FACTORS AFFECTING THE HEALTH OF MIDDLE SCHOOL STUDENTS

A Master's Research Paper Presented to

The Faculty of the College of Education

Ohio University

In Partial Fulfillment

Of the Requirement for the Degree

Master of Education

 $\mathbf{B}\mathbf{y}$

Amanda Dalton

Spring 2008

This Master's Research Project has been approved for the Department of Teacher Education

Frans Doppen, Associate Professor, Social Studies Education Ginger Weade, Professor and Interim Chair of the Department of **Teacher Education**

Table Of Contents

Chapter One: Introduction	1
Background	1
Statement of Problem	2
Research Questions	2
Purpose and Significance	3
Limitations	3
Definition of Terms	4
Methodology	4
Organization of Study	5
Chapter Two: Review of the Literature	6
Contributing Factors	6
Summary	17
Chapter Three: Analysis of the Research	18
Middle Level Students	18
Obesity	18
Nutrition	19

Physical Activity	21
Sexual Behavior	22
Tobacco Use	22
Wellness Programs	23
Summary	23
Chapter Four: Conclusions and Recommendations	24
Conclusions	25
References	29

CHAPTER ONE

INTRODUCTON

Background

Children in middle school are faced with many changes that affect many aspects of their lives. During this time, children are desperate to find a place to belong, and often make choices that negatively affect academic achievement and their ability to experience optimum health (Shultz, 2008). Health issues of middle school children are coming the forefront of many individuals' concern. Health issues have gained national attention through mandated standards and bills that have been passed to improve the conditions of middle school students. Despite these issues, the wellness of middle schools students has not improved. In fact, according to the Institute of Medicine, the rate of overweight children and teenagers was up from 16 percent to 17.1 percent between 2005 and 2006 and was expected to rise to 20 percent by the end of the decade (2007).

Despite overwhelming concerns, schools across the nation are still wondering what the best options are for their students. Campaigns for school wellness have been set up to develop lifelong behaviors of good nutrition and physical activity (Shultz, 2008). Despite these changes, schools are still noticing declining health among their students. Although wellness campaigns are fairly recent, the overall health of middle school students has not been good for quite some time. This is not a new phenomenon that educators and parents have to address as the health of students has been slowly deteriorating over the years.

The challenges associated with making children healthier are enormous and have posed problems for political and school officials as well as educators on the front lines of this

struggle. Peterson (2008) states that lack of physical activity, diet, parental involvement, and school involvement are all factors that are affecting the health of middle school students today. Educators can have a direct impact on many of these areas and it is important to have a well-developed understanding of the contributing factors so appropriate decisions about interventions can be made, especially if they affect parental involvement.

It is important to note that contributing factors to the health of middle school students is not limited to in-school only. They move beyond in-school to before and after school as well. Nutrition at home and parental involvement at home are important contributing factors. Families that capable of having at least one parent stay at home will have a different impact than if both parents have to work. This paper will identify factors that affect the health of middle school students in order to understand the issue and to help identify possible opportunities to improve the health of our students.

Statement of Problem

The health of middle school students has declined over the past several years. Research has shown very little improvement over the past couple of years.

Research Questions

Based on the statement of the problem, this master's research project seeks to answer the following research questions:

- 1. What factors affect the health of middle school students?
- 2. What strategies does the literature suggest will improve the overall wellness of middle school students?

Purpose and Significance of Study

The purpose of this study is to better understand the factors that contribute to the overall wellness of middle school students as it relates the quality of life they lead. Student health directly impacts their academic achievement. This study seeks to assess the research on implementation strategies that have produced improved health in the past. The importance of this paper is to address the significance of the issue today. Through a review of the research literature, educators and school officials may gain a better understanding of factors that contribute to the health of students as well as strategies that have shown improvement in the past. The information is this review can be useful to parents, educators, school officials and students themselves. Educators can become more aware of the problems surrounding the health of their students and implement better practice during class time. Parents can take information, and implement and provide healthier activities and options at home during and after the school year ends. School officials can implement programs and adopt school-wide programs that will benefit the overall health of their students. Students can learn better habits that will contribute to their overall wellness and development.

Limitations

Major limiting factors of the master's research project are:

- The review of the literature in this Master's Research Project only includes research published since 2000.
- 2. The review of the literature does not include factors that contribute to the wellness or health of the students prior to middle school, i.e. birth -3^{rd} grade.

- 3. Research articles include processes other schools have tried and gone through.
 These could be based on many factors. It is hard to understand what specific concepts that other schools are basing research on. Every school is going to be different along with the structure of the community surrounding the school.
- 4. Articles found in various electronic search engines were used if they were available on-line. All online resources are not as durable as literature resources available from the library.

Definition of Terms

The following definitions were used in this study:

Health: A state of complete mental, physical and social well being of students 2006).

Middle Childhood: Middle Childhood is defined by young adolescents ages 10-15 years old (This We Believe, 2003).

Middle school: Any organizational structure consisting of developmentally appropriate programs, policies and practice tailored to maximize young adolescent learning.

Overweight: Overweight is defined as a BMI at or above the 95th percentile for children of the same age and sex.

Wellness: Students intellectual, physical and mental well being and connections between values and behavior (Child Nutrition and WIC Reauthorization Act,

Methodology

This paper is a literature review based on electronic and hard copy resources provided through the National Middle School Association (NMSA) website and university

library services. The search focused on middle school students. In addition, other resources included online newspapers and magazines that were available on the World Wide Web.

Organization of Study

Chapter One in this study discussed the problem and presented background information on the status of health among middle school student. It also argued for an increased focus on the issue and outlined the two research questions that guide this master's research project..

Chapter Two is a review of the literature. Chapter Three includes an analysis of the research and its findings while Chapter Four summarizes and presents conclusions on the current status of health among middle school students as well as implication for action and additional research.

CHAPTER TWO

A REVIEW OF THE LITERATURE

Contributing Factors

Adolescence is a unique period in one's life cycle that presents special challenges and opportunities. During the transition from childhood to adulthood, adolescents experience significant biological, cognitive, emotional, and social change (Mertens, 2006). Early adolescence is a period of tremendous variability during which middle school students are conscious witnesses to their own development (NMSA, 2003). No longer children and not yet adults, young adolescents make significant choices about their health and develop attitudes and health practices that continue into adulthood (Mertens, 2006).

Concerns about appearance and body image usually generate heightened interest in personal grooming among young adolescents. Yet, their health choices are often inappropriate, for example, eating foods inadequate for meeting the nutritional needs of their changing bodies. In addition to eating foods that are unhealthy, many adolescents tend to begin experimenting with tobacco, alcohol and other harmful drugs and sex, which pose potential threats to their health. The combination of the rapid physical changes along with the many hazards that come about make early adolescence a crucial period for developing healthy personal habits (NMSA. 2003).

Mertens (2006) argues that the importance of providing a safe, healthy, and supportive learning environment for young adolescents has been recognized and

promoted for decades. A successful middle school provides an environment that is developmentally responsive and that promotes an abundance of opportunities for students to develop and maintain healthy minds and bodies and to understand their own personal growth. An emphasis on health, wellness and safety permeates the entire school, with faculty members sharing responsibility for maintaining a positive school environment. A successful middle school addresses the risks associated with tobacco, physical activity, diet and sexual activities (NMSA, 2003). Numerous reports have documented the health status of young adolescents in America. After more than a decade of negative trends in the health of adolescents, significant improvements were reported in the 1980's. However, since 1990, some of these risky behaviors have again increased, and adolescents continue to have high rates of morbidity and mortality.

Existing research has focused on varying aspects of safe and supportive learning environments including comprehensive health and fitness programs, development and inclusion of health curricula, collaborations with local health and social support agencies, school safety, violence prevention, risk behaviors (e.g. alcohol, tobacco and drugs). Each of these areas is critically important to the health, wellness, and safety of middle grade students, according to Mertens, (2006). The research also states the overwhelming evidence that the middle level years are "the last best chance" to influence these students' futures (2006).

Obesity. The literature overwhelmingly reports the impact of the prevalence of obesity among middle school age children. Obesity in children is now considered an epidemic in the United States. In the last two decades, there has been a threefold increase in overweight children and adolescents (Shultz, 2007). Nearly nine million young people

between the ages of 6 and 19 suffer from obesity and overweight. Overweight is defined by being as a BMI at or above the 95th percentile for children of the same age and sex (Center for Disease Control and Prevention, 2007). Overweight and obesity impede the ability to learn and interact positively with others.

Shultz (2007) also stated that overweight children are more likely to suffer from depression, anxiety and isolation from their peers. Medical complications include: asthma, high cholesterol, joint problems, high blood pressure, gallbladder disease, and osteoporosis. Overweight children are likely to suffer from at least one other complicating medical problem that historically has been an adult disease. In general, more children develop "adult" diseases as a direct consequence of being overweight and obese.

Some other startling facts about obesity are that 80% of overweight children become obese adults and will have poorer quality of life. According to Shultz (2007), for the first time in the history of the United States, our children will likely have a poorer quality of life than the preceding generation, and will likely die before their elders. Schools can take direct action to improve two areas that have a direct impact on children's ability to learn and on the lifestyle problems of overweight and obesity. Those two areas are nutrition and physical activity..

Nutrition. Research points out the effects of nutrition on the health of middle school students. Meyer, Marshak, and Conklin (2004) state that "Choices lead to behaviors, behaviors lead to habits, and habits lead to a way of life" (p.28). Today the health of adolescents and the adults is critically linked to the health related behaviors they

choose to adopt. The nutritional adequacy of students' diets affects their learning and performance today and will affect their health as the adults as well (2004).

Children need food that is high in nutrition, and low in saturated fats and empty calories. However, only 2% of school-aged children consume the recommended number of servings from all food groups. Eighty-four percent of school children exceed the guideline for saturated fat on a given day (Schultz, 2007). Less than one-third of school children consume the recommended milk group servings on any given day, and teenagers drink twice as much carbonated soda as they do milk. In fact, fewer than 1 in 10 girls and only 1 in 4 boys, ages 9 to 13, are at or above their adequate intake of calcium. Reporting increased incidents of osteoporosis and bone fractures in adolescents, hospitals are seeing the direct result of this.

A close relationship between nutrition and learning has well been established. Chronically undernourished children are more likely to become sick, miss classes, and score lower on tests (Meyer, Marshak, and Conklin, 2004). Recent statistics show that the percentage of children meeting the recommended number of food group servings was 14% for fruit, 17% for meat/meat substitutes, 20% for vegetables, 23% for breads/grains, and 30% for milk (2004).

Adolescents' eating behavior is influenced by personal characteristics and environmental factors in the home, at school, and in the community. These factors are composed of the objective and subjective culture of their behavior settings. The objective cultures are the tangible effects of the environment and subjective cultures are the norms, attitudes, and learned values from family and peers. Middle school students spend up to

one-third of their days in the school environment and are greatly influenced by what they experience during these hours.

In today's school environment many elements such as a la carte foods, vending machines, and snack bars compete with creating a nutritional environment that encourages healthy eating behaviors. Morgan and Krueger (2003) sought to identify the nature of the nutrition environment in the middle grades from principals' and superintendents' points of view. By getting the point of view of the administrators, these researchers wanted to conclude what administrators considered important so they could reach a better understanding of what was actually going on in each school districts pertaining to nutrition.

This study used focus groups to explore the context for promoting healthy eating behaviors among students within the middle school environment. These groups allowed researchers to explore the socio-environmental, behavioral, and attitudinal dimensions of the issue without imposing predetermined boundaries. Dr. Richard Krueger, University of Minnesota, served as a consultant to the study which included 17 school principals and 9 superintendents. Of the 26 participants, 17 had more than five years of experience. The school systems of the participating districts ranged from 267 to more than 131,000 students in middle grades. The percentage of students receiving meal assistance ranged from 6% to 69% free and from 3% to 22% reduced.

A la carte items were sold in 17 of the [26] participating school districts. The most frequently sold a la carte items were pizza, French fries, and chips. The most frequently identified items sold in vending machines and school sponsored stores were soda, candy, sports drinks, chips, cookies, and flavored water. Most school

administrators did not think the environments in middle grades schools were conducive to healthy eating habits. Instead, they emphasized the importance of healthy food choices, friendly staff, time to eat, low-fat foods, the removal of vending machines, and a relaxed cafeteria atmosphere. However, they were unclear about whose responsibility it would be to provide such an environment.

Major barriers to having a good nutrition environment in middle grades these school administrators identified included the following:

- Funding Many expressed the essential need for the revenue generated by the sale of the less nutritious products to supplement the budget.
- 2. Attitudes of Parents and Students If students eat junk food at home they are more likely to eat junk food at school.
- Outside Influences One of the greatest outside influences was the media.
 Fast food hypes are constantly being passed on to children.
- 4. Peer Pressure Some kids don't think it is cool to eat healthy foods.
- Lack of Vision A school has to have an overall vision of the objectives of its nutritional program.
- 6. Lack of Knowledge Some school officials just aren't aware of the problem.
- 7. Inequity Among Free, Reduced, and Paying Students Some schools attach a social stigma to students that eat a "regular" lunch. A regular lunch is the lunch that was served by the school cafeteria.
- 8. Food Preparation and Choices Limited choices were a concern; food is often of poor quality, greasy, tastes artificial and lacks visual appeal.

 Lack of Commitment – Participants did not think that school districts acknowledged the importance of nutrition.

Thus, schools are in a unique position to promote healthful food choices and help assure appropriate nutrition for our young adolescents, promote nutrition education and provide opportunities for students to practice healthful food choices. School administrators hold the keys to success. They must initiate and support efforts to provide the necessary elements to create a healthy environment for our young adolescents. However, it will take all involved parties to make this happen.

Physical Activity. The problems of poor nutrition are compounded by children's increasingly sedentary lifestyle. The Centers for Disease Control and Prevention recommend that young people participate in 60 minutes of moderate activity daily. However, only 75% of children even get 20 minutes daily. More than one-third of adolescents go four or more days a week without physical activity. By the time they reach their teens, nearly half of America's youth are regularly inactive (Schultz, 2007)...

Early adolescence is a time of intense physical growth and development. Good food, water, and physical activity are necessary to oxygenate body and brain, increase heart and lung capacity, maintain vascular elasticity, and decrease fat storage. Physical activity reduces the risk of premature mortality in general, and of coronary heart disease, hypertension, colon cancer, and diabetes mellitus (Center for Disease Control and Prevention, 2007). Regular physical activity in childhood and adolescence improves strength and endurance, helps build healthy bones and muscles, helps control weight, reduces anxiety and stress, increases self-esteem, and may improve blood pressure and

cholesterol levels. As children get older, participation in physical activity typically declines.

Successful middle schools provide daily physical education activities that improve student's cardiovascular fitness, coordination, agility, and strength (NMSA, 2003) The school emphasizes lifelong physical activities such as aerobics, dance and leisure time sports and fitness programs. Intramural activities that require physical activity must be developmentally appropriate, be open to the entire student body, and comply with recognized national standards. Schools also recognize students for gains they make toward personal goals based on individual wellness profiles (NMSA, 2003).

Physical activity can also take place in extracurricular activities. Participation in extracurricular activities provides an opportunity for high-risk youth and peers to form a positive connection with the school, its faculty, and values that may otherwise be unavailable (Akos, 2006). Participating in these activities can benefit all students. It can have a huge impact on new students or students who do not identify with their school. It enhances their connectedness to the school. The benefits of extracurricular participation also have a positive influence even beyond formal school years. Consistent participation in extracurricular activities in grades 7th-12th predicts academic achievement and prosocial behaviors (Akos, 2006). Participating in extracurricular activities can therefore make the adjustment to middle school easier for students transitioning from the elementary school.

Sexual Behavior. Sexual activity is another factor that affects the health of middle school students. Sexual activities have a wide range of consequences. Each year, approximately 3,000,000 reported cases of sexually transmitted diseases occur among

teenagers (Doppen & Gunsel, 2006). Most parents fail to provide their children with information about sexual maturation. Many middle level schools have policies to offer their students information about changes their bodies go through during puberty. Each school has its own different perspective on how to approach teaching middle level students about sexual topics and its involved risks. School sex education policies therefore depend greatly on the attitudes and beliefs of the administrators, teachers and parents.

Tobacco Use. Tobacco use is becoming a major factor in the health of middle school students. Each day in the United States, approximately 4,000 adolescents, ages 12-17, try their first cigarette (Center for Disease Control and Prevention, 2007). A recent study reported that 11.7 percent of middle level school-aged students used tobacco during the last 30 days (Doppen & Gunsel, 2006). Smoking at an early age increases the risk of lung cancer (Center for Disease Control and Prevention, 2007). The younger people begin smoking cigarettes, the more likely they are to become strongly addicted to nicotine. Young people who try to quit suffer the same nicotine withdrawal symptoms as adults. Several studies have found nicotine to be addictive in ways similar to heroine, cocaine, and alcohol (Center for Disease Control and Prevention, 2007). Of all addictive behaviors, cigarette smoking is the one most likely to become established during adolescence (2007). Children and teenagers constitute the majority of all new smokers, and the industry's advertising campaign is targeted toward younger people (2007). Most schools have a tobacco use policy and will even be a tobacco-free building.

Health Programs. Health programs are needed to address the many risky behaviors and nutritional aspects of middle school students. A successful coordinated

health program concentrates on those areas of students' lives that enhance or interfere with learning (NMSA, 2003). These areas provide opportunities for developing and practicing healthful decision-making, coping, and refusal skills that are purposely reinforced throughout the curriculum. These policies must be written and should be a direct reflection on the school's efforts to address health and wellness within courses, the school culture, school and community. All adults should model good health habits (2003). A comprehensive health and wellness program includes student focused, integrated experiences that are implemented throughout the curriculum (NMSA, 2003).

In order to help promote health in students, the Center for Disease Control and Prevention established Comprehensive School Health Programs (CSHP) in 2003. This was to reduce or eliminate health-related barriers to students' academic and personal success (Mertens, 2006). CSHP are intended to be used as a cornerstone for healthy schools for school age children. Comprehensive School Health Programs are composed of eight components that guide middle level schools in providing and promoting health behaviors and a healthy environment.

- Health Education A health curriculum that addresses the most salient and preventable health conditions.
- 2. Physical Education Students must be physically active.
- 3. Health Services Numerous health service delivery models exist. They range from a school nurse who visits a building once a week to a fully developed school-based clinic staffed with physicians, nurses and related health personnel.

- 4. Nutrition Services and Policies Integrating education nutrition education programs and policies with appropriate health and physical education curriculum provides the greatest opportunity to reduce the increasing rates of childhood obesity and to prevent chronic diseases.
- Mental Health Many of today's youth require mental health and social services to help them investigate the developmental challenges and highs and lows of the adolescent years.
- 6. Healthy School Environment A positive school climate and student feelings of school attachment are major factors in promoting academic success and healthy behaviors.
- 7. Parent and Community Engagement Community and parent involvement is crucial to the health of middle child students.
- 8. Health Promotion for Faculty and Staff In-school health promotion activities should promote weight loss and exercise (Mertens, 2006).

Another campaign for wellness was the result of the Reauthorized Child Nutrition Act (Schultz, 2007). This act required every school receiving funds for food service programs, such as school lunch and school breakfast programs, to adopt a wellness policy by the beginning of 2006-2007. The requirements for the wellness policy are that each participating school has to have goals for nutrition education, physical activity and wellness promotion. It must also have nutrition guidelines for all foods available on campus, with the objective to promote student health and reduce childhood obesity. An evaluation plan must also be in place measuring implementation of the wellness policy. The Child Nutrition Act makes it clear that developing and implementing a wellness

policy is a school and community task. It must include parents, community-based organizations, students, the school board, school administration, and school food service process.

Summary

Obesity, nutrition, physical activity, sexual behavior, tobacco use, and health programs all have an effect on the health of middle school students. It is important to look at these factors in order to understand the complex impact they have on middle school students' academic success. Academic success, which is strongly linked to student health, is an excellent indicator for the overall well being of youth and a primary indicator and determinant of adult health outcomes.

School has adopted health programs to promote wellness. Adopting a wellness policy constitutes implementing a policy with guidelines for the promotion of good nutrition by the entire school community. These policies should first be established by the school's administration and next implemented through a committee that has its own evaluation policy (Schultz, 2007). The health of middle school students has been a significant concern in recent years and is becoming increasingly crucial for students' success in middle school.

CHAPTER THREE

ANALYSIS OF THE RESEARCH

The previous chapter presented the research literature on the health of middle school students. The contributing factors of obesity, nutrition, physical activity, sexual activity and tobacco use were discussed. In this chapter I will analyze the literature to determine whether more research is needed.

Middle Level Students

According to *This We Believe* (NMSA, 2003), successful responsive middle level schools offer abundant opportunities for students to develop and maintain healthy minds and bodies and understand their personal growth (p.31). The current research has focused mostly on individual components of student well-being. Numerous studies have focused primarily on nutrition and the effects of physical activity. Much of the research has been based on wellness initiatives that schools can implement.

Obesity

Obesity is a widely researched area of middle childhood health and is becoming an epidemic as concerns continue to increase. Obesity is commonly tied to the term overweight. Being overweight commonly leads to an obesity issue. Being overweight and obese are associated with contributing factors such as poor nutrition and lack of physical activity

Obesity has become a public issue as more and more people are affected by it.

In the movie *Super Size Me*, Morgan Spurlock addressed obesity for one of the first times in a documentary. Morgan spent 30 days eating nothing except for McDonald's food and

gained 24.5 pounds. Spurlock decided to do this to increase awareness of the rise of obesity. Along with gaining weight, Spurlock also developed mood swings. His findings are consistent with the research that states that there is a correlation between nutrition and the way children feel emotionally (Center for Disease Prevention and Control, 2003).

There is also consistency in the literature with regard to the definition of what it means to be obese. The definition of obesity is being at or above the 95th percentile for children of the same age and sex (Center for Disease Prevention and Control, 2006). The Center for Disease Control and Prevention (2003) found that overweight and obese children aged 12-19 has increased from 5% to 17.4 %. This increase was found from two surveys completed by the Center for Disease Control and Prevention from 1980- 2004. Research consistently supports the finding that obesity reduces the quality of life, shortens lifespan and begins in childhood (Shultz, 2007).

Nutrition

Similarly, nutrition is also a widely addressed research topic. Nutrition in middle school, and at any other grade level, is a key to student academic success. Some research is based on the views of administrators and what they believe is important but simultaneously suggests that they have a difficult time analyzing what is really important to the overall well being of students. Often, the health of middle school students is not a big priority because administrators are more worried about making sure students do well academically (Meyer, Marshak, & Conklin, 2004). In fact, according to the movie *Super Size Me* (Spurlock 2002), a school cook West Virginia stated that her major instrument for preparing food was a box cutter. The school used all pre-packaged meals and only 6

out of the 36 meals on the menu were cooked at the school, all other meals were heated from frozen packages. The pressures of passing standardized tests appear to be at the forefront of everyone's concern. However, nutrition is starting to make some waves because of its perceived correlation with academic success. As more research has been completed, and a stronger correlation between nutrition and learning has been established. The research has consistently supported with the concept that if the students are getting healthier food and have the access to the healthier foods, they do well academically in school. In addition, research is beginning to show that more schools take the initiative in to offer healthier nutrition by placing healthier options in vending machines and providing fresh fruit and vegetables at breakfast and lunch ((Meyer, Marshak & Conklin, 2004).

An example of schools taking initiative and a proactive approach to promote healthy foods in schools is the Athens City School District. Gallagher (2008) reported in the Athens Messenger that a group of parents organized a group called The Green Plate Club. This club supports buying food from local food providers and is petitioning to remove and refuse to offer food and beverages that contain hydrogenated oils high fructose corn syrup, MSG, cottonseed oil, palm oil, genetically modified foods and artificial colors, flavors and sweetener. This is a major step in the right direction. The Green Plate Club encourages other schools to take initiatives also.

Reviewing the research on nutrition, little research exists that examines how much it will cost for schools to adopt fresh food policies. However, in the movie *Super Size Me* (Spurlock, 2002) a school in Appleton, Wisconsin, adopted a wellness program called Natural Ovens that provided the school with food that wasn't processed and that was all

organic. The school was for students with discipline problems and upon developing this new healthy program, teachers found that the behavior of the students improved tremendously and it didn't cost anymore than processed frozen foods (2002).

Physical Activity

The literature on the lack of physical activity is as clear as the research on obesity and nutrition. Physical activity has been proven in all of the research to help build and maintain healthy bones and muscles, reduce the risk of developing obesity and chronic illnesses and cardiovascular disease, and reduce feelings of depression and anxiety (Center for Disease Control and Prevention, 2003).

Most of the research on physical activity suggests that children are not getting the amount of exercise they needed to be successful (Shultz, 2007). Middle school children only receive about one third of the amount of exercise or physical activity they needed each day, despite the fact that there is a direct correlation between academic success in school and physical activity (2007).

Physical activity has also been researched in the context of extra-curricular activity and the adjustment to middle school. Children who are involved in extra-curricular activity adjust easier to the middle school than children who are not (Akos, 2006). New students who arrive at school also benefit greatly from being a part of physical activity which is strongly associated with successful students (2006).

Sexual Behavior

Sexual activity among middle school students is not as widely researched as the previously mentioned topics. However, more and more students in the middle school level are becoming sexually active. Each year, approximately 3,000,000 reported cases of sexually transmitted infections occur among teenagers (Doppen & Gunsel, 2006). The research on middle school students that are sexually active is very abundant and varies from sexually transmitted diseases to pregnancy.

The research literature on middle school policies mainly address how to help students get information about their physical, emotional, and social changes during puberty. The research literature also suggests that sex education policies vary greatly from school to school as the attitudes and beliefs of the community and administration deeply affect what is being taught in the schools (Doppen & Gunsel, 2006). Some communities may be very strict about what they want their children to learn, whereas other communities may be more open to different approaches. Most of the time, the only education about sexual topics a child receives is the information that is being taught at school. That is why it is such a critical tool for children in the middle school (2006).

Tobacco Use

The research literature on tobacco use is suggests the strong need for effective nicotine prevention programs in the middle school grades. It shows that much advertising is geared towards children and that the younger they begin to smoke cigarettes, the more likely they are to become strongly addicted to nicotine (Center for Disease Control and

Prevention, 2006). In addition, the research establishes that many schools are adopting programs to convince children not to use nicotine. Educating children about the harmful affects of smoking and nicotine addiction is what is being done in schools today. There is an abundance of research concerning the use of nicotine and tobacco.

Wellness Programs

Much of the current research examines health initiatives and programs that promote wellness. Adopting a wellness policy involves developing a policy with guidelines for the how to promote good nutrition in the entire school community. Research suggests that these policies should first be established by a school's administration and then implemented through a committee that has its own evaluation policy (NMSA, 2003). School are starting to react to the major health problems that are associated with middle school students and taking initiative and adopting programs. As more and more research is being conducted on wellness initiatives, there it will shed new insights into the factors that that make these programs successful.

Summary

The research literature on middle school student health is very extensive and addresses the multiple factors that have an impact. However, it is typically subdivided into separate categories. There are many valuable resources for teachers and administrators concerning the health of middle school students such as the *Center for Disease Control and Prevention* and the *National Middle School Association*. NMSA's *Middle School Journal* and *This We Believe* as especially valuable resources. These resources will also be beneficial to parents of middle school students.

CHAPTER FOUR

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The health of middle school students is becomes a significant issue in education. Students are becoming increasingly unhealthy and this is reflected in their academic success in the classroom. Middle school student health has long been a concern of parents but is now becoming an integral part of schools, teachers, administrators and community members as well. Despite major efforts to try to improve student health progress has been limited. It will most likely be a part of educational reality for years to come as well as be a part of many reforms and significant changes.

This Master's Research Project examined the major contributing factors to middle school student health. Its analysis serves as a framework for a broader discussion of the contributing factors. Ultimately, examining the contributing factors and concurrent trends will help reveal the extent to which wellness initiatives are effective in improving the health of middle school students.

A number of the most widely accepted contributing factors to the health of middle school students was highlighted in Chapter Two. Each of the contributing factors was documented in the research literature and included an analysis of environmental factors that contribute to the health of the middle school students. Chapter Two also discussed wellness initiatives that are being put in place to help improve the health of middle school students. These initiatives are fairly new. Consequently, little research is available to evaluate the effectiveness of these recent programs. The Center for Disease Control and

Prevention (2007) as well as NMSA and other educational journals provided statistical data. Chapter Three analyzed the resources and outlined the overall consensus in the research literature. The chapter also provided a framework for deciding what research still needs to be conducted. The literature strongly suggests there needs to be a change in the way the health of middle school students has been addressed in the past.

Conclusions

Current statistics on childhood obesity and nutrition intake make it clear that children at the middle school level are not getting healthier. In fact, they will probably live shorter lives than their parents. It is difficult to determine whether recent wellness initiatives have been effective as time to conduct research has been short. Considering the long term goal of creating successful middle schools with healthy students, more conclusive studies on the effectiveness of the programs will need to be conducted.

At the time of this review, the issue of middle school student health continues to demand attention. Furthermore, its level of importance to administrators will be a key factor in improving the overall health of middle school students. New wellness initiatives will be a necessary.

Adopting specifically targeted wellness policies can impact many of the contributing factors. Specifically, offering healthy nutrition in school cafeterias and vending machines will help improve the statistics on overweight and obese students. Teacher instruction in the classroom will also help as teachers are important role models for their students. Students need to be able to observe their teachers practicing good health habits. Teachers can also teach healthy habits as part of the curriculum by just including important nutritional information in their curriculum. The habits they practice

have a significant impact on the children they teach. Habits can be addressed through modeling as well as direct instruction.

Wellness initiatives that increase the amount of physical activity are also important. Middle school students' lives are becoming increasingly sedentary. According to Shultz (2007), middle school students need at least 60 minutes of exercise a day and they are only receiving one third of the amount. It is time that middle schools get their students moving to make them healthier. There has been significant research on the importance of physical activity and how it positively impacts the academic progress of middle school students. Extracurricular activities can also serve to make the transition to middle school a lot easier (Meyer et al, 2004)

Risky behaviors such as tobacco use and sexual activity are on the rise (Doppen & Gunsel, 2006). Policies that are adapted by schools typically differ by district or building as each community embraces a different set of core values. Sexuality and the results of early sexual behavior comprise a major issue that needs to be addressed within the school system as it is oftentimes the only education a student receives about the topic is at school.

Recommendations

There are several areas that need further research. With the continued trend towards overweight and obese middle school, annual studies need be conducted to monitor longitudinal progress.

First, it will be especially necessary to evaluate the effectiveness of wellness initiatives. Currently most of the data is evaluated about inconsistently and therefore will not offer an accurate assessment of whether progress is indeed being made toward improving middle school student health.

Second, schools need to start adopting wellness policies and then monitor them each year, especially since it may take a few years for a school system to grasp each of the principles of a wellness policy. Establishing base line data will allow schools to evaluate annual progress. By setting a target, schools can ensure that they give their wellness policy a clear chance and help them to decide whether to continue the current wellness policy or changes are needed.

Third, additional research should be done to determine whether there is a correlation between the factors that contribute to the health of middle school student and their academic success. Most current research focuses on individual contributing factors. Research needs to incorporate a more holistic approach to get a fuller picture of each of these contributing factors. The overall focus should be based on the belief that middle schools can create an environment that effectively promotes healthy minds and bodies.

Fourth, schools need to take a more proactive approach to student health. Presently, the literature suggests that middle schools in general only react after a problem has arisen. Schools should adopt preventative policies rather than merely react. One major problem that teachers are too focused on the standardized test that student health of is not one of their major concerns. This has to change. Middle schools have to make the health of their students a priority. It is time to be proactive and make a difference. These children deserve to have a healthy lifestyle. They deserve to be active participants in a "supersize" society. The statistics on student health are only going to get worse if there isn't a change soon.

Fifth, administrators often make decisions about vending machines on the basis of what is going to bring in the most money for their school. Instead, they should focus on

the health of their student body, take initiative and stand up for their students' health.

Unfortunately, administrators often are under the pressure to do well on standardized test and concerned about resulting in losses in funding when their students don't perform well. It is time, however, to put those test scores aside. They are suffering from the constant focus on the state test. One can only imagine what it would be like for a student to know that his/her health is at the forefront of thought of the people that take care of them at school on a daily basis.

Finally, the entire middle school community should provide its students with healthy options and show its the support by building bridges towards creative healthy options. Our children are not getting any healthier and something definitely needs to change. It's unfortunate that our children are overweight, have poor eating habits, and involved in risky behavior. They are also becoming less active which is a major concern. These issues need to become a priority on a basis similar to the state test. It is imperative to take action now. Today's middle school students are our future.

References

- Action for healthy kids. Retrieved 5/3/2008, 2008, from http://www.actionforhealthykids.org/special_CswGameon.php
- Bill stresses more exercise for students | floridatoday.com | FLORIDA TODAY.
 Retrieved 5/12/2008, 2008, from
 http://www.floridatoday.com/apps/pbcs.dll/article?AID=/20080418/NEWS01/80418
 0360/1004/OPINION
- Bill: Exercise will boost brain power. Retrieved 5/12/2008, 2008, from http://www.statesman.com/news/content/region/legislature/stories/06/13/13fitness.html
- Brown, K., Roney, K., & Anfara Jr., V. (2003, May). Organizational Health Directly Influences Student Performance at the Middle Level. *Middle School Journal*, *34*(5), 5-15.
- Burros, M. (2005). Fresh gets invited to the cool table. New York Times, 154(53316), F1-F4.
- Delaney, L. (2007, July). What Friends Are for. Health, 21(6), 236-236. Retrieved May 13, 2008, from Academic Search Complete Database.
- Does exercise improve grades in middle school children? | eOrthopod.com. Retrieved 5/12/2008, 2008, from http://www.eorthopod.com/public/patient_education/6253/does_exercise_improve_g_rades_in_middle_school_children.html
- Erb, T. (2003, May). Middle School Concept + Organizational Health = Positive Student Outcomes. *Middle School Journal*, *34*(5), 4-4.
- Kalinowski, E. (1998, April 15). Teaching those who don't want to learn. Education Week, 17(31), 44. Retrieved May 13, 2008, from Academic Search Complete database.
- Mendez, L., Young, E., Mihalas, S., Cusumano, D., & Hoffmann, L. (2006, November). What Teachers Can Do to Reduce Hidden Stressors for Girls in Middle School. *Middle School Journal*, 38(2), 13-22.
- Meyer, M., Marshak, J., & Conklin, M. (2004, May). The Role of the School Nutrition Environment for Promoting the Health of Young Adolescents. *Middle School Journal*, *35*(5), 27-32.

- Geiger, B., Petri, C., & Barber, C. (2004). A University- School System Partnership to Assess the Middle School Health Program. American Journal of Health Studies, 19(3), 158-163. Retreived May 13, 2008, from Academic Search Complete database.
- Guidelines for School Health Programs to Prevent Tobacco Use and Addiction Morbidity & Mortality Weekly Report February 25, 1994;43(RR-2):1-18.
- Grants to help fight childhood obesity in middle school students associated content.

 Retrieved 5/4/2008, 2008, from

 http://www.associatedcontent.com/article/476239/grants_to_help_fight_childhood_obesity.html
- Gym class renaissance | PE | NW education. Retrieved 5/4/2008, 2008, from http://www.nwrel.org/nwedu/fall_00/renaissance.html
- Hearts in power: A primary prevention cardiovascular health project for middle school students and families. Retrieved 5/12/2008, 2008, from http://gateway.nlm.nih.gov/MeetingAbstracts/ma?f=102272075.html
- Health topics DASH/HealthyYouth. Retrieved 5/15/2008, 2008, from http://www.cdc.gov/HealthyYouth/healthtopics/index.htm
- Intervention in middle school helps prevent poor weight-control behaviors. Retrieved 5/3/2008, 2008, from http://www.medscape.com/viewarticle/562480
- Live it! program tackles child obesity. Retrieved 5/3/2008, 2008, from http://www.mc.vanderbilt.edu/reporter/index.html?ID=5302
- MedlinePlus: Obesity in children. Retrieved 5/15/2008, 2008, from http://www.nlm.nih.gov/medlineplus/obesityinchildren.html
- Michigan state university newsroom Michigan state research finds more vigorous exercise equals better academic performance. Retrieved 5/12/2008, 2008, from http://newsroom.msu.edu/site/indexer/2821/content.htm
- Middle ground make the investment in school wellness initiatives. Retrieved 5/15/2008, 2008, from http://www.nmsa.org/Publications/MiddleGround/Articles/April2008/Article1/tabid/1649/Default.aspx
- Middle school fitness. Retrieved 5/12/2008, 2008, from http://www.belleville.k12.wi.us/bjhs/minter/fitness.html
- Middle school recess: Middle school students need to move. Retrieved 5/4/2008, 2008, from http://middleschool.suite101.com/article.cfm/recess

- Middle school student lunch consumption: Impact of national school lunch program meal and competitive foods. Retrieved 5/4/2008, 2008, from http://www.ers.usda.gov/Publications/CCR30/
- Middle school students doing morning exercises in field. Retrieved 5/12/2008, 2008, from http://www.learnnc.org/lp/multimedia/4428
- Middle school students' perceptions of coeducational and same-sex physical education classes. Retrieved 5/4/2008, 2008, from http://eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?nfp http://eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?nfp http://eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?nfp http://eric.ed.gov/ERICExtSearch_SearchValue_0=EJ576453&ERICExtSearch_SearchTy http://eric.ed.gov/ERICExtSearch_SearchValue_0=EJ576453&ERICExtSearch_SearchTy pe_0=no&accno=EJ576453
- Middle schools screen students for obesity news. Retrieved 5/3/2008, 2008, from http://media.www.westerncourier.com/media/storage/paper650/news/2007/04/16/News/Middle.Schools.Screen.Students.For.Obesity-2842875.shtml
- National standards for physical education. ERIC digest. Retrieved 5/15/2008, 2008, from http://www.ericdigests.org/1997-4/physical.htm
- Newest test for texas students evaluates health, fitness | chron.com houston chronicle. Retrieved 5/4/2008, 2008, from http://www.chron.com/disp/story.mpl/metropolitan/5676744.html
- NMSA research summary adolescent health, wellness, and safety (october 2006). Retrieved 5/4/2008, 2008, from http://www.nmsa.org/Research/ResearchSummaries/Health/tabid/267/Default.aspx
- Nutrition and exercise study in middle schools found to protect many girls from developing eating disorder symptoms news room children's hospital boston. Retrieved 5/12/2008, 2008, from http://www.childrenshospital.org/newsroom/Site1339/mainpageS1339P1sublevel38.html
- One school's fight against obesity, N.J. middle school helps keep kids weight down with "health report cards" CBS news. Retrieved 5/3/2008, 2008, from http://www.cbsnews.com/stories/2007/01/27/eveningnews/main2404798.shtml
- Participation in high school physical education --- united states, 1991--2003. Retrieved 5/4/2008, 2008, from http://www.cdc.gov/mmwR/preview/mmwrhtml/mm5336a5.htm
- Pennock, S. (2006). Health corps fighting obesity in students. New York Amsterdam News, 97(30), 28-28.
- PE classes have made strides. (n.d). USA Today, Retrieved May 13, 2008, from Academic Search Complete Database.

- Raymond's middle school set to exercise against childhood obesity. Retrieved 5/12/2008, 2008, from
 - http://www.seacoastonline.com/apps/pbcs.dll/article?AID=/20080208/NEWS/80208 0435
- Research finds vigorous exercise equals better...(middle school students who perform mor...). Retrieved 5/12/2008, 2008, from http://news.bio-medicine.org/medicine-news-3/Research-finds-vigorous-exercise-equals-better-academics-3659-1/
- Research suggests making exercise more fun might boost fitness levels of US adolescents. Retrieved 5/4/2008, 2008, from http://www.medicalnewstoday.com/articles/34576.php
- RMLE online vol. 29, no. 9 extracurricular participation and the transition to middle school. Retrieved 5/15/2008, 2008, from http://www.nmsa.org/Publications/RMLEOnline/Articles/Vol29No9/tabid/804/Default.aspx
- School fights childhood obesity. Retrieved 5/3/2008, 2008, from http://www.wowt.com/news/headlines/18023589.html
- School-based obesity prevention program reduces harmful weight-control behaviors in adolescents. Retrieved 5/3/2008, 2008, from http://www.news-medical.net/?id=29463
- Social-emotional factors affecting achievement outcomes among disadvantaged students: Closing the achievement gap educational psychologist. Retrieved 5/12/2008, 2008, from http://www.informaworld.com/smpp/content~content=a784752041
- Steps counts among middle school students vary with aerobic fitness level. | research quarterly for exercise and sport (march, 2006). Retrieved 5/4/2008, 2008, from http://www.accessmylibrary.com/coms2/summary_0286-15045299_ITM
- Taras, H., & Potts-Datema, W. (2005). Obesity and student performance at school. Journal of School Health, 75(8), 291-295.
- National Middle School Association (2003). *This We Believe: Successful schools for your adolescents.* Westerville, Ohio: Author.
- Wellness policy national middle school association. Retrieved 5/3/2008, 2008, from http://www.nmsa.org/Advocacy/HealthandWellness/WellnessPolicy/tabid/1101/Def ault.aspx