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The Relationship Between Academic Success and Elementary Students Who Practice Elements of a “Healthy Lifestyle”

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The University of Southern Mississippi

THE RELATIONSHIP BETWEEN ACADEMIC SUCCESS AND ELEMENTARY
STUDENTS WHO PRACTICE ELEMENTS OF A “HEALTHY LIFESTYLE”

by

Bridget Page

A Thesis
Submitted to the Honors College of
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of the Requirements for the Degree of
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May 2015

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Abstract

The Relationship between Academic Success and Elementary Students who Practice Elements of a “Healthy Lifestyle”

By Bridget Page

May 2014

Research by the Centers for Disease Control and Prevention found that Mississippi is the leading state in obesity, and childhood obesity has tripled in the last thirty years (Centers for Disease Control and Prevention, 2013). With schools under pressure to improve academically, coupled with the pressure to show that improvement through high-stakes testing, the amount of time that values the importance of physical activity in school has declined. However, research has shown a decrease in physical activity actually leads to a decrease in reading and math scores and an increase in absenteeism, tardiness, and difficulties in concentration (National Parent Teacher Association, 2013). Simola et al. (2010) found that many students also are not getting the suggested seven to eight hours of sleep recommended. As a result, students are vulnerable to the negative effects of inadequate sleep like frustration, depression, and forgetfulness. Grantham-McGregor and Olney (2006) also examined the role of nutrition for school-aged children and found that poor nutrition in early childhood is linked to poor cognition, school achievement, and behavior later on in childhood with evidence that school meals affect school performances. Children’s physical and mental health impacts their probability for educational success.

Proper nutrition, physical activity, and adequate sleep—these three elements, related to physical health, were used in this study to define “healthy lifestyle” and suggest that all three have a significant relationship with the students’ academic success. The goal of this

study was to observe the relationship between a student's letter grade in the classroom and health both in school and at home. Data were gathered to compare self-reported health responses with academic grades. The study found that there was no considerable relationship between the sleep habits of a student and their self-reported letter grade, but the majority of students did report that they do not receive quality sleep. The study also found that a significant majority of students who live a healthier lifestyle by eating nutritious foods and participating in physical activity find it easier to maintain a higher grade and thus evidence of more successful academic performance.

Key Words: Undergraduate research, health, academics, elementary, thesis

Dedication

Pearl Public Schools

Thank you for providing a high academic learning experience unlike any other. You provided the friendships, mentors, and encouragement to make me into a successful life-long learner and educator.

Acknowledgements

The passion I developed for education comes from the great encouragement and love from my parents. They have taught me the value of living life to its fullest, stepping out in faith, and glorifying God in everything that I do.

My passion would not have been met without first acknowledging God's truth on a daily basis. His Word pushed me to remember my strength and talents. I would like to thank my advisor along with many professors for their tireless efforts in mentoring me during the process of completing this thesis.

Additionally, I would also like to pay special thanks to the faculty of The Honors College. During my two years as a member of the Senior Honors program at the Hattiesburg campus of The University of Southern Mississippi, I was blessed with their support and encouragement to be the best I can possibly be and make the most of my time and academics as an undergraduate student.

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List of Abbreviations

APA	American Psychological Association
HoCo	Honors College
USM	The University of Southern Mississippi

CHAPTER I

Introduction

Nutrition, physical activity, and sleep play a large role in the mental capability of children. With recent demand of test scores and academic improvement in the school system, it is important that educators begin to consider students not only on their work in the classroom, but to also consider factors outside the classroom that are playing a role in their success. Schools that create healthy climates create better opportunities for academic success (Lucarelli et al., 2014). Schools have an important role to play in improving some aspects of a student's health by incorporating activity in the classroom and including daily breakfast (Hayes et al., 2014). While there is not much that educators can do to enforce a healthy lifestyle outside of the classroom, there are preventative measures, such as incorporating physical activity in the classroom and helping students gain a better understanding of health, that can be put into place to help future generations.

The increase in demands as it relates to education is not going to dwindle anytime soon. So how are students going to keep up with the new curriculum and standards? If students begin to live a healthier life by eating nutritious foods, participating in physical activity, and receiving quality sleep, a significant majority will find it easier to maintain a higher grade and succeed academically.

Statement of the Problem

Research from the Centers for Disease Control and Prevention found that Mississippi is the leading state in childhood obesity, and childhood obesity has tripled in the last thirty years (Centers for Disease Control and Prevention, 2013). With schools under pressure to improve academically, coupled with the pressure to show that improvement through high-

stakes testing, the amount of time that values the importance of physical activity in school has declined. However, research has shown a decrease in physical activity actually leads to a decrease in reading and math scores and an increase in absenteeism, tardiness, and difficulties in concentration (National Parent Teacher Association, 2013). Simola et al. (2010) found that many students are not getting the suggested seven to eight hours of sleep recommended. As a result, students are vulnerable to the negative effects of inadequate sleep like frustration, depression, and forgetfulness. Grantham-McGregor and Olney (2006) also examined the role of nutrition for school-aged children and found that poor nutrition in early childhood is linked to poor cognition, school achievement, and behavior later on in childhood with evidence that school meals affect school performances. Proper nutrition, physical activity, and quality sleep, were used in this study to examine if all three are linked to students who demonstrate academic success.

Purpose of the Study

The study was used to examine if there was a relationship between students' self-reported letter grades and their responses describing their own personal health habits, specifically related to nutrition, physical activity, and sleep. The topic is important in part, yet profoundly, because there is a heavy influx in curriculum demands and standardized testing in American schools.

Hypotheses

For the purposes of this study, the following hypotheses will be tested:

- There will be a significant relationship between students' self-reported academic letter grade for those who report that they have a proper and balanced nutritious diet and for those who do not.

- There will be a significant relationship between students' self-reported academic letter grade for those who report that they receive quality sleep and for those who do not.
- There will be a significant relationship between students' self-reported academic letter grade for those who report that they have a balanced physically active lifestyle and for those who do not.

Limitations, Delimitations, and Assumptions

Limitations

1. Some of the students may have self-reported according to what they believed the researcher wanted to read.
2. Some of the students were not given parental permission to participate in the study.

Delimitations

1. The sample was limited to one school.
2. The sample was limited to four grades.
3. The sample was limited to one classroom in each grade.

Assumptions

1. The students understand what is expected of them in order to complete the survey.
2. Most students will answer the survey fairly and justly.

Definition of Terms

For the purpose of clarifying terms in this study, the following definitions are provided:

- Children: Students in grades one through six.

- Children who eat a balanced nutritional diet: Any child who self-reported that he or she has enough to eat, eats breakfast daily, and/or eats most meals prepared at home on a regular basis.
- Children who get quality sleep: Any child who self-reported that he or she has little trouble sleeping at night, gets seven to eight hours of sleep, does not watch television while going to sleep, and/or does not regularly wake in the middle of the night.
- Children who practice a physically active lifestyle: Any child who self-reported that he or she regularly plays after school, participates in sports activities, spends little time on the computer or on video games, travels to school on a foot, and/or is overall physically active three to five times a week.

Summary

Healthy lifestyle habits are closely related to intellectual lifestyles, so if health is declining, so is our world academically. In elementary schools particularly, students who do not practice consistent healthy lifestyle habits are also at risk of having problems succeeding intellectually. Ultimately, this can cause several problems in the future.

One of the main causes of health decline is happening in schools. Some scholarly researchers indicated schools are working primarily to improve test scores for their students, which is causing less and less time to focus on day-to-day lifestyle (Eather, Morgan, and Lubans, 2013). Another set of researchers also found that many restrictions are put on teachers' instructional choice, so they are not being allowed to promote healthy lifestyles through physical activity (Stegelin et al., 2014). A child develops in different stages and in order for a child to develop fine motor skills, such as reading and writing, they must start out learning their gross motor skills through activity, which is

based off the research that found gross motor skills develop in the life of a child prior to their fine motor skills (Healthy Kids Challenge, 2013). This study asserts that students who show progress intellectually are often students who practice healthy nutritious, physical, and sleeping habits.

CHAPTER II

REVIEW OF LITERATURE

Introduction

According to the Centers for Disease Control and Prevention, the United States government found that obesity has risen tremendously over the last twenty-five years, and Mississippi is the leading state in childhood obesity (Centers for Disease Control and Prevention, 2013). This chapter presents a review of literature dealing with the health of children, specifically related to nutrition, which is significant given the previous statements, but also including physical activity and sleep as indicators of an increased capacity for academic success.

Nutrition

Through a study entitled *Eating Behaviors* (David et al., 2013), researchers tested children using questionnaires concerning student eating habits, the individual measurements of weight, height, and skin folds, and also physical fitness. This research showed that the consumption of breakfast influences positive aerobic activity. There was no association between physical fitness and either the type of consumed-beverages or television watching during dinner and lunch meals. Overall, they found that children's physical fitness is associated with their eating habits, and their fitness decreases with the number of unhealthy eating behaviors cumulated (David et al., 2013).

In the *Journal of School Health* (Bevans, Sanchez, Teneralli, & Forrest, 2011), examined nutrition directly related to school. They suggested that to better the impact of school nutrition programs on children's health, more information is needed on the associations between healthy and unhealthy food that is being offered during school lunch

periods as well as children's eating behaviors. The purpose of this study was to evaluate the contributions of food offerings and participation in school lunch programs. The study was conducted in which over two thousand students in both elementary and middle schools reported their eating behavior and frequencies with which they purchased meals and solo items in the school cafeteria. Food service managers from each school provided information on the availability of foods and beverages during school lunch periods. A linear model was created to see if eating behaviors were affected by students' age and grade level. The availability of fruits, vegetables, whole grains, and low-fat dairy products as components of school meals may be an effective strategy to promote healthy eating behaviors among children (Bevans, Sanchez, Teneralli, & Forrest, 2011).

Lucarelli et al. (2014) found that a school's food related characteristics may represent a school's health climate. A healthy school climate leads to positive academic outcomes. Schools can promote healthy eating in adolescents. This study used a qualitative approach to examine healthy eating in schools. Interviews were conducted with one administrator, the food service director, and one member of the coordinated school health team at each school. Schools had made some improvements to foods and increased nutritional education. The researchers suggested that a health-specific model of school climate would be useful to guide school health practitioners and researchers and may improve the effectiveness of interventions aimed at improving student dietary intake and other health behaviors (Lucarelli et al., 2014).

Grantham-McGregor and Olney (2006) also have examined the role of nutrition for school-aged children finding that poor nutrition in early childhood is linked to poor cognition, school achievement, and behavior later on in childhood with evidence that school

meals affect school performances. Many children are eating what is placed in front of them in the cafeteria or in the classroom, so the schools have to be sure that what is going in their mouths will ultimately affect what knowledge comes out (Grantham-McGregor & Olney, 2006).

In 2012, the GENYOUth Foundation held a Nutrition and Physical Activity Learning Connection Summit of several leaders to examine research and develop practical approaches to enhance children's health and their readiness to learn. Hayes et al. (2014) found that although improving children's eating habits and physical activity levels clearly leads to multiple health benefits, the impact of nutrition and physical activity on academic success is less well known, particularly among administrators, educators, and parents. Evidence from this research and school programs suggest that daily breakfast and an active school day can improve students' classroom performance and academic achievement. Schools have an important role to play in improving nutrition and physical activity (Hayes et al., 2014).

A study published in *Nutrition Bulletin* (Weichselcaum & Butriss, 2014) found that eating healthy and being physically active are reported as particularly important for children and adolescents, because their nutrition and lifestyle influence their well-being, growth, and cognitive development. There still remains considerable room for improvement in the diets of British schoolchildren, according to findings of the government's National Diet and Nutrition Surveys (NDNS), but some improvements have been made in the past decade. The research found that the average contribution of fat to total energy intake has dropped below the recommended upper level of 35%, but fiber intake remains low. There is also evidence of socio-economic inequalities; for example, children from families with higher incomes tend to have higher intakes of fruits and vegetables compared with children from families with lower

incomes. New physical activity regulations and data on physical activity levels were published for the first time as UK-wide guidelines. The data highlighted significant differences between boys and girls with girls generally being less active. It also indicated a significant difference between ethnic groups. In particular, children from Bangladeshi, Indian, and Pakistani ethnic groups were less likely to meet the recommended levels of physical activity compared with other children. Researchers concluded that obesity remains a major problem among British schoolchildren, and the findings of the NDNS serve to emphasize the importance of good nutrition being taught in schools and readily available in schools (Weichselcaum & Buttriss, 2014).

Physical Activity

Barney and Deutsch (2009) studied physical education in the classroom, and its importance in the academic discipline. They believe that children should be taught the concept of physical education, but today's schools focus on testing in such a way that physical education gets sacrificed. They suggested that health education should get more respect both in the school and in the general public. They designed a program to emphasize physical education in the classroom. They want to promote their program in a healthy manner, so they will be able to gain support. Barney and Deutsch (2009) developed this research by first contacting superintendents at school districts in three different states. They conducted a seven-question survey in schools and gave teachers two weeks to fill out the survey before taking them back up. They wanted to gain knowledge on the teacher's thoughts and viewpoints concerning physical education in the elementary schools. They found that most teachers' attitudes were positive, so they saw a need to raise awareness concerning physical education (Barney and Deutsch, 2009).

Madsen, Hicks, and Thompson (2011) found that factors associated with a person's physical development predict the educational outcomes of that individual. This study explored trends in physical activity among students, and it determined the impact of a school-based youth development on these trends. This study was developed using data from schools over a seven-year time frame. Over ninety schools had exposure to a program promoting physical health and youth development through structured play, and the other schools served as the controls. The conclusions suggested that partnerships with youth development programs promoting physical activity will likely improve declines in emotional well-being and increase physical activity among adolescents (Madsen, Hicks, & Thompson, 2011).

Eather, Morgan, and Lubans (2013) evaluated the impact of a multi-component school-based physical activity intervention on health-related fitness and objectively measured physical activity in primary school children. They included multiple children that completed an eight-week Fit-4-Fun program. Cardio-respiratory fitness was the primary outcome, and secondary outcomes included body composition, muscular fitness by a seven-stage sit-up test, push-up test, basketball throw test, standing jump, flexibility, and lastly physical activity. The results suggested that after six months significant treatment effects were found for cardio respiratory fitness, body composition, flexibility, muscular fitness, and physical activity, although there were no timely effects for the other muscular fitness measures. The researchers concluded that a primary school-based intervention focusing on fitness education would significantly improve health-related fitness and physical activity levels in children (Eather, Morgan, & Lubans, 2013).

A particular research study (Healthy Kids Challenge, 2013) found that gross motor skills develop in the life of a child prior to their fine motor skills. In order for a child to

develop fine motor skills, such as reading and writing, they must start out learning gross motor skills through activity. The research found that children learn through day-to-day activities that they enjoy. It suggested that the best way to get children to learn is by moving, even outside the classroom, so there will be a better outcome as it relates to paperwork in a classroom setting.

Stegelin et al. (2014) conducted a study to observe four through seven year olds daily routines regarding physical activity and nutrition. The settings selected for this observational study included Head Start, primary, and after-school learning environments in a city in the Southeast. They noticed the restriction of activity and restriction of physical movements. Results indicated that children in primary school settings had fewer opportunities for indoor and outdoor physical activity than children in other settings. Children seek to be physically active and will participate in physical activity when given the opportunity. The researchers proposed an increase in the time for both structured and unstructured physical activity and play for children in early education (Stegelin et al., 2014).

Through a study by the National Parent Teacher Association researchers found that students who are not practicing a physically healthy lifestyle are also having problems with absenteeism, tardiness, and difficulties in concentration, and it will ultimately create lifelong habits for the next generation that will be seen in the future of the United States and throughout the world (National Parent Teacher Association, 2013).

Sleep

Gruber (2013) looked at the element of sleep stating that sleep plays a key role in the way people think, feel, and behave and is a component of each of these domains. A substantial amount of evidence indicated that an appropriate level of sleep is necessary for

optimization of physical, cognitive, and emotional functioning, which are key domains of health and are at the heart of the science and the practice of psychology. He found that fatigue and insufficient sleep negatively affect life by causing frustration, memory loss, and even depression. A considerable proportion of children do not receive adequate sleep, in terms of either quantity or quality. He concluded that appropriate use of the knowledge, regarding the importance of sleep for ideal physical, cognitive, and emotional functioning, may significantly improve youth performance and health. He found that the problem stems from adolescents' lack of knowledge concerning sleep (Gruber, 2013).

Hochadel et al. (2014) conducted a study in a fourth grade school in Germany that examined the relationship between sleep problems and disorders such as insomnia, parasomnia, and daytime sleepiness to school behaviors in students. Nearly fifteen hundred children between eight and eleven years old completed a sleep questionnaire with the help of their parents. Furthermore, the results of the study clearly indicated that there is a relationship between sleep problems and school refusal behavior. School refusal is students' refusal to attend school. They found that children suffering from insomnias, parasomnias, and daytime sleepiness showed significantly higher scores in school refusal behavior compared to the children without sleep problems (Hochadel et al., 2014).

A particular study done in *Child: Care, Health & Development* (Simola et al., 2010) found that sleep is important to the well-being and development of children. Young children, especially, are vulnerable to the effects of inadequate sleep. In order to evaluate the prevalence of a wide spectrum of sleep problems, daytime tired, and other associations, researchers conducted a population-based study where parents filled in a Sleep Disturbance Scale for Children (SDSC). On the SDSC, parents rated their children's sleep behaviors on a

scale ranging from worst to best. Results suggested that, of the children in the school, 45% had at least one sleep-related problem occurring at least three times a week, 14.1% were unwilling to go to bed, 10.2% had difficulties in falling asleep, 10.2% had bruxism, 6.4% were known to sleep talk, 2.1% had sleep terrors, 8.2% had a sleep-related breathing problem, 11.2% had excessive sweating while falling asleep, and 12.9% had excessive sweating during sleep. The study also suggested that age and gender have a role in sleeping problems. The analysis found that difficulties both in initiating and maintaining sleep were most strongly associated with tiredness in the morning and during the day; therefore, poor sleep quality is associated with morning and daytime tiredness. They concluded that sleep problems in children are a result of the sleep quality not just the amount of sleep (Simola et al., 2010).

CHAPTER III

RESEARCH AND METHODOLOGICAL DESIGN

Overview

This study investigated the effect of health on forty students in third, fourth, fifth, and sixth grade classrooms located in Central Mississippi. Students were given a survey (See Appendix E), to self-evaluate their health in relation to nutrition, physical activity, and sleep. In addition, the survey instrument asked for demographics including gender and race, as well as the letter grade they most identified with as a student. Data were gathered to compare self-reported health habits and self-reported letter grades for each individual student. In order to help teachers better assess health, as it relates to classroom instruction, the researcher used the data to show results for majority of the students.

Research Questions

- Will there be a significant relationship between students' self-reported academic letter grade for those who report that they have a proper and balanced nutritious diet and for those who do not?
- Will there be a significant relationship between students' self-reported academic letter grade for those who report that they receive quality sleep and for those who do not?
- Will there be a significant relationship between students' self-reported academic letter grade for those who report that they have a balanced physically active lifestyle and for those who do not?

Research Design

This study was used to examine if there was a positive or negative relationship between students' self-reported letter grades and their responses describing their own

personal health habits, specifically nutrition, physical activity, and sleep. There were four elementary school classrooms of third, fourth, fifth, and sixth graders used in this study. By having third through sixth grade students participate in the study, it was more likely their self-report would be just, since they are old enough to evaluate themselves. The survey (See Appendix E) was a rating of each student's feeling towards his or her personal health to be used to determine how health affects the academic success of students given his or her self-reported letter grade.

Participants

The participants were children of the Pearl Public School District. The children were in grades third through sixth and each class had around fifteen to twenty students per grade. The researcher strived to recruit students of all different races and genders by choosing to use participants in a diverse community. The classrooms were not chosen by the research to potentially get different perspectives from different cultural backgrounds and practices. Classroom teachers were selected by the principal at each elementary school and asked to participate in conducting the study in his or her classroom. One classroom from each grade was examined; therefore, somewhere between ten and twenty children in each grade were given a consent form (See Appendix D), assent form (See Appendix C), and a copy of the survey (See Appendix E). The researcher received a total of forty surveys from the combined grades. Therefore, participation from forty students in four different elementary grades comprised the full data corpus for the study's analysis methods. Forty students made the data more manageable to evaluate all of the statements and questions that were presented in the survey.

Setting

The research took place in the close-knit community of Pearl, Mississippi, known as the home of the Pearl Pirates. It is a school with a diverse population and serves nearly four thousand students. The district has received numerous awards for its academic and extracurricular programs. It is not uncommon for graduates of the Pearl Public School District (PPSD) to remain in Pearl. In other words, the students of Pearl will one day become the community of Pearl. The community leaders as well as most of the school staff were once Pirates' in elementary school, so the staff of PPSD believes in developing life-long learners. The researcher, being from Pearl, Mississippi, designed the research to strengthen the PPSD and to give back to teachers for their time and investment.

The researcher distributed the surveys and assent and consent forms to the appropriate classrooms in the fall of 2013. The survey was given out to each student in the classroom from his or her teacher. Nearly four weeks after delivering the documents to the teachers, the researcher collected all the completed documents giving the teacher enough time to provide the survey and assent forms to the students in the classroom.

Procedures

The instrument was given in a survey format (See Appendix E). Sections break up the survey. The first section contains five statements pertaining to nutritional habits. The next five statements relate to a child's sleeping habits. The last section contains two questions and three statements that concern a child's physical activity in and out of school. The means and statistics from the survey results were used to formulate statistics that generated findings and the assertions this study argues as most important for the health of elementary students.

The data was collected in third through sixth grade classrooms in the Pearl Public School District in Pearl, Mississippi. Dr. Ray Morgigno, superintendent, and other board members approved the survey to be used in each school. Then, classroom teachers were selected by the principal at each elementary school and asked to participate in conducting the study in his or her classroom. Once the principals gave the researcher a list of names of the participating teachers, the teachers in the selected classrooms received assent forms (See Appendix C), consent forms (See Appendix D), and surveys (See Appendix E). The teacher then sent home the parental consent form along with a copy of the survey. The students were given a week to return the consent form, and the teacher collected the forms as each student returned them. After collecting all the parental consents, if the student had a signed parental consent, the teacher had the students complete his or her participant assent form by reading and explaining the document to the class. Once all the parental consents and student assent forms were submitted, the teacher used a period of class time to distribute the survey to the participating students. Once the survey was completed, it was collected by the teacher, and the teacher checked the documents only for completeness. The teacher sealed all the forms and completed documents, and the researcher returned to the school to collect the sealed documents.

Summary of Research Design

The study was used to examine if there was a relationship between students' self-reported letter grades and their responses describing their own personal health habits, specifically related to nutrition, physical activity, and sleep. The participants included forty students from four classrooms in elementary schools in Pearl, Mississippi. The study took place over four weeks during the school's fall semester 2013. In the following chapter, the

data analysis of this study will be discussed to show there was a comparison of student's self-reported health rating and self-reported letter grade.

CHAPTER IV

ANALYSIS OF DATA

Introduction

The purpose of this study was to examine if there was a relationship between students' self-reported letter grades and their responses describing their own personal health habits, specifically related to nutrition, physical activity, and adequate sleep. Data analysis of this study indicated that a significant majority of students who self-reported that they practice healthy lifestyle habits maintain a higher grade than those who practice less healthy lifestyle habits. Weichselcaum and Buttriss (2014) indicated that lifestyle influences well-being, growth, and cognitive development. The research questions were created based on the idea that practicing healthy habits would, in fact, help these particular third through sixth grade students maintain higher grades. This study was conducted in order to remind educators to discover new, interesting ways to incorporate health in students' lives both in and out of the classroom. The research questions addressed in this study were designed to focus mainly on the student's assessment of his or her lifestyle as it relates to nutrition, sleep, and physical activity. The students' ratings on the survey were gathered in order to determine whether a student's self-reported health compared to his or her self-reported letter grade. Although some students did not show a relation between their health and academic success, the majority of the students did.

Analysis of Data

The researcher collected the student's individual ratings related to his or her health habits and compared those results to his or her self-reported letter grade. The students' surveys were analyzed by comparing the healthy lifestyle questions on the seven point Likert

scale with an academic letter grade at varying degrees (A, A/B, B, C, and D) from the school's ten point grading scale. The ratings on the surveys were based on student self-reported responses and served as an indicator of each individual's health. The researcher used the scale to describe the comparison with students who agreed or disagreed to each practice. A student who scored four to seven on the scale agreed with the statement or question, and a student who scored one to three on the scale disagreed with the statement or question.

Students' academic measurements based on their own self-report were recorded using Excel computer software for an organizational tool. Student's health was categorized into three main sections. The categories were nutrition, sleep, and physical activity. Sports activities were categorized together, like basketball and jogging. The students' academic success was considered at varying degrees (A, A/B, B, C, and D) based on the schools ten point grading scale. The researcher choose to use A and A/B to define higher academic success, since that is honor roll standard for most elementary schools across the United States.

In order to evaluate the questions and statements given on the survey, the researcher developed tables that show data for each question and statement on the survey. Some percentages were calculated to compare a group of students with the total number of students. The tables show the students' rating on each individual question and statement as well as their grade level and self-reported letter grade.

Results

Of the forty respondents to the survey, thirty indicated having an A or A/B average, two indicated having a B average, seven indicated having a C average, and one indicated having a D average. To explore explanations for the academic grade given by the students

several indicators were examined to compare the health habits of individuals who have an A or A/B average and those who do not.

The data in table one shows that most students practice healthy nutritious habits. Bevans, Sanchez, Teneralli, and Forrest (2011) found that the availability of nutritious foods during school lunch was associated with healthier eating habits. In other words, they equated that healthy eating habits can be linked to a cafeteria that provides healthy eating choices. This study found that six third graders, five fourth graders, four fifth graders, and five sixth graders who eat healthy foods on a daily basis also eat from the cafeteria. Therefore, the data shows, half of the total number of students (50%) eat healthy foods and eat from the cafeteria on a daily basis. Student eight in third grade, student four in fourth grade, students three and five in fifth grade, as well as students six and ten in sixth grade self-reported that he or she eats less meals prepared from home and also reported a C or below. Most students who reported practicing at least three or more nutritious habits also reported an A or A/B letter grade. The researcher found that student one in all four grades, reported practicing nutritious habits and reported an A or A/B letter grade. The majority of the students who reported B or below, like students six, nine, and ten in sixth grade, did not eat from the school cafeteria and did not eat most meals prepared from home.

The NDNS presented a study to emphasize the importance of good nutrition being taught in schools (Weichselcaum & Buttriss, 2011). Without proper education it is probable that students do not know how to make the best nutritional choices on a regular basis. The cafeteria meals may also limit the choices made by the student, which may result in healthier eating habits and choices made outside the classroom. The following table shows the

student's rating (Scale: 1=strongly disagree to 7=strongly agree) concerning the statements pertaining to nutritional habits as well as his or her self-reported letter grade.

Table 1. Statistics related to each student's response to nutritional habits

Third Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I receive healthy foods on a daily basis.	7	5	4	4	7	6	4	5	5	6
I have enough to eat.	6	6	2	6	4	4	6	5	7	7
I eat breakfast daily.	7	5	4	4	3	7	7	7	7	6
I eat from the school cafeteria.	7	7	7	7	7	7	3	2	1	3
I eat most meals prepared from home.	5	5	4	7	7	4	4	1	7	2
Self-reported letter grade	A	A/B	A/B	A	A/B	A/B	A/B	C	A/B	D
Fourth Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I receive healthy foods on a daily basis.	6	4	4	5	4	7	6	5	6	6
I have enough to eat.	7	7	7	7	7	7	7	6	7	7
I eat breakfast daily.	7	7	7	5	4	7	7	7	7	7
I eat from the school cafeteria.	5	4	1	1	4	2	3	7	4	3
I eat most meals prepared from home.	5	7	4	2	7	7	5	5	4	6
Self-reported letter grade	A	A	A	C	A/B	A	A/B	A/B	A/B	C
Fifth Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I receive healthy foods on a daily basis.	6	4	5	6	5	4	4	6	4	6
I have enough to eat.	7	7	6	7	7	4	5	7	7	7
I eat breakfast daily.	4	3	6	5	4	2	3	7	7	7
I eat from the school cafeteria.	6	1	3	3	2	1	2	4	5	5
I eat most meals prepared from home.	7	7	3	7	3	6	3	5	5	5
Self-reported letter grade	A/B	A/B	C	A/B	C	B	A/B	A	A	A/B
Sixth Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I receive healthy foods on a daily basis.	5	5	6	7	5	4	1	5	2	3
I have enough to eat.	7	7	7	7	7	3	7	3	4	4
I eat breakfast daily.	3	3	6	7	6	3	1	3	7	1
I eat from the school cafeteria.	5	5	7	6	4	3	4	3	2	3
I eat most meals prepared from home.	7	7	6	7	7	1	7	1	3	2
Self-reported letter grade	A/B	A/B	A/B	A/B	A/B	C	A/B	A/B	B	C

The data in table two shows student's sleep habits compared to his or her academic grade. A study by Gruber (2013) found that a considerable portion of children do not receive adequate sleep in terms of quantity or quality, which also holds true through the results in this study. It was found that eight out of the ten students in each grade claimed to get less than seven to eight hours of sleep. Only students one and four in third grade, students one and two in fourth grade, students eight and nine in fifth grade, and students four and five in

the sixth grade reported getting seven to eight hours of sleep. All eight of those students reported not waking up frequently in the middle of the night as well, and they all reported maintaining an A letter grade. Five of those eight students did still report having troubles going to sleep at night. Out of all the students, twenty-three total students reported having troubles going to sleep at night including the five already mentioned. The researcher found that the majority of the students reported getting less than seven to eight hours of sleep at night and having troubles going to sleep at night, and some of them had an A or A/B average as well. These results as well as the student's rating (Scale: 1=strongly disagree to 7=strongly agree) concerning the statements pertaining to sleep habits as well as his or her self-reported letter grade are shown in the following table.

Table 2. Statistics related to each student's response to sleep habits

Third Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I have troubles going to sleep at night.	6	5	7	1	1	7	6	7	7	1
I get seven to eight hours of sleep a night.	6	3	3	7	2	2	3	1	2	1
I watch television while going to sleep.	4	7	7	1	2	1	4	7	1	1
I wake up in the middle of the night.	1	2	4	2	1	5	1	7	7	1
I wake up excited for school.	7	5	2	3	7	7	2	7	7	7
Self-reported letter grade	A	A/B	A/B	A	A/B	A/B	A/B	C	A/B	D
Fourth Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I have troubles going to sleep at night.	2	5	2	4	1	4	2	4	1	3
I get seven to eight hours of sleep a night.	7	7	3	2	3	3	2	3	2	1
I watch television while going to sleep.	1	2	1	1	1	7	2	1	1	1
I wake up in the middle of the night.	3	2	1	1	1	7	2	1	1	2
I wake up excited for school.	5	5	6	3	4	1	6	7	1	1
Self-reported letter grade	A	A	A	C	A/B	A	A/B	A/B	A/B	C
Fifth Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I have troubles going to sleep at night.	1	6	7	2	6	1	3	2	2	4
I get seven to eight hours of sleep a night.	3	3	2	3	1	2	3	7	5	2
I watch television while going to sleep.	1	7	1	4	5	7	1	1	1	2
I wake up in the middle of the night.	3	4	1	2	4	2	1	3	2	5
I wake up excited for school.	2	2	3	2	2	1	4	2	3	6
Self-reported letter grade	A/B	A/B	C	A/B	C	B	A/B	A	A	A/B
Sixth Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I have troubles going to sleep at night.	6	6	7	7	7	5	5	2	7	2
I get seven to eight hours of sleep a night.	3	3	4	7	7	1	3	2	1	1
I watch television while going to sleep.	1	1	7	1	5	6	7	7	2	6
I wake up in the middle of the night.	5	3	6	1	2	7	1	4	1	1
I wake up excited for school.	3	3	7	7	5	5	1	4	7	4
Self-reported letter grade	A/B	A/B	A/B	A	A	C	A/B	A/B	B	C

Nutrition and sleep are only two of the three factors that were presented in this study. The third factor, physical activity, also shows a relationship between a student's physical activity habits as well as his or her academic letter grade. Madsen, Hicks, and Thompson (2011) found that factors associated with physical development predict health and education outcomes. The researcher found that many students who participate in more physical activity are producing better academic results.

The data in table three shows that nine students in third grade, eight students in fourth grade, nine students in fifth grade, and nine students in sixth grade reported to be physically

active three to five times a week. Student ten, in the third grade, was the only student who reported being less physically active among the third grade participants and he or she was also the only student who reported a D out of the forty students total. In the fourth grade, student's four and ten reported being less physically active and also reported a C letter grade, and the same is true for student three in the fifth grade and student six in the sixth grade. Student's one and seven in third grade, student seven in fourth grade, student six in fifth grade, and student two in sixth grade were the only five students who reported traveling to school by walking, cycling, or riding a scooter. However, majority of the student's self-reported that he or she spends time playing outside or participating in sports activities. Of the forty students, six in the third grade, six in the fourth grade, seven in the fifth grade, and ten in the sixth grade reported that he or she plays outside, which is 72.5% of the overall total number of students. Of the forty students, eight students in the third grade, eight in the fourth grade, eight in the fifth grade, and eight in the sixth grade reported that he or she participates in sports activities, which is 80% of the overall total number of students.

In addition, the results in this study show that for the majority of those who reported practicing three or more healthy physical lifestyle habits also reported an A or A/B average, which is seen in student two in every grade. As for the students who reported a B or below, like student's eight and ten in the third grade, the majority reported not practicing healthy physical lifestyle habits in three or more areas. These results as well as the student's rating (Scale: 1=strongly disagree to 7=strongly agree) concerning the questions and statements pertaining to physical lifestyle habits as well as his or her self-reported letter grade are shown in the following table.

Table 3. Statistics related to each student’s response to physical lifestyle habits

Third Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I regularly play outside after school.	7	7	1	1	7	7	4	1	7	3
I participate in sports activities (For example: basketball, jogging, skating, fast dancing, swimming laps, tennis, fast bicycling, or aerobics)?	6	6	2	7	7	7	7	4	7	1
I spend time after school playing Nintendo, Sega, games at the arcade, or use the computer to surf the internet?	7	3	2	1	1	5	3	4	1	6
I walk, cycle, or ride a scooter to school.	6	1	1	1	1	1	5	1	1	1
I am physically active three to five times a week.	7	5	6	6	7	7	4	4	7	1
Self-reported letter grade	A	A/B	A/B	A	A/B	A/B	A/B	C	A/B	D
Fourth Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I regularly play outside after school.	6	7	3	4	4	3	4	2	7	3
I participate in sports activities (For example: basketball, jogging, skating, fast dancing, swimming laps, tennis, fast bicycling, or aerobics)?	7	4	7	5	7	7	1	7	7	1
I spend time after school playing Nintendo, Sega, games at the arcade, or use the computer to surf the internet?	3	3	2	5	1	5	2	1	1	6
I walk, cycle, or ride a scooter to school.	1	1	1	1	1	1	6	1	1	1
I am physically active three to five times a week.	7	6	6	3	7	7	6	7	7	3
Self-reported letter grade	A	A	A	C	A/B	A	A/B	A/B	A/B	C
Fifth Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I regularly play outside after school.	4	5	5	4	2	5	5	2	3	6
I participate in sports activities (For example: basketball, jogging, skating, fast dancing, swimming laps, tennis, fast bicycling, or aerobics)?	6	7	1	4	5	5	5	2	7	7
I spend time after school playing Nintendo, Sega, games at the arcade, or use the computer to surf the internet?	2	4	6	4	6	5	5	2	2	4
I walk, cycle, or ride a scooter to school.	1	1	1	1	1	6	1	1	1	1
I am physically active three to five times a week.	6	5	3	5	6	5	7	6	7	7
Self-reported letter grade	A/B	A/B	C	A/B	C	B	A/B	A	A	A/B
Sixth Graders-Student (S) Number	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
I regularly play outside after school.	7	7	7	7	7	6	7	7	6	5
I participate in sports activities (For example: basketball, jogging, skating, fast dancing, swimming laps, tennis, fast bicycling, or aerobics)?	6	5	7	4	7	2	7	7	4	3
I spend time after school playing Nintendo, Sega, games at the arcade, or use the computer to surf the internet?	5	5	4	3	1	7	2	2	6	6
I walk, cycle, or ride a scooter to school.	1	5	1	1	1	1	1	1	1	1
I am physically active three to five times a week.	6	5	5	7	5	1	5	6	6	5
Self-reported letter grade	A/B	A/B	A/B	A	A	C	A/B	A/B	B	C

Conclusion

Although some students did not show a relationship between their health and academic success, the majority of the students did. The study was used to examine if there was a relationship between students' self-reported letter grades and their responses describing their own personal health habits, specifically related to nutrition, physical activity, and sleep for third through sixth graders, in Pearl, Mississippi. In the following chapter, findings and limitations of this study will be discussed. There will also be discussions regarding possible changes and recommendations for future researchers interested in this subject.

CHAPTER V

DISCUSSION

Health plays a crucial role in the academic success of a student. In the *Journal of School Health*, an article examined nutrition in schools and found that by providing more nutritious foods, children are making healthier choices and behaving better throughout the day (Bevans, Sanchez, Teneralli, & Forrest, 2011). Barney and Deutsch (2009) also pointed to health in schools as it relates to physical education by emphasizing that learning objectives take place in both the cognitive and psychomotor domains. Gruber (2013) focused on the importance of health by stating that sleep plays a key role in the way that people think, feel, and behave. By combining the ideas of nutrition, physical activity, and sleep, this study was conducted and results were found. These three elements are ones that can be focused on by educators and with some knowledge can improve the students' academic success. This chapter summarizes the finding, implications of the results seen in this study, and suggestions for future researchers.

Discussions of Findings

Most of the results found in this study align with the results of previous literature. There is some limitation on the comparison with research, since the data came from one school district in Central Mississippi and the sample size of students being evaluated was small in number, but many similarities can still be noticed.

The first question in the study determined if there was a significant relationship between students' self-reported academic letter grade for those who reported that they have a proper and balanced nutritious diet and for those who do not. Grantham-McGregor and Olney (2006) examined the role of nutrition for school-aged children to find that poor

nutrition in early childhood is linked to poor cognition, school achievement, and behavior later on with evidence that schools meals affect school performance. In this study, the data shows if a relationship exists between the concepts of both nutrition and academic success. The relationship between proper and balanced nutritious diets and academic grades, based on the results that were listed in table one, indicate that most students who reported practicing at least three or more nutritious habits also reported an A or A/B letter grade. The majority of the students who reported B or below did not eat from the school cafeteria and did not eat most meals prepared from home, so perhaps they are eating more fast food, restaurant style food, or junk food from convenience stores. What children are putting into their body is likely a result of what is coming out of their minds.

The second question considered whether there was a significant relationship between students' self-reported academic letter grade for those who reported that they receive quality sleep and for those who do not. A particular study done in *Child: Care, Health & Development* (Simola et al., 2010) found that sleep is important to the well-being and development of children. Based on the results in this study that can be found in table two, there seems to be no significant relationship between a student's sleep habits and academic grades. Only eight students reported getting seven to eight hours of sleep and not waking up frequently in the middle of the night. All of those students did report an A average. Overall, the majority of the students reported getting less than seven to eight hours of sleep at night and having troubles going to sleep at night, and some of them had an A or A/B average as well. Students may find themselves frustrated with class work, which is causing them to be restless at night, but nonetheless, some students are still able to achieve academic success.

The third question considered whether there was a significant relationship between students' self-reported academic letter grade for those who reported that they have a balanced physically active lifestyle and for those who do not. Through a study by the National Parent Teacher Association, researchers found that students who are not practicing a physically healthy lifestyle are also having problems with absenteeism, tardiness, and difficulties in concentration in school (National Parent Teacher Association, 2013). Results in this study, based off table three, shows that for the majority of those who reported practicing three or more healthy physical lifestyle habits also reported an A or A/B average. As for the students who reported a B or below, the majority reported not practicing healthy physical lifestyle habits in three or more areas.

Implications

Although some students did not show a relation between their health and academic success, the majority of the students did. Not every method of teaching will work for every child and in every case there should be differentiated learning in place. Findings showed that the majority of students' who reported practicing healthier lifestyle habits by making good nutritional choices and participating in physical activity also reported having higher academic grades. There was no significant relationship between health as it relates to sleep and students' academic grades.

Barney and Deutsch (2009) concluded in their study that health education should be getting more respect both in the schools and in the public. Students' healthy habits should be considered to make sure that every child is reached and can perform successfully on an academic level. Due to the statements and questions provided on the questionnaire as well as the small sample size, the study was not able to find out if nutrition, sleep, and activity are

necessarily casual, so other factors may need to be considered as well. Students self-reported grades, on the other hand, could be advantageous for gaining insight into how students see themselves or identify with grades or with their sense of success in school.

Findings answered all three research questions. Findings showed that the majority of students' who reported practicing healthier lifestyle habits by making good nutritional choices and participating in physical activity have higher academic grades. There was no significant relationship between health as it relates to sleep and students' academic grades.

The study was used to examine if there was a relationship between students' self-reported letter grades and their responses describing their own personal health habits, specifically related to nutrition, physical activity, and sleep. Students' responded through a self-reported survey by evaluating their own life as it relates to health and academics. This study points to the idea that by living a healthier lifestyle in relation to nutrition and physical activity, elementary students are more likely to maintain a higher grade in the classroom, and although sleep does not play a specific role in their success, for these particular students, majority of the students do not receive quality sleep.

Limitations, Delimitations, and Assumptions

While all research questions were answered in this study, there are still some things that should be considered. The first is that the study only occurred in one school district, in four classrooms, over a four-week period. It could have been beneficial to the findings if more data had been collected and compared. Secondly, due to the statements and questions provided on the survey as well as the small sample size, it is implied that the study was not able to find out if nutrition, sleep, and activity are necessarily causal. The survey was limited by the questions and statements provided, so each student's information was restricted as

well. It could be beneficial to leave open ended questions or conduct an interview among students. Lastly, some particular students may have also had some difficulty reading and understanding the questions and statements and may have self-reported thinking their results were being graded, which may have altered their survey results. It is believed, though, that most of the students gave a fair and justifiable report.

Recommendations for Future Research

This section gives an overview of recommendations for future researchers that may be interested in the effects of health, in relation to nutrition, physical activity, and sleep, on the academic success of elementary students or people in general. Based on the results of this study, the following recommendations for future research are made.

Researchers should continue to study the effects of all three elements of health as it relates to academic success. Though there is a good bit of research with regard to one element of health and its relation to academic success, there is very limited research regarding nutrition, physical activity, and sleep when combined. More attention could be on the three of them combined instead of just one specific element. The students who are more likely to live a physically active lifestyle may be more likely to make nutritious choices. In the same sense, children who make the most of sleep may also be more likely to participate in physical activity throughout the day rather than finding themselves tired and sluggish. The more research that is conducted, the more informed educators could be regarding the effects of health.

Researchers should consider doing research on all grade levels. If this occurred, it could be shown whether health regarding nutrition and physical activity is only playing a role in the life of elementary students or if it could be a factor in the academic success of older or

younger students as well. Sleep might also factor in to older students' academic success. Thus, further research in other grades including younger and older is recommended.

More research in general is suggested for future researchers. Several things have been done that have changed nutrition and physical activity in the school system. Some schools have begun making changes by limiting cafeteria choices and allowing students to move around the classroom more frequently in learning centers. Researchers could examine if naps function in academic success, or if short or long burst of physical activity or other additional methods aid in the students health both physically and mentally.

Conclusion

A study published in *Nutrition Bulletin* (Weichselcaum & Butriss, 2014) found that eating healthy and being physically active are reported as particularly important for children and adolescents, because their nutrition and lifestyle influence their well-being, growth, and cognitive development. The results from this study agree with the previous research. Statistical results yielded that students who are living a healthy lifestyle by making appropriate nutritional choices and participating in physical activity should be able to maintain a higher academic letter grade and succeed in the classroom. Majority of students lack quality sleep, but it does not seem to influence grades. More research is needed on this topic in order to show how health as it relates to nutrition, physical activity, and sleep affects a student academically.

Appendix A

INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **13081205**

PROJECT TITLE: **Healthy Children**

PROJECT TYPE: **Thesis**

RESEARCHER(S): **Bridget Page**

COLLEGE/DIVISION: **College of Education and Psychology**

DEPARTMENT: **Curriculum, Instruction and Special Education**

FUNDING AGENCY/SPONSOR: **N/A**

IRB COMMITTEE ACTION: **Expedited Review Approval**

PERIOD OF APPROVAL: **10/23/2013 to 10/22/2014**

Lawrence A. Hosman, Ph.D.

Institutional Review Board

Appendix B

Hey Bridget,

We would be happy to help you with this. You have my permission to work with the principals at the schools to get this accomplished. I am very proud of your accomplishments thus far at USM and was thrilled to hear that you were considering education as a profession.

Thanks,

Raymond Morgigno, Ph.D.
Superintendent, Pearl Public Schools
[\(601\) 932-7916](tel:6019327916)

Appendix C

ASSENT TO PARTICIPATE IN RESEARCH

Healthy Children

1. My name is *Bridget Page*. I am from the University of Southern Mississippi.
2. We are asking you to take part in a research study because we are trying to learn more about how physical activity, sleep, and nutrition affect young children in school.
3. A research study is a way to learn more about people. If you agree to be in this study you will be asked to fill out an attitude rating scale, one time in December 2013. The attitude rating scale is a list of 15 statements/questions relating to your life. You will answer: 1 (strongly disagree) to 7 (strongly agree). You can answer anywhere on the scale (1,2,3,4,5,6, or 7). It should take about 30 minutes. You will fill out the survey during the last thirty minutes of class. No makeup work will be necessary.
4. I do not believe that this study will upset you in any way. However, if you choose to take part in the study, you can also choose to stop being in the study at any time. I will keep the information you give me confidential, which means that I will not share your name with anyone else.
5. This study might help you gain a better understanding about how certain choices in the way you eat, sleep, and exercise is possibly connected to your school success. Also, if you participate in the study, it will help teach me important ways to help other children like you in the future.
6. Your parents have given their permission for you to take part in this study. Even though your parents said “yes,” you can still decide not to do this.
7. If you don’t want to be in this study, you don’t have to participate. Remember, being in this study is up to you and no one will be upset if you don’t want to participate or even if you change your mind later and want to stop
8. You can ask any questions that you have about the study. If you have a question later that you didn’t think of now, you can call me 601-502-6252 or ask me next time.
9. Signing your name at the bottom means that you agree to be in this study. When we are finished with this study, I will write a report about what was learned. This report will not include your name or that you were in the study.

If you decide you want to be in this study, please sign your name.

Signature of Subject

Printed Name of Subject

Date

Appendix D

**Informed Consent to Participate in the Research Study entitled Healthy Children
Name of Principal Investigator/Primary Researcher: Bridget Page**

A. Purpose and Background

Under the supervision of Dr. Bishop, Professor of Education at the University of Southern Mississippi, **Bridget Page**, an undergraduate student in research of Elementary Education is conducting research on children, who eat properly, are physically active, and get the suggested hours of sleep score higher on tests and succeed academically higher than other students. The purpose of this survey is to help the researcher explore the relationship between students' lifestyle according to their physical activity, nutrition, and sleep and their academic performance.

B. Procedures

If I agree for my child to participate in this research study, the following will occur:

1. My child will be asked to fill out an attitude rating scale, one time in December 2013. The attitude rating scale is a list of 15 questions relating to their lifestyle. They will answer: 1 (strongly disagree) to 7 (strongly agree). It should take about 30 minutes. They will fill out the survey during the last thirty minutes of class. No makeup work will be necessary.
2. There will be no consequences if you or your child chooses not to participate. They will continue with their daily assignment in class.

C. Risks

Risks may include normal anxiety associated with participating in a formal interview process. Confidentiality: Participation in the project is completely voluntary, and participants may withdraw at any time without penalty, prejudice, or loss of benefits. All personal information is strictly confidential, and no names will be disclosed. Any new information that develops during the project will be provided if that information may affect the willingness to continue participation in the project.

D. Direct Benefits

Benefits include a potential increase in awareness between the relationship between healthy physical and mental practices and academic performance.

F. Costs

There will be no costs to your child or you as a result of your child taking part in this research study.

H. Questions

Questions concerning the research, at any time during or after the project, should be directed to Bridget Page at (601) 502-6252 or Dr. John Bishops at (601) 467-8870.. The project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820

I. Consent

A copy of this form will be given to you.

PARTICIPATION IN RESEARCH STUDY IS VOLUNTARY. I, and/or my child, is free to decline to participate in this research study without penalty, or we may withdraw our participation at any point without penalty. The decision whether or not to participate in this research study will have no influence on my child's present or future status at Pearl Public Schools.

My child _____ has my consent to participate in the educational research study.

Student is a minor _____ (age)

Parent/Guardian: _____ (signature)

Date: _____

Appendix E

Healthy Children Survey

On a scale of: 1=strongly disagree to 7=strongly agree

Fill in the bubble of the number that best describes your answer.

	SD						SA
I receive healthy foods on a daily basis.	1	2	3	4	5	6	7
I have enough to eat.	1	2	3	4	5	6	7
I eat breakfast daily.	1	2	3	4	5	6	7
I eat from the school cafeteria.	1	2	3	4	5	6	7
I eat most meals prepared from home.	1	2	3	4	5	6	7
I have troubles going to sleep at night.	1	2	3	4	5	6	7
I get seven to eight hours of sleep a night.	1	2	3	4	5	6	7
I watch television while going to sleep.	1	2	3	4	5	6	7
I wake up in the middle of the night.	1	2	3	4	5	6	7
I wake up excited for school.	1	2	3	4	5	6	7
I regularly play outside after school.	1	2	3	4	5	6	7
I participate in sports activities (For example: basketball, jogging, skating, fast dancing, swimming laps, tennis, fast bicycling, or aerobics)?	1	2	3	4	5	6	7
I spend time after school playing video games like Nintendo, Sega, games at the arcade, or use the computer to surf the Internet?	1	2	3	4	5	6	7
I walk, cycle, or ride a scooter to school.	1	2	3	4	5	6	7
I am physically active three to five times a week.	1	2	3	4	5	6	7

I am in:

- 3rd grade
- 4th grade
- 5th grade
- 6th grade

I am:

- White
- Black or African American
- Hispanic or Latino
- Asian
- American Indian
- Other

I am a:

- Boy
- Girl

I am an:

- A student
- A/B student
- B student
- C student
- D student
- F student

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