

ELEMENTARY SCHOOL LEADERS' PERSPECTIVES ON PROVIDING
MOVEMENT OPPORTUNITIES TO THE STUDENTS THEY SERVE

by

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Students They Serve

A Dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at George Mason University

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Dedication

This is dedicated to my loving wife Mary, my three wonderful children Miles, Mara and Mae, and to the host of teachers and learners with whom I have had the pleasure of interacting over my 20 years in education.

Acknowledgements

I would like to thank the many friends, relatives, and supporters who have made this event possible. My wonderful wife, Mary, supported my journey every step of the way and helped me to stay on track. My children amazed me with an understanding of the work and my need to perform it. Drs. Smith, Banville, and Samaras of my committee were of invaluable help as well. Finally, thanks go out to the many professionals in the field whose universes I was able to observe in order to get this work done.

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Abstract

ELEMENTARY SCHOOL LEADERS' PERSPECTIVES ON PROVIDING MOVEMENT OPPORTUNITIES TO THE STUDENTS THEY SERVE

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Childhood obesity remains a serious problem in the United States. One way to combat this growing trend— in addition to providing other health and academic-related benefits—is to increase childrens' physical activity. Seven principals from suburban school districts in the east coast region who have either created or who actively champion additional daily movement for their students were interviewed and discussed, among other things, barriers to providing movement, how to overcome those barriers, how to best utilize stakeholders, and the movement opportunity discrepancies between economically disadvantaged students and their economically advantaged peers. Participants identified barriers such as a lack of time, a lack of physical resources, teacher mindset, and general teacher reticence. They overcame these barriers with creative, flexible approaches that sought to unite the entire school in one vision. By accessing facilitator passions and forming

political relationships, stakeholders were utilized most efficiently toward these ends. And participants agreed that movement opportunities for economically disadvantaged students are not as common as they are for economically advantaged peers due to a lack of transportation, a lack of experience, and financial concerns. Future research in this field should study leader mindset related to movement opportunities and should investigate the relationship between being an effective Movement Champion in the elementary setting and coming from either a physical education background or participating in competitive sports.

Chapter 1

Physical activity is widely considered an important component of a healthy lifestyle (Kristjansson et al., 2015). Inactivity accounts for 6-10% of all non-communicable deaths worldwide, making it the fourth leading cause of death (Kohl et al., 2012). These statistics--and others like it--have served to fuel a growing interest in the physical health of students in the United States. While many in the health and wellness profession seek to move past the vestiges of a test-heavy No Child Left Behind era, the slow momentum of change in schools makes that a very difficult process. Finding room for additional recess-time or before or afterschool movement opportunities, for instance, is much easier said than done as few school leaders are quick to place a premium on bringing increased activity to the students they serve.

With this study, I located K-12 school-based administrators in the east coast region who are committed to developing or overseeing increased movement opportunities (termed "Movement Champions") within their schools. Through semi-structured interviews, I learned from them, among other things, the barriers they have been able to overcome in their respective journeys, and the critical partners with which they have been able to collaborate. I undertook this study using critical theory, intentionally studying the way movement opportunities are different for economically disadvantaged students.

Research Synopsis

Physical inactivity is a growing problem for young children, and is leading to some very negative outcomes across the United States and throughout the globe. Among youth aged 5 – 12 years, at least 60 minutes of moderate to vigorous physical activity (MVPA) is recommended for healthy growth and development (Okely et al., 2012). Despite scores of data that reveal the critical need for movement, the majority of school-aged children are falling short of achieving this mark (Tremblay et al., 2014). In fact, the World Health Organization has deemed increasing the physical activity of young people a public health priority (Candeias, Armstrong, & Xuereb, 2010).

One proven way to combat this worrisome trend is to provide more opportunities for students to engage in physical activity during the school day. Logically, given their near-universal access to children, schools are an ideal setting for the delivery of physical activity programs and initiatives (Carter & Zwinburn, 2004). Research suggests that systematic efforts of school-based interventions seeking to increase students' opportunities for movement have been found effective in raising daily MVPA (Dobbins, Husson, DeCorby, & LaRocca, 2013). Given this fact, many nations have set guidelines or policies mandating activity time during the school day. Despite this, research has found that a clear majority of schools internationally fail to implement policies such as these (Harrington, et al., 2014).

For example, Thompson, Linchey, and Madsen found, by observing 154 physical education lessons in the San Francisco Unified School District, that only 5% of schools were following state-mandated policies requiring a minimum of 100 minutes of physical

education to be taught on a weekly basis (2011). And again, this is not just a shortcoming for residents of the United States. Studies from both Canada and Australia have found physical activity implementation in schools to be severely lacking (Mâsse, Naiman, & Naylor, 2013; Ministerial Review Committee for School Sport and Physical Activity, 2007).

One seemingly clear factor in this increase in sedentary behaviors among U.S. children was the implementation of the No Child Left Behind (NCLB) Act of 2001. NCLB placed a greater emphasis on academic achievement in the United States, and as a consequence time allocation during the day for subjects like physical education decreased (Center on Education Policy, 2008). Students were sitting for a double session of math or English—the two subjects with increased accountability—and participation in a well-rounded education suffered because of it. Many studies have concluded that increased time spent in physical education class—or other programs promoting physical activity—does not negatively impact academic performance, and it may be associated with academic benefits (Carlson et al., 2008; Castelli, Glowacki, Barcelona, Calvert, & Hwang, 2015).

Research Gaps Intended to Fill

While the preponderance of research on the topic reveals that physical activity plays a critical role in the healthy growth of our young people, there still exist many schools across the country that are failing to offer the students they serve ample opportunities to be active. Given the recent and current climate of academic accountability heaped onto the shoulders of building leaders and their staffs, it is no great

mystery why subjects which do not typically have as many state-mandated or formal assessments, like physical education, are getting pushed to the back-burner.

Despite this, in isolated silos across this country, some education leaders are placing a high value on student-health and are finding ways to bring activity opportunities to their students. It is these Movement Champions with which I chose to engage to discover how they are able to overcome the typical barriers that seem to be unavoidable for the majority of school leaders. And I have examined especially closely those efforts to provide movement opportunities to economically disadvantaged students as compared to their economically advantaged peers. How are leaders in *those* buildings able to provide adequate opportunities for physical activity while so many others facing similar circumstances are not? Speaking with Movement Champions from various types of schools will ultimately provide great insights as to how they have been able to provide for the healthy development of the students they serve, while overcoming barriers common to all school leaders.

Research Questions

I began my investigation knowing that I wanted to pursue movement, its importance to students' daily lives, and whether or not all students are given the same opportunities to take part in it. From there, I have continued to examine the literature for guidance and refine my inquiry until arriving at the following guiding questions:

1. Which common and potential barriers, if any, are Movement Champions facing in order to provide additional opportunities for movement in their schools, and how have they been able to overcome them?

2. How do Movement Champions utilize critical school and community partners in their efforts to offer increased movement opportunities to students during the school day?
3. Do Movement Champions see the existence of a movement-related opportunity gap between the economically disadvantaged students they serve and their economically advantaged peers, and if so, what do they do to close it?

Theoretical Framework

Investigating this topic using critical theory has allowed me to better understand how socio-economic status (SES) plays a role in physical activity opportunities by intentionally seeking certain conditions to observe. The preponderance of research to date on this topic finds that economically disadvantaged students are typically not given the same opportunities for movement during the day as are their economically advantaged peers. And in this country, economic disadvantage tends to coincide with race, specifically non-white status (Castanyer, 2019). This intersectionality is difficult to dissect and examine individually. A major focal point of this study will be exploring movement opportunities given to economically disadvantaged students. In both the research presented as well as my findings, these economically disadvantaged students are typically African American or Hispanic.

One study illustrating this intersectionality is from Roth, Brooks-Gunn, Linver, and Hofferth (2003). These authors, in what was one of the few research efforts that used data from an ongoing study of a nationally representative sample of U.S. individuals and their families, found that both African American students as well as students living below

the poverty line experienced vastly less recess time than did their White, middle-upper class peers.

Critical Theory Background

Critical Theory is a philosophical approach to culture, among other things, that attempts to identify and confront the social, historical, and ideological forces and structures that produce and constrain it. It has its roots in the Institute for Social Research, located within Goethe University in Frankfurt Germany. Founded in 1923 by Felix Weil, the institute was created to further the studies of Marxism in Germany. With the onset of WW II, the institute moved across the ocean to New York City and Columbia University for several years, but eventually finding its permanent home back in West Germany (Coradetti, no date given).

In line with the vision of early theorists, a “critical” theory differs from a “traditional” theory in one specific purpose: a theory is critical to the extent that it works to achieve “emancipation from slavery,” acts as a general “liberating . . . influence,” and works to create a world which “satisfies the needs and powers” of human beings (Horkheimer, 1972, p. 246).

Following the original definition of the approach, given by Max Horkheimer, considered the father of Critical Theory, a theory is only truly “critical” if it meets three criteria: it explains what is wrong the current social reality, identifies those involved seeking to change it, and it provides both clear criticism and practical goals designed to result in social transformation (Bohman & Zalta, 2016).

Because theories such as this are designed to explain and transform the many circumstances that enslave or unjustly treat human beings, many “critical theories” have been developed in association with the social movements that have unfolded across the globe in the last hundred years. For instance, Critical Race Theory (CRT) is a commonly used theory that seeks to identify and address the general mistreatment and societal bias toward racial minorities. Much more than just an investigation into the topic, CRT tries to develop methods for addressing improper treatment.

An important distinction to make both in this movement and in this paper, is the capitalization, and lack thereof, of “Critical Theory.” When capitalized, “Critical Theory” refers specifically to the original movement within the Frankfurt school that begins with Horkheimer and continues through several other German scholars. They sought to address inadequacies specific to the world and their setting at that time. However, “critical theory” remaining lowercase—and the way in which I intend to use it—refers to any theory in the broader sense that seeks roughly the same objectives (Bohman & Zalta, 2016).

Today, the practice of applying critical theory involves several elements of Horkheimer’s initial vision: a social philosophy. The practice remains in close and constant dialogue with the social sciences, and has become a multi-disciplinary enterprise. It is consistently practiced in the fields of anthropology, politics, sociology, psychology, and literature (not to mention education), and it embraces an array of research methods aiming to critique an existing belief or stance (Morasco, 2017).

In this way, critical theory aligns well with the goals of this study. I have both identified and addressed the inequity of movement opportunities given to economically disadvantaged students in the elementary public school setting in this country.

Methodological Techniques

Using semi-structured interview questions, I gained an understanding of the experiences of the participating Movement Champions in relation to their efforts to build, oversee, or maintain increased physical activity opportunities within their schools. I applied qualitative practices as I sought to make meaning from participant data. After collecting and codifying the data, I identified themes that showcased successful practices, attitudes, or partnerships in creating each participant's work. Finally, I engaged in a discussion within my study that applies what I have learned from these leaders to the field of health and wellness. I intend for this work to act as a resource for administrators, both current and future, who might not have the tools necessary to deliver such outcomes.

My steps toward meaning-making were intentional and slow, ensuring my work was informed by my data and not by, among other things, the prevailing attitudes and experiences I bring to it.

Study illustration. Representing my ideas with an illustration has always been of great assistance to my own thinking process. In the below illustration, I worked to capture the fact that research suggests economically advantaged students have a seemingly unfair edge (a crane helping to lift them) when trying to overcome the various barriers to movement opportunities in school. While Movement Champions can try to break down those barriers for the economically disadvantaged students (the balls thrown at the

“Barriers” wall), I am not exactly sure how that is being done (“??” on the balls being thrown).

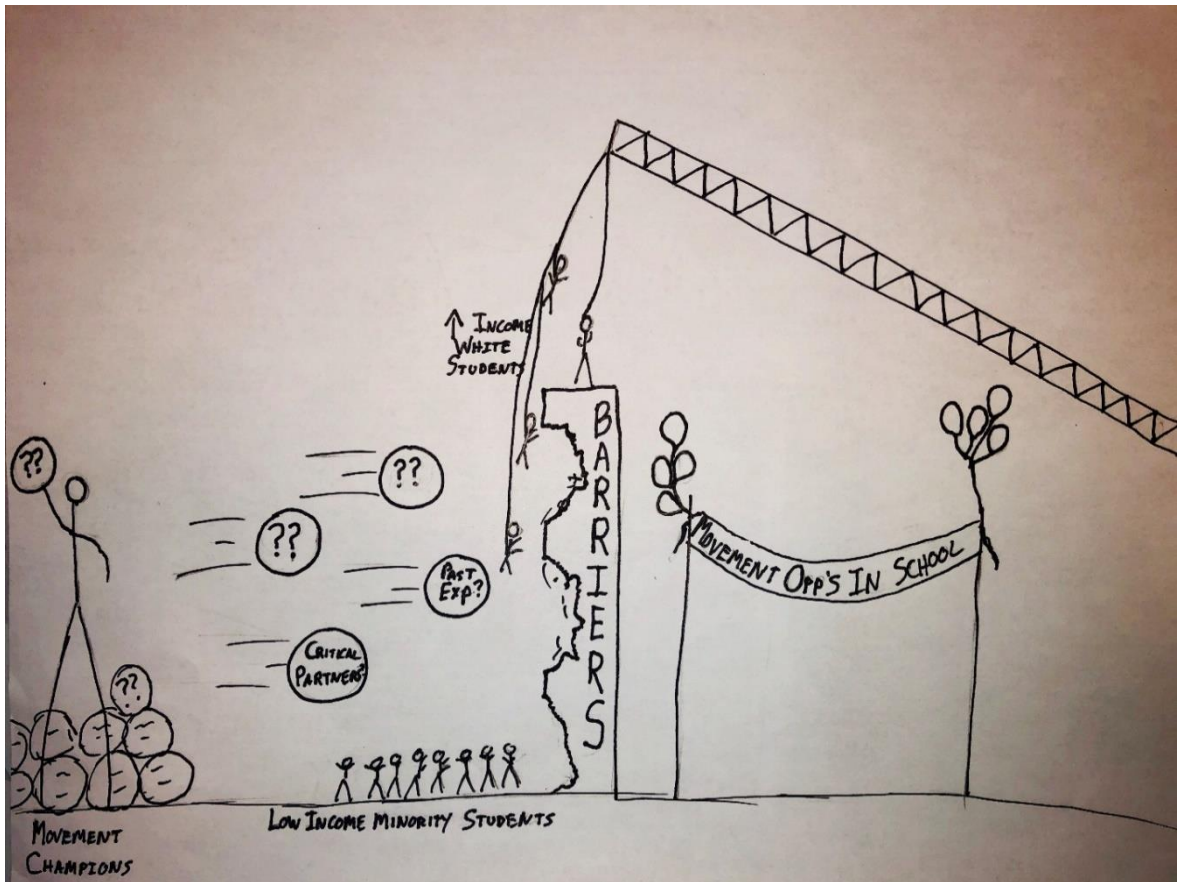


Figure 1: Illustration

Visual Representation of Barriers to Movement

Significance of Study

This work will provide key insights that are related to some of the deepest rooted problems our national school system faces. While the reauthorization of the Elementary and Secondary Education Act (ESEA), the Every Student Succeeds Act (ESSA), is

eliminating terms like “core classes” and introducing concepts like “well-rounded education” that seek to ensure students are exposed to and excelling at more than just math and English, my work is a step in the direction of determining how particular leaders are finding success. If current trends continue and active classroom strategies become increasingly popular in education, the conclusions I have drawn from discussions with these Movement Champions will provide strong examples of how this work can be accomplished. Also, my work has spotlighted some of the inequities that currently exist in our education system, in terms of income, and can provide some explanation as to how to address those disparities.

Given the many proven benefits physical activity offers the minds and bodies of students, this work provides additional insights into the health and wellness of students. Even though many educational leaders may fail to grasp and/or employ the empirically proven benefits of physical activity for their students, if we are to take seriously the charge of providing ALL students with a well-rounded education that mindset has to change.

Researcher Identity

I have 15 years of experience in the public school classroom, the last six being in a health/physical education capacity at the elementary level. Following that role, I became an Instructional Specialist in the neighboring school division coordinating, among other things, the K-12 health/physical education program.

Movement within the school setting is very important to me, and it is something I have doggedly pursued over the length of my career. Some of my largest initiatives

currently involve creative ways of bringing physical activity to all students in the school setting (e.g., Bicycles in the Schools [BITS] program, and Students Physically Learning About Swimming and Health [SPLASH] program).

Despite the importance of movement in my professional and personal lives, I worked hard to objectively listen to and capture the various elements put forth by my study's participants. I shared my analysis process very closely with the methodologist in my committee, a highly-respected qualitative investigator, to ensure that my own feelings and opinions were not clouding my results.

Definition of Terms

Comprehensive School Physical Activity Plan (CSPAP): A multi-component approach by which school districts and schools use all opportunities for students to be physically active, meet the nationally-recommended 60 minutes of physical activity each day, and develop the knowledge, skills, and confidence to be physically active for a lifetime. A CSPAP reflects strong coordination and synergy across all of the components: quality physical education as the foundation, physical activity before, during, and after school, staff involvement, and family and community engagement (CDC.gov, retrieved March 16, 2019).

Critical Theory: a philosophical approach to culture, and especially to literature, that seeks to confront the social, historical, and ideological forces and structures that produce and constrain it.

Economically Advantaged: Students who do not qualify for Free and Reduced Meals (FARMs)—household income is above 130% of the poverty level.

Economically disadvantaged: Students who qualify for Free and Reduced Meals (FARMs)—household income at or below 130% of the poverty level.

Moderate to Vigorous Physical Activity (MVPA): Moderate physical activity includes activity that raises the heart-rate mildly like brisk walking or bicycling, while vigorous physical activity produces large increases in breathing and heart rate, such as jogging or aerobic dance.

Movement Champion: A building-based leader who either intentionally creates or actively supports a school-based movement program or movement opportunities within his or her school (e.g., extending recess for students, instituting a mandatory morning or afternoon school-wide activity period, supporting classroom-based brain boosts.

Movement Integration (MI): Incorporating physical activity, at any intensity level, into normal classroom time during routine transitions, as part of academic lessons, or by providing physical activity breaks (Parks, Solomon, & Lee, 2007; Webster, Russ, Vazou, Goh, & Erwin, 2015).

Physical Activity: Any body movement that includes utilizing the muscles and results in more energy expenditure than does resting.

Physical Education: Instruction that provides cognitive content designed to develop motor skills, knowledge, and behaviors for physical activity and physical fitness

Recess: Period in schools where students are given typically 5 – 25 minutes of unstructured supervised play time.

Chapter 2

In order to successfully research my topic, “movement opportunities previously and currently provided to students in schools,” I performed a lengthy review of web-based databases (e.g., Education Research Complete, Sportdiscus) aiming to provide studies, articles and other publications that pertain to the field of education. I then expanded my search to gather the background and related information I would need to properly situate my topic into the education setting. First, I delved into the relationship between movement and academic success, hoping to lay groundwork for why my study is important. I found that a correlation between these two topics dates back nearly a half-century, and that this research has grown tremendously in the last decade or so with empirical studies finding a positive correlation between the two.

Next I began a closer examination of the different types of movement opportunities traditionally afforded students during school. This search revealed many interesting facts about Comprehensive School Physical Activity Programs (CSPAPS), recess, and several other thoughtful mechanisms for movement.

Finally, I searched this literature for the disparities that have been found in past studies economically disadvantaged students and their economically advantaged peers in terms of movement opportunities offered in the elementary setting. Though I did find studies that demonstrated no differences in physical activity levels between the two

groups, the preponderance of evidence I found suggested economically disadvantaged students often do not have the same opportunities for movement during the school day as do their economically advantaged peers.

This research led me to create the following research questions in order to better understand the barriers that building leaders face each day as they seek to provide movement opportunities for the students they serve, and a few other related inquiries:

1. Which common and potential barriers, if any, are Movement Champions facing in order to provide additional opportunities for movement in their schools, and how have they been able to overcome them?
2. How do Movement Champions utilize critical school and community partners in their efforts to offer increased movement opportunities to students during the school day?
3. Do Movement Champions see the existence of a movement-related opportunity gap between the economically disadvantaged students they serve and their economically advantaged peers, and if so, what do they do to close it?

There is a growing consensus among health-related researchers that a positive relationship exists between physical activity and an increase in various aspects of cognitive performance (Castelli et al., 2014; Howie & Pate, 2012; Khan & Hillman, 2014; Tine & Butler, 2012). Successful implementation of activity and programs meant to get students more active serve our country's youth in two ways: They assist in combating the serious childhood obesity problem our country is facing (Erwin, Beighle,

Carson, & Castelli, 2013); and they better prepare students for classroom success (Goh, Hannon, Webster, Podlog, & Newton, 2016).

Unfortunately, it has been found quite consistently that not all students receive the same opportunities to enjoy these benefits (Kwon, Mason, & Welch, 2015; Basch, 2011; Trost, et al., 2009). Research to date mostly confirms the notion that there exists an opportunity gap between economically disadvantaged students and their economically advantaged peers. For instance, in one of the few research efforts that used data from an ongoing study of a nationally representative sample of U.S. individuals and their families, Roth, Brooks-Gunn, and Linver (2003) found that 56% of those living at or below the poverty line had time allocated for recess, compared to 83% of those students from families living above the poverty line.

Research journals are replete with explanations for why economically disadvantaged students might not have these opportunities outside of school. Common to the experiences of young people in these situations are living in areas of high crime and neighborhood disorder, and limited or no access to safe parks and/or recreational facilities (Trost et al., 2013). But the research is not so clear in providing explanations for why these students are not given equal opportunities during the school day. The aim of my research will be to qualitatively investigate the barriers and potential solutions involved with offering *all* students physical activity during the day in accordance with nationally recommended levels.

Providing background information in this important conversation is a critical step toward better understanding the important factors related to students and their

opportunities for movement. Tracing the discovery, expansion, and refinement of the relationship between movement—even different types of movement—and its benefits was a logical place to start.

The Historical Development of the Relationship between Physical Activity and Academic Achievement

Prior to examining recent and historical literature covering the disparity in movement opportunities between White and minority students, it is important to understand how physical activity came to be linked to academic achievement and other cognitive functions. Researchers first began studying the relationship between physical activity and academic performance in the late 1960s. Ismail (1967), perhaps the first researcher to look closely at this topic, found exercise to have positive effects on academic performance using the metric of standardized tests. With important contributions from O'Connor (1969) and Flynn (1972), research in this field continued to grow. O'Connor, who studied 123 first-graders from Austin, Texas, was able to link physical activity to score increases on motor activities (i.e., squat jumps, ball-bounce test, balancing on one foot with one eye closed), but she was not able to make a connection to academic achievement. Her contribution to the field was to begin down the path of identifying the many and varied benefits of physical activity, ultimately paving the way for later research to connect to cognitive skills and academic achievement. She also foreshadowed that moving forward in this field would necessitate controlling for the many outside variables in future research (1969). This work laid the foundation for the oftentimes messy work of isolating specific variables in the educational context. Flynn's contributions were of a different variety; he looked at exercise intensity and its

relationship to academic performance. Using controlled exercise protocols on a bicycle, he determined that academic performance was at its best at moderate intensities, and at its worst during the lowest and highest intensities. This seminal study paved the way for future examination of intensity measurement and its resulting effects on cognition. Though both of these studies lack the rigor that today's researchers would consider necessary when working with empirical data, they began a line of inquiry that would eventually grow in scale and come to dominate the health and fitness field.

The next two decades saw field research contributions come in the form of measuring indirect pieces of the academic achievement equation, as opposed to addressing only test scores. For instance, Dwyer, Coonan, Worsley, and Leitch (1979) studied over 500 Australian students (mean age 10) in one of three fourteen-week programs: an endurance fitness program, a skills-based program, or a control program. The fitness group experienced significant gains in physical work capacity and decreases in body fat compared to the control and skill groups. Among other results, both the fitness and skill groups demonstrated improvements in classroom behavior compared to the control group. Another example of this phenomenon exists in a study by Tuckman and Hinkle (1986). The authors examined the relationship between participation in a 12-week running program (in lieu of traditional physical education classes) and in-class behavior and creativity as indirect measures of academic performance. Participants in the experimental group (N=154 4th, 5th, and 6th graders) had lower pulse rates and performed better on a test of creativity than did regular physical education attendees. Both of these

studies are examples of indirectly targeting the effects of physical activity on measures other than culminating assessments.

Continuing to investigate different avenues of research relating to activity and its effect on academic outcomes, field researchers, over the next ten or so years, switched to examining acute bouts of physical activity within the school day and its related effects on cognition. For instance, recess became a frequent variable in studies investigating a link between activity and academic performance. When examining the results of two studies that looked at this school-based break during this time period, it became clear that recess had the potential to positively impact students. In one study, participation in recess resulted in mixed findings across three elementary grade levels. As measured by the Woodcock Johnson Test of Concentration, 4th graders in the physical activity group saw increased performance, but 2nd and 3rd graders did not (Caterino & Polak, 1999). And in the other study, which looked at 43 elementary aged children in a southern urban school district where special permission was granted for students to have recess once a week, the majority of students involved, especially those with Attention Deficit Disorder (ADD), showed significantly fewer off-task behaviors on days when they participated in recess (Jarrett et al., 1998). As this and other work centering around recess began to consistently present meaningful contributions to the literature, the nation was about to move into a period of heightened interest and accountability surrounding the “core” subjects of math and English/Language Arts. This shift would result in schools and teachers continually massaging traditional schedules in search of more student seat time in these areas. As one author put it, “There was talk of eliminating recess so kids could spend more time on the

‘important skills’ necessary to pass the tests” (Pellegrini, 2008, p. 184). And in many schools, that is just what they did.

With the implementation of No Child Left Behind (NCLB) in 2002, much of the momentum gained by those advocating for the importance of movement in schools (and in general) had been thwarted. “The influence of NCLB had unintended consequences whereby school administrators elected to reallocate time reserved for physical activity to academic remediation programs and standardized test prep” (Castelli et al, 2012, p. 122). In fact, in 2006, only 3.8 percent of elementary schools, 7.9 percent of middle schools, and 2.1 percent of high schools offered students daily physical education or its equivalent for the entire school year (Trost & Van Der Mars, 2006). This was a setback for not only physical education, but for many of the other subjects that reside outside the “core” (e.g., music, art, foreign language). But not all of the work done during this period validated the idea that more time in the classroom would result in increased academic performance. One study of 547 elementary schools in Virginia found that neither reductions in physical education, art, or music, nor additional time spent in academic subject matter classes such as math and reading resulted in higher academic performance (Wilkins et al., 2003).

As the NCLB era came to a close, decreased opportunities for movement in schools slowly began to turn into a newfound worldwide awareness of the importance of physical activity in the lives of young people. With the advent of such national programs as First Lady Michelle Obama’s Let’s Move! Campaign, as well as other large-scale national and regional initiatives designed to get young people healthy and active, recess and other forms of daily movement were being ushered back into the classroom.

Alongside this growing national awareness for the importance of physical activity has come more definitive research from the scientific community that finds a positive link between physical activity and academic achievement—or aspects thereof. For instance, Howie and Pate recently wrote a historical perspective of this association, conducting a review of 125 articles on the subject. They summed up their findings clearly:

The overwhelming majority of published articles report positive associations between PA (physical activity) and cognition, particularly executive functions, and academic achievement. Little to no evidence that suggests a negative relationship between PA and academics has been published, but results might be prone to reporting bias (Howie & Pate, 2012, p. 166).

Movement Opportunities in School

Compulsory attendance at school in this country has created a tremendous opportunity for various wrap-around services to effectively reach high numbers of students. It is not uncommon to see dental, vision, or other health-care based industries partnering with schools or districts serving students with high needs so that they are better able to deliver their services and generally improve the health of the students in this country. This prime availability of students similarly offers a great opportunity to engage high numbers of students in physical activity. Rickwood (2014) explains that schools are ideal settings for the promotion of active lifestyles due to the amount of time students spend there, the presence of physically-active adult role models, and the various opportunities for physical activity.

Comprehensive school physical activity plan (CSPAP). The 2008 Physical Activity Guidelines for Americans has proven to be a very important document in terms of advancing the agenda for physical activity advocates. It created the now-commonplace recommendation that children and adolescents aged 6 to 17 years should engage in at least 60 minutes of physical activity daily, primarily consisting of moderate to vigorous intensity aerobic activity, with vigorous-intensity physical activity included at least three days a week (United States Department of Health and Human Services, 2008). This has become the gold-standard in the profession as far as daily goals for student movement, and it has become the language for several national campaigns (e.g., the NFL’s Fuel up to Play 60). Also finding roots in this report was the National Physical Activity Plan (NPAP), which launched in 2010, and created a vision for how all Americans will participate in daily physical activity where they live, work, and play (Cooper et al, 2016). Perhaps the most meaningful outgrowth of the NPAP was the Comprehensive School Physical Activity Program (CSPAP). The Centers for Disease Control and Prevention (CDC) defines a CSPAP as “... a framework for planning and organizing activities for school physical education and physical activity” (CDC, 2019).

The components of the CSPAP broadly encompass nearly all movement opportunities provided for students throughout the course of the school day, and the term has become commonplace amongst school-based physical activity advocates.

Quality physical education program. At the center of every CSPAP is intended to be a high-quality physical education program. Basch (2011) notes that a physical education program based on national standards should be the cornerstone of all school-

based activity programs. More than growing their physical-skill competency, students should be learning the joys of being active, self-awareness, self-regulation, and other social-emotional skills such as teamwork and cooperation. In order for schools to effectively offer this product to students, Basch continues, schools must create a school culture that motivates students and promotes physical activity. This is done by hiring highly qualified physical educators, ensuring physical space and resource concerns are met, and by creating a safe, yet challenging environment. Also important is the psychological culture of the physical education environment. If a students' time in class is characterized by negative social interactions, for instance, the benefits received will be limited. Students of all colors, body types, abilities, and attitudes must be positively encouraged to pursue physical activity and met by instructors at their physically-able levels.

Students receive physical education at varying levels across the United States, depending on age level, and school, district, and state policy. Following the passage of the 2001 No Child Left Behind Act, which placed a greater emphasis on academic achievement at the school level and hence added the many pressures of high-stakes standardized testing, time allocation for physical education has decreased (Center on Education Policy, 2008). In addition to this negative effect on physical activity time, research has found that many schools, even those located in states and districts that have policy guidelines with recommendations and mandates in the form of activity minutes, are not complying with the law. For instance, a 2011 study performed in San Francisco USD found great disparities between what schools were mandated to offer and what

students actually received. At the elementary level, on the basis of teachers' PE schedules, only 20% of the schools observed met the state mandate of 100 minutes of PE per week (Thompson, Linchey, & Madsen, 2013). Despite these variations of physical education time and quality within and between states, it is one of the few settings where children, especially those from socioeconomically disadvantaged families, are able to reap the necessary health benefits of engaging in moderate to vigorous physical activity (MVPA) (Lounsberry, McKenzie, Trost, & Smith, 2011).

Before and after school movement opportunities. Another movement opportunity provided by some schools to its students is through extra-curricular activities like enrichment sessions and intramural sports. While the chance to play intramural basketball or soccer directly after school seems like a great way to stay active, research finds that not only are these opportunities offered on a limited basis to students, several barriers exist that keep a large number of students from participation. One study available on the subject found that among 24 middle school settings in the city of San Diego, CA, schools offered 3.1 programs per week, each lasting approximately 75 minutes. The study also found that nearly 70% of the programs were offered after school, and that they accommodated only 5.5% of the daily student attendance (Powers, Conway, McKenzie, Sallis, & Marshall, 2002).

Similar conclusions were reached by Lounsberry et al., (2007), when they were granted permission to conduct statewide surveillance of all Nevada K-12 public schools with hopes of reporting on the various physical activity offerings. They concluded that

before and after school programs of physical activity are lacking, and those that do exist are limited in terms of the time of day offered and the nature of the activity.

While before and after school extra-curricular clubs and sports present a tremendous opportunity for students to engage in physical activity, many students across the country are unable to take part in these events. Research finds that the times many of these endeavors are offered impacts the feasibility of attendance due to transportation issues. Unless a district is able to provide a “late bus” or some other low- or no-cost method of delivering students home after the event (or to school if it takes place in the morning), many students are forced to ride their assigned bus home directly after school missing the opportunity to get involved (Lounsbery, Bungum, & Smith, 2007).

In addition to this, Lounsberry et al., find two other factors that tend to limit the student participation in before and after school offerings. First, competition with music lessons, student government, work, and other after school activities is a barrier with which these extra-curricular physical activity opportunities must compete. And second, the focus on competition that is often present in many intramural programs limits participation amongst those students who view themselves as non-athletic. The implication becomes that physical activity is only for the athletically-gifted, and those less-skilled students do not feel welcomed (2007).

During school movement opportunities. Research suggests that the majority of time students are at school is spent in sedentary behaviors—sitting at desks, tables, or on the floor (Abbott, Straker, & Mathiassen, 2013). One method of breaking this habit that is gaining momentum in some schools around the country is offering mid- or between-

lesson activity breaks in the classroom. Often called Energizers, Brain Breaks, or Activity Bursts, these short breaks are meant to provide an interruption to the stationary practices students endure most of the day, bringing them closer to the recommended daily movement minimums.

Studies have been able to pinpoint various benefits to offering students these short activity breaks, including fitness gains, improved attention spans, and increased physical activity levels (Erwin, Abel, Beighle, & Beets, 2011; Erwin, Beighle, Morgan, & Noland, 2011). In addition, a literature review on the subject found that using activity breaks is an effective option for increasing physical activity levels (Faber, Kulinna, & Darst, 2007).

Advocates of during school physical activity breaks often encounter resistance from classroom teachers and administrators who claim that time away from academic pursuits during classroom minutes cannot be afforded. Research has been able to counter this view by finding that time spent in physical activity rather than on academics does not adversely affect academic achievement (McMullen, Kulinna, & Cothran, 2014). A CDC review paper reported that physical activity either helps or leads to no changes when considering academic performance (CDC, 2010).

Active commuting. One opportunity for movement that is presented to many students each school day is how they choose to arrive to and depart from school. Active commuting (walking, riding a bike, skateboard or scooter) has been found to offer students several important health benefits. In one literature review on the subject, Lubans, Boreham, Kelly, and Foster found after analyzing multiple related studies, that active commuting is potentially tied to both weight status/body composition and cardiovascular

fitness levels (2011). Despite these and other health benefits tied to active commuting, evidence shows a steep decline in the number of students that actively travel to and from school. Data from the National Personal Transportation Survey showed a decrease in the number of students who walked or cycled to school from 41% in 1969 to 13% in 2001 (McDonald, 2017).

Recess. One opportunity for movement that is often provided within the school day is the period known as recess. Despite the research-based cognitive, social, emotional, and physical benefits that recess provides for students, a growing trend has emerged across the country where school districts are reallocating this valuable time for extra work in academic subjects (Council on School Health, 2013). In fact, only 71.4% of elementary schools across the country provide regularly scheduled recess for students in all grades (Lee, Burgeson, Fulton, & Spain, 2007).

Overseas, this is not always the case. For instance, in the United Kingdom children have recess three times a day, or up to 600 sessions per year (Kahan, 2008).

The Centers for Disease Control and Prevention defines recess as “. . . regularly scheduled periods within the elementary school day for unstructured physical activity and play” (CDC, 2000). Key to this definition and to the value of this elementary school institution is the “unstructured” element. As stated by the American Academy of Pediatrics, recess provides for students an opportunity to rest, play, imagine, think, move and socialize (2013).

Cognitive benefits. The exploratory nature of recess allows for the growth of a child’s intellectual constructs and cognitive understanding through interactive,

manipulative experiences (Council on School Health, 2013). Studies have shown that whether it takes place outside or inside, recess made children more attentive and productive in the classroom (Jarrett et al., 1998). Pellegrini, a long-time contributor to recess-related literature, developed one study to investigate the effect of recess timing on, among other things, classroom behavior. He involved children in grades K, 2, and 4, and he observed differences in behavior before, during, and after recess while varying its occurrence for different groups of students. He found that on days when recess was delayed for students, they displayed greater inattention in the classroom prior to recess, but had less inattention in the classroom following it (Pellegrini, 2005).

A similar study by Barros (2009) reached the same conclusion of recess providing a positive effect on students' cognition benefits. Utilizing the public-use data set of *Early Childhood Longitudinal Study, Kindergarten Class of 1989-1999*, Barros sought to compare classroom behavior of 8 – 9 year-old children (N=10,301) who receive daily recess to the behavior of those that do not. He found that students who engaged in one or more daily recess periods of greater than 15 minutes in length were given a better teacher's rating score of class behavior.

Finally, a study by Jarrett, et al., (1998) further informs the cognitive value of recess. Study authors located a school in a large southern urban school system where, in accordance with an "uninterrupted instructional time" policy, students did not receive daily recess—only structured physical education three times a week in the morning. The authors designed their research so that two fourth grade classes would be given unstructured recess time, but they would not know on which days. Classroom behaviors

were observed for five-second intervals surrounding that time, and then coded in terms of behavior type. Authors found that students from both classes involved were less on task and more fidgety when they did not receive their recess time. This directly speaks to the cognitive benefits offered by recess and the great need for it.

Social and emotional benefits. Beyond the cognitive benefits of recess that extend to the classroom, this period allows students to interact with peers and various social roles, practicing many important skills and developmental behaviors that are necessary for social functioning. For example, recess, under adult supervision, gives students the forum to learn valuable communication skills, such as negotiation, cooperation, sharing, problem solving, and coping skills, like perseverance and self-control (Council on School Health, 2013).

For instance, Pellegrini, Blatchford, Kato, and Baines (2004), after observing young students both in London and Minneapolis for a year, concluded that the peer interactions during recess allow children to develop the necessary social skills to engage positively with their peers. Similarly, in a review of recess-related literature, Jarrett (2002) found that recess has a positive influence on the social development of elementary-aged students, and cited the fact that no research exists that provides evidence for not having recess.

General Disparity in Movement Opportunities

As I will seek to answer questions related to how some determined Movement Champions are better able to get all of their students active during the school day, it is also of interest to me what, if any, differences exist in movement opportunities between

various subgroups. I will be looking particularly at economically disadvantaged students and what the movement opportunities are in schools they populate. Prior to studying that phenomenon, I deemed it important to comb the literature for past studies and articles that have researched the same topic.

Empirical research identifies many benefits to getting young people moving. Physically active children show, among other things, a lower risk of having or developing chronic diseases, better physical fitness, higher academic achievement (Kim & Lochbaum, 2017), increased bone mass, and increased psychological well-being (Troost et al., 2013). However, much extant research finds that these economically disadvantaged students are not as active during the school day as are their economically advantaged peers. For instance, in one study, Troost et al. (2013) studied 510 low-income fourth through sixth grade students from six public elementary schools in inner-city Philadelphia. Participating students were given an accelerometer that attached to an adjustable elastic belt worn on the hip. They were asked to wear the device during waking hours for seven consecutive days. Movement intensity was captured, downloaded (using proprietary software), and converted to activity counts per 15 seconds. Results indicated that these students (predominantly low-income African American and Hispanic children) had much lower levels of physical activity than the national average.

In a similar study, which took place in Illinois Suburban Cook County, fourteen schools within the district participated, and each was assigned according to their majority population (as long as it was greater than 70%). They ended up with four “White” schools, two “Black” schools, five “Hispanic” schools, and three “mixed” schools. Fifth

and sixth graders at each school (N=538, 91%) wore an accelerometer during school hours for four consecutive days. Students in majority Hispanic schools participated in less physical activity than did White or Black majority schools. Economic status was an additional factor the authors utilized in this study, but given the intersectionality of race and SES, they were not able to partition the separate effects. They explained “School race/ethnicity composition was strongly linked to school income characteristics” (Kwon, et al., 2015, p. 386).

Basch (2011) reached a similar conclusion in a comprehensive literature review that sought to explore the relationship between physical activity and the achievement gap among economically disadvantaged students from several different angles (e.g., causal pathways, connectedness, dropping out, and how school systems can move forward). The study also hoped to clarify, among other things, the disparities of physical activity among school-aged urban minority youth. He found that estimates of population-wide levels of physical activity indicate that Black and Hispanic youth are less active than White youth—particularly females. Furthermore, the population segments with the lowest levels of physical activity also had the least access to school-based physical activity opportunities and resources.

Not all studies, however, have reached the same firm conclusion that students of color and those economically disadvantaged obtain less physical activity than their White and economically advantaged peers; other work in the field has presented mixed findings in this arena. One such examination used the *National Longitudinal Study of Adolescent Health* and sought to determine if racial/ethnic disparities in the physical activity (PA)

levels of young boys and girls exist, and even persist, when considering the school attended. A total of 17,007 teens were studied for this work, and physical activity levels were self-reported. Black and Hispanic adolescent girls reported lower levels of PA than White girls, but Black boys reported slightly more PA than the other groups. Examining within school data left the authors to conclude that the differences in PA these youth experienced were largely due to the school they attended (Richmond, Hayward, Gahagan, Field, & Heisler, 2006).

Given that there exist mixed findings in terms of the levels of physical activity economically disadvantaged students are obtaining, one study sought to address the potential of physical activity results between White and non-White students while controlling for other factors. A study by Tine and Butler (2012) attempted to determine if short bursts of exercise have an effect on the subsequent selective attention of executive functioning of students, while also trying to answer if the resulting impact is different for lower-income students as compared to those from higher incomes. The study utilized a randomized experimental design, and involved 164 6th and 7th grade students from a public middle school in New England. Stratified sampling was used to randomly assign students to the experimental or control groups. Participants in the experimental condition—45 female, 41 male—included 44 lower-income students (those qualifying for free or reduced meals) and 42 higher-income students (those that do not qualify for free or reduced meals). The article found that a 12 minute session of aerobic exercise improved the selective attention of both lower- and higher-income children. Moreover, lower-income children exhibited even greater improvement than higher-income children.

This study, though just an isolated case, makes a substantial contribution to the literature as it provides strong evidence with a sound methodological approach that benefits of physical activity can be enjoyed by both economically disadvantaged students and their economically advantaged peers.

Barriers to Physical Activity

Given the fact that physical activity is something from which all students can benefit, and knowing that schools are in the position to offer various opportunities throughout the day for students to be active, it seems counterintuitive that this country has such a youth obesity epidemic on its hands. An exploration of the barriers students, staff, and administrators face both at home and at school in providing physical activity seems a logical next step in this work.

Outside of school. Much work has been done in this field to identify student barriers to physical education away from the school setting. Authors have found the following factors—generally applicable to all students—to limit the activity of young people: a lack of peer and parental support for physical activity (Bauer, Yang, & Austin, 2004); the high cost of equipment (Hesketh, Waters, Green, Salmon, & Williams, 2005); and sedentary behavior, on the rise in the last decade or so as youth preferentially engage in technology-related activities like watching television or playing video games (Allison et al., 2005).

Research has found that those students who come from poverty face more serious impediments in terms of engaging in physical activity away from school. In general, economically disadvantaged students face low accessibility or availability of space and

facilities, such as playgrounds (Hesketh et.al., 2005), and unsafe location of physical education facilities (Cohen et al., 2006). One study that sought to investigate more closely how students from low-income homes are able to access physical activity opportunities was performed by Kottyan, Kottyan, Edwards, and Unaka (2014). The study looked at students in Avondale, an economically disadvantaged neighborhood in Cincinnati, where caregivers of children from two elementary schools were given surveys to assess, among other things, barriers to their child's physical activity. Three hundred forty surveys were returned, and barriers of violence, cost of extracurricular activities, and a lack of organized activities were identified.

Barriers within the school day. Two Canadian studies offer the most insight into barriers that disallow students from engaging in physical activity during school hours. After a review of articles on the topic, Weatherson, Gainforth, and Jung (2017) identified three domains which, in the perspective of classroom teachers, limited the opportunities for movement: environmental context and resources (lack of training, time, and resources), beliefs about consequences (burden on classroom teacher, classroom influences), and social influences (lack of student/parent interest). These broad categorizations of impediments bring clarity to the larger forces that are preventing students from becoming more physically active.

Similar to this study, Nathan et al., (2018) employed roughly the same criteria and lens for investigation, but expanded their search to an international setting, purposefully including journals coming from countries outside of Canada. In the end, 17 studies were reviewed. Authors found the most frequently mapped barriers reported in the studies

were goals (competing demands of “core” curriculum, physical education/activity considered a lower priority than other subjects), environmental context and resources (lack of time in the curriculum, lack of physical space in the school), and social influence (staff support, teachers as role models). These findings, very much in line with the conclusions of Weatherson et al. (2017), demonstrate the many hurdles that exist within the school day for implementing physical activity with students.

Further investigation of these factors yields several experimental studies. In one of them, 91 economically disadvantaged schools (at least 50% of students with Free or Reduced Meals eligibility) in Michigan responded to an online survey meant to solicit comments and attitudes toward both nutrition and physical education within their school. Reported barriers to more physical activity opportunities were time within the day, time at recess, and difficulty to address the whole child with such a priority placed on student achievement (Hammerschmidt, Tackett, Golzynski, & Golzynski, 2011).

Two other studies exist that sought the perspective of various school stakeholders in identifying barriers to student physical activity during the school day. Dwyer et al. (2003) talked with forty-five teachers in focus groups from five different Toronto elementary schools. Participants reported, among other things, that physical education was simply not the same level of priority as other areas in which students were administered standardized tests, and so resources like time and personnel were not utilized for these purposes.

Also, in a unique study looking to investigate this phenomenon from an underutilized perspective created a survey for California school governance leaders

asking for the identification of barriers in providing school-based physical activity.

Authors found that the highest rated impediments were budget concerns, limited time in the school day, and competing priorities (Cox et al., 2011).

Facilitators to Physical Activity During the School Day

Just as there exist factors and conditions which can limit how much physical activity students receive in a day, there can also be found factors that facilitate students' daily movement opportunities in school. In a systematic review of 28 scholarly articles on the subject of classroom facilitators and barriers to movement integration (MI) in classrooms at the elementary level, Michael et al. (2019) identified five facilitators of classroom movement: administrative support; availability of resources; perception that physical activity is valuable, perceived ease of implementation, and teacher confidence. Additionally, researchers found that at the school level, administrative support and MI resources emerged as the key factors associated with teachers' use of MI. In other words, while the presence of these two factors greatly enhanced students' activity levels, their absence severely limited them (Michael, et al., 2019).

In a somewhat similar 2017 study by Routen, Chalkley, and Sherar, the authors examined the subject of factors contributing to and impeding classroom movement in UK classrooms. Their findings suggest three facilitators for daily movement: perceived teacher confidence levels in implementation; educational innovativeness, and history and experiences relating to physical activity.

Finally, in a study by Duck, Robinson, and Stewart (2020), this topic was further explored by urban area focus groups involving both students and adults. Participants

shared that creative approaches to the barriers involved with providing students opportunities to be active during the day (lack of resources and space, for instance) were essential to getting children moving. For example, one school staff member created a garden where students had to physically move to weed, water, and pick the fresh vegetables. The participant shared that they often fought over tasks like digging as they each wanted to be involved with the activities. Similarly, another teacher created a show choir in a school where students were moving while they sung. She shared that was a way to both teach music and keep the students active.

Area of Research Needed

Research demonstrating that physical activity helps students in many important ways continues to mount. And, unfortunately, the achievement gap between economically disadvantaged students and their economically advantaged peers does not seem to be shrinking. Evidence suggests that a comprehensive approach to increasing the physical activity levels of all students can yield benefits in the classroom, slowly eroding and narrowing this gap. Using students' school experience as the anchor for increased movement opportunities, gains can be made before, during, and after school. Though more careful and thoughtful research is needed in this field, the results seem to indicate that great potential lies in accessing community partners and offering students of all zip codes more opportunities to move each day.

As a nation, we cannot afford another generation of students of color and low income who are ill prepared for full citizenship. Students of every race, ethnicity, language, and income need the skills and tools to compute, critique, and create at

high levels. We must agree to identify and employ initiatives that hold the greatest promise for moving all students—including students of color, poor students, rural and urban students, and second-language learners—to high levels of achievement (Burton & VanHeest, 2007, p.212).

I have researched and illuminated the various barriers that prevent all students, regardless of their socioeconomic standing, from attaining the physical activity each day in school that they need to become and remain healthy young citizens. The gap in the research indicates that the perspectives of building leaders, principals and assistant principals, in this country regarding the barriers that prevent students from attaining higher levels of physical activity at school, and along with that, finding methods for overcoming it, have not been documented in research. This was a focal point of my research.

Chapter 3

Methods

This chapter will offer an in-depth discussion of the methods I used to examine my research questions. First, after a reiteration of my research questions, I will discuss how critical theory was used to address the potential inequities in movement opportunities, and I identified the techniques I used to accomplish that. Then to expand on the particular research design I employed for my work, I will provide some background of the chosen method. I will also discuss the setting and participants involved in my study. Data collection and analysis will also be described, as I discuss the process. Finally, I will discuss trustworthiness, investigator bias, and the validity associated with this study.

Research questions. I began my investigation knowing that I wanted to pursue movement, its importance to students' daily lives, and whether or not all children are given the same opportunities to take part in it. From there, I continued to dig into the literature for guidance and refine my inquiry until arriving at the below guiding questions:

1. Which common and potential barriers, if any, are Movement Champions facing in order to provide additional opportunities for movement in their schools, and how have they been able to overcome them?
2. How do Movement Champions utilize critical school and community partners in their efforts to offer increased movement opportunities to students during the school day?
3. Do Movement Champions see the existence of a movement-related opportunity gap between the economically disadvantaged students they serve and their economically advantaged peers, and if so, what do they do to close it?

Investigative lens. Investigating this topic using critical theory has allowed me to better understand how SES played a role in physical activity opportunities by intentionally seeking certain conditions to observe and compare. My initial intention with this design was to use a Critical Race Theory perspective and closely examine how student race impacted movement opportunities. Through copious literature research, however, I found that race and SES were very much interconnected in much of the research in this area, so I decided to more closely examine economically disadvantaged students and the movement opportunities they are given.

As the previous chapter has revealed, economically disadvantaged students are typically not given the same opportunities for physical activity as are their economically advantaged peers (Kwon et al., 2015; Basch, 2011). Current field research has sought the perspectives of several different groups as to which barriers exist in this struggle, but to date those groups have not included exclusively soliciting the opinion of school-based

administration. Using a critical theory lens has helped to spotlight the perspectives of Movement Champions on their experiences with traditionally underserved students, and it has helped me to understand how these particular Movement Champions have been able to provide movement opportunities for their students.

Research design. In order to ensure that initial planning for this study was determined to be safe, appropriate, and within the bounds of good qualitative research, an expert researcher and methodologist have been heavily consulted throughout the process. This collaboration helped me to ensure my processes were run efficiently and ethically, and that the direction of my study yielded relevant and meaningful information.

There are many different methodological techniques one could utilize when writing a thesis or dissertation. As I have learned in my classroom work, the most appropriate methods are those best aligned to the research questions. To adequately research the questions, a qualitative approach is most appropriate. As Miles, Huberman, and Saldaña (2014) state:

(With qualitative research . . .)

- the main task is to describe the ways people in particular settings come to understand, account for, take action, and otherwise manage their day-to-day situations.
- the researcher attempts to capture data on the perceptions of local participants from the inside through a process of deep attentiveness, of empathetic understanding, and of suspending or bracketing preconceptions about the topics under discussion.

- most of the analysis is done with words. The words can be assembled, subclustered, or broken into segments. They can be reorganized to permit the researcher to compare, contrast, analyze, and construct patterns out of them.
- relatively little standardized instrumentation is used. The researcher himself or herself is essentially the main instrument in the study. (page 9)

These four principles clearly illuminate why qualitative methodology is appropriate for my purposes. They highlight the different aspects my questions revealed, and they provided for me a boundary in which to operate.

Thematic analysis is a flexible approach to qualitative research (Nowell, Norris, White, & Moules, 2017). It can be modified to address the research questions posed in many different types of studies. The process provides a rich and detailed account of data, and it does not require the theoretical and technological knowledge of some of the other qualitative approaches. The process itself consists of moving back and forth between the following six phases: familiarizing yourself with your data; generating initial codes; searching for themes; reviewing themes; defining and naming themes; and finally, producing the report (Nowell, Norris, White, & Moules, 2017).

Pilot study. Prior to launching this study, I performed a pilot study with a Movement Champion with whom I knew from my work. I sought them out within the school division in which I work, and I explained both the nature of my research and their role in the pilot study. I followed all protocols and processes outlined below. This pilot opportunity has helped me to identify potentially ineffective or unhelpful research questions, my own biases with how questions were phrased and which data were coded in

particular ways, and extra steps I needed to take to ensure I extracted information from my future participants that allowed me successfully address my research questions.

Setting. Study participants were drawn from two large suburban school districts in the east coast region of the United States. Both of these school systems can be classified as well-resourced in terms of what they are able to offer their schools, but both also includes schools—some more than others—that have a majority of students qualifying for Free and Reduced Meals (FARMs). For the purposes of this study and through the lens of critical theory, I attempted to find Movement Champions I interviewed working at schools where the majority of students qualify for FARMs.

Participants. While it is not uncommon to find a building leader that agrees with the ideas and principles behind offering students additional movement opportunities throughout the school day, the list shrinks considerably when targeting those leaders who have taken concrete steps within their own buildings to do so. Such a leader is needed for the purposes of this study to fully investigate how students have been able to receive increased opportunities for physical activity.

The east coast is filled with dense, highly-populated school districts of varying sizes. For the reasons of convenience and proximity, I selected two relatively nearby districts in which to focus my efforts of recruitment, both very large, from which I assumed I would find ample representation of Movement Champions. I ultimately worked with seven principals on this study. Three of the participants were male, and four were female. All participants were Caucasian, and all were given pseudonyms and fabricated school names to protect their identity. Principal's experience ranged from two

to nine years, and only one did not have significant teaching experience prior to becoming an administrator. I selected only elementary principals in this study because the elementary setting, compared to both middle school and high school, is most conducive to movement intentional and additional movement opportunities for students (recess, etc.).

Participant Recruitment. In order to successfully reach Movement Champions at the building-leader level, I communicated my intentions and sought help from local contacts that I had made in the area. I worked closely with the Health/Physical Education Coordinators in both of the identified districts to learn of any building leaders that they knew of that fulfilled these requirements. I sent via email a description of the qualifications for which I was searching, and when names were offered I contacted those leaders directly to arrange for further communication.

Once Movement Champions were identified, I took the appropriate steps to preserve their anonymity and well-being. In accordance with IRB, I secured informed consent from each participant, as well as a signed agreement demonstrating a willingness to be interviewed and declaring that the process is voluntary, can be stopped at any time, and that the material shared will not be personally linked to its provider in any way in the future.

Participant selection. Two stipulations governed how Movement Champions were selected for inclusion in this study. First, there was some level of “extra” or “enhanced” movement opportunities offered at schools in which participants work (e.g., extended or extra recess offered, mandated morning or afternoon school-wide activity

breaks, mandated classroom-based brain boosts, etc.). There had to be clear evidence that the leader had taken steps to institute policies or actions that were able to increase the activity levels of the students he or she serves. Also, the participants needed to have been key players in the genesis of these increased movement opportunities. This part of the qualification process was very important as it truly separated Movement Champions from movement supporters, and I felt was a critical distinction in obtaining true pioneers for this research—those that are true trailblazers and passionate about movement within their buildings.

Data collection. Data were collected via semi-structured interviews using the Voice Memo function on my iPhone. With just one exception, all interviews were conducted at the schools of these Movement Champions. One interview was held at a popular coffee shop at the request of the participant. The participants were given a copy of the interview questions prior to the interview and one was provided for them during the interview. This style of interview allowed me the latitude to use a congenial method of asking and sequencing questions for the different participants (Miles, Huberman, & Saldaña, 2014). Prior to beginning the interview, I gave each participant an in-person summary of the interview questions and discussed briefly my own history and work, and asked him or her if they had any questions. Once the participant confirmed that he or she was ready to proceed, I began asking questions. I then asked the participant for permission to record the interview so that I could fully attend to each answer given at a later time. I anticipated that each interview would last between 40 and 60 minutes, and it turns out, on average, that they were shorter than that (ranging from 17 minutes to 39

minutes). Though I was respectful of the participant's time, when a participant wished to expand on the information they were sharing, I did not draw the interview to a close until they had completed speaking. As the interviews were being recorded, I chose to give most of my attention to the participants resulting in taking only the briefest of notes.

Each interview began with questions designed to put the participants at ease and to build a rapport. From there I sought details about leadership accomplishments, attitude, and leadership style associated with physical activity in their building.

The interviews were transcribed using current computer software. I read the completed transcription as I listened again to the interviews to ensure no inaccuracies existed. I reread the interviews following transcription to ensure accurate capture of meaning and essence. Transcriptions were then coded manually to identify themes and patterns. Analytic Memoing (Miles, Huberman, & Saldaña, 2014) took place at nearly all junctures of the process. This allowed me to constantly interact with my data and periodically sum up my thoughts as to how it was coming together and which themes were appearing.

I also collected data in the form of observation (when made available). As I scheduled each participant for an interview, I attempted to arrange to spend some time at the school observing one or more critical elements related to their leadership in terms of movement opportunities. Unfortunately, given the demanding job of principal and the value of each leader's time, in five of my seven interviews I met with each building leader prior to the beginning of school on a given day so fewer interruptions would occur. On the two occasions that I was able to observe some of these practices, I took notes in

an attempt to capture the essence of the activity or initiative. At one school I observed an outdoor running club for 12 minutes, and at another school I spoke with a principal for five minutes while looking at a hallway that had been turned into a sensory pathway. In both cases I observed from the outside of the activity. Later on in the process, as I began to develop thematic lanes for classification, I used these notes to triangulate interview data with these observations.

Data analysis. After the interviews were transcribed and re-read to ensure proper punctuation and participant meaning was conveyed, I recorded my initial thoughts in a memo (Miles, Huberman, & Saldaña, 2014) about each interview and began to identify themes that seemed to be present. I then re-read each transcript with the intention of finding patterns and meaning while attempting to code the narratives. Coding became the central vehicle for me to find meaning in the participant data. As Creswell (2012) writes:

The object of the coding process is to make sense out of text data, divide it into text or image segments, label the segments with codes, examine codes for overlap and redundancy, and collapse these codes into broad themes (p. 243).

Following the coding of all three narratives, I re-examined the topics I had listed and created a document which was intended to succinctly capture the major points of each interview. This was helpful as it allowed me to look across the interview data simultaneously for common themes, discrepancies, or other interesting pieces of data. I then examined the corpus of data including the interviews, observation notes, and memos as it related to each research question and present the findings in Chapter 4.

Trustworthiness. I worked to address possible validity issues and researcher bias through triangulation of data, check-coding, and sampling. I triangulated my data (when possible) by observing the programs and initiatives the subjects referenced at their schools when I visited for the interviews. The notes that I took from these observations augmented the credibility of my interpretation of the impact of the activities. I read each transcript two or three times in their entirety before beginning the process of pulling out themes that emerged. Once I began the coding process, I often revisited both my coded notes and the full transcripts to ensure accuracy.

Validity/Researcher bias. My own positionality in the world of physical education/health/movement is a factor to consider in this study. For much of my professional career (11 years) I have worked to increase students' activity levels and looked for creative solutions to potential barriers. Past experiences and viewpoints have undoubtedly created a bias in me as I work with participant data. While I have tried my best to be a neutral third party and investigator here, it is not unreasonable to think that some of my own attitudes and perspectives could be identified in the summaries of those with whom I spoke.

Also presenting potential researcher bias is the fact that this is my first foray into research at this scale. It is likely that at times I unknowingly took missteps in ways that either compromised the effectiveness of my investigative efforts or slowed my analytical processes. While I gave my research questions and path of study a great deal of thought, I am sure that my inexperience in terms of collecting and analyzing data in this way

hampered my progress. Overall, I look forward to the next time I embark on a project this size knowing what I do now.

Summary

I have located administrators dubbed Movement Champions who have demonstrated a consistent and creative approach toward increasing the movement opportunities in their own buildings. I then interviewed them to learn the victories and defeats they have encountered on their journeys to get students more active. I coded their data and performed a thematic analysis to identify themes. Participant identity was protected throughout this process by using pseudonyms. Despite my positionality as someone working professionally to get and keep young people active, I have taken strides to ensure my work is as objective as possible.

Chapter 4

This chapter seeks to address the research questions posed in pursuit of learning, among other things, the various impediments faced by Movement Champions in their efforts to bring greater daily activity to students, how they are/were able to overcome them, the importance of stakeholders and partners in this work, and the equitable nature of movement breaks in terms of economically disadvantaged students compared to their economically advantaged peers.

Descriptive Overview

Seven principals from two large, suburban school districts in the east coast region who either self-identified as or were identified by others within their school districts as Movement Champions—site-based elementary principals who have demonstrated a consistent and creative approach toward increasing the movement opportunities for students in their own buildings—were interviewed with the intention of learning answers to the research questions written below.

For two of the participants, I was able to observe movement initiatives, programs, techniques, or key personnel involved at each setting. Following the interviews, the conversations were transcribed and a thematic analysis was performed to isolate and explore my research questions.

Question 1: Which common and potential barriers, if any, are movement champions facing in providing additional opportunities in their schools, and how have they been able to overcome them?

At the heart of my research lies the question about identifying and overcoming the various barriers school leaders face when seeking to get and keep students physically active during the school day. Following an analysis of what the participants discussed in relation to this question, I was able to identify four common themes over the course of the interviews: (1) a lack of time, (2) internal and external pressure, (3) lack of physical resources, and (4) individual lifestyle and attitude. I have also included methods and techniques participants used to overcome these hurdles.

Lack of time. Between the participants, robust discussion was offered surrounding the many barriers that exist in relation to providing elementary-aged students with additional movement opportunities. Overwhelmingly, and not surprisingly--as it aligns directly with the research-- the most frequently cited barrier was time. Movement Champions repeatedly referenced a lack of time in the day given all the academic ground that is expected to be covered.

For instance, Mr. Nelson, principal at Hillside Elementary School, did not hesitate to offer up that he felt like time in the day was the number one impediment to being able to offer more physical activity opportunities in classrooms. In reference to an attempt to add a once-per-week healthy tip or an en masse movement break to the morning announcements, he commented, "I mean, some people want to get busy. I have a couple who already are like, oh, the broadcast is too long. So adding one more thing to it, they're

like, OK. I think we'll turn this off.” In this system, time simply does not exist for brain boosts or movement opportunities of any kind, save for the few creative teachers in most buildings who realize its importance and have found ways to teach the content while getting the students physically active.

Ms. Aguilera, principal of Greenside Elementary School, similarly commented on a lack of time as the number one barrier she sees as keeping her teachers from offering more movement breaks:

. . . we have a jam packed curriculum that the teachers are expected to teach and get these kids prepared for ourselves. And sometimes they feel restricted in their time. So if they're doing something and they feel like their pacing is behind, they might skip a brain break, you know, and then it kind of gets pushed to the side because they feel like they always have to keep up with the pacing.

Finally, Mr. Jones, principal of Heartland Elementary School, concurred that time away from the instruction was not something that most of his staff was interested in pursuing, also because of time constraints. He shared, “I do believe that they (teachers) really want to do things right. And even with my staff, they say, oh, yes, it's great, but when am I going to do it? . . . What can I drop to do this?” As the following discussion (pressure) begins to examine, teachers covering precisely what they have been asked to cover in the timeframe they are asked to cover it is a non-negotiable contract in many buildings, and this rarely leaves time for purposeful movement of any kind.

Pressure. Another barrier these principals discussed as something that stands in the way of additional physical activity throughout their students' day was the pressure teachers feel, seemingly both from within their buildings and from the district in general, regarding test scores and related metrics. (And in many ways, this barrier is one that oftentimes originates from a lack of time, but gets amplified and becomes more severe, and hence deserves its own mention.) Linked closely to the idea of feeling short on time, participants repeatedly mentioned that they perceive their teachers to be feeling too much pressure related to how their students do on high-stakes end-of-year tests to stray from the curriculum and engage in any other type of activity. For instance, Mr. Jones offered, that despite his best efforts, the teachers in his building seem to believe that students must be "locked-in" and "uber-focused" at all times during instruction in order for learning to take place. He further shared that too many of his staff believe that the only way students can be "successful" in school is to achieve high grades. And this pressure has them spending their time on "kill and drill," the art of repetition of concepts until the students can repeat things nearly verbatim.

Similarly, Ms. Cruz, principal of Forest Park Elementary School, mentioned her perceptions of this difficulty teachers face. She explained that she thinks teachers feel a tremendous amount of pressure to stick with the curriculum at all times. She offered, "And so I think they sometimes feel like they can't take some of those breaks that we know are best for kids. It's a mindset, I think, that we continually work on with that work-life balance."

Lack of physical resources. Also listed by these building leaders as an impediment to offering additional movement opportunities was available physical resources, such as land and building space. More in reference to activities potentially occurring before and after school, several leaders mentioned that their physical plant and equipment simply was not able to meet the demands of a more active day for the students. For example, Ms. Raymond, principal at Riverdale ES, explained that with the district-mandated afterschool programs that exist in her building (her district offers an afterschool care program for working or unavailable parents/guardians), there is very limited space available for students to take part in an activity that requires more space than a typical classroom. She commented:

There's a lot of people that would love gym space to do a program, and there's only so many programs you can have in the gym--basically one per afternoon. So that's a small thing, but it's a big thing at the same time, because you can't count on the weather to cooperate and say, 'Oh, you can use the track' because you may not have the ability (to do so).

Mr. Nelson cited the same issue as one of the barriers he and his teachers face. His school, Hillside ES, shares a boundary with the local high school, and they do not get access to the shared outdoor field very often, severely limiting the enrichment or PTA-sponsored after school movement opportunities they can offer.

Individual Lifestyle and Attitude. Another barrier brought up by one of these leaders was offered by Ms. Cruz. She noted that she sees many teachers who are not

physically active or committed to a very healthy lifestyle and she perceives that they are intimidated by bringing movement into the classroom setting.

I think that teachers who are a little bit more lethargic, maybe teachers--and I'm kind of stereotyping here, but I think in my mind, teachers--who are a little bit overweight are intimidated maybe by that. And so they don't necessarily push their kids as much as they should and they know it...

Also noteworthy was a comment that Mr. Norton, principal at Running Brook Elementary School, made in reference to a barrier he has found within the school setting. He explained that in his time as an assistant principal, he reported to a leader who was guided by an internal mantra consistently asking, "What could go wrong?" each time a new idea or program was posed. It seemed this particular leader was constantly concerned about *potential* outcomes that might be disagreeable to parents, staff, or the students themselves. Mr. Norton went on to explain that, seeing the overall marginal effectiveness of that particular leader, he began to think, "What might go right?" when considering a novel pathway or suggestion. He began to see through the potential issues and instead focus on the potential positive effect for students. He cited the mindset of his former leader as a potentially large handicap on many creative approaches to adding movement to the school day.

Overcoming barriers

These leaders were able to overcome these barriers through a variety of means, some logical, some creative. By modeling teamwork, building common goals among staff

members, and knowing and understanding staff abilities and interests, participants shared the ways they were able to overcome these impediments and continue to offer movement opportunities to their students.

Lack of time. Central to identifying these barriers is seeking leaders' input on how they can be overcome. In nearly all cases, the participants in this study were identified because of their individual ability to overcome these seemingly insurmountable obstacles to provide meaningful movement opportunities for the students they serve.

Several participants commented on how they overcame the barrier of a lack of time given in the school day. Ms. Stone, principal of Valley Lane Elementary School, for instance, discussed a time when her school was short substitute teachers for a day, and she had to jump in and play the role of physical educator in order to not split classes and reach unsafe levels in terms of supervision. She was glad that her staff saw her stepping into this role so that they could see how important physical activity was in her eyes. Not only did this allow for her staff and colleagues to see her as someone who is not afraid to roll up her sleeves and assist in the work, but it demonstrated her interest in giving students a strong physical education. She said, "I think when I model making it a priority myself; I think being part of it and not just being directive in that sense is important."

Ms. Aguilera, at Greenside ES, similarly discussed time in the school day as the biggest barrier toward providing, what she felt to be the necessary amount of movement opportunities. In her school, she believes that helping the teachers to be more creative with their time and instruction is the way around this hurdle. She commented:

. . .and it's being creative and it's problem solving and brainstorming. How can I engage students through movement within the classroom? How can I give them an opportunity during a science experiment to get some physical activity? You know, . . . it's really just trying to be creative and not reinventing the wheel. It's just taking what we already know and embedding that movement into it.”

Overcoming pressure. Principals similarly had great insights on how to overcome the barrier of pressure teachers feel to not stray from the curriculum for any reason. Mr. Jones lent the most heartfelt effort toward explaining this when he discussed the best way to combat the pressure teachers face is to create a shared vision of what we really want students to emerge with following their years of schooling:

. . . a shared vision that we've created that showed everyone really what we value in our school, which is, we value sort of big picture things with our students. Our parents value this, our staff values this, our students want it. And so we get caught up in these things that we think are really important because they're sort of mandated. But we don't realize that what people really want in school is for kids to be happy. They want to enjoy the experience. They want an actual experience that is fulfilling to them and meaningful in their success. We want to build positive relationships. And so we want students to be kind and hardworking. And those are big picture things. And I think when we get back to that, then we can get back into more movement, physical activity and fun, engaging activities, because then if that's our goal, well, then these really are aligned to that goal.

Mr. Jones lent incredible insights with these few sentences, and captured how to remove the pressures teachers can feel: Rebuild school goals and initiatives to reflect the outcomes all stakeholders agree are important. This is clearly more than a test score or rank.

Ms. Cruz has had similar success in overcoming the barrier of pressure teachers' face, but she did so in a slightly different way. First, she promotes a "family first" workplace where teachers should feel comfortable putting their own needs and those of their families high on the list of what is important to them. She believes this alleviates some of the stresses that come with working a full-time job that oftentimes comes with additional work hours—both before and after—the traditional schedule. In addition, she seeks to inform her staff, by way of research-driven articles and practices, about how important movement and other health-related practices are for students. She finds that her weekly newsletter does a good job of reinforcing how important these social/emotional/physical priorities are, and she credits this effort with relieving some of the crippling pressures typically faced in a modern-day classroom.

Overcoming lacking physical resources. In terms of addressing the barrier of physical resources—and this strategy was mentioned in reference to several barriers discussed--the idea of flexibility was something brought up multiple times. Mr. Nelson described how having a flexible attitude has helped him to support several afterschool enrichment activities under fairly difficult

circumstances—not enough outdoor space. He allowed teachers to create programs aligned to their personal interests and then supported them on whatever those endeavors were—assuming they are ultimately good for students. For instance, his morning running program, created by one of his physical education teachers with a passion for running, has a huge following as students seem to love moving their bodies right when they get to school. They utilize an outdoor space near the school before the first bell even rings. Mr. Nelson has confidence in his teachers and his own flexibility has led to authentic and creative programs like this that can overcome the lack of physical space the school has and offer students novel ways to be physically active.

Another example along these lines comes from Ms. Stone. She mentioned the importance of flexibility for all stakeholders when it comes to both physical resources and programming in general. Given the number of concerts, performances, clubs, special events, emergencies, and other non-recurring activities that an elementary principal must absorb into his or her daily schedule, all adults involved must be flexible with their demands and must possess a students-first attitude. She adds, “. . . because I think when we recognize that movement is what kids need, we are more flexible when they start to move, if you will, and acknowledging their needs and responding to it and being flexible in that manner.” If this can be done in a mature, respectful way, opportunities will continue to present themselves that can offer to students more time engaged in movement and physical activity.

Learning from participants about the various impediments to daily movement they face and the tactics they routinely employ to combat them is at the heart of my research. Leaders reported a lack of time, a lack of physical resources, teacher mindset, and teacher reticence as barriers, and reported that flexible, creative thinking was the best way to overcome these hurdles.

Question 2: How do movement champions utilize critical school and community partners in their efforts to offer increased movement opportunities to students during the school day?

Each participant I interviewed was able to list colleagues, supporters, and visionaries who play a critical role in providing meaningful movement opportunities for students within their school. Cumulatively, participants listed parents, teachers, administrators, community members, the School Board and other district-level personnel as key players in this cause. Though the lists and reasons they offered were different, two themes emerged: (1) accessing facilitator passion, and (2) working within political relationships.

Accessing facilitator passion. The theme that emerged most clearly in my interviews related to effectively utilizing stakeholders was the need for authentic and meaningful instruction to be at the heart of any initiative that sought to creatively get students moving; peoples' passions needed to be accessed and embraced.

In her interview, Ms. Raymond continually revisited discussion centered around one of her veteran Health/Physical Education (HPE) teachers, Mr. Conway. She offered, "He's been there (her school) for a long time, and he really makes great things happen!"

She mentioned several times the various programs, initiatives, and grants which he either built or with which he is involved that seek to grow the physical literacy of students, most specifically getting them to be more active. It was clear that she had tremendous respect for Mr. Conway and his ability not only to build, organize, and implement creative health and wellness-focused programs (e.g., Thursday Tastings where students were offered on a weekly basis samples of healthy fruits and vegetables of which they might not have familiarity), but she also admired the way that was determined and passionate about his activity goals. She mentioned how he runs seminars for other teachers, works as an ambassador for a large national program, and even the various grants and funding streams he has been able to tap into. Without Mr. Conway, she made it clear, many of the movement-centered programs in the school would disappear. But with him, and by tapping into and green-lighting his true passions, the school is a model for providing students with multiple opportunities for physical activity.

Mr. Nelson also spoke at length about the kind of passion that is required to offer successful programs targeting student movement and activity. One example he shared described a teacher who has a love for basketball. For nearly a decade this teacher has been organizing, recruiting, and running an afterschool basketball program that is very popular among the student body. Mr. Nelson commented that without this teacher's clear passion for the game and for teaching it, the program would have folded years ago. He offered another example about a morning running club recently created at the school. He explained that a teacher came to him with what they both thought was a great idea to

promote student movement, and he simply gave him the tools to build and run it. The teacher supplied the passion.

Finally, Mr. Jones also commented on tapping into peoples' passions for this kind of work. He discussed identifying in his teachers an enthusiasm for a given activity or pursuit, and then trying to get that person to lead in that area for the good of the school and students:

(teachers) lead this with enthusiasm, and modeling, and practice, and that's something that's always been beneficial to me, is when you see these runners, right, and you incorporate them into that leadership of the rest of the school. That's not just me doing that. It's really coming from within the group. And teachers respond really well to their colleagues.

This was a real strength of Mr. Jones: finding ways to build and support leaders within his school. He thought that other teachers respond well to their colleagues (not just a top-down mandate) being thrust into a leadership role, and he cited an individual's passion and interests as the first necessary building block in this formula.

Working within political relationships. In addition to accessing topics and activities about which people are passionate, another theme emerged: discovering and accessing political relationships.

Nearly every participant interviewed, when asked the question about which stakeholders they feel are necessary to the success of adding physical activity opportunities in their buildings, mentioned the importance of the teacher—the individuals

in the trenches that are interacting with the students each and every minute of every day. Ms. Aguilera commented that in order for any type of program of this nature to work, "... teachers need to feel and have the buy-in." In many ways it is like providing motivation for the students to do their work. If they are given a real-world example of a problem to solve, for instance, something to which they can relate and feel close to, they will be motivated to solve that problem as it will result in potentially better circumstances for them. Teachers delivering programs or opportunities centered around movement follows the same logic. If the teachers can understand that students' "fidget factor" will decrease and their attention levels will increase if they are able to offer a few energizers throughout the day, they will be more willing to reshape their content lessons to make room for opportunities to get students moving.

Mr. Jones continued to spotlight the importance of political relationships when he commented on the importance of strong leadership in offering and succeeding with school-based movement opportunities. To illustrate the effect that a principal should have on the teachers and staff he or she oversees, he joked, "When the principal sneezes, the whole school catches a cold." If administration is not backing something, it has a very hard chance of getting off the ground and being successful. He went on to say that he often empowered people in his school when they have novel ideas about movement opportunities by supporting them and endorsing their activity.

Also critical to the effort of getting students moving is support from outside the school. Ms. Cruz relayed two aspects of getting the parents and community members involved in student movement opportunities, and why those roles were so critical. First,

she explained that nobody is going to care more about what their child is doing on a daily basis than their parent (guardian). The Parent Teacher Organization (PTO) at her school works very hard to ensure that all students have the ability to be active before, during, and after school. They are passionate about building a healthy son or daughter, and they work hard to see those goals realized. Also, PTO and community backing is central because schools oftentimes do not have enough funding to realize outside-the-box solutions to sedentary students, and these groups help to bridge that gap by providing scholarships to students in need. Additionally, these organizations can be helpful when before or after school spaces around and near a building are limited. Outside organizations bring different strengths and capabilities to the table in this regard (e.g., coaching expertise, relationships with other organizations, etc.), and they become great partners for building effective programs.

Finally, several of the participants discussed the importance of the district office and other state leadership in creating and sustaining the movement-centered activities they envision in their schools. This recognition of the very top of the school-based hierarchy provides another layer of political relationship. For instance, thanks to tremendous advocacy efforts from many different groups of interested and informed community members, the schools in this region have seen state codes make changes allowing for more time to be spent in “unstructured “ ways (recess). This caused an immediate change in policy in both districts in which I interviewed teachers as well as the few nearby school systems.

Ms. Cruz also pointed out that the School Board and senior officials within a school district can be of great influence through the initiatives they embrace. She cited a particular School Board that was very keen on the health and wellness of the district's students and implemented a bronze, silver, and gold rating system for nutritional offerings. This, as one can imagine, gave the schools—if they chose to take advantage of it—much power in bringing in or building programs that addressed related ideas with students. The bad news was, as Ms. Cruz pointed out, School Board members change and so do their initiatives and “pet projects.” It was not too many years later, unfortunately, that this initiative lost the necessary votes on that level and efforts pivoted to different content areas and concerns.

Much more than just the existence of these various aspects of support and creation are needed for a program to succeed. My conversations with these leaders have revealed that there is a necessary political relationship to building and sustaining a student-movement program, and my work above has tried to illustrate that. First, you need to have an idea for a program that is based on a passion someone has. Once that vision is shaped, administrative support is needed for greater buy-in and increased reach. Following next is PTO or community engagement which can assist with financial concerns or other potential troubleshooting like transportation or space allocation. Finally, the district headquarters is needed for potential widening and growth of the effort, and for policy-related matters and guidance with permission and other legal concerns.

Question 3: Do Movement Champions See the Existence of a Movement-Related Opportunity Gap Between Economically Disadvantaged Students and Their Economically Advantaged Peers, and if so, what do they do to close it?

Much like the majority of research in this field has found, participants shared that in their experiences there was an opportunity gap between economically disadvantaged students and their economically advantaged peers during the school day. They cited lack of transportation, lack of finances, and lack of prior experience and exposure as reasons for this gap. More interestingly, participants were able to describe some of the ways in which they have attempted to combat these inequities. They discussed (1) ensuring equity in school-time programming, (2) forming relationships with students' families, (3) increasing students' experience with/exposure to movement, and (4) bringing critical outside services into the school.

It is important to note that the below discussion does not attempt to paint economically disadvantaged students as innately lacking any physical traits or qualities possessed by their economically advantaged peers. Rather, the discussion here is about *opportunities* these students have for movement throughout their day.

Ensuring equity in school-time programming. Three of the seven participants mentioned the importance of providing *all* students with high-quality opportunities to move during the school day. They discussed that the playing field was anything but level for students outside of the school day in terms of what different families can afford to provide. For instance, Ms. Cruz discussed how one family she serves has all three children enrolled in a travel soccer program that costs around \$5,000 annually. She

mentioned that for some of her families, “That \$5,000 is practically meals for an entire year!” To combat this, participants commented that they worked hard to ensure that during the school day there was no disparity in the types of movement programs students were offered. Ms. Cruz went on to stress this importance by referencing the philosophy of a principal she had as a young teacher, which she immediately adopted: “You have to give 110% when they’re (economically disadvantaged students) under your roof because you never know what goes on at home.”

Both Ms. Raymond and Mr. Nelson echoed these sentiments as they similarly shared that they work hard to make sure students have the same experience during the school day regardless of the situation at home. Mr. Nelson, for instance, discussed that one reason this approach is so important to him is due to the fact that he sees some of his students challenged to feel a part of the school. He has three programs in his building for students diagnosed as emotionally disturbed (ED), nearly all of them are bused in from economically disadvantaged areas. Providing for these students the same programs, brain boosts, and other movement opportunities help them to see themselves as valuable members of the school.

Forming relationships with students’ families. Another theme that emerged in the interviews as a way to close the movement opportunity gap was getting to know the students and their families and their respective needs. For instance, Ms. Raymond described getting to know her families as a critical piece of trying to provide equal opportunities for all. One particular solution she brought up was carpooling. She shared that, “Relationships with students’ families is key. Maybe they’re too proud to ask for a

ride home.” If she and her team can learn the specific transportation needs of a few families, they have a better chance at setting up a carpool which can better serve all parties.

Ms. Cruz also discussed the importance of getting to know students’ families and embracing them as valued members of the school community. She commented:

I think if we build community relationships, if we have partnerships with outside people, I think that will help close some of those gaps. I also think that the family engagement here at school--if we can get families in to expose them to maybe some resources in the county that they can touch base with, whether it be through the Community Services Board, whether it can be through the Parks and Rec(reation) Department.

Increasing students’ experience with/exposure to movement. Several participants discussed the fact that many of their economically disadvantaged students lacked the skills and behaviors needed to participate in what they thought were some of the most fundamental games and activities. For instance, Ms. Stone shared that she was taken aback when one of her young students was not able to play along with her peers in a game of hopscotch as she had no familiarity with it. Similarly, Ms. Aguilera explained that in many ways students’ backgrounds can be a real barrier to movement opportunities. She said, “They (students) often lack the exposure and experiences of their peers—(and they) aren’t getting it home for one reason or another.”

To combat these and similar findings, participants shared that they built or included programming meant to expose students to sports or activities that they might not

otherwise come into contact with. For example, Mr. Nelson has had success throughout his school teaching yoga. He finds that the students enjoy it, and he sees it as helping students with mindfulness. Similarly, Ms. Stone has offered enrichment activities centering around golf and archery, two sports to which she feels that her economically disadvantaged students do not get enough exposure. She has also implemented the Girls on the Run (GOTR) Program in schools she has been in. GOTR is a national program that meets twice a week in small teams of various-aged girls, where trained volunteers inspire participants to build confidence and other important life skills through dynamic, interactive lessons and physical activity (girlsontherun.org). This program, however, comes with a fee for participants that schools are not always able to cover. Ms. Stone mentioned that in one school she simply took the idea of the program and formed a club called, “Girls Who Run.”

Bringing critical outside services into school. When a family is economically disadvantaged, the effects undoubtedly spread to many facets of that family’s life. One participant, Mr. Jones, argued that fulfilling the more basic needs a family and student might have is the best way to begin to close the gap on movement opportunities.

Mr. Jones shared that he sees many students coming into his school with many basic needs not being met (hunger, shelter, sense of belonging). He thinks that too often these students are thrown right into situations that address similar academic needs that they might have, but thinks they are woefully unprepared. He takes very seriously the charge of ensuring that students’ needs are met on every level, and to this end he has

worked to bring select services directly into the schools knowing that students and their families might not be able to take advantage of them otherwise.

For instance, he explained how he was able to get a local hair salon to come into his school once a month to provide haircuts for students in need. Similarly, as many of the families he serves have immigration issues—especially given the current climate in the United States—he has been able to bring immigration lawyers and services into the schools to assist these families in taking the proper steps for them and their families. By providing these services in a safe space for families, he is helping them to get some of their most basic needs met so that students can focus on movement and academics and other daily programming that can help them to reach their full potential.

Chapter Summary

The leaders with whom I spoke vastly enriched my understanding of the various barriers to a more physically active environment during the school day, how to conquer those barriers, how to utilize stakeholders in this process, and the ways in which they can level the playing field in terms of movement opportunities for their economically disadvantaged students. I found that a lack of time and a lack of physical resources, among other things, are the main impediments when trying to bring more movement into the day, and the participants reported that creativity, flexibility, modeling, and a unified school vision are the ways to overcome these barriers. In addition, it was reported that honing facilitator passion, navigating political relationships, and leveraging leadership were effective ways to ensure stakeholder support. Finally, participants reported that due to various factors they had observed in the schools in which they served (transportation

availability, lack of experience/exposure, and general financial concerns), economically disadvantaged students were not offered the same type of movement opportunities as were their economically advantaged peers. They attempted to close this gap by ensuring equity in school-time programming, by forming relationships with students' families, by increasing students' experience with/exposure to movement, and by bringing outside services into the school.

Chapter 5

It is important to situate my findings in terms of alignment with what current research offers on the subject, and at the same time illuminate conclusions I have drawn that might add to the field. This step is critical as I look to evaluate the potential influence this work can have on the field both presently and with future steps and directions.

Findings Aligned with Barrier Research

With the information I received associated with my first question (Which barriers do Movement Champions face in bringing additional movement opportunities to their students), what I learned is an echoing of already established paradigms in this field. For instance, many studies have noted that time is a critical impediment in efforts to create more school-based movement opportunities for students (Weatherson, Gainforth, & Jung, 2017; Nathan, et al., 2018; Allison, et al., 2011; Cox et al., 2011). As I researched this topic, there was no barrier that appeared more often in the literature than did the lack of time available in the day. It did not seem to matter from which perspective the analysis came (teacher, administrator, school board member), or the type of study researchers performed (interviews, surveys, meta-analysis of other studies). Five of the seven participants listed this as a barrier they face, while two focused their answers elsewhere.

My findings that the pressure teacher's face in the school day rank as a large barrier for classroom movement is not listed as explicitly as the concept of time in past

research, but closer investigation of previous studies offers a direct pathway to this supposition. For instance, Weatherson, Gainforth, and Jung (2017), identified three domains which teachers found to limit the opportunities for movement throughout the school day, and one of them was labeled “social influences.” It explained that this refers mostly to a lack of interest from parents—and even students—to engage in additional movement activities. Clearly, if a teacher began on the path toward offering additional physical movement opportunities he or she might feel pressure from these groups to remain on the academic course previously set. Similarly, Nathan et al., (2018), who reviewed 17 international studies on the subject, found that the most frequently mapped barriers among the work was goals—competing demands of “core” curriculum. Like in the previous case, it is not a far leap to understand how these “competing demands” can cause pressure to not stray from the intended curriculum and general course of study for classroom operations.

Finally, the Dwyer et al. study (2003), which involved interviewing forty-five elementary-level teachers from around the Toronto area, found that, among other things, physical education was simply not as big of a priority as other areas in which students took standardized tests, so additional time was not spent in that way. Again, it is clear that if a teacher had a mind to offer physical activity in the form of creative movement within the classroom or before or after school, that he or she would feel pressure to do so discreetly and possibly under the radar of administration.

Examination of the research on physical resources being an obstacle in the effort to offer more movement opportunities falls very much in line with my own findings. For

example, Weatherson, Gainforth and Jung (2017) identified “environmental context and resources” as a domain limiting teachers’ ability to provide movement to their students. Similarly, Nathan et al., (2018) created the same categorical label (environmental context and resources) when describing the barriers they found. They specifically cited a lack of physical space for additional movement opportunities as being a limiting agent.

The three main barriers I was able to identify following my interviews, lack of time, pressure, and lack of physical resources, have all been cited in earlier research—in varying depths—by those that have come before me. Even one of the more seemingly novel barriers I heard from a leader—the idea that teachers are self-conscious about their own physical fitness levels and knowledge—was covered in at least one of the studies I found (Nathan et al., 2018). When answering this particular research question of mine, my work very much strengthens the positions of others who came to similar conclusions. On the other hand, and with the intent of adding to the literature, one novel thoughts was described by a participant and is worthy of further study: close-minded leadership thinking as a limiting agent for movement opportunities.

Findings Aligned with Stakeholder Utilization Research

As noted above, great teachers—and probably even great principals—would have a tough time changing the content of a school’s physical activity programs by themselves. Partners are needed for this critical work, and perhaps the real genius is in determining how to most effectively and completely utilize those partnerships and their resources.

When looking into the research on this topic, only a couple of issues related to this field have been studied. First of all, researchers have studied how parents/guardians

might best be able to assist in providing meaningful physical activity opportunities. A wealth of research has been conducted examining the environmental factors needed outside of school in order for young people to engage in physical activity: parents and guardians able to offer safe, nearby green-spaces with sturdy and reliable equipment have the best chance at increasing children's activity levels (Moore et al., 2014; Hesketh, Waters, Green, Salmon, & Williams, 2005; Dwyer et al., 2004).

Researchers have also discussed a topic in this field that was only briefly mentioned by the participants in this study: utilizing industry programs and higher education partners in the work to create movement opportunities during school. One study that ably discusses the many benefits of these outside partnerships was performed in 2018 by Weaver et al. These authors looked to gauge student levels of moderate to vigorous physical activity (MVPA) following the addition of key partnership approaches providing schools with ideas and resources associated with increased physical activity opportunities. One of these approaches was the LET US Play principle, and schools involved in the study were asked to reflect on their own school's level of adherence. LET US is an acronym for Lines, Elimination, Team size, Uninvolved children, and Space, equipment and rules, and each letter focuses on one part of physical education/play that should be mindfully addressed by teachers, but often is not. For instance, Team size has to do with the number of students that participate on a team for given activity. It is common to see 12 – 15 children on a soccer team where only one or two are consistently touching and moving the ball. This methodology asks, "Why not have 4 games with only 6 children on a team?" More touches and experience will occur for each player.

After asking teachers to adjust their practices based on their findings—and with the advent of a couple of classroom based practices—including communities of practice and service learning—this effort yielded an increase in 32% of girls and 18% of boys achieving the mark of 30 minutes per day of MVPA.

Another outside partnership opportunity whose benefits have been highlighted by academia is the NFL's Fuel Up to Play 60 program (FUTP60)—the same program mentioned by Ms. Norton at Running Brook ES. Saint et al. (2017) looked at the impact of the FUTP60 program, which utilizes a student-centric model encouraging students to lead, take part in, and personally commit to healthy eating and physical activity opportunities within their schools. They found in a partnership project involving more than 100 schools in 22 states, participating schools had lower proportions of boys and girls in the Needs Improvement Health Risk (NIHR) category of Body Mass Index (BMI) analysis.

Partnerships with local universities have also been found to benefit daily movement opportunities for students. Brussea, Bulger, Elliott, Hannon, and Jones (2015). The researchers wrote:

If the potential of schools is to be fully realized in the area of physical activity promotion, however, interdisciplinary teams of researchers from colleges/universities must become equally invested partners in designing, implementing, managing, evaluating, and disseminating multicomponent interventions that are both scalable and sustainable (p. 371).

The data offered by my participants failed to closely align with some of these findings. Several leaders discussed the importance of family members and those at home in terms of stakeholders needed for success, but none branched out into the specific practices or conditions created by parents or guardians. Similarly, there was very little discussion by these participants on the importance—or even existence—of outside partnerships with different programs. Playworks, a company designed to make recess more purposeful and inclusive for students, and the aforementioned FUTP60 were briefly mentioned, but no one shared the idea that these programs can have a substantial influence on a school’s movement repertoire.

Clearly both sets of information inform the current picture of physical activity offered in the school setting, and both should be examined as new leaders emerge with hopes of bringing more activity into their schools.

Findings Aligned with Research Covering Barrier Differences for Economically Disadvantaged Students

Examination of these data was undoubtedly the most difficult from which to draw solid conclusions. Whether it was the presence of a long and final question in the interview, or it was due to the fact that SES is oftentimes a tough topic to discuss, the responses participants offered were a bit muddled, unspecific, and often off-task.

Looking at this work through the lens of critical theory allowed me to intentionally seek and study conditions where economically disadvantaged students and their inequitable movement opportunities were closely examined. Regarding physical activity performed by students during the school day, the majority of research finds that students coming from economically disadvantaged backgrounds are not moving as much

as their economically advantaged peers (Kwon et al., 2015; Trost, et al., 2013; Basch, 2011). Participant data confirmed these results mostly in terms of opportunities—participants shared that, in their experiences, economically disadvantaged students do not have the transportation options to attend before or after school movement activities, and/or they do not have the financial means to participate. Multiple participants offered anecdotal evidence of a low-income student at his or her school that was in some way at a disadvantage for a club, sport, or some other activity-based school event. To their credit, and possibly because both of the school divisions in which I interviewed are able to provide many resources for the schools they serve, each was also able to explain how they overcame that hurdle—PTA-based scholarships for enrichment courses, for example.

Two of the participants I interviewed did not have much experience serving students who were economically disadvantaged. Mr. Norton, for instance, was someone who did not claim to have much of a background working with traditionally underserved students. But to his credit, he was able to notice some of the ways in which the division was handling what he thinks they saw as a disparity between those students in poverty and those that are not. He cited a division-wide mandate to increase recess times as a message to those schools that were working too hard, in their eyes, with double academic periods while neglecting other aspects of education like physical education and the arts. This directive, he believed, sought to level the playing field so that all students could have the opportunities to be active throughout the day.

Limitations

Selecting Movement Champions from the east coast fails to consider approaches, attitudes, and behaviors of those activity leaders situated in other regions of the country and at other levels of schooling (middle and high school). This is mostly a convenience (both time and financial) choice on my behalf, and should still serve to provide answers that can begin to address my questions. Alongside this, selecting only principals to be Movement Champions in this study narrows the perspective from which my findings should be considered.

A second limitation of this study comes from the convenience sample process of participant selection. Given more time and resources, I would have sought to contact all building-based principals in the these school divisions with some type of inventory about the movement habits in their buildings. It would have added to the complexity and validity of the study, I am sure, if I would have been able to secure more participants. While seven participants was the minimum I was planning to use to consider a the sample a wide enough range, I would have preferred to find 10 – 12 participants.

Another limitation for this study is related to timing and convenience, I was only able to interview participants from two large, suburban school districts. Though several of the schools represented in my study served a high number of students receiving Free and Reduced Meals (FARMS), both districts are generally thought off as having plenty of resources for those within its boundaries. I believe that the data I collected and subsequent analysis I performed would have been different had I the opportunity to perform the same study in a more urban setting. Mostly this limitation constrains the

applicability of my findings to schools and districts similar to those in which I found participants.

A final limitation I encountered was the length of the interviews and the resulting actions both on the part of the participants and myself. With six of the seven interviews taking place before school in the principal's office (or workspace), as the interviews progressed I spotted behaviors indicating the participants were ready to move on to the many challenges that laid ahead of them that day (e.g., checking watch/iphone for time, not sharing or expanding as much as earlier in the interview, etc.). Not only did this more than likely curtail some of their creative and deep thoughts, but it also caused me to try to quickly move from one question to the next with hopes of not inconveniencing them to a larger extent.

Implications

Following the interviews and analysis I was able to perform, it is important to take the next step in contributing to existing research and discuss how my findings will impact related theory, policy, and practice.

Impacting theory. Many of the conclusions that I have been able to draw from my work fall directly in line with what the research has already found in this area. For instance, barriers like time and physical resources are roadblocks that many leaders and teachers grapple with when it comes to offering students additional movement time during the school day. And some building leaders, both the research and my findings agree, are able to overcome these impediments by thoughtfully and charismatically engaging their staff, supporting those who have a passion for something, and generally

delegating and releasing some control in terms of how particular programs are run.

However, some of what I found has not been thoroughly discussed in journal articles and trade magazines, and it carries the potential to impact the field in positive ways in the future.

For instance, studying leader mindset and how it affects school-based decisions for physical activity could be an enormous boon to the field. As Mr. Norton referenced in his interview, he had a mindset of “what could go right?” that led him to take chances backing programs that were not fully pieced together or completely settled. He relied on the people behind them and gambled that the potential outcomes for his students were well worth the risks involved. My work opens the door for the importance of this type of thinking to be studied specifically—its origins, its impact on the work, perhaps even its transference to other leaders.

Also, this work has the potential to impact theory in this field by expanding research horizons into new topics of pursuit. For instance, several building leaders mentioned that tapping into the passions of teachers, parents, and community volunteers was a great first step in providing meaningful physical activity for students. A study based solely on locating, capturing, and describing the type of passion and desire it takes to build and maintain a high-quality enrichment or similar-type movement program at a school would undoubtedly serve to better fill in the picture of what is needed to create a school and culture that longs for activity.

Impacting Policy. The results of this study have the potential to impact policy in this arena in a couple of ways. First, it can be used on a national level as another example

of a research study that continues the conversation about the importance of physical activity in the lives of young people. Journal articles covering this topic over the last ten years have expanded exponentially as the concept of educating the whole child has come into focus. Nearly five years ago, on December 10, 2015, President Obama signed the Every Student Succeeds Act (ESSA), hence reauthorizing the Elementary and Secondary Education Act, which serves as the nation's guiding document for education. One of the many departures from the earlier reauthorization of NCLB, signed into law in 2002, was a commitment to those previously neglected subjects such as Health and Physical Education, World Languages, and the arts. ESSA gave these subjects equal footing in the eyes of the law, and enabled teachers and administrators to go after funding sources previously unavailable.

Also, this study has the potential to influence policy on a more local level. As school divisions constantly review and update the various policies and regulations that create the foundation for teaching and learning, school board members could find, or be shown, aspects of this dissertation that could influence future policy revisions. For instance, as a central office employee of a mid-sized school division, I know that programs and initiatives that catch the school board's eye are oftentimes brought into existence very quickly. So if a school board member, for example, was wondering if the movement opportunities offered at his or her daughter's school are in line with what is offered elsewhere, they might see this document and one of the strategies or initiatives listed and inquire within the Department of Curriculum and Instruction as to how Brain Boosts, before and after school enrichment, and other active elements are occurring

around the division. This could then lead to fresh research and an updated policy including more opportunities to be active.

Impacting Practice. As a result of the interviews I conducted and the subsequent analysis I performed, the practice of elementary-level movement within schools has a good chance of being impacted in three significant ways. First, any school-based leader who is interested in building or supporting a program and culture with a clear commitment to movement throughout the day will have been given many of the tools and methods he or she will need to execute those plans. Ranging from good ideas for before or after school active enrichments like a running club, to potential partnerships with passion-filled parents and community members offering meaningful classes for students, this work points out several effective ways of getting students more active during the school day. Alongside these techniques and logistics this work offers advice on how principals can engage and coach staff members to fill these valuable roles of movement champions in a building.

Secondly, this work provides a resource for leaders, teachers, staff, and other interested community members to utilize in order to create a more active school. If a teacher or para-educator, for instance, sees the need in his or her classroom or in a classroom he or she supports, reading this study will give them plenty of ideas regarding how they can positively impact students through increased movement opportunities. Similarly, if a teacher or staff member feels that economically disadvantaged students are not getting a fair shake in terms of movement opportunities, this work can begin the conversation related to addressing and potentially solving the problem.

Finally, this dissertation can act as a basic resource for anyone interested in learning more about the history of movement within schools, the barriers often presented to those seeking to create movement opportunities, the methods for overcoming those barriers, and several other key aspects involved with creating an equitable physically active environment within a school setting. It could be a “summer read” for the staff of a new principal hoping to better inject movement into the day, for instance, or it could be a jigsaw activity where portions of the work are divided up among staff and each section is reported out for the benefit of the whole.

Recommendations for Future Research

In many ways, it was affirming to see so much of the analysis I was able to perform sync up so well with the existing research. As I was working through related journal articles and studies during the last few years, I was not surprised to discover some of the more prevalent barriers to daily physical activity in school settings. For instance, working in education over the last 20 years I have seen personally how schools, a decade or so ago, began opting for increased academic periods at the expense of the non-state tested subjects such as art and physical education. Living in this sphere made it seem very logical that “time in the day” would be listed as a major obstacle in terms of thwarting daily physical activity efforts. It was important to hear the leaders with whom I spoke confirm that this was a barrier they had observed in their daily practice. It told me, in some ways, that I was on the right path.

However, I was also in search of answers, stances, or general thoughts that would push the work in this field forward. A study that only confirms what others have found

does little more than slowly build its validity; it does not push new researchers in creative directions. I wanted to be able to take from my interviews some information that could immediately be the subject of another nascent researcher's work.

One way to do this would be through a closer study of partnership organizations that work with schools to bring about increased levels of physical activity, and if and how their relationship with those schools has brought about change. Seemingly endless numbers of organizations are committed to supporting school-based interventions in one way or another, so a detailed examination of the work these folks do would be a great step in the right direction. While undoubtedly many of these organizations have their own research teams eager to provide the meaningful data they have collected, I think that a more objective inquest would be appropriate to ensure a fair judgment.

Also, it would seem logical to take future research in the direction of identifying leaders' pasts to see whose experiences sync up with the type of change they are trying to bring about. What I mean by that is to look into the backgrounds of those people in charge in a given school or district to see which came from the field of physical education or perhaps was a high-level athlete. I found in my work that many of the Movement Champions fit this bill—and remember that my selection was anything but random; principals were identified for what they had accomplished, so this was an elite group of advocates. Nearly all of them, when asked what experiences they have had in life that they feel contributed to the positions they currently hold, cited involvement in sports of one kind or another as a catalyst for their behaviors and attitude. Ms. Cruz, for instance, was a high-level collegiate gymnast before she went into teaching, and Mr. Nelson is still

an avid runner. Also, Mr. Jones was part of a collegiate championship on the football field in his younger days. It would be interesting to study this in reverse; to first look for those former physical education teachers and high-level athletes who have moved on to leadership positions, and then assess how their respective schools or districts are doing in terms of keeping students moving. Does it take someone who truly values movement and physical activity to instill those beliefs in a group of teachers?

Also, I would be interested to see research that tries to find a few examples of schools that truly put movement and physical activity as a primary objective in the school day. Though well outside the scope of my own study—funding, travel, etc.—if a specific model of implementation could be found that has the formula correct—movement starting off the day with morning announcements, multiple recesses, brain boosts throughout the day, before and after school enrichment for all students—it could be a great resource for new leaders.

In addition, research should head in the direction of finding leaders who themselves were in economically disadvantaged schools growing up that can offer a different opinion, drawing from their own personal experiences, as to how this movement opportunity gap can be closed. It would be interesting to see if the type of school those leaders were in now—low, middle, or high-SES—impacted their thoughts when combined with their own lifetime experiences.

Finally, I think the field would benefit from a closer look at the specific school-day windows of time which are often discussed revealing some of these inequities between economically disadvantaged students and their economically advantaged peers.

Participants in this study provided examples of how a lack of transportation and funding thwarted many students' efforts to take part in before or after school activities, but what about between the first and last bell of the day? Are there any discrepancies in movement opportunities once all students are in the building and settled into their specific homeroom? Do any pull-out or remediation programs exist during the day that compromise a particular student group's movement opportunities?

Summary

Most of the barriers Movement Champions identified in their work to offer students more physical activity during the day (a lack of time in the day, teacher pressure, a lack of physical resources) align neatly with what researchers have found in the past. Novel barriers like teacher lifestyle and attitude were also discussed, and are worth further investigation. Participants also echoed research findings discussing the importance of partnerships and school-based as well as outside stakeholders in this effort, though they did not seem to utilize external companies and businesses to the degree these entities penetrate the field in general. In addition, participants shared that, similar to what research has found in the field, economically disadvantaged students, for reasons of lack of funds and lack of transportation, do not enjoy similar opportunities to move as do their economically advantaged peers.

This study has the potential to impact both policy and practitioners as both a testimony for current conditions, as well as a resource assisting teachers and building-leaders hoping to design a program incorporating more movement for students. Research in the future should continue to examine the benefits of professional partner

organizations, examine more closely the relationship between principal background (e.g., teaching content area, high-level sport participation) and proclivity to create/support movement activities, and focus the study of the movement opportunity gap to those times inclusive of the school day, ignoring for these purposes both before and after school activities.

Appendix A

Dissertation Interview Qs

1. Others within your building or within your school district view you as a “Movement Champion,” a leader who puts a priority on offering movement opportunities to students throughout the school day. Would you say this characterization is accurate? Why or why not?
2. What experiences have you had in your career as an educator—or simply your life experiences in general—that have led you to believe in the importance of physical activity for kids.
3. Please describe some of the programs/initiatives/offerings you have developed or overseen in the school setting that give students the opportunity to be active during the day.
4. In general, how have students reacted to the increased physical activity you have sought to provide?
5. Have you found any data resulting from one of your programs or initiatives that supports the need for students to be active during the day (e.g., increased math scores after a recently-added double recess policy)?
6. Throughout your career, describe some of the barriers you have previously encountered that have prevented students from engaging in physical activity at school?
 - a. Have you ever faced pressure from above—or from outside (e.g., parents, community members, etc.)—to limit or discontinue a movement initiative or activity in order to increase academic work in an SOL-tested content? If so, please describe the experience(s).
 - b. Have you ever worked with an administrator that did not share your enthusiasm for bringing physical activity to students? If so, how, if at all, did you manage to build a program or initiative around or through him or her?
7. How have you managed to overcome these barriers?
8. Describe some of the other stakeholders that needed to be engaged for you to successfully work physical activity into your school day.
 - a. What role have teachers played in the success of your program(s)?

- b. Have there been key community members who have supported your programs?
 - c. Any other staff or school-based personnel who have been vital to the process?
- 9. Research seems to indicate—though is far from overwhelming—that similar to the achievement gap, there exists an opportunity gap, in terms of movement, for low-income and minority students compared to their white peers. What have been your experiences related to trying to provide movement during the day in high-poverty schools?
 - a. Similar barriers? Different ones?
 - b. . . . if differences are identified . . . why do you think these differences exist?
 - i. Greater focus on academics (unwilling to give the time)?
 - ii. Lack of teacher training/ability?
- 10. What advice would you offer a new administrator who believes in the importance of student-movement in the school day but is not sure how to begin implementation of programs or initiatives designed to address it?

Appendix B

Participant Recruitment and Communication

To recruit participants for this study, I will work with the Coordinator for Health, Family Life, and Physical Education for the counties in which I recruit participants. I will initially ask these contacts and those that work with them for their recommendations of potential “Movement Champions”—elementary principals who have created or enthusiastically endorsed additional movement practices for students throughout the school day. Once these names are generated, I will send them the following message:

Hello _____,

My name is Mike Humphreys, and I am the Instructional Specialist for Health/Physical Education and Family Life Education for XXXXXXXXXXXXXXXXXXXX. I was given your name and contact information by XXXXXXXXXXXXXXXXXXXX.

I am writing to invite you to participate in my research study about how “Movement Champions”—elementary principals who have created or enthusiastically endorsed additional movement opportunities for students throughout the school day—have been able to overcome barriers within their schools and communities in order to provide additional movement opportunities for their students throughout the school day. I am wrapping up my doctoral degree through George Mason University and will be using this research for my dissertation. XXXXXXXXXXXX recommended I speak with you based on your commitment to student-movement!

If you decide to participate in this study, I will hope to interview you at your convenience at your school (30 – 45 minutes), and I will also hope to see one of your movement programs/initiatives/extensions in action.

While I would very much like to learn the barriers you have faced and how you have overcome them in your implementation of movement opportunities, this study is completely voluntary. If you would like to participate or have any questions about the study, please email me at XXXXXXXXXXXXXXXXXXXX.

Thank you very much in advance for your time and consideration.

Mike Humphreys, NBCT

XXXXXXXXXXXXXXXXXXXX

Appendix C

Informed Consent Form

RESEARCH PROCEDURES

This research is being conducted in order to learn the barriers Movement Champions at elementary schools face when trying to bring additional physical activity to their buildings, and how they overcome them. If you agree to participate, you will be asked to engage in one 30- to 45-minute interview, in person, at your school, at your convenience.

RISKS

There are no foreseeable risks for participating in this research.

BENEFITS

There are no benefits to you as a participant other than to further research in methods and benefits of including physical activity for students into the school day.

CONFIDENTIALITY

The data in this study will be confidential. Names and other identifiers will not be placed on interviews or other research data. The use of a code placed on the interview and other collected data will link the participant's interview responses to the participant's identity through the use of an identification key, which only my chair advisor and I will possess. The de-identified data could be used for future research without additional consent from participants.

PARTICIPATION

The criteria for inclusion in this study will be championing or having championed daily movement opportunities for students. Potential participants will be suggested to the researcher initially by the K-12 Coordinators of Health, Family Life, and Physical Education (and their colleagues) based on the type of movement activities he or she has been able to implement in their schools.

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

CONTACT

This research is being conducted by Michael Humphreys at George Mason University. He may be reached at XXXXXXXX for questions or to report a research-related problem. His advisor, XXXXXXXXXX, can be reached at XXXXXXXXXX. You may contact the George Mason University Institutional Review Board office at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

AUDIO-RECORDING

All interviews will be audio-recorded. Data will be uploaded to the Trint site and processed and coded by the researcher. Data will be securely stored on my locked iphone and on a memory stick locked in the office of my advisor, XXXXXXXXXXXX. Only the researchers will have access to the audio recordings. After the audio recordings have been transcribed, they will be deleted and then the transcriptions will be retained for 5 years after the study ends.

If you agree to be audio-recorded, please sign and date below:

Signature

Date of Signature

CONSENT

I have read this form, all of my questions have been answered by the research staff, and I agree to participate in this study.

Signature

Date of Signature

Appendix D



Office of Research Development, Integrity, and Assurance

Research Hall, 4400 University Drive, MS 6D5, Fairfax, Virginia 22030
Phone: 703-993-5445; Fax: 703-993-9590

DATE: May 1, 2019

TO: Robert Smith
FROM: George Mason University IRB

Project Title: [1433108-1] Dissertation: Elementary School Leaders' Perspectives on Providing Movement Opportunities to the Students they Serve: A Blueprint for Future Leaders

SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: May 1, 2019

REVIEW CATEGORY: Exemption category #2

Thank you for your submission of New Project materials for this project. The Institutional Review Board (IRB) Office has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

Please remember that all research must be conducted as described in the submitted materials.

Please note that any revision to previously approved materials must be submitted to the IRB office prior to initiation. Please use the appropriate revision forms for this procedure.

If you have any questions, please contact Kim Paul at (703) 993-4208 or kpaul4@gmu.edu. Please include your project title and reference number in all correspondence with this committee.

Please note that all research records must be retained for a minimum of five years, or as described in your submission, after the completion of the project.

Please note that department or other approvals may also be required to conduct your research.

GMU IRB Standard Operating Procedures can be found here: <https://rdia.gmu.edu/topics-of-interest/human-or-animal-subjects/human-subjects/human-subjects-sops/>

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within George Mason University IRB's records.

References

- Abbott, R. A., Straker, L. M., & Mathiassen, S. E. (2013). Patterning of children's sedentary time at and away from school. *Obesity (Silver Spring, Md.)*, *21*(1), E131-E133. doi:10.1002/oby.20127
- Allison, K. R., Dwyer, J. M., Goldenberg, E., Fein, A., Yoshida, K. K., & Boutilier, M. (2005). Male adolescents' reasons for participating in physical activity, barriers to participation, and suggestions for participating in physical activity. *Adolescence*, *40*(157), 155-170.
- Barros, R. M., Silver, E. J., & Stein, R. K. (2009). School Recess and Group Classroom Behavior. *Pediatrics*, *123*(2), 431-436. doi:10.1542/peds.2007-2825
- Bauer, K. W., Yang, Y. W., & Austin, S. B. (2004). "How can we stay healthy when you're throwing all of this in front of us?" Findings from focus groups and interviews in middle schools on environmental influences on nutrition and physical activity. *Health Education & Behavior: The Official Publication of The Society For Public Health Education*, *31*(1), 34-46.
- Basch, C. E. (2011). Physical activity and the achievement gap among urban minority youth. *The Journal of School Health*, *81*, 626-634. doi:10.1111/j.1746-1561.2011.00637.x

- Bell, D. (1992). *Faces at the bottom of the well: The permanence of racism*. New York: Basic Books.
- Bohman, J., Zalta, E.N. (2016, Fall). *The Stanford encyclopedia of philosophy*. Retrieved from <https://plato.stanford.edu/archives/fall2016/entries/critical-theory>
- Brown, S., Souto-Manning, M., & Laman, T. T. (2010). Seeing the strange in the familiar: Unpacking racialized practices in early childhood settings. *Race, Ethnicity and Education*, 13(4), 513–532.
<https://doi.org/10.1080/13613324.2010.519957>
- Brusseau, T. A., Bulger, S. M., Elliott, E., Hannon, J. C., & Jones, E. (2015). University and Community Partnerships to Implement Comprehensive School Physical Activity Programs: Insights and Impacts for Kinesiology Departments. *Kinesiology Review*, 4(4), 370–377.
- Burton, L. J., & VanHeest, J. L. (2007). The importance of physical activity in closing the achievement gap. *Quest*, 59(2), 212-218.
- Candeias, V., Armstrong, T. P., & Xuereb, G. C. (2010). Diet and physical activity in schools: perspectives from the implementation of the WHO global strategy on diet, physical activity and health. *Canadian Journal of Public Health = Revue Canadienne De Sante Publique*, 101 Suppl 2, S28–S30.
<https://doi.org/10.1007/BF03405623>
- Cane, J., O'Connor, D., & Michie, S. (2012). Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science: IS*, 737. doi:10.1186/1748-5908-7-37

- Capps, R., Fix, M., Ost, J., Reardon-Anderson, J., & Passel, J.S. (2004). *The health and well-being of young children of immigrants*. Washington, D.C.: The Urban Institute
- Carlson, S. A., Fulton, J. E., Lee, S. M., Maynard, L. M., Brown, D. R., Kohl III, H. W., & Dietz, W. H. (2008). Physical Education and Academic Achievement in Elementary School: Data From the Early Childhood Longitudinal Study. *American Journal of Public Health, 98*(4), 721–727.
- Carter, M., & Swinburn B. (2004). Measuring the “obesogenic” food environment in New Zealand primary schools. *Health Promotion International, 19*(1), 15–20. <https://doi.org/10.1093/heapro/dah103>
- Castelli, D. M., Hillman, C. H., Buck, S. M., & Erwin, H. E. (2007). Physical fitness and academic achievement in third- and fifth-grade students. *Journal of Sport & Exercise Psychology, 29*(2), 239-252.
- Castanyer, P. (2019). Notes on Race and Gender in the USA: Poverty and Intersectionality. *Papeles de Europa, 32*(1), 1–12. <https://doi-org.mutex.gmu.edu/10.5209/pade.64468>
- Castelli, D. M., Centeio, E. E., Hwang, J., Barcelona, J. M., Glowacki, E. M., Calvert, H. G., & Nicksic, H. M. (2014). The history of physical activity and academic performance research: Informing the future. *Monographs of the Society for Research in Child Development, 79*(4), 119-148. doi:10.1111/mono.12133
- Castelli, D. M., Centeio, E. E., Hwang, J., Barcelona, J. M., Glowacki, E. M., Calvert, H. G., & Nicksic, H. M. (2014). The history of physical activity and academic

- performance research: Informing the future. *Monographs of the Society for Research in Child Development*, 79(4), 119-148. doi:10.1111/mono.12133
- Castelli, D., Glowacki, E., Barcelona, H., Calvert, G., & Hwang, J. (2015). Active education: Growing evidence on physical activity and academic performance. San Diego, CA: Active Living Research. Available at www.activelivingresearch.org.
- Caterino, M. C., & Polak, E. D. (1999). Effects of two types of activity on the performance of second-, third-, and fourth-grade students on a test of concentration. *Perceptual and Motor Skills*, 89, 245–248.
- Center on Education Policy (2008). *Instructional time in elementary schools: A closer look at changes for specific subjects*. Washington, D.C.: Center on Education Policy.
- Centers for Disease Control and Prevention, (2000). Promoting health for young people through physical activity and sports. Appendix 7. Retrieved April 21, 2018 from <http://www2.ed.gov/offices/OSDFS/physedapndc.pdf>.
- Centers for Disease Control and Prevention. (2010). *The association between school based physical activity, including physical education, and academic performance*. Atlanta, GA: U.S. Department of Health and Human Services.
- Centers for Disease Control and Prevention. (2019). *Increasing physical education and physical activity: A framework for schools*. Atlanta, GA: Author. Retrieved from https://www.cdc.gov/healthyschools/physicalactivity/pdf/2019_04_25_PE-PA-Framework_508tagged.pdf

- Chen, L., Fox, K., Ku, P., & Taun, C. (2013). Fitness change and subsequent academic performance in adolescents. *Journal of School Health, 83*(9), 631-638.
- Coe, D. P., Peterson, T., Blair, C., Schutten, M. C., & Peddie, H. (2013). Physical fitness, academic achievement, and socioeconomic status in school-aged youth. *Journal of School Health, 83*(7), 500-507.
- Cohen, D. A., Ashwood, J. S., Scott, M. M., Overton, A., Evenson, K. R., Staten, L. K., & ... Catellier, D. (2006). Public parks and physical activity among adolescent girls. *Pediatrics, 118*(5), 2204-e1389. doi:10.1542/peds.2006-1226
- Cooper, K. H., Greenberg, J. D., Castelli, D. M., Barton, M., Martin, S. B., Morrow, J. R., & Morrow, J. J. (2016). Implementing policies to enhance physical education and physical activity in schools. *Research Quarterly for Exercise & Sport, 87*(2), 133-140.
- Corradetti, C. (n.d.). The frankfurt school and critical theory. Retrieved from <https://www.iep.edu/frankfur/>
- Cox, L., Berends, V., Sallis, J. F., John, J. S., McNeil, B., Gonzalez, M., & Agron, P. (2011). Engaging school governance leaders to influence physical activity policies. *Journal of Physical Activity & Health, 8*, S40-S48.
- Crenshaw, K. (1988). Race, reform, and retrenchment: Transformation and legitimation in anti-discrimination law. *Harvard Law Review, 101*(7), 1331-1387.
- Crenshaw, K., Gotanda, N., Peller, G., & Thomas K. (1995). Critical race theory: The key writings that formed the movement. New York; Free Press.

- Creswell, J.W. (1998). *Choosing among five traditions: Qualitative inquiry and research design*. London: Sage.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating Quantitative and qualitative research* (4thed.). Upper Saddle River, N.J.: Pearson/Merrill Prentice Hall.
- Dobbins, M., Husson, H., DeCorby, K., & LaRocca, R. L. (2013). School-based physical activity programs for promoting physical activity and fitness in children and adolescents aged 6 to 18. *The Cochrane Database of Systematic Reviews*, (2), CD007651.
- Du Toit, D., Pienaar, A. E., & Truter, L. (2011). Relationship between physical fitness and academic performance in South African children. *South African Journal for Research in Sport, Physical Education & Recreation*, 33(3), 23-35.
- Duck, A.A., Robinson, J.C., & Stewart, M.W. (2020). Adults' and children's perceptions of barriers and facilitators of school-aged children's physical activity in an inner-city urban area. *Journal for Specialists in Pediatric Nursing: JSPN*, 25(1), e12278. Doi: 10.1111/jspn.12278
- Dwyer, T., Coonan, W. E., Worsley, A., & Leitch, D. R. (1979). An assessment of the effects of two physical activity programmes on coronary heart disease risk factors in primary schoolchildren. *Community Health Studies*, 3, 196–202.
- Dwyer, J. M., Allison, K. R., Barrera, M., Hansen, B., Goldenberg, E., & Boutilier, M. A. (2003). Teachers' perspective on barriers to implementing physical activity

- curriculum guidelines for school children in Toronto. *Canadian Journal of Public Health = Revue Canadienne De Sante Publique*, 94(6), 448-452.
- Erwin, H. E., Abel, M. G., Beighle, A., & Beets, M. W. (2011). Promoting children's health through physically active math classes: A pilot study. *Health Promotion Practice*, 12(2), 244-251. doi:10.1177/1524839909331911
- Erwin, H. E., Beighle, A., Morgan, C. F., & Noland, M. (2011). Effect of a low-cost, teacher-directed classroom intervention on elementary students' physical activity. *The Journal of School Health*, 81(8), 455-461. doi:10.1111/j.1746-1561.2011.00614.x
- Erwin, H. H., Beighle, A., Carson, R. L., & Castelli, D. M. (2013). Comprehensive school-based physical activity promotion: A Review. *Quest (00336297)*, 65(4), 412-428.
- Faber, L., Kulinna, P. H., & Darst, P. (2007). Strategies for physical activity promotion beyond the physical education classroom. *Journal of Physical Education, Recreation & Dance*, 78(9), 27-31.
- Favreault, M. (2017). *Nine Charts about Wealth Inequality in America*. Urban Institute: Washington, D.C.. Retrieved from: <http://apps.urban.org/features/wealth-inequality-charts/>
- Flannery, M. E. (2016). Time for Recess!. *NEA Today*, 1.
- Flynn, R. B. (1972). Aerobic capacity for elementary school boys. *Research Quarterly*, 43, 16-32.

- Getlinger, M. J., Laughlin, V. T., Bell, E., Akre, C., & Arjmandi, B. H. (1996). Food waste is reduced when elementary-school children have recess before lunch. *Journal of The American Dietetic Association, 96*(9), 906-908.
- Ginsburg, K. R. (2007). The Importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics, 119*(1), 182-191.
doi:10.1542/peds.2006-2697
- Goh, T. L., Hannon, J., Webster, C., Podlog, L., & Newton, M. (2016). Effects of a TAKE 10! classroom-based physical activity intervention on third- to fifth-grade children's on-task behavior. *Journal of Physical Activity & Health, 13*(7), 712-718. doi:10.1123/jpah.2015-0238
- Gray, C. E., Larouche, R., Barnes, J. D., Colley, R. C., Bonne, J. C., Arthur, M., Tremblay, M. S. (2014). Are we driving our kids to unhealthy habits? Results of the active healthy kids Canada 2013 report card on physical activity for children and youth. *International Journal of Environmental Research And Public Health, 11*(6), 6009–6020. Doi: 10.3390/ijerph110606009
- Haapala, E. A., Poikkeus, A., Tompuri, T., Kukkonen-Harjula, K., Leppänen, P. T., Lindi, V., & Lakka, T. A. (2014). Associations of motor and cardiovascular performance with academic skills in children. *Medicine And Science In Sports And Exercise, 46*(5), 1016-1024. doi:10.1249/MSS.0000000000000186
- Hammerschmidt, P., Tackett, W., Golzynski, M., & Golzynski, D. (2011). Barriers to and facilitators of healthful eating and physical activity in low-income schools.

Journal of Nutrition Education & Behavior, 43(1), 63-68.

doi:10.1016/j.jneb.2009.11.008

Hansen, D. M., Herrmann, S. D., Lambourne, K., Jaehoon, L., & Donnelly, J. E. (2014).

Linear/Nonlinear relations of activity and fitness with children's academic achievement. *Medicine & Science in Sports & Exercise*, 46(12), 2279-2285.

Harrington, D. M., Belton, S., Coppinger, T., Cullen, M., Donnelly, A., Dowd, K., ...

Woods, C. (2014). Results from Ireland's 2014 report card on physical activity in children and youth. *Journal of Physical Activity & Health*, 11, S63-S68.

Hesketh, K., Waters, E., Green, J., Salmon, L., & Williams, J. (2005). Healthy eating,

activity and obesity prevention: a qualitative study of parent and child perceptions in Australia. *Health Promotion International*, 20(1), 19-26.

Horkheimer, M. (1972). *Bemerkungen zur religion*. Frankfurt: Fisher Verlag.

Howie, E.K., & Pate, R.R. (2012). Physical activity and academic achievement in

children: A historical perspective. *Journal of Sport and Health Science*, 1, 160-169.

Hunsberger, M., McGinnis, P., Smith, J., Beamer, B. A., & O'Malley, J. (2014).

Elementary school children's recess schedule and dietary intake at lunch: a community-based participatory research partnership pilot study. *BMC Public Health*, 14156. doi:10.1186/1471-2458-14-156

Ismail, A.H. (1967). The effects of a well-organized physical education programme on

intellectual performance. *Research in Physical Education*, 1, 31-38.

- Jarrett, O. S., Maxwell, D. M., Dickerson, C., Hoge, P., Davies, G., & Yetley, A. (1998). Impact of recess on classroom behavior: Group effects and individual differences. *The Journal of Educational Researcher*, 92(2), 121–126.
- Johnson, T. G., Brusseau, T. A., Darst, P. W., Kulinna, P. H., & White-Taylor, J. (2010). Step counts of non-white minority children and youth by gender, grade level, race/ethnicity, and mode of school transportation. *Journal of Physical Activity & Health*, 7(6), 730-736.
- Jarrett, O. S., & ERIC Clearinghouse on Elementary and Early Childhood Education, C. I. (2002). Recess in elementary school: What does the research say? ERIC Digest.
- Jarrett, O. S., Hoge, P., Davies, G., Maxwell, D. M., Yetley, A., & Dickerson, C. (1998). Impact of recess on classroom behavior: Group effects and individual differences. *Journal Of Educational Research*, 92(2), 121.
- Kahan, D. (2008). Recess, extracurricular activities, and active classrooms. *JOPERD: The Journal of Physical Education, Recreation & Dance*, 79(2), 26-39.
- Kasten, D. (2013). Modern day school segregation: Equity, excellence, & equal protection. *St. John's Law Review*, 87(1), 201-238.
- Khan, N.A., Hillman, C.H. (2014). The relation of childhood physical activity and aerobic fitness to brain function and cognition: A review. *Pediatric Exercise Science*, 26, 138-146.
- Kim, Y., & Lochbaum, M. (2017). Objectively measured physical activity levels among ethnic minority children attending school-based afterschool programs in a high-poverty neighborhood. *Journal of Sports Science & Medicine*, 16(3), 350-356.

- Kohl 3rd, H. W., Craig, C. L., Lambert, E. V., Inoue, S., Alkandari, J. R., Leetongin, G., & Kahlmeier, S. (2012). The pandemic of physical inactivity: global action for public health. *Lancet*, *380*(9838), 294–305. doi: 10.1016/S0140-6736(12)60898-8
- Kottyan, G., Kottyan, L., Edwards, N., & Unaka, N. (2014). Assessment of active play, inactivity and perceived barriers in an inner city neighborhood. *Journal of Community Health*, *39*(3), 538-544. doi:10.1007/s10900-013-9794-6
- Kristjansson, A., Elliott, E., Bulger, S., Jones, E., Taliaferro, A., & Neal, W. (2015). Needs assessment of school and community physical activity opportunities in rural West Virginia: the McDowell CHOICES planning effort. *BMC public health*. *15*. 327. doi: 10.1186/s12889-015-1702-9.
- Kwon, S., Mason, M., & Welch, S. (2015). Physical activity of fifth to sixth graders during school hours according to school race/ethnicity: Suburban Cook County, Illinois. *Journal of School Health*, *85*(6), 382-387.
- Lee, S. M., Burgeson, C. R., Fulton, J. E., & Spain, C. G. (2007). Physical education and physical activity: results from the School Health Policies and Programs Study 2006. *The Journal of School Health*, *77*(8), 435-463.
- Liu, J., Probst, J.C., Harun, N., Bennett, K.J., & Torres, M. E. (2009). Acculturation, physical activity, and obesity among Hispanic adolescents. *Ethnicity & Health*, *14*(5), 509–525.
- Lorenz, K. A., Stylianou, M., Moore, S., & Kulinna, P. H. (2017). Does fitness make the grade? The relationship between elementary students' physical fitness and

academic grades. *Health Education Journal*, 76(3), 302-312.

doi:10.1177/0017896916672898

Lounsbery, M., Bungum, T., & Smith, N. (2007). Physical Activity Opportunity in K-12 Public School Settings: Nevada. *Journal of Physical Activity & Health*, 4(1), 30-38.

Lounsbery, M. F., McKenzie, T. L., Trost, S., & Smith, N. J. (2011). Facilitators and Barriers to Adopting Evidence-Based Physical Education in Elementary Schools. *Journal of Physical Activity & Health*, 8, S17-S25.

Lubans, D. R., Boreham, C. A., Kelly, P., & Foster, C. E. (2011). The relationship between active travel to school and health-related fitness in children and adolescents: a systematic review. *The International Journal of Behavioral Nutrition And Physical Activity*, 85. doi:10.1186/1479-5868-8-5

Marasco, R. (2017). Critical theory and the pursuit of a political education. *Theory & Event*, 20.

Mâsse, L. C., Naiman, D., & Naylor, P.-J. (2013). From policy to practice: implementation of physical activity and food policies in schools. *International Journal of Behavioral Nutrition & Physical Activity*, 10, 71–82. doi: 10.1186/1479-5868-10-71

McDonald, N. C. (2007). Active transportation to school trends among U.S. schoolchildren, 1969-2001. *American Journal of Preventive Medicine*, 32(6), 509-516. doi:10.1016/j.amepre.2007.02.022

- Michael, R. D., Webster, C. A., Egan, C. A., Nilges, L., Brian, A., Johnson, R., & Carson, R.L. (2019). Facilitators and barriers to movement integration in elementary classrooms: A systematic review. *Research Quarterly for Exercise & Sport*, 90(2), 151.
- McMullen, J., Kulinna, P., & Cothran, D. (2014). Physical Activity Opportunities During the School Day: Classroom Teachers' Perceptions of Using Activity Breaks in the Classroom. *Journal of Teaching In Physical Education*, 33(4), 511-527.
- Mier, N., Lee, C., Smith, M. L., Xiaohui Wang, Irizarry, D., Avila-Rodriguez, E. H., ... Ory, M. G. (2013). Mexican-American children's perspectives: Neighborhood characteristics and physical activity in Texas-Mexico border colonias. *Journal of Environmental Health*, 76(3), 8–16.
- Miles, M., Huberman, M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook*. Thousand Oaks, CA: Sage Publications, Inc.
- Mills, K. (2018). The multimodal construction of race: a review of critical race theory research. *Language and education*, 32(4), 313–332.
- Ministerial Review Committee for School Sport and Physical Activity. (2007). Department of Education Training for the Arts, Queensland Government, Queensland.
- Modica, M. (2015). Unpacking the 'Colourblind Approach': Accusations of racism at a friendly, mixed-race school. *Race Ethnicity and Education*, 18, 396–418.
- Moore, H. J., Nixon, C. A., Lake, A. A., Douthwaite, W., O'Malley, C. L., Pedley, C. L., Summerbell, C. D., & Routen, A. C. (2014). The environment can explain

differences in adolescents' daily physical activity levels living in a deprived urban area: Cross-sectional study using accelerometry, GPS, and focus groups. *Journal of Physical Activity & Health*, 11(8), 1517–1524.

Nathan, N., Elton, B., Babic, M., McCarthy, N., Sutherland, R., Presseau, J., & Wolfenden, L. (2018). Barriers and facilitators to the implementation of physical activity policies in schools: A systematic review. *Preventive Medicine*, 10745-53. doi:10.1016/j.ypmed.2017.11.012

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*. <https://doi.org/10.1177/1609406917733847>

O'Connor, C. (1969). Effects of selected physical activities upon motor performance, perceptual performance, and academic achievement of first graders. *Perceptual and Motor Skills*, 29, 703–709.

Okely, A., Salmon, J., Vella, S., Cliff, D., Timperio, A., Tremblay, M., Trost, S., Shilton, T., Hinkley, T., Ridgers, N., Phillipson, L., Hesketh, K., Parrish, A., Janssen, X., Brown, M., Emmel, J., Marino, N. (2012). A systematic review to update the Australian physical activity guidelines for children and young people. Report prepared for the Australian Government Department of Health, June 2012.

Parks, M., Solmon, M., & Lee, A. (2007). Understanding classroom teachers' perceptions of integrating physical activity: A collective efficacy perspective. *Journal of Research in Childhood Education*, 21(3), 316–328. doi:10.1080/02568540709594597

- Pellegrini, A.D. (2008). The recess debate: A disjuncture between education policy and scientific research. *American Journal of Play*, *1*(2), 181-191.
- Richmond, T. K., Hayward, R. A., Gahagan, S., Field, A. E., & Heisler, M. (2006). Can school income and racial/ethnic composition explain the racial/ethnic disparity in adolescent physical activity participation? *Pediatrics*, *117*, 2158-2166.
- Pellegrini, A., (2005). *Recess: Its role in education and development*. Mahwah, NJ: Erlbaum; 2005
- Pellegrini, A. D., Blatchford, P., Kato, K., & Baines, E. (2004). A Short-term longitudinal study of children's playground games in primary school: Implications for adjustment to school and social adjustment in the USA and the UK. *Social Development*, *13*(1), 107-123. doi:10.1111/j.1467-9507.2004.00259.
- Roth, J. L., Brooks-Gunn, J., & Linver, M. R. (2003). What happens during the school day? Time diaries from a national sample of elementary school teachers. *Teachers College Record*, *105*(3), 317-343.
- Powers, H. S., Conway, T. L., McKenzie, T. L., Sallis, J. F., & Marshall, S. J. (2002). Participation in extracurricular physical activity programs at middle schools. *Research Quarterly For Exercise and Sport*, *73*(2), 187-192.
- Ramstetter, C. L., Murray, R., & Garner, A. S. (2010). The crucial role of recess in schools. *The Journal of School Health*, *80*(11), 517-526. doi:10.1111/j.1746-1561.2010.00537.x

- Roberts, C. K., Freed, B., & McCarthy, W. J. (2010). Low aerobic fitness and obesity are associated with lower standardized test scores in children. *The Journal of Pediatrics, 156*(5), 711. doi:10.1016/j.jpeds.2009.11.039
- Roth, J. L., Brooks-Gunn, J., Linver, M. R., & Hofferth, S. L. (2003). What happens during the school day? Time diaries from a national sample of elementary school teachers. *Teachers College Record, 105*(3), 317–343. doi: 10.1111/1467-9620.00242
- Routen, A.C., Chalkley, A.E., & Sherar, L. B. (2017). Getting a GRIP (getting research into practice) on movement integration in the school classroom. *Physical Therapy Reviews, 22*(3/4), 139-146.
- Saint, M. P. F., Bai, Y., Welk, G. J., Bandelli, L. N., Allums, F. K., & Candelaria, N. (2017). Impact of NFL PLAY 60 programming on elementary school children's body mass index and aerobic capacity: The NFL PLAY 60 FitnessGram partnership project. *Journal of School Health, 87*(11), 873–881.
- Schofield, J. (1986). Causes and Consequences of the Colourblind Perspective. In J. Dovidio & S. Gaertner (eds.) *Prejudice, Discrimination, and Racism* 231–253). San Diego, CA: Academic Press.
- Suárez-Orozco, C., Yoshikawa, H., Tseng, V., & William T. Grant Foundation. (2015). *Intersecting inequalities: Research to reduce inequality for immigrant-origin children and youth*. William T. Grant Foundation.

- Thompson, H. R., Linchey, J., & Madsen, K. A. (2013). Are physical education policies working? A snapshot from San Francisco, 2011. *Preventing Chronic Disease*, *10*, E142. doi:10.5888/pcd10.130108
- Tine, M. T., & Butler, A. G. (2012). Acute aerobic exercise impacts selective attention: an exceptional boost in lower-income children. *Educational Psychology*, *32*, 821-834. doi:10.1080/01443410.2012.723612
- Tremblay, M. S., Shields, M., Laviolette, M., Craig, C. L., Janssen, I., & Connor Gorber, S. (2010). Fitness of Canadian children and youth: results from the 2007-2009 Canadian Health Measures Survey. *Health Reports*, *21*(1), 7-20.
- Tremblay, M. S., Gray, C. E., Akinroye, K., Harrington, D. M., Katzmarzyk, P. T., Lambert, E. V., Tomkinson, G. (2014). Physical activity of children: A global matrix of grades comparing 15 countries. *Journal of Physical Activity & Health*, *11*, S113-S125.
- Trost, S. G., McCoy, T. A., Vander Veur, S. S., Mallya, G., Duffy, M. L., & Foster, G. D. (2013). Physical activity patterns of inner-city elementary schoolchildren. *Medicine & Science in Sports & Exercise*, *45*(3), 470-474. doi:10.1249/MSS.0b013e318275e40
- Trost, S. G., & Van Der Mars, H. (2009). Why we should not cut P.E. *Educational Leadership*, *67*(4), 60.
- Tuckman, B. W., & Hinkle, J. S. (1986). An experimental study of the physical and psychological effects of aerobic exercise on schoolchildren. *Health Psychology*, *5*(3), 197-207. <https://doi.org/10.1037/0278-6133.5.3.197>

- United States Department of Health and Human Services [USDHHS]. (2008).
2008 physical activity guidelines for Americans. Washington, DC: Author.
Retrieved May 18, 2018 from <https://health.gov/paguidelines/pdf/paguide.pdf>.
- Van Dusen, D. P., Kelder, S. H., Kohl, H. 3., Ranjit, N., & Perry, C. L. (2011).
Associations of physical fitness and academic performance among
schoolchildren. *The Journal Of School Health, 81*(12), 733-740.
doi:10.1111/j.1746-1561.2011.00652.x
- Weatherson, K. A., Gainforth, H. L., & Jung, M. E. (2017). A theoretical analysis of the
barriers and facilitators to the implementation of school-based physical activity
policies in Canada: a mixed methods scoping review. *Implementation Science,*
*12*1-15. doi:10.1186/s13012-017-0570-3
- Weaver, R. G., Webster, C. A., Egan, C., Campos, C. M. C., Michael, R. D., & Vazou, S.
(2018). Partnerships for Active Children in Elementary Schools: Outcomes of a 2-
Year Pilot Study to Increase Physical Activity During the School Day. *American
Journal of Health Promotion, 32*(3), 621–630.
- Webster, C. A., Russ, L., Vazou, S., Goh, T. L., & Erwin, H. E. (2015). Integrating
movement in academic classrooms: Understanding, applying and advancing the
knowledge base. *Obesity Reviews, 16*(8), 691–701. doi:10.1111/ obr.12285
- Wilkins, J. L., Graham, G., Parker, S., Westfall, S., Fraser, R. G., & Trembo, M. (2003).
Time in the arts and physical education and school achievement. *Journal of
Curriculum Studies, 35,* 721–734.

Ying-Ying, G., Bogart, L., Sipple-Asher, B., Uyeda, K., Hawes-Dawson, J., Olarita-Dhungana, J., & Schuster, M. (2009). Using community-based participatory research to identify potential interventions to overcome barriers to adolescents' healthy eating and physical activity. *Journal of Behavioral Medicine*, 32(5), 491-502. doi:10.1007/s10865-009-92209s

Biography

Michael Humphreys graduated from Forest Lake Area High School, Forest Lake, Minnesota, in 1992. He received his Bachelor of Arts from Brown University in 1996, and his Master of Arts in Elementary Education from Johns Hopkins University in 2004. He went on to teach for 15 years in Maryland and Virginia before joining Alexandria City Public Schools in Alexandria, Virginia, as the Instructional Specialist for Health/Physical Education and Family Life Education.