Differences in student beliefs about physical activity in the prevention of obesity during pre-adolescence and adolescence.

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Differences in student beliefs about physical activity in the prevention of obesity during pre-adolescence and adolescence.

Abstract
Background: Obesity is a nationwide public health problem. During adolescence, individuals develop distinctive lifestyles which influence their personal habits and overall health. Adolescents, therefore, are an integral group to target to modify the decreasing activity levels observed during that period of life. Health education programs and national initiatives have been developed to change these alarming trends, but adolescents have shown to decrease their physical activity level despite having gained knowledge on the risks of obesity. Adolescents, therefore, are an important group to target to try to alter this tendency so that they develop healthier lifestyles and offset obesity-related comorbidities later in life. Development of these programs alone will not be successful unless changes are made and adolescents are motivated to participate. Purpose: The purpose of this project was to assess and compare student beliefs about physical activity related to the prevention of obesity during preadolescence and adolescence. This information could be used to guide health curriculums in middle schools to improve levels of activity and overall health of preadolescent and adolescent students. Conclusion: The data obtained in this project suggests that there are differences in how adolescents at two stages perceive the importance of physical activity and how willing they are to make changes in their lifestyles to be more physically active. Although the sample size was small, this data provides relevant information on which future studies can be based.

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Differences in student beliefs about physical activity in the prevention of obesity during pre-adolescence and adolescence.

By
Elaine Hilton

Submitted in partial fulfillment of the requirements for the degree
M.S. in Advanced Practice Nursing

Supervised by
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Wegmans School of Nursing
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The above student has successfully completed this thesis is partial fulfillment of the requirements for the MS in Advanced Practice Nursing degree from the Wegmans School of Nursing at St. John Fisher College.

Advisor Signature: Date: 11/5/11

This project/thesis fulfills the requirements of thesis seminars and assists in meeting the program outcomes for the MS in Advanced Practice Nursing degree from the Wegmans School of Nursing at St. John Fisher College.

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Abstract

Background: Obesity is a nationwide public health problem. During adolescence, individuals develop distinctive lifestyles which influence their personal habits and overall health. Adolescents, therefore, are an integral group to target to modify the decreasing activity levels observed during that period of life. Health education programs and national initiatives have been developed to change these alarming trends, but adolescents have been shown to decrease their physical activity level despite having gained the knowledge of the risks of obesity. Adolescents, therefore, are an important group to target to try to alter this tendency so that they develop healthier lifestyles and offset obesity related comorbidities later in life. Development of these programs alone will not be successful unless changes are made and adolescents are motivated to participate.

Purpose: The purpose of this project was to assess and compare student beliefs about physical activity related to the prevention of obesity during pre-adolescence and adolescence. This information could be used to guide health curriculums in middle schools to improve levels of activity and overall health of preadolescent and adolescent students.

Project Questions: Do 6th and 9th grade students feel they know enough about healthy eating and the importance of exercise in the prevention of obesity? Is there a difference in student beliefs about the importance of physical activity and willingness to incorporate physical activity in 6th graders (preadolescents) and 9th graders (mid-adolescents)?
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Hypotheses: There will be no difference in student knowledge of healthy diets and the importance of exercise between the two age groups and both will state they have adequate knowledge to make healthy choices. It is further hypothesized that 6th grade students (preadolescents) will be more physically active and more willing to make changes to become more physically active than the mid-adolescent group.

Method: This was a descriptive study utilizing a questionnaire developed specifically for this project to assess students' knowledge and beliefs about healthy eating and activity as well as to assess environmental factors such as family, friends, and school that may influence a student's nutrition and level of physical activity. Preadolescent students were 11-12 year old students in 6th grade attending a rural middle school near Rochester, New York. The mid-adolescent students were 14-15 year old 9th grade students who attended the high school in this same district. The project was presented to 168 9th grade students and 107 6th grade students. Respondents included 13 6th grade students (n=13) and 4 9th grade students (n=9). Students were given the opportunity to complete the survey online, using SurveyMonkey, at home or in school with parental consent. Students were only able to access the survey after a parent or guardian logged in to the parent portal on the school website.

Analysis: Survey questions were evaluated on SurveyMonkey and answers were separated by age group with SurveyMonkey filters. Answers to the questionnaire were evaluated and comparisons were made between the age groups to determine differences of behaviors and beliefs during this developmental period.

Results: Data analysis concluded that the majority students at both ages believe that they have the knowledge to make healthy choices regarding diet and physical activity with 92% of 6th
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graders and 100% of 9th graders. Data analysis further concluded that 61% of preadolescents
were willing to change their lifestyle to be more physically active and only 50% of mid-
adolescents were willing to change their lifestyle to become more physically active.

Conclusion: The data obtained in this project suggests that there are differences in how
adolescents at two stages perceive the importance of physical activity and how willing they are
to make changes in their lifestyles to be more physically active. Although the sample size was
small, this data provides relevant information on which future studies can be based.

Potential Use/Impact: This information can be helpful to school nurses, health
educators, and others who are responsible for educating adolescents about obesity, healthy
eating, and the importance of physical activity. With changes in approach, curriculums, teaching
methods, etc. these groups may be able to more effectively influence adolescent lifestyles to
include physical activity throughout the lifespan.
Chapter I

Obesity is a prime causative factor in the development of chronic health conditions such as diabetes, heart disease, arthritis, stroke, and certain cancers (Center for Disease Control, 2004). This obesity epidemic has increased the annual health care expenditure in 2008 to 147 billion dollars. Obese individuals spend an estimated $1429 more for medical care than people within a healthy weight range (The New York State Department of Health, July, 2010). Furthermore, medical expenditures for obese employees rank almost 42 percent higher than for employees with a normal weight (CDC, 2010).

What is most concerning, however, is the significant increase in the percentage of children who are overweight during the past two decades. Since the 1980s, the percentage of overweight children has increased from 6 percent to 15 percent of children ages 6-11 and 18 percent of adolescents ages 12-17 (Ogden, Carroll & Flegal, 2008). Dietz reports that health impairments for adolescents include psychosocial impairments, as well as the physical “cardiovascular risk factors such as high blood pressure, high cholesterol, and the precursors to diabetes (Dietz, 1998; Swallen, Riether, Hass, & Meier, 2005).” Additional health concerns of particular concern with adolescents includes depression, poor self esteem, unhealthy weight management behaviors, asthma, and poor physical quality of life (Schmitz & Jeffrey, 2000). Because overweight adolescents often become overweight adults, obesity related comorbidities pose both physical and economic national public health threats (Serdula, Ivery, Coates, Freedman, Williamson, & Byers, 1993).
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Background

One of the most effective ways to address the obesity epidemic in children has been to utilize schools and their health programs to educate youth regarding the health risks of obesity, proper nutrition, and physical activity (Barlow, 2007). In fact, evidence supports that by the time they reach adolescence; children have developed an understanding of nutrition, exercise and begin developing habits which promote overall health. Nonetheless, issues remain with implementation of knowledge to practice (Beaudoin, Mathias, & Fraser, 2004; Brown, Teufel, & Birch, 2007). For example, one of the primary risks for obesity in adolescents is the decrease of physical activity during this period of development (Kahn, Huang, Gillman, Field, Austin, Colditz, & Frazier, 2008). In addition, in 2008, Eaton et al. conducted youth risk surveillance and concluded that only 35% of adolescents meet physical activity recommendations and less than 25% eat a well-balanced diet including fruits and vegetables. Adolescence is a period of intense physical, social, and emotional development which includes developing autonomy. Therefore, school personnel, including teachers and school nurses, are in a unique position to guide health curriculums to influence the information students receive and guide the development and implementation of healthier lifestyles.

Theoretical Framework

The American Academy of Child Adolescent Psychiatry (2001) defines adolescence as a developmental period when children acquire the ability to knowingly make decisions which may impact their future. Middle School students are primarily interested in the present with limited thoughts of the future most decisions are made dependant on peer acceptance. High School students have more capacity to think of their role in the future and concern for their own future.
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They make decisions with more self reliance. It is imperative that adolescents at both developmental stages understand the impact of obesity and the need to increase physical activity so that they can take personal responsibility in changing sedentary lifestyles for a healthier, more physically active one.

Change will not take place, however, without individual understanding of the need for change and an internal motivation to execute the change. Therefore, the Health Belief Model is an appropriate model to explain why adolescents are not making the changes necessary for a healthy lifestyle. Health behavior changes, or failure to make changes in behaviors, can be explained using this model. Initially developed in the 1950s by psychologists Hochbaum, Rosenstock and Kegel, researchers for the U.S. Public Health Service, the Health Belief Model (2010) has been replicated and modified as a way to help understand why people choose or do not choose to make changes in their lifestyles to prevent disease or health problems.

According to this model, a person must first perceive a susceptibility to a health problem. This is achieved through national campaigns and programs to educate the general public regarding the health threat. Included in that education, the information must convey the severity of the health threat to the individual and the benefits of treatment or lifestyle modifications. The individual then can determine the perceived cost or duration of the change needed. The Health Belief Model also identifies motivation and personal variables as additional conflicts to achieving health promotion changes (Rex, 2009). Each of these perceptions, individually or in combination, can be used to explain health behavior.

For some adolescents, it may be that the perceived consequences of not changing bad eating habits, or modifying the amount of sedentary time, do not outweigh the perceived costs.
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Therefore, they are not motivated to change, despite their awareness of the consequences. Because motivation is an integral variable affecting the implementation of changes that would promote health and physical activity, it is essential that students are assessed for their levels of motivation to make these changes. If students are not motivated with knowledge alone, it is essential that school health curriculums address motivation as well.

Purpose Statement

The purpose of this project was to assess and compare knowledge and beliefs regarding healthy weight and physical activity in 6th and 9th grade students. It was hypothesized that both groups of adolescents would have an understanding of proper nutrition and its correlation to obesity, but that students moved from pre-adolescence to mid-adolescence they would not believe as strongly in the need for continued regular physical activity for preventing obesity and developing a healthy lifestyle.

Chapter II

Obesity is a primary factor that negatively influences the health of the general public. The Center for Disease Control (CDC) estimates 65% of U.S. adults are either overweight or obese. As a major cause in preventable death and chronic illness, the Center for Disease Control (2004) links obesity to multiple chronic illnesses, also referred to as comorbidities. High blood pressure, diabetes, heart disease and certain types of cancer, as well as higher incidence of high cholesterol, gallbladder disease, and sleep disturbances, breathing problems, strokes and arthritis are all linked to obesity. Overweight and obese individuals have also been found to have higher incidence of social stigmatization such as discrimination, depression, and lowered self esteem (CDC, 2004).
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The obesity epidemic is not limited to adults. In 2000, The National Center of Health Statistics reported a “twofold increase in overweight children and threefold increase in overweight adolescents within the past 20 years.” The Forum on Child and Family Statistics (2010) reported an increase in the number of children with activity limitations due to one or more chronic health conditions and a continuing trend of increasing prevalence in childhood obesity. Also alarming is the increase in chronic illnesses, such as asthma, that are frequently associated with overweight and obese children. The number of children diagnosed with asthma has increased from 2001-2008 to now affect approximately 9% of all children (The Forum on Child and Family Statistics, 2010).

Obesity and health conditions associated with obesity are costly. The New York State Department of Health (July, 2010) reports “health care to treat obesity-related illnesses and conditions cost the United States an estimated $150 billion.” These startling costs have increased from 2005 data of $117 billion each year. Finkelstein (2003) estimates that 9.1% of total annual U.S. medical expenditures are made for conditions attributed to overweight and obesity. New York State estimates health care costs at more than $7.6 billion every year, and estimated lifetime of medical care costs of medical care related to treatment of obesity and its related comorbidities to be $10,000 per obese individual (New York State Department of Health, 2010). In New York State, Medicare and Medicaid finance approximately one-half of these costs (NYS Department of Health, 2010).

The U.S. Department of Health and Human Services and Centers for Disease Control and Prevention developed the Healthy People 2000 guidelines to identify factors threatening health and to develop and implement interventions to reduce those health threats (Office of Disease
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Prevention and Health Promotions, 2010). In response to the rapid increase in the number of obese children, Healthy People 2010 continues with the execution of additional projects to address the obesity epidemic. These national initiatives focus on the introduction and implementation of healthier lifestyles in education, the workplace, and within the general public. Prior to the development of the Healthy People initiatives, 6% of children were identified as obese. These percentages have steadily increased to 11% by 1994, 17% by 2006, and 19% in 2008 (Federal Interagency Forum on Child and Family Statistics, 2010). This increase is concerning because these overweight children and adolescents are developing obesity related medical conditions. Overweight children, especially adolescents, are at a higher risk of becoming overweight adults with chronic health problems (Serdula, et al., 1993). This increase causes further concern regarding overall public health due to the “physical and psychosocial health problems associated with obesity” (Schmitz & Jeffrey, 2000).

Literature Search

The literature search for this project was conducted to identify articles and websites that referenced adolescents, physical activity, exercise, and healthy choices, and health education. The search included utilizing CINAHL, Childstats.gov, Ebsco Host, ERIC, Ovid, Proquest Health Management and Nursing, and Cochrane Library. Key words used in the search included: physical exercise, physical activity, exercise, health, and adolescent/adolescence, health education, motivation, health education curriculum, obesity and obesity epidemic. Articles were reviewed and were chosen if they were published in the last 10 years or were considered “classic” studies, were published in English, were within peer reviewed journals and involved
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the description of research or programs that involved adolescents and were relevant to the topic of this project.

Literature Review

As part of Healthy People initiatives, schools have altered curriculums in health education to emphasize the health risks of inactivity, importance of proper nutrition and the development of healthier lifestyles which will promote overall health (Beaudoin, Mathias, & Fraser, 2004). Brown, Teufel and Birch's 2007 research found that school and medical personnel were the most common sources of health information for children and that most of what they learned regarding health was easy to understand. Within their study, almost two thirds of their participants believed that changes in childhood can positively influence health as an adult.

Researchers have concluded that changes in educational programs have increased children's knowledge of healthy lifestyles and the importance of physical activity. (Beaudoin, Mathias, & Fraser, 2004). However, despite the increase in knowledge, the rate of obesity in children continues to escalate Esch and Zullig (2008) agreed that curriculum topics such as the risks of unhealthy weight and unhealthy dietary behavior should be taught in health education classes, but education alone does not address the problem of the increasing obesity rates. The effectiveness of the educational programs on adolescent behaviors has not been demonstrated since most students inaccurately report their level of fitness or the amount of physical activity routinely incorporated in their lifestyle (Beaudoin, Mathias, Fraser, 2004). In this study, students correctly recognized healthy eating habits and obtaining adequate hours of sleep as indicators of
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personal health; however this did not predict the likelihood that they would practice these behaviors (Beaudoin et al., 2004).

Although educational initiatives have made remarkable strides in increasing knowledge about nutrition, obesity, and exercise, incorporating physical activity into the lives of adolescents on a regular basis remains a challenge. The Centers for Disease Control and Prevention has recommended for all individuals to participate in moderate physical activity of at least 60 minutes most days of the week for health maintenance (Butcher, Sallis, Mayer & Woodruff, 2008). According to Pender (1998), in the Report to the Surgeon General, regular exercise contributes to the physical and psychological well-being of children and adolescents and has been shown to lessen the risk of chronic disease later in life. Butcher et al (2008) concluded that a large proportion of adolescent boys and girls do not meet the recommended guidelines for physical activity putting up to 50% of America’s urban adolescents at risk for developing physical and mental health problems.

Most importantly, as it relates to the purpose of this project, the amount of time invested in physical activity has also been shown to decrease throughout adolescence (Kahn, 2008). Kahn (2008) explains that since the decline of physical activity begins at age 13 to 15, any intervention to address this change must be instituted prior to 13 years of age. Declining leisure time physical activity and transportation activity along with increased technology and sedentary activity, such as television, video games, computer use, contribute to the trend in the overall deteriorating daily physical activity expenditure (Brownson, Boehmer, & Luke, 2005). The only definitive conclusion of these studies is that physical activity must be incorporated back into the daily lives of children.
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To provide further explanation for the decreased physical activity in adolescents, Wilson (2007) investigated components of obesity prevention programming and attitudes of adolescents about obesity. Adolescents were found to have good understanding of the need of regular exercise for healthy lifestyles. Trends were found correlating higher family involvement with increased participation in physical activity. Strategies to encourage changes in adolescent involvement in activity and improving healthier lifestyles were investigated. Adolescents felt physical activity programs should be included within the school day for easier accessibility and that any activities provided should be fun or incorporate prizes to motivate the adolescents to participate. Although adolescents had the knowledge and understanding of the need for lifestyle changes, this study found that adolescents were open to only some of the recommended modifications in lifestyle. Adolescents in this study stated that they were not willing to give up soda and similar beverages, watching television, or playing video/computer games to develop a healthier lifestyle (Wilson, 2007). This finding suggests that this study group understands the changes needed to establish a healthier lifestyle, but the group was not willing to make the modifications necessary to develop a routine which involves regular physical activity.

In addition, Zapata (2008) found that adolescents often did not eat the recommended amounts of fruits and vegetables and had a low milk intake. The lack of daily physical education programs in school, lack of routine physical exercise, and poor nutritional lifestyle practices of adolescents, are all factors in the rising rates of childhood obesity. Building on studies completed by Wilson (2007), it is important to determine adolescents' understanding of the personal impact of health and fitness, and factors perceived as motivating.

Another possible explanation for the decrease in physical activity during adolescence is the discrepancy between the adolescents' understanding of health and fitness and their own
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personal level of physical fitness, and healthy weight. Beaudoin et al. (2004) discovered contradictions with American adolescents’ perceptions of being fit and a healthy weight. While more than two-thirds believed of the adolescents in the study believed they were fit, of healthy weight, and taking in a nutritious diet, only 50% of those same adolescents actually classified within a healthy weight range.

Kahn et al (2008) found that multiple variables influenced adolescents’ choices regarding participation in physical activity. Reports showed that although scholastic ability and gender did not show significant correlations with physical activity, “psychological factors such as self esteem, self-efficacy, self-worth, self-image and self-concept have been linked to physical activity in a number of studies” (Kahn et al., 2008, pg. 374-375). Physical activity participation was affected by an individual’s body mass index (BMI), perceived peer attitudes, and personal beliefs about body shape and fitness, and parental attitudes regarding physical activity (Kahn, 2008).

What is clear from the research is that education alone may not be enough to change attitudes and beliefs adolescents have attaining and maintaining healthy weight and exercise. Physical education within the school setting has increased in frequency with the primary goals of providing knowledge and skills related to lifelong participation in sport and recreational activities (Beaudoin et al., 2004). However, Pender (1998) points out that greater than 80% of a child’s physical activity takes place outside the school. Furthermore, adult encouragement, especially if the adult was engaged in regular physical activities, was shown to positively influence children and adolescents in developing healthy lifestyles and incorporating physical activity and exercise. Biddle and Goudas (1996) found that youth physical activity was directly associated with adult countenance and encouragement. Barlow (2007) advocates that parents
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and authority figures model healthy eating habits and regular physical activity to help mold children's behavior and habits. Direct facilitation by parents and peers may be more influential in behavior modification than other means of motivation (Kahn, 2008; Haverly & Davison, 2005). Direct facilitation by school personnel may also have the same influence.

Haverly and Davison (2005) found that adult encouragement and direct facilitation helped in the development of healthy lifestyles, but television, computer games, and technological advances continue to produce inactivity. Although environmental and societal obstacles have been identified as hindrances to exercise, one study found that intrinsic barriers were the largest hindrance to exercise (Kimm et al., 2006). In a study examining potential barriers to physical activity, sixty percent of these respondents cited lack of time. Other barriers reported were being tired or lack of interest. Kimm et al (2006) concluded that sedentary girls reported primarily internal barriers which were not related to external factors.

Self-Motivation and Control

Implementing the practice of the lifestyle recommendations and incorporating physical activity into the lives of adolescents on a regular basis has been related to self motivation and control. Since education is only one element of changing the lifestyles of sedentary and overweight adolescents, self motivation may be as important as education in the successful implementation of the lifestyle recommendations. Haverly & Davison (2005) found that the most common motivational factor for participation in physical activity was personal fulfillment. Programs which promote physical activity need to identify and incorporate motivational strategies during program development to ensure successful response from participants (Haverly & Davison, 2005).
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Studies completed by Kelly, Zyzanski and Alemagno (1991) found significant positive correlations between knowledge, personal involvement, and motivation. The elements of having the knowledge and information regarding healthier lifestyles incorporating physical activity, and the necessary stimulus of motivation to make those changes happen were significant. Kelly (1991) explained that self efficacy and health beliefs were related to changes to a healthier lifestyle. Individuals that feel they are at risk due to their unhealthy lifestyle may benefit from change, but may find it difficult or overwhelming to make changes, or fear failure in making the necessary changes. Kelly, Zyzanski and Alemagno (1991) have surmised that motivation may be the strongest predictor of successful changes to healthier behaviors. Tergerson (2002) found that males and females have different views regarding exercising. The motivational factors of female respondents were staying in shape, losing weight and increasing energy levels. Male respondents, however, believed that staying in shape, becoming strong, and becoming more competitive were the most important motivational factors. Both male and female respondents stated that not having time to exercise or the desire to do other things during free time were the primary barriers to exercising and participating in physical activities.

Although interest in and motivation to adhere to recommendations for healthy lifestyles decreased with age, Brown, Teufel, & Birch (2007) determined that the greatest drive to maintain a healthy lifestyle was the belief that one can influence their own future health. Students who perceived they had at least some control over their personal future health outcomes were 3-4 times more likely to be interested in health education or try what they were taught than those who did not believe they had any control (Brown, Teufel, & Birch, 2007). Adolescents who believed they had "a lot" of control reported higher levels of interest in health and would make efforts to adopt what they were taught into their lifestyles. Thus, according to Brown et al
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(2007) interest in health was a primary predictor of how hard an adolescent would work to follow what was taught.

Developing interest in or a sense of control over the future may be considered a developmental milestone of emotional maturity. Jean Piaget, a Swiss developmental psychologist, established childhood developmental stages in which educational information and facts that are obtained evolve from gaining the knowledge to personalizing that information into an association to oneself. Piaget's developmental stages indicate that children do not develop the propensity to personalize the health education obtained into lifestyle for future benefit until adolescence (The American Academy of Child Adolescent Psychiatry, 2001). Piaget believed that at the age of 11, preadolescent development includes formal operational thinking in which a child can perform mental calculations, incorporate abstract thinking and creativity in problem solving, and imagine or predict future outcomes (Atherton, 2011). Preadolescence is a developmental period where children begin to formulate ideas about health education and how it may impact their personal lives. During adolescence, however, individuals develop the ability to personalize gained information and formulate possible future outcomes or consequences to actions. Pre-adolescent and adolescent age groups were compared for this study to determine variances in responses because of this developmental difference.

Kahn et al (2008) reports that interventions to increase physical activity should target children prior to the expected decline in activity that takes place during adolescence. The researchers also imply that interventions to increase physical activity may be more effective if modifiable factors are addressed such as individual, parental or environmental inhibitors to activity.
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Beaudoin, Mathias & Fraser (2004) feel that school must be the catalyst for educating and stimulating children to develop healthier and more active lifestyles. School nurses are in a pivotal position to help influence adolescent understanding and behavior regarding personal health and habits. Pender (1998) contends that “nurse scientists have a responsibility to contribute to the design and testing of developmentally appropriate physical activity interventions” (p. 141).

The research supports that healthy eating and physical activity are key to preventing obesity. Furthermore, educational programs for healthy eating and exercise have been successful in increasing adolescent knowledge about healthy lifestyles. What is less clear is why adolescents, who now know better, are not making educated choices as it relates to diet and exercise: therefore causing a continued increase in obesity rates and comorbidities.

Chapter III

Method

Purpose

The purpose of this project was to assess and compare student beliefs about physical activity related to the prevention of obesity during pre-adolescence and adolescence. This information could be used to guide health curriculums in middle schools to improve levels of activity and overall health of preadolescent and adolescent students.

Project Questions

Do 6th and 9th grade students feel they know enough about healthy eating and the importance of exercise in the prevention of obesity? Is there a difference in student beliefs about
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the importance of physical activity and willingness to incorporate physical activity in 6th graders (preadolescents) and 9th graders (mid-adolescents)?

Hypotheses

There will be no difference in student knowledge of healthy diets and the importance of exercise between the two age groups and both will state they have adequate knowledge to make healthy choices. It is further hypothesized that 6th grade students (preadolescents) will be more physically active and more willing to make changes to become more physically active than the mid-adolescent group.

Design

This was a descriptive study utilizing a questionnaire developed specifically for this project to assess students’ knowledge and beliefs about healthy eating and activity as well as to assess environmental factors such as family, friends, and school that may influence a student’s nutrition and level of physical activity. The questionnaire was developed to assess knowledge and understanding of the health education regarding healthy eating and physical activity which the students had received from school curriculum. With the assistance of the health educators, who are experts with the health curriculum, the questions were written to assess baseline knowledge of healthy eating choices, importance of exercise, and prevention of obesity. Questions also addressed whether the students felt supported by school, family, and friends to make healthy decisions as studies have concluded that behavior change in these areas is more effective with the support of family, friends, and school personnel. Also, with the increased independent decision making experienced in the adolescent period, individual motivation to make the changes recommended for continued health was explored. The questions were then
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reviewed by the content experts and presented to students in grades 5 and 7 and modified for better understanding of content and readability.

Sample/Setting

A convenience sample of students in 6th and 9th grade who attended a rural middle school and high school in Rochester, New York were recruited for this project. One of the developmental changes during adolescence is the development of self motivation and the ability to decisively make changes that produce future results. Therefore, students in 6th grade who are 11-12 years old represented the pre-adolescent developmental age and students in 9th grade represented the mid-adolescent period of development. Students in these specific grades were chosen for a comparison of knowledge and attitudes at the two developmental stages of adolescence. The middle school has a student population of 400 students and the high school has a population of 600 students. The schools are in the same district and are approximately 30 miles southeast of Rochester, New York. Students begin a formal health education curriculum in 6th grade, studying nutrition, the food pyramid, reading nutrition labels, making healthy food choices, and adolescent growth and development. Throughout the following three years, students receive further health education regarding food labels and consumer choices, physical workouts, the impact of physical activity on heart rate and target heart rate zones. By grade 9, health curriculum includes information about personal decision making regarding healthy behaviors, discussions of appetite and hunger, fad diets and eating disorders, and obesity related diseases.

The project was presented to 168 9th grade students and 107 6th grade students for a total of 275 possible participants. Respondents included 13 grade 6 students (n=13) and four grade 9
STUDENT DIFFERENCES

students (n=4) establishing only 6% total student participation. Twenty two participants started the questionnaire (n=22) and seventeen completed the survey (n=17) for a 77.3% completion rate of the questionnaire. Grade level was the only identifying information gathered as age, sex, and other information was not deemed necessary for this study.

Inclusion Criteria

All students who attended 6th and 9th grades at the chosen middle school and high school were eligible to volunteer to participate in this project.

Exclusion Criteria

Exclusion criteria included non English speaking students because the questionnaire was written in English only, students without parental consent, and students with severe learning disabilities who were unable to read/understand the questionnaire. Students who did not have computer access at home were given an opportunity to participate using a computer in school with parental consent.

Consent/Assent

Students were required to have parental consent to complete the questionnaire. This was ensured through the use of a password that only parents had in order to access the school website where the survey was located. Written consent was required for those students completing the survey in school. Assent was implied when the student voluntarily logs onto the computer to complete the survey. Participation by the student was completely voluntary.
STUDENT DIFFERENCES

Human Subject Protection

Approvals from the school board and the St. John Fisher Institutional Review Board were obtained (Appendix V) prior to recruitment of students. Parents/guardians were provided with written information regarding the questionnaire (Appendix I, Appendix II) and had an opportunity to call the school with questions and concerns. Parents were also notified about the project through telephone notification (Appendix II), and consent upon entering the computer questionnaire (Appendix III). Written consent was obtained only for students requiring access to a computer without their parents present. Student assent was implied through volunteer completion of the survey. Students were informed that they could stop answering the survey at any time and that they could choose to not answer any question(s) that they did not feel comfortable answering.

To recruit student volunteers for this project, the project coordinator went to physical education and health classes to present students with information regarding the project. No inherent risks were involved with this study. No identifying information was required and participation was voluntary. Data was kept confidential and secured in a locked office in the middle school. There were no personal benefits for participation except that results of the project may be used to provide guidelines and insight into the development of more effective health programs to improve student health.

Instrument

This project utilized a 26 item Likert-type questionnaire (Appendix III) created specifically for this project. Three content experts in middle school and high school health curriculums were consulted for question development and relevance. The questions were developed to confirm educational background, investigate the environmental factors of family,
STUDENT DIFFERENCES

friends and the school community influencing the student’s nutrition and physical activity levels. and the individual students’ beliefs and personal choices regarding physical activity, snacks, and food choices. Teacher input was also used to evaluate the questionnaire content and reading level. The questionnaire was then given to a volunteer 5th grade student to ensure appropriate reading level and comprehension.

Procedure

After recruitment of students, the survey was made available online using SurveyMonkey and linked through the school website for a 2 week period. Following the initial contact with parents and students introducing the project, telephone calls to student homes were made requesting participation in the survey after 1 week and 2 days prior to the survey completion date. Data was collected using SurveyMonkey filters to separate age categories.

Chapter IV

Results

The purpose of this project was to assess and compare knowledge and beliefs regarding healthy weight and participation in physical activity in 6th and 9th grade students. Mean scores for student responses were compared between 6th and 9th graders. Responses were grouped into three categories for ease of analysis: knowledge (educational background), parental limitation of physical activity, and self modification of food choices and sedentary activity.

Educational Background

Student knowledge about proper nutrition, food groups and appropriate choices, and the role of physical activity in the prevention of obesity was assessed in this survey (Figure 1). All of the 6th grade student respondents and 92% of the 6th grade student respondents agreed that they had
STUDENT DIFFERENCES

received the education necessary to make the right choices to attain or maintain a healthy weight through healthy eating habits and physical activity. Additionally, over 88% of the 6th grade respondents and 100% of 9th grade respondents felt they had the knowledge and environmental support needed to practice the behaviors that help prevent obesity. These findings are consistent with the findings of Beaudoin, Mathias, and Fraser (2004) who also found that students they surveyed believed that they had been given the information necessary to obtain or maintain a healthy weight with healthy eating. They also found that students understood the importance of being physically active.

Figure 1: Educational Background

Parental Limitation of Sedentary Activity

Questions in this section of the survey addressed how much parents limited their child’s sedentary time such as time on the computer, time watching television, and video games. In this project, students indicated that parents limited sedentary activities more during the preadolescent
STUDENT DIFFERENCES

period (25-42%). In the 9th grade group, 50% indicated that they had no restrictions on their sedentary activity. The other 50% of the 9th graders indicated that they were neutral indicating that they did not feel strongly that their sedentary time was limited (Figure 2).

Barlow (2007) found that family influences of healthy eating habits and regular physical activity were important in predicting the eating habits and level of physical activity in adolescents. These findings might be expected as adolescents become more independent and there is less parental supervision of activity during leisure activity time.

Figure 2: Parental Control of Sedentary Activity

![Parental Control of Sedentary Activity](image)

Self-Modification of Food Choices and Sedentary Activity.

Questions in this section of the survey addressed a student’s willingness to change or modify their eating and exercise habits to attain or maintain a healthy weight (Figure 3). In both 6th grade and 9th grade groups, the attitudes toward exercise were positive. In fact, there were no respondents who stated that they strongly objected to participation in physical activity.

Furthermore, all respondents indicated that they felt better with regular exercise. The responses from the students also indicated that 6th grade students (92%) they felt better when eating a
STUDENT DIFFERENCES

healthy diet, whereas half of 9th grade students (50%) indicated that diet did not contribute to feeling better.

Responses related to a student’s willingness to modify their diet and sedentary behaviors varied between 6th graders and 9th graders with 61% of pre-adolescent students (6th grade students) stating that they would be willing to change leisure activity to incorporate more physical activity. Only 50% of mid adolescents (9th grade students) stated that they would be willing to limit their sedentary activities to become more active. Less than 25% of either group strongly agreed to make the changes necessary to become more active.

Figure 3: Self Modification of Food Choices or Sedentary Activity

Although preadolescents showed a slightly higher degree of compliance with educational recommendations, over one third of respondents were unsure if they would be willing to incorporate change. Three quarters of mid-adolescents were unsure or unwilling to incorporate...
STUDENT DIFFERENCES
these changes for a healthier future. Eighty-five percent of pre-adolescent students and 50% of mid-adolescent students believed current habits regarding nutrition and physical activity would impact future health but another 50% of mid adolescent students were unsure of the strength of their belief.

Chapter V
Discussion
Obesity in our youth has reached epidemic proportions and is a threat to child health, as well as later adult health. It is also a significant financial strain on our healthcare system. The purpose of this project was to assess variances in knowledge and attitudes regarding healthy eating and physical activity during two developmental stages to gain insight into why, if students know better, they are not “doing better”. Adolescence is a period of development with growing independence and decision-making ability.

As predicted in the hypothesis, students in both groups felt they had been provided with the knowledge and information needed to make healthy choices, likely through health education curriculums, physical education, and public campaigns. However, internal motivation, developed during adolescence, has been proven to be the most determining factor in influencing behavior, including health-related behaviors. This project showed that as adolescents moved from pre-adolescence to mid-adolescence they become less willing to change their lifestyles to incorporate healthy behaviors even though they have learned the implications of these choices. Incorporating the Health Belief Model to these findings, the knowledge students gained during their health education curriculum had less impact on their motivation to change as they moved from pre-adolescence to mid-adolescence.

Results in Relation to Literature
STUDENT DIFFERENCES

Beaudoin, Mathias, & Fraser (2004) concluded that changes in educational programs have increased children’s knowledge of healthy lifestyles and the importance of physical activity. This project further supports this finding as the majority 6th and 9th graders felt they were well educated in these topics and had enough education to make healthy choices. However, Kahn (2008) concluded that there is a decline in physical activity during adolescence that begins at age 13 to 15 despite students understanding the importance of physical activity for prevention of obesity and overall health. This results of this project further support this finding with a larger percent of mid-adolescents (14-15 years) who state they are more sedentary than the pre-adolescent (11-12 years) age group. Furthermore, Wilson (2007) found that mid to older adolescents were only willing to make minor modifications to their lifestyle to promote health, but were not willing to exercise more if it meant sacrificing screen time and other sedentary activities. This was despite the fact that they were aware of the importance of exercise for health. Again, the results of this project support these findings as only half mid-adolescents stated they would be willing to make changes to increase physical activity where over 60% of pre-adolescents were willing to make a change.

The results of this project in context with previous studies indicate that there may be a window of opportunity between the pre-adolescent age group and mid-adolescent age group to make an impact on their choices so that adolescents do not decrease their levels of physical activity as they get older.

Limitations

It is important to note that there are several limitations to this project. The questionnaire of this project was presented to a convenience sample within a small rural school resulting in a poor response rate for data interpretation. The questionnaire was developed specifically for this
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project and was developed by content experts, but has no reliability or validity testing. Further research should incorporate larger sample sizes of multiple school settings to obtain unbiased sampling. This would also provide a greater response rate of the information obtained for examination. Methods to motivate adolescents to respond to questionnaires and surveys may be helpful in increasing the response rates. Gift cards or other token gifts may provide enough allure to engage adolescents in providing the information necessary to thoroughly investigate this hypothesis.

Conclusion

The number of obese adolescents continues to increase despite the public campaigns and changes in health curriculums in the schools. While it has been established in this project and other studies that pre-adolescents and mid-adolescents understand the importance of healthy eating and exercise in the prevention of obesity, it has been less clear why these behaviors have not been manifested. The purpose of this project was to provide more evidence to support that adolescents have the knowledge needed to make these decisions, but that there is a variation in willingness to change behaviors from pre-adolescence (6th grade) to mid-adolescence (9th grade). The results demonstrate that there is, in fact, a difference and as children grow and go through the appropriate developmental stages, they may lose the motivation and desire to make healthier choices. One possible explanation for this is that adolescents may view these choices to be more "difficult" and less pleasing and do not view the benefit of making these choices as so significant or the consequences so severe.

Other explanations for this variation may be related to family lifestyle and adult encouragement during this period. Pre-adolescent students may still be influenced by parental and adult encouragement where mid-adolescents may rebel against these in a developmentally
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appropriate way. Furthermore, health education class is not offered in many of the high schools after 8th grade. Therefore, students are no longer receiving consistent information about ways to stay healthy, including exercise as they transition from middle school to high school.

Recommendations

Despite the limitations of this project, the results are supported in the literature and provide insight into a window of opportunity where school nurses, physical education teachers, and health teachers can intervene to prevent the decrease in physical activity between pre-adolescence and mid-adolescence. Students must learn at an early age not just the facts about nutrition and exercise, but the potential benefits of healthy eating and exercise as well as the consequences for not living a healthy lifestyle with proper nutrition and exercise. This information must continue through the middle school years to enhance compliance in adolescence and adulthood. Although these areas are often touched on in the health curriculum, they are clearly not effective for the students who are transitioning from pre-adolescence to mid-adolescence or from middle school to high school in this particular school district Middle school personnel including health and physical education teachers can partner with school nurses to create a program or a curriculum that focuses on the importance of staying physically active and the consequences of too much screen and sedentary time. Ideally, this information would be presented again in high school.

It is clear that more intense discussion and creative ways of presenting this information is necessary to convince a difficult adolescent population who believes “it won’t happen to me” to make healthy choices about diet and exercise.
References


.., & Zullig, K. J. (2008). Middle school students' weight perceptions, dieting behaviors,


New York State Department of Health. (2010, July). The Obesity Problem. In Obesity


TheoriesDetail&PageID=344


Application for Expedited Review

Please submit three (3) copies of this form to the Office of Academic Affairs, K-202, Attention: Jamie Mosca.

Name of Investigator(s): Elaine Hilton

Address/City/State/Zip: 29 Pearl Street Clifton Springs, NY 14432

Telephone: Day 315-462-5142 Cell 585-233-0117

E-mail Address: elainehilton@hotmail.com FAX: 315-548-6620

Faculty/Staff Sponsor (if different): Dr. Pamela Mapstone

Title of Project: Variances in student motivation to control their personal health in regards to physical activity during pre-adolescence and adolescence

Abstract of Project: This project will assess variances in student motivation to control their personal health in regards to physical activity during pre-adolescence and adolescence. A Likert scale questionnaire will be utilized to collect data regarding information covered during the standard health education classes. A convenience sample of students in 6th and 9th grade health classes will complete questionnaires to establish insight into the variances of motivation from pre-adolescence to adolescence. Knowledge regarding the variances in student motivation to exercise between these ages may help guide educational programs to more effectively address the obesity epidemic.

Type of Investigator and Nature of Activity (check one):

- Faculty or staff at St. John Fisher College ____
- Student of St. John Fisher College ___ 

Individuals other than faculty, staff, or students of St. John Fisher College. (Please identify investigator and explain nature of research activity.) All applications from students and from persons outside of the College must be signed by the faculty, staff person or administrator supervising the research activity.

Please answer the following questions with regard to the proposed research activity. (An affirmative response to any of these might necessitate formal review.)

Does the research involve:

a. drugs or other controlled substances __ YES ___ NO ___
b. access to subjects through a cooperating institution? ___ X__
c. subjects taking internally or having externally applied any substance? ___ X__
d. removing any fluids (e.g., blood) or tissue from subjects? ___ X__
e. subjects experiencing stress (physiological or psychological) above a level that would be associated with their normal everyday activity? ___ X__
f. misleading subjects about any aspect of the research? ___ X__
g. subjects who would be judged to have limited freedom of consent (e.g., minors, mentally ___ X__
f. misleading subjects about any aspect of the research?

   __X__

g. subjects who would be judged to have limited freedom of consent (e.g., minors, mentally retarded, aged)?

   X__

h. any procedures or activities that might place the subjects at more than **minimal risk** (psychological, physical, or social/economic)?

   __X__

i. sensitive aspects of the persons' own behavior, such as illegal conduct, drug use, sexual behavior, or alcohol use?

   __X__

_Under which of the following categories are you applying for expedited review? (check one)_

1. Voice recordings made for research purposes such as investigations of speech defects.

   ___

2. Moderate exercise by healthy volunteers.

   ___

3. The study of existing data, documents, records, pathological specimens, or diagnostic specimens, if the individual from whom the data were collected are identifiable.

   ___

4. Research on individual or group behavior or characteristics of individuals, such as studies of perception, cognition, game theory, or test development, where the investigator does not manipulate subjects' behavior and the research will not involve stress to subjects.

   **X**

5. Collection of hair and nail clippings, in a non-disfiguring manner; deciduous teeth; and permanent teeth if patient care indicates a need for extraction.

   ___

6. Collection of excreta and external secretions including sweat, uncanneullated saliva, placenta removed at delivery, and amniotic fluid at that time of rupture of the membrane prior to or during labor.

   ___

7. Recording of data collected from subjects 18 years of age or older in the course noninvasive procedures routinely employed by professionally certified/licensed individuals in the clinical practice of medicine, psychology and social work. This includes the use of physical practice sensors that are applied either to the surface of the body or at a distance and do not involve input of matter or significant amounts of energy into the subject or an invasion of the subject's privacy. It also includes such procedures as weighing, testing sensory acuity, electrocardiography, electro-encephalography, thermography, detection of naturally occurring radioactivity, diagnostic echography, and electroretinography. It does not include exposure to electromagnetic radiation outside the visible range (for example x-rays, microwaves).

   ___

8. Collection of blood samples by venipuncture, in amounts not exceeding 450 milliliters in an eight-week period and no more often than two times per week, from subjects 18 years of age or older who are in good health and not pregnant.

   ___

9. Collection of both supra- and subgingival dental plaque and calculus, provided the procedure is not more invasive than routing prophylactic scaling of the teeth and the process is accomplished in accordance with accepted prophylactic techniques.

   ___

_Certification_

1. I am familiar with the policies and procedures of St. John Fisher College regarding human subjects. I subscribe to the standards described in the document, IRB Policies and Procedures for the Protection of Human Subjects.

   ___

2. I am familiar with the published guidelines for the ethical treatment of subjects associated with my particular field of inquiry (e.g., as published by the American Psychological Association, American Sociological Association).

   ___
3. I am familiar with and will adhere to any official policies in my department concerning research with human subjects.

4. I understand that upon consideration of the nature of my project, the IRB may request a full application for review of my research at their discretion and convenience.

5. If changes in procedures involving human subjects become necessary, I will submit these changes for review before initiating the changes.

All student applications and applicants from outside the College must have a College sponsor.

Decision of Institutional Review Board

Reviewed by:

Subcommittee Member #1
Date

Subcommittee Member #2
Date

☑ Approved
☐ Not Approved

Comments:

☐ No Research The proposed project has no research component and does not need to be in further compliance with Article 24-A.

☐ Minimal Risk The proposed project has a research component but does not place subjects at risk and need not be in further compliance with Article 24-A.

☐ Research & Risk The proposed project has a research component and places subjects at risk. The proposal must be in compliance with Article 24-A.

Chairperson, Institutional Review Board
Date

Rev. 11/08 jm
Appendix B- Letter of Introduction

Letter of Introduction

The National Center of Health Statistics (2000) reports that the number of overweight children has doubled over the past 20 years, and the number of adolescents who are overweight has increased threefold. This has caused public health concerns due to the increased risk of developing additional chronic illnesses such as asthma, diabetes, hypertension and heart disease.

Educational programs and governmental initiatives have been instituted to address this epidemic. Research conducted shows that the educational programs are effective in giving out the education, however the trends toward obesity continue to climb. It is questioned if these trends are due to lack of internal motivation for change or the lack of resources to make the changes necessary.

A study is being conducted as part of a project for Advanced Practice Nursing to investigate the perceptions of middle school students and their ability to control their personal health in regards to weight control and obesity. Students enrolled in sixth and ninth grade health classes will be given an opportunity to participate in a questionnaire to investigate the student perceptions. Internal Review Board from St. John Fisher College, as well as principals and teachers, have reviewed the content of the questionnaire and the purpose of this project, to insure it is being conducted ethically.

As part of normal growth and development, it is anticipated that older adolescents will perceive more self efficacy, or self determination, than pre-adolescents. The
The students will be asked to participate in the questionnaire during a regularly scheduled health education class. The questionnaire will take approximately 10 minutes to complete. Students may choose not to participate in the questionnaire by marking an X on their paper and returning it similar to those completing the questionnaire. Participation, or non-participation, is completely voluntary and will not influence class grading or healthcare services of the student(s) now or in the future.

A copy of the student questionnaire is available on the school website (www.midlakes.org) for further information regarding this research project, parents or students may contact Elaine Hilton, RN at (315) 548-6620 or SJFC Advisor Dr. Pamela Mapstone at (585) 385-8000.
Midlakes Student:

The National Center of Health Statistics (2000) reports that the number of
eight children has doubled over the past 20 years, and the number of adolescents
are overweight is three times higher. The chronic problem of obesity causes public
concerns due to the increased risk of developing additional chronic illnesses such as
ema, diabetes, hypertension and heart disease, especially as the individual ages.

As a student, you have received education in healthier nutrition and lifestyles
ing proper nutrition and the need for regular physical activity. Past research has
that students generally understand the information they have received. What is
nderstood, however, is why the trends toward obesity level continue to climb. It is
ioned if these trends are due to lack of internal motivation for change or the lack of
ces to make the changes necessary.

You are being asked to complete a questionnaire during your health class to
gate your feelings regarding nutrition and physical activity. The questionnaire will
lect any information which can be tracked to your individual answers. The college
board has evaluated this research project to insure it is being conducted ethically.
epation is voluntarily, and will not influence your grade or healthcare services now or
ne future.

The questionnaire is being given as part of a college project in Advanced Practice
ig. Your participation in the questionnaire, as stated above, is voluntary. It will
approximately 10 minutes to complete.
I hope you will consider taking part in this important research study. If you have questions regarding the questionnaire or the research project, you may contact Elaine Hilton, RN at 315-548-662 or Dr. Pamela Mapstone at 585-385-8000.
This is Elaine Hilton, the School Nurse from the Midlakes Middle School. I am currently enrolled in the Advanced Practice Nursing Program at St. John Fisher College. I am conducting a research project involving 6th and 9th grade students involving a 10 minute questionnaire which will be completed during your child's health class. I am investigating our students' perceptions of their own control of their health through weight control and physical activity. A copy of the questionnaire in entirety is available for your review on the Midlakes website. Student involvement in the questionnaire is completely voluntary and will not affect class grading or health care services now or in the future. The information gathered will be disseminated in aggregate to interested parents, students, and educators within the school district. The information may also be presented through student presentations, poster display, and potential manuscript.

I hope you will allow your child to participate in this research project. If you do NOT want your child to participate, please call the school office at 548-6600 (for the Middle School) or 548-6300 (for the High School) and leave a message with the office secretary prior to Wednesday, November 17th. No response to this calling will indicate implied consent for your child to determine his/her participation in the questionnaire.

The questionnaire will be conducted on Wednesday, November 17th, 2010 for High School students and Thursday, November 18th, 2010 for Middle School students. Again, participation in this questionnaire will not influence your child's class grading and student participation is completely voluntary. For more information regarding the
research project or the questionnaire, you may contact Elaine Hilton at 548-6620 or college advisor, Dr. Pamela Mapstone at St. John Fisher College at 585-385-8000.
Appendix D- Instruction for Student Questionnaire

You have been asked to participate in a student questionnaire as part of a research project for an Advanced Practice Nursing project. Information was sent home by a Connect-Ed call explaining this project.

First: Do NOT put your name on the questionnaire.

The questionnaire is a series of 25 questions regarding your feelings on your ability to control your weight and physical activity. It will take about 10 minutes to complete.

Your participation in this questionnaire is completely voluntary.

There is no information being collected on the questionnaire to indicate whose questionnaire is yours'. You will not receive extra credit for participation in the research, nor will you be graded negatively for not participating or answering questions in a particular way. Your decision to participate in the questionnaire will not influence your level of healthcare services.

If you decide to NOT participate in this questionnaire, you may write an X on your paper and hand it in with everyone else's questionnaire.

The questions are worded in a way so that you can answer on a scale closest to how you feel about the statement. There will be a statement and your response will indicate if you agree with the statement (rated with a higher number) or you disagree with the statement (indicated with a lower number).

Please look at the example question.
It states: “I need to change my eating habits.” The corresponding scale indicates “I disagree,” rated at 0 or “I agree,” which is rated at 5. If you think you really need to change your eating habits, you would mark 5. If you think you eat a healthy diet now, you would mark 0. If you think most the time you eat healthy foods, you would mark 1-2. If you think you eat unhealthy foods most the time or skip a lot of meals, but sometimes you try to eat healthy, then you would agree, and mark 3-4.
### Appendix A- Student Questionnaire

<table>
<thead>
<tr>
<th>Example:</th>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I need to change my eating habits.</td>
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</table>

**Education Background:**

<table>
<thead>
<tr>
<th>I have the knowledge necessary to obtain/maintain a healthy weight with healthy eating (healthy food choices, eat all food groups, portion sizes).</th>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Agree</th>
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<tbody>
<tr>
<td>I have the knowledge as to why I should be physically active daily.</td>
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<td>I do not have the support/knowledge needed to avoid becoming overweight/obese.</td>
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</table>

**My Environment:**

<table>
<thead>
<tr>
<th>My family shows me good, healthy eating habits (healthy food choices, eat all food groups, portion sizes).</th>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Agree</th>
</tr>
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<tbody>
<tr>
<td>My school shows me and provides healthy eating choices (healthy food choices, eat all food groups, portion sizes).</td>
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<td>My friends show me and help me choose healthy eating choices (healthy food choices, eat all food groups, portion sizes).</td>
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<tr>
<td>My family shows me and participates in physical activity regularly (more than 3x week).</td>
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<tr>
<td>My family limits the amount of sedentary activity I am allowed (limited computer or tv time).</td>
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<td>My friends encourage me to participate in physical activity regularly (more than 3x week).</td>
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<tr>
<td>My Beliefs:</td>
<td>Disagree</td>
<td>Agree</td>
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<tr>
<td>I feel good about myself at my present weight.</td>
<td>0 1 2 3</td>
<td>4 5</td>
<td></td>
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<tr>
<td>I feel I am at a healthy weight.</td>
<td>0 1 2 3</td>
<td>4 5</td>
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<tr>
<td>I don’t like to participate in physical activity.</td>
<td>0 1 2 3</td>
<td>4 5</td>
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<tr>
<td>It is important to me right now to be at a healthy weight.</td>
<td>0 1 2 3</td>
<td>4 5</td>
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<tr>
<td>It is important to me right now to be physically fit and active.</td>
<td>0 1 2 3</td>
<td>4 5</td>
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<tr>
<td>I feel better about myself if I have healthy eating habits (healthy food choices, eat all food groups, portion sizes).</td>
<td>0 1 2 3</td>
<td>4 5</td>
<td></td>
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<tr>
<td>I feel better when I have healthy eating habits (healthy food choices, eat all food groups, portion sizes).</td>
<td>0 1 2 3</td>
<td>4 5</td>
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<tr>
<td>I feel better when I regularly have been physically active (at least 3x week).</td>
<td>0 1 2 3</td>
<td>4 5</td>
<td></td>
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<tr>
<td>Being overweight/obese is too hard to control by myself.</td>
<td>0 1 2 3</td>
<td>4 5</td>
<td></td>
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<tr>
<td>I already try to control my weight through healthy food choices (eat all food groups, portion sizes).</td>
<td>0 1 2 3</td>
<td>4 5</td>
<td></td>
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<tr>
<td>I already try to control my weight through physical exercise.</td>
<td>0 1 2 3</td>
<td>4 5</td>
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<tr>
<td>I am more attractive to others if I obtain/maintain a healthy weight.</td>
<td>0 1 2 3</td>
<td>4 5</td>
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<tr>
<td>I would be willing to give up unhealthy food choices (soda, snack foods) to obtain/maintain a healthy weight.</td>
<td>0 1 2 3</td>
<td>4 5</td>
<td></td>
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<tr>
<td>I would be willing to give up sedentary activities (Wii, computer time, watching tv) to participate in physical activity.</td>
<td>0 1 2 3</td>
<td>4 5</td>
<td></td>
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<tr>
<td>Being overweight/obese is just a part of growing older.</td>
<td>Disagree</td>
<td>Agree</td>
<td></td>
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<tr>
<td>I think the habits I have now regarding nutrition and physical activity will affect my health in the future.</td>
<td>Disagree</td>
<td>Agree</td>
<td></td>
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<td></td>
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<tr>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
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LETTER OF AGREEMENT FOR MASTER’S PROJECT

This letter represents a memorandum of agreement between Phelps-Clifton Springs School District and Elaine Hilton, a Master’s student at the Wegmans School of Nursing at St. John Fisher College. This agreement gives permission for and commits to supporting research in the area of student perception of their ability to influence and control their own health in regards to obesity and weight control to be conducted by Elaine Hilton in partial fulfillment of the requirement for Master’s Degree in Nursing.

The project will include collection of data gathered during a sixth grade and ninth grade health class. Participants of the class will be asked to complete a 25 question educational assessment utilizing a numeric scale to rank their perception of their present level of health, present understanding of healthy lifestyle factors, and their perception of their ability to influence their own health outcomes. This data will be completed as an educational assessment tool to determine if the health education and curriculum presently provided within the school system alters the students’ perception of ownership to being an active participant in the development of healthier habits and lifestyle. The data will evaluate changes in perceptions from pre-adolescence to adolescence. No additional education will be provided prior to this researcher.

This project will obtain RSRB approval both from St. John Fisher College and the Phelps-Clifton Springs School District. All data and information gathered will be held in strict confidence. Project findings will be publicized on the school website.

The signatures below indicate the agreement between both parties to conduct the project and grants Elaine Hilton access to the study site and participants.

[Signatures]

(Date)

(Date)

(Date)
December 15, 2010

Elaine Hilton
29 Pearl Street
Clifton Springs, NY 14432

Dear Ms. Hilton:

Thank you for submitting your research proposal to the Institutional Review Board.

I am pleased to inform you that the Board has approved your Expedited Review project, "Variance in student motivation to control their personal health in regards to physical activity during pre-adolescence and adolescence."

Following federal guidelines, research related records should be maintained in a secure area for three years following the completion of the project at which time they may be destroyed.

Should you have any questions about this process or your responsibilities, please contact me at 385-5262 or by e-mail to emerges@sjfc.edu, or if unable to reach me, please contact the IRB Administrator, Jamie Mosca, at 385-8318, e-mail jmosca@sjfc.edu.

Sincerely,

Eileen M. Merges, Ph.D.
Chair, Institutional Review Board

EM:jlm

Copy: OAA IRB
IRB: Approve expedited.doc