in 2002 with a degree in Fine Arts. Following graduation Amanda traveled to Tennessee where she pursued her studies in Kinesiology at the University of Tennessee. She currently works as a Cross Country coach and conducts physical activity assessments among children in elementary and middle schools. Amanda is engaged in physical activity assessments being conducted at schools through collaboration with faculty at Louisiana Tech University. Through this and other endeavors, she continues her commitment to promoting physical activity initiatives and the benefits of exercise to the physical, social, and mental wellbeing of children.