EVALUATION OF THE EAST CENTRAL GEORGIA TEEN PEER EDUCATOR TRAINING PROGRAM

by

TERESA B. KALEY

(Under the Direction of Mark G. Wilson)

ABSTRACT

Evidence exists that rural adolescents are at higher risk for negative health outcomes than their urban and suburban counterparts. Adolescent residents of rural communities may benefit from peer-led health promotions. Few studies have evaluated the impact of peer-led intervention on the peer educators. The purpose of this project was to evaluate the impact of the East Central Georgia Regional Teen Wellness Youth Training Summit on volunteers (n = 68) to assess whether participation in the summit would enhance motivation, knowledge, self-efficacy, and leadership skills to conduct peer-led health promotions. The one-day training significantly increased participants' motivation, nutrition and physical activity knowledge, nutrition stages of change, self-efficacy for engaging in physical activity and serving as peer educators, but nutrition knowledge was the only change sustained at four-month follow-up. No significant changes occurred in nutrition self-efficacy, physical activity stages of changes, role modeling, or leadership. More training is needed to sustain changes.

INDEX WORDS: Adolescents, Peer-educators, Rural, Southern, Poverty, Transtheoretical Model, Social Cognitive Theory, Self-efficacy, Stages of Change, Role modeling, Outcomes expectations, Obesity, Nutrition, Physical activity, Stress Management

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DEDICATION

This work is dedicated to my husband, Steve E. Kaley, for keeping his superb sense of humor and giving me his unfaltering support and encouragement throughout this process.

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CHAPTER 1

INTRODUCTION

Statement of Problem

Overweight and obesity have reached epidemic proportions in the United States. From 1976 to 2002 the prevalence of overweight and obesity among U.S. adults increased from 47% to 65% (CDC, 2004). Overweight and obesity are known risk factors for type 2 diabetes, heart disease, stroke, hypertension, gallbladder disease, osteoarthritis, sleep apnea, asthma, and some forms of cancer, including uterine, breast, colorectal, kidney, and gallbladder (Georgia Dept. of Human Resources [GDHR], 2005; Mokdad, et al. (1999). Annual obesity-related medical costs mount to billions of dollars (GDHR, 2005).

Georgia experienced a 101.8% increase in obesity between 1991 and 1998, the highest growth rate in the nation (Mokdad, et al., 1999). By 2002 nearly 60% of Georgia adults were overweight (35%) or obese (24%) (GDHR, 2005). Georgia's youth followed this trend. The 2003 Georgia Student Health Survey Report indicated that 33% of middle school students and 26% of high school students in Georgia were overweight or at risk for being overweight (GDHR, 2005). These data were self-reported and likely underreport the true prevalence of overweight youth. Data from a study of rural Georgia schoolchildren aged 7 – 18 years indicated that 48% of the participants were overweight or at risk for overweight and 66% had one or more risk factors for cardiovascular disease, such as metabolic syndrome, elevated blood pressure, glucose, and/or cholesterol levels

(Davis, et al., 2005). More recent data from the Georgia Overweight Prevalence Survey indicate that the prevalence of overweight youth is higher in Georgia's rural areas than in urban and suburban areas (Lewis, et al., 2006).

Heredity, metabolic disorders, lifestyle behaviors, and environmental, cultural, and socio-economic variables contribute to the development of overweight and obesity (Healthy People 2010). Mokdad, Marks, Stroup, & Gerberding (2004) reported that the actual leading causes of death in the United States include poor diet and physical inactivity. According to the Surgeon General's Report moderate physical activity benefits health and reduces the risks for developing chronic diseases such as cardiovascular disease, diabetes, and certain cancers (U.S. Department of Health and Human Services, 1996). Healthy People 2010 objectives aimed at combating obesity and promoting healthy growth and development among adolescents include: reducing the proportion of children and adolescents who are overweight or obese; increasing the proportion of persons aged 2 years and older who consume at least two daily servings of fruit, at least three daily servings of vegetables, with at least one-third being dark green or orange vegetables, at least six daily servings of grain products, with at least three being whole grains, less than 10% of calories from saturated fat, and no more than 30% of calories from fat; increasing the proportion of children and adolescents aged 6 to 19 years whose intake of meals and snacks at school contributes to good overall dietary quality; increasing the proportion of adolescents who engage in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days; and increasing the proportion of adolescents who engage in vigorous physical activity that promotes cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion.

Georgia youth fall short of meeting the Healthy People 2010 objectives. Data from the Georgia 2003 Youth Risk Behavior Survey (YRBS) indicated that among participants, 83% ate fewer than 5 servings of fruits and vegetables per day during the past 7 days; 87% drank fewer than 3 glasses of milk per day during the past 7 days; 41% participated in insufficient vigorous physical activity; 75% participated in insufficient moderate physical activity; 63% were not enrolled in PE class; 71% who were enrolled did not attend PE class daily; and 13% did not participate in any vigorous or moderate physical activity. According to the USDA Continuing Survey of Food Intakes by Individuals, only 75% - 78% of adolescents ages 12-19 report eating breakfast, and research indicates that youths who skip breakfast demonstrate decreased intellectual performance (CDC, Nutrition and the Health of Young People, 2005).

Background

Evidence exists that rural adolescents are at higher risk for negative health outcomes than their urban and suburban counterparts. First, Georgia counties classified as "Declining Rural" are characterized by "long-term population loss, lack of employment opportunities, low levels of educational attainment and skill development. Limited access to health care facilities and professionals results in a less healthy population (Georgia Facts and Figures, Four Georgias, 2005)." Second, sparse population levels in rural areas cannot adequately support social and transportation systems to provide healthcare to rural youth. Third, rural adolescents have expressed concern about their general and psychosocial health, as well as their weight and physical inactivity (Puskar, Tusaie-Mumford, Sereika & Lamb, 1999). Clearly, health education programs are needed for rural adolescents (Davis, et al., 2005). However, given the lack

of resources in rural decline counties, cost-effective health promotions must be sought. Peer-led programs have been used to educate adolescents about drugs, alcohol, sexual abstinence, HIV and AIDS, violence prevention, nutrition and physical activity. Peer-led education programs are a cost-effective health education method (Barber, Bouchat, Bhambliss, & Gelman, 1995). It is important to address adolescent's health concerns through peer-led programs (Puskar, et al., 1999).

Few studies have evaluated the impact of peer-led interventions on the peer educators (Badura, Millard, Peluso & Ortman, 2000). In addition, there is no single definition of peer education. Peer education programs have taken diverse approaches, using different objectives, methods, and strategies. Therefore, peer-led programs may be inaccurately evaluated as either successful or unsuccessful (Shiner, 1999). Program evaluation benefits program planners and funding agencies by identifying successful elements and those elements that need modification to strengthen the program (Advocates for Youth, 2002).

Research Hypotheses

The East Central Georgia Regional Teen Wellness Initiative is a peer education project composed of eight county community collaboratives (which include school health programs in their strategic plans); Medical College of Georgia, The University of Georgia (College of Family and Consumer Science); and the East Central Georgia Public Health District. The goal of the three-year initiative is to increase awareness of and access to health promotion services among adolescents living in the eight-county region. Each year 20 middle and high-school students are recruited from each county to participate as peer educators. The participants attend an annual Youth Training Summit

for their initial training, and local program coordinators were to provide ongoing training and support to the peer educators throughout the subsequent school year. The first Teen Summit occurred on September 24, 2005. The purpose of the summit was to increase participants' motivation to become peer educators, increase their awareness and knowledge of health topics relevant to youth, and improve their leadership and communication skills.

The purpose of this project is to evaluate the 2005 East Central Georgia Regional Teen Wellness Initiative Youth Training Summit to assess whether participation in the summit would increase motivation, knowledge, self-efficacy, and leadership skills from baseline to post-test and whether changes would be retained at follow-up. The results would indicate the effectiveness of the training and provide feedback for planning future summit meetings. The primary focus of the evaluation was to measure changes in the participants' nutrition and physical activity knowledge and self-efficacy skills for consuming a healthful diet, engaging in physical activity, and engaging in peer education leadership activities. A secondary focus was to assess stage movement for nutrition and physical activity behaviors, because these behaviors will be important for peer educator role modeling later in the program.

Hypotheses

Adolescents who attend the one-day, Teen Summit training sessions will:

1a. Demonstrate an increase in motivation from baseline to post-test to become peer educators within their communities;

1b. Retain their motivation to serve as per educators from post-test to follow-up;

2a. Demonstrate increased knowledge of nutrition and physical activity

recommendations for adolescents from baseline to post-test;

2b. Retain the increased knowledge of nutrition and physical activity recommendations from post-test to follow-up;

3a. Demonstrate increased self-efficacy for role modeling healthful eating and physical activity behaviors and for educating their peers about relevant health topics from baseline to post-test;

3b. Retain increased self-efficacy for role modeling healthful eating and physical activity behaviors and for educating peers about relevant health topics from post-test to follow-up;

4a. Demonstrate improved leadership skills for conducting peer health promotion activities from baseline to post-test; and

4b. Retain improved leadership skills for conducting peer health promotion activities from post-test to follow-up.

Definition of Terms

Adult overweight and obesity are defined by body mass index (BMI). BMI is calculated by the formula:

$$BMI = \left(\frac{\text{Weight in Pounds}}{(\text{Height in inches}) \times (\text{Height in inches})} \right) \times 703$$

Source: CDC http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-adult-formula.htm

Body **M**ass **I**ndex or BMI is a tool for indicating weight status in adults. It is a measure of weight for height. For adults over 20 years old, BMI falls into one of these categories:

BMI	Weight Status
Below 18.5	Underweight
18.5 – 24.9	Normal
25.0 – 29.9	Overweight
30.0 and Above	Obese

Source: Centers for Disease Control and Prevention, BMI- Body Mass Index: BMI for Adults.

Child and Adolescent weight status is defined by BMI age/gender specific percentiles:

Underweight	BMI-for-age < 5th percentile
Normal	BMI-for-age 5th percentile to < 85th percentile
At risk of overweight	BMI-for-age 85th percentile to < 95th percentile
Overweight	BMI-for-age ≥ 95th percentile

Source: Centers for Disease Control and Prevention, BMI- Body Mass Index: BMI for Children and Teens.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

The health status of rural youth results from a complex interaction of heredity, culture, behavior, and socio-economics. Studies indicate that rural Georgia youth experience a high prevalence of overweight and risk factors for cardiovascular disease and diabetes (Davis, et al., 2005). Rural youth need and want health education (Puskar, et al., 1999), but community resources limit health promotion efforts (Georgia Facts and Figures, Four Georgia, 2005). Peer-led education programs can provide cost-effective health education for rural adolescents (Barber, Bouchat, Bhambliss, & Gelman, 1995), but more evaluation is needed to assess the impact of such programs (Badura, Millard, Peluson & Ortman, 2000; Shiner, 1999). This chapter will review peer education literature concerning the background and rationale for peer-led projects, theoretical underpinnings (Social Cognitive Theory and Transtheoretical; Model), previous studies that targeted relevant behaviors (nutrition, physical activity, and stress management) and important constructs for peer education (Stages of Change, self-efficacy, and motivation). This review guided development of the survey instruments for this study.

Peer Education

Background

Interest in peer-led interventions to address health and social issues faced by today's youth has spread throughout many parts of the world (Cowie, 1999). Simply

stated, peer educators are "students trained to offer services or programs to their peers" (Barber, Bouchat, Bhambliss, Gelman, 1995 quoting Fennell, 1993). Adolescents possess an understanding of their culture that positions them to be effective peer educators (Cowie). Historically, peer education has focused on interventions designed to prevent negative behaviors related to drugs, alcohol, tobacco, sex and bullying (Shiner, 1999). More recent peer programs have targeted nutrition (Story, Lytle, Birnbaum & Perry, 2002), physical activity (Pate, et al., 2003), and stress management (Barber, Bouchat, Bhambliss & Gelman, 1995) in a move towards promoting wellness behaviors rather than prevention of negative health behaviors.

Rationale

Several assumptions underlie the rationale for peer education programs, although some of these have been challenged. The first assumption is that youth are more comfortable talking with their peers than with adult/professional teachers, because they speak the same language and identify with the peer educators (Barber, et al, 1995). Second, peer education programs offer a cost efficient means for increasing outreach (Barber; Klein and Sondag (1994). Third, peer educators can access hard-to-reach target audiences (Ott, Evans, Halper-Felsher & Eyre, 2003). Fourth, the peer educators personally benefit from increased health knowledge (Klein, et al., 1994). However, Lindsey (1997) challenged these assumptions citing the results of an unpublished evaluation study she conducted of a peer educator program. Her data indicated that after receiving extensive training peer educators lacked sufficient knowledge to teach peer despite their feeling very confident to do so. More evaluation is needed to determine whether peer educators are sufficiently trained to conduct outreach programs (Lindsey).

Nutrition Peer Education Programs

A group-randomized nutrition intervention involving 272 peer educators in 16 Minnesota middle schools targeted increased consumption of fruits, vegetables, and low-fat foods (Story et al., 2002). Class-elected peer leaders were trained in one-day sessions to help deliver 10 classroom sessions. Evaluators observed that peer educators implemented classroom activities with high fidelity but had difficulty managing groups. Post-intervention surveys revealed that the peer educators enjoyed their roles and adopted healthier eating habits themselves, but nearly half reported needing more training in group management, communication, and leadership skills. While peer-led nutrition education programs are feasible, a one-day, intensive training session may be inadequate (Story).

Hamden, Story, French, Fulkerson, & Nelson, (2005) reported results of a two-year nutrition intervention designed to increase sales of lower fat ala carte food items and promote consumption of lower-fat foods among Minnesota high school students. The study included ten intervention and ten control schools. The intervention involved increased availability of lower fat foods (LFF) in school cafeterias along with promotional activities conducted by students. Fifty-four students volunteered to participate in promotional activities as extra-curricular activities and 342 students participated in activities initiated by teachers as class-room activities. Promotional activities included media campaigns, taste testings, and additional activities to increase awareness of and consumption of LFF. A post-intervention survey revealed that while student volunteers reported better attitudes and self-efficacy for identifying and selecting LFF than the students participating in class room activities, both groups reported

increased recognition of LFF, perceived consumption of LFF by the general student body, and belief that student involvement produced better intervention results than could be achieved by teachers alone. French, Story, Fulkerson & Hannan (2004) reported that both the intervention and control schools tracked sales of LFF by using coded cash register keys. Results showed that intervention schools had a sharper increase and higher volume of LFF sales compared to the controls schools during the intervention. In addition, the total number of peer promotions and duration of the promotions was significantly linked to sales of lower-fat food items (French et al.).

The California Project LEAN (Leaders Encouraging Activity and Nutrition) conducted the Food on the Run (FOR) intervention to increase physical activity and healthy eating among high school students (Agron, Takada, & Purcell (2002). One component of the 9-month intervention involved training 220 students in 20 California high schools to advocate for more healthy food choices in the schools. Trained student advocates created and implemented a variety of activities to increase student awareness and knowledge of healthy behaviors and to bring about environmental changes in the schools. Evaluation of pre- and post-intervention student advocate surveys indicated that student advocates had significant improvements in nutrition knowledge, attitudes, and eating behaviors. However, the data indicated that these improvements could not be attributed solely to the student advocates' initial training, and that much stemmed from their subsequent intervention activities (Agron et al.).

Guion (1998) reported on a peer-educator summer youth nutrition program conducted in a nine-county region in rural South Carolina. Fifty non-traditional teen leaders with academic and/or behavioral problems were selected from among youth

housing authority residents and trained to be nutrition peer educators. Together, the peer educators conducted 300 hours of entertaining, interactive nutrition education activities among 1,469 teens living in housing authority developments. Successful, but diverse collaboratives in each county enabled the program to succeed. Coalition partners included the faith community, North Carolina Cooperative Extension Service, healthcare organizations, Department of Social Services, public housing authorities, school systems, and small business leaders. The author reported that the project developed "life skills in at-risk youth," but did not specify whether those skills were leadership and/or nutrition behavior skills.

The Teens Eating for Energy and Nutrition at Schools (TEENS) study was a 2-year, matched pairs, group-randomized trial conducted in 16 Minnesota middle schools for the purpose of increasing fruit and vegetable consumption and decreasing fat consumption among seventh and eighth grade students (Lytle et al., 2004). This multi-component study included a classroom-based curriculum, school-wide activities and family-based activities. During the seventh grade only, teen leaders were trained to help deliver the classroom lessons. Eating behavior and food choice preferences were measured at baseline, end of seventh grade (year 1), and end of eighth grade (year 2). Interim data from year 1 indicated significant improvements in fruit and vegetable intake, with peer educators increasing combined fruit and vegetable intake by one serving a day and non-peer educator participants increasing combined consumption by nearly one-half serving per day. However, these improvements were not sustained to the end of year 2. The lack of sustained behavior may have been due in part to lack of peer educator involvement in classroom lessons the second year (Lytle). While this report did not

describe the training peer educators received, the authors suggested that future studies should investigate new methods for training peer educators (Lytle).

Physical Activity Peer Educator Programs

Active Winners, a rural physical activity intervention targeting fifth grade students utilized peer educators two or three years older than the target group in after school and summer programs (Pate et al., 2003). This quasi-experimental study involved two rural communities in South Carolina with one receiving the intervention and the other serving as a control. Although planned as a multi-component intervention involving home, school, and community components, only two components were fully implemented. The peer educators served as role models and helped implement after school and summer physical activity programs. The program did not significantly increase the target group's physical activity levels, and process evaluation revealed a number of short-comings that may have contributed to the results (staff hiring delays, challenges in recruiting, training, and overseeing peer educators, community staffers schedule and responsibility conflicts, and role confusion between staff and peer educators) (Pate). Moreover, the researchers recommended that future studies provide more adult staff support for peer educators and to consider the potential impact of differences in age and development between peer educators and the target group (Pate).

Stress Management Peer Educator Programs

Barber et al. (1995) conducted a peer educator program to promote stress management in one Pennsylvania high school. Thirty-one seniors were trained as peer educators in ten sessions totaling 7 ½ hours (Barber). The peer educators divided into 3-4 member groups and each group taught a single 1 ½ hour stress management workshop

to sophomore students in homeroom classes (n=214 sophomores). After each workshop the peer educators and sophomores completed separate Likert type scales to measure program impact on each group. The results indicated that the majority of peer educators experienced increases in self-confidence, understanding of stress management and suicide, feelings of helpfulness to others, and changes in personal behavior. Most indicated they would repeat the experience (Barber). Evaluations completed by the sophomores who attended the peer-led classes revealed satisfaction with the program and a desire for more workshops on new topics. Although 66% of the peer educators reported they believed they would have given better classroom presentations if they had had advance practice in front of groups, there were no significant differences among sophomore homeroom group outcomes, indicating that the peer educator training was effective and yielded consistent program presentations among peer educator groups (Barber).

There is a clear need for peer education programs to promote wellness behaviors in rural settings. This review found only one rural peer nutrition education intervention (Guion, 1998) and one rural peer physical activity intervention (Pate, et al., 2003). Additionally, was only one report of a peer program addressed stress management (Barber et al., 1995), and it was not rural-based. Data from a survey of 288 rural students in grades 9 – 12 indicated that 43% wanted to receive more health advice from fellow students. The East Central Georgia Regional Wellness Initiative will contribute to our understanding of rural adolescent peer education programs. Evaluation data from the training summit will provide important feedback for future program planning.

Constructs

This review of literature indicated that Social Cognitive Theory and the Transtheoretical Model often guide development and evaluation of peer education programs. This section discusses the relevance to this study of those theories and the constructs of leadership, behavior-specific knowledge, self-efficacy, volunteer motivation, outcomes expectations, and stages of change.

Theoretical Basis

Social Cognitive Theory. Peer-led interventions arose from Social Cognitive Theory (SCT), and data from peer led-prevention projects indicate that they are more successful than adult-led approaches in changing adolescent risk behaviors (D'Angelo & DiClemente, 1996). The model assumes that peers are more convincing role models than adults (D'Angelo & DiClemente). SCT evolved from Albert Bandura's Social Learning Theory. SCT offers both a theoretical basis for understanding the determinants of behavior as well as methods for changing behaviors (Baranowski, Perry & Parcel, 2002).

SCT includes a number of constructs relevant to peer education. Self-efficacy refers to one's confidence to overcome barriers to perform a desired behavior. Observational learning refers to an individual watching someone else perform a behavior and learning what outcome(s) results (modeling). Expectations refers to what one expects will result from performing a behavior. Individuals with low confidence (self-efficacy) to perform a behavior are unlikely to expect positive outcomes (Bartholomew, Parcel, Kok, & Gottlieb, 2001). Studies have shown that peer-led interventions can increase adolescents' self-efficacy and change their attitudes (expectations), and that teens benefit from positive role models (Hamden, Story, French, Fulkerson, & Nelson,

2005). Along with conducting educational activities, peer educators promote behavior change by role modeling the health behaviors (Badura, et al., 2000). While SCT has underpinned peer-educator interventions in both nutrition (Fulkerson, French, Story & Hannan, 2004; Lytle et al., 2004) and physical activity (Pate et al., 2003), more data is needed to verify links between changes in self-efficacy and behavioral changes (Hamden, et al.).

Transtheoretical Model. The Transtheoretical Model (TTM), developed by Prochaska and DiClemente incorporates ten change processes within a temporal context, called stages of change (Prochaska, Redding & Evers, 2002). Prochaska proposed that individuals respond to different processes of change depending on how far (temporally) they have advanced toward adopting and maintaining the target behavior. This model offers a method for tailoring intervention activities for individuals at different stages of change (Bartholomew et al., 2001). The stages of change construct is divided into five levels for some behaviors and six levels for behaviors that are to be extinguished (Prochaska):

- Precontemplation: Individual is not thinking about making a change in the next six months.
- Contemplation: Individual intends to change behavior within the next six months.
- Preparation: The individual intends to take action with the next thirty days and has taken some behavioral steps in this direction.
- Action: Individual has changed behavior for less than six months.
- Maintenance: Individual has changed behavior for more than six months.
- Termination: A negative behavior has been extinguished permanently.

TTM and stages of change have been used in smoking cessation programs and other addictive behavior interventions (Bartholomew et al., 2001). In recent years the theory and construct have been used in physical activity and nutrition interventions (Nahas, Goldfine & Collins, 2003; DeBourdeaudhuij, et al., 2005; Sporny and Contento, 1995). TTM is relevant and appropriate for promoting physical activity, but use of Stages of Change among high school students is a recent development (Nahas, Goldfine & Collins). Sanderson & Taylor (1999) assert that more research is needed to demonstrate the applicability of TTM in physical activity interventions.

Logically, Social Cognitive Theory and the Transtheoretical Model provide a compatible theoretical basis for this study. SCT provides constructs appropriate to peer education, such as self-efficacy, expectations, and modeling. In order to model the health promotion behaviors that are the subjects of the one-day Teen Summit, participants must reach or occupy the preparation or action stages of behavior. The current literature indicates a need for additional research in the use of TTM in physical activity interventions, and this review found no studies that would predict the outcome of a one-day training session on changing attitudes, expectations, and stage of readiness to role model the targeted behaviors.

Leadership

There is a critical need for leadership skills in our society, and leadership training needs must be identified to prepare future leaders (Carter and Spotanski, 1989). A review of four studies indicated that training can improve peer educators' leadership skills, but the content and duration of training may impact the effectiveness of leadership training. Sawyer and Pinciaro (1997) collected pre- and post-program data from 65 students who

participated as sexuality peer educators for one academic year at 10 United States colleges and universities. Results indicated increases in the mean values of peer educators' self-perceived leadership skills, but the increases were not statistically significant (Sawyer and Pinciaro). The outcomes may have resulted from small sample size or differences in training regimens at the ten schools, which were reported to have been of similar duration but were not described (Sawyer and Pinciaro). In a study of 30 undergraduate students in a mid-western Jesuit university, Badura, Millard, Peluso and Ortman (2000) found that a 1-semester peer-educator training course significantly improved leadership skills in terms of time management, goal setting, public speaking, and ability to influence others. Carter and Spotanksi (1989) measured self-perceived leadership skills of 3,437 Iowa students in ninth to twelfth grades over a 3-year period. Their results indicated significantly higher perceived leadership skills among high school students receiving formal leadership training vs. those not receiving formal training and significantly higher levels among high school students who served as an officer or committee chair for a student or community organization compared with students who had not served in those positions (Carter). Story, Lytle, Birnbaum and Perry (2002) conducted a peer education nutrition intervention among 1,225 seventh grade students in eight Minnesota middle schools with 272 (22%) of the students serving as peer educators. Peer educators attended a single day of intensive training at their individual schools to prepare them for their activities and responsibilities (Story). Evaluations following curriculum delivery indicated that the majority of peer educators reported improved self-confidence and leadership skills from their training, but they indicated more training was needed to improve their ability to maintain control while teaching their classmates

(Story). The investigators concluded that one-day training sessions may not provide middle-school peer educators with adequate time to assimilate content knowledge as well as sufficient leadership skills, and that future programs should focus more attention on leadership training (Story). Although all of these study reports indicated that college and middle school students benefit from leadership training and experience, none provided sufficient details about the type and duration of leadership training to compare their results. However, it appears that younger students may require additional training in group management skills.

Knowledge

Nutrition Knowledge. This review covers a number of peer education programs aimed at improving adolescents' nutrient intake, but none indicated that students were taught current dietary recommendations for adolescents. The Dietary Guidelines for Americans, published in 1980 and subsequently revised every five years, give general guidelines for Americans over two years of age (USDA, Dietary Guidelines, 2005). The guidelines have always recommended maintaining a healthy weight and consuming a healthy diet. Over the past 25 years the guidelines have added recommendations for consuming grains, fruits and vegetables and being physically active.

The United States Department of Agriculture developed and released the Food Guide Pyramid in 1992 to graphically illustrate the 1990 Dietary Guidelines for Americans (Shaw, Fulton, Davis, Hogbin, n.d.). The pyramid-shaped graphic pictured representative foods in each food group and displayed a range of numbers of recommended daily servings for each group. The range of servings was not explained in the graphic, leaving many consumers confused about how much they should consume.

The pyramid did not include a section for physical activity, because a recommendation for physical activity was not added to the Dietary Guidelines for Americans until 1995.

The 5 A Day program, an out-dated program that lingers in many memories, was a national campaign launched in 1991 to promote fruit and vegetable consumption (CDC, 5 A Day, 2005). The "5" represents the combined minimum number of recommended daily servings of fruits and vegetables shown on the Food Guide Pyramid. The 5 A Day campaign was updated by the National Fruit and Vegetable Program, Fruits & Veggies – More Matters (CDC, National Fruit & Vegetable Program), which reflects the higher number of daily fruit and vegetable servings recommended by the 2005 Dietary Guidelines for Americans' (USDA, Dietary Guidelines, 2005)

The USDA replaced the Food Guide Pyramid in 2005 with a new graphic called "MyPyramid" designed to focus more attention on balancing energy intake with physical activity to maintain healthy weight (USDA, MyPyramid, 2005). The new graphic eliminated food pictures and added a stick figure walking up stairs on one side of the pyramid. The remainder of the pyramid is divided into colored wedges symbolizing the grains, vegetables, fruits, milk, meats and beans, oils, and discretionary calories groups. The sizes of the wedges suggest the proportion of calories each group should contribute to daily food intake, and the graphic as a whole symbolizes the concepts of variety, moderation, proportionality, and activity. The new graphic is supported by additional web-based information at www.MyPyramid.gov. The site allows users to input their age, sex, and activity level to learn their personal recommended daily calorie level. Elsewhere on the site the user can find the recommended number of food group servings for their personal calorie level.

Many students are familiar with the old Food Guide Pyramid and the "5 A Day" slogan. However, it is unlikely they understand the concepts symbolized by MyPyramid. It is important for adolescents to understand that their daily nutrition requirements are based on their age, sex, and activity level and to know what those requirements are in order to maintain growth, development and healthy weight.

Physical Activity Knowledge. The Dietary Guidelines for Americans recommends that adolescents participate in at least 60 minutes of physical activity on most, or all, days of the week (USDA, Dietary Guidelines, 2005). Although this review included several studies aimed at increasing adolescent's physical activity levels, none of the reports indicated that peer educators were taught specific recommendations for frequency, duration, or intensity of exercise for adolescents.

Self-efficacy

Nutrition Self-efficacy. Self-efficacy is central to Social Cognitive Theory and youths need skills to practice healthy eating behaviors (Parcel, et al., 1995). Hamden, Story, French, Fulkerson & Nelson (2005) reported that a peer-led nutrition intervention among 397 students in ten Minnesota high schools resulted in increased self-efficacy to identify low-fat foods by 65% of the peer leaders. They recommended that future peer-led nutrition promotions measure the relationship between changes in self-efficacy and peer educators' nutrition behaviors (Hamden).

Physical Activity Self-efficacy. Sherwood and Jeffery (2000) define exercise self-efficacy as "the degree of confidence an individual has in his/her ability to be physically active under a number of specific/different circumstances, or in other words, efficacy to overcome barriers to exercise." Self-efficacy has shown to be a sound and dependable

predictor of exercise behavior (Sherwood). Moreover, self-efficacy provides a useful method for promoting physical activity and that physical activity role models may increase exercise self-efficacy (Sanderson and Taylor, 1999). Intuitively, it makes sense that self-efficacy would increase physical activity behavior. Yet in a review of 54 physical activity studies involving adolescents (ages 13-18) Sallis, Prochaska, and Taylor (2000) concluded that self-efficacy had indeterminate influence on adolescent physical activity. However, this conclusion may have resulted from the inability to do a true meta analysis due to measurement error, differences in sample size and characteristics, and methods of data analysis (Sallis).

In their review of literature concerning determinants of physical activity behavior among high school and college students, Nahas, Goldfine, and Collins (2003) concluded that interventions should focus on modifiable psychological and environmental factors, such as self-efficacy. Citing the usefulness of self-efficacy for predicting physical activity behavior among adolescents, they recommended teaching students skills for overcoming barriers such as lack of time and facilities, adverse weather, activity preferences, and environmental safety. This intervention will train peer educators to personally role model physical activity in their communities.

Pate, et al. (2003) attempted to increase physical activity self-efficacy among 558 fifth grade students in two rural South Carolina counties. Adult teachers assisted by four to eight peer leaders, aged 2 to 3 years older than the target group, focused the intervention on "noncompetitive, confidence-building physical activity" in a social atmosphere. The intervention failed to significantly increase physical activity among the target group, but process evaluation revealed that most of the project staff lacked an

understanding of self-efficacy and the peer educators did not understand the importance of noncompetitive activity.

Peer Educator Self-efficacy. Some individuals volunteer as peer educators because they are confident they can succeed at meeting their peers' needs (Klein, et al., 1994). In other cases, peer educators require knowledge and skills training to develop their sense of self-efficacy to teach others. A survey of adolescent nutrition peer educators revealed that although the majority (83.1%) felt the peer leader training gave them confidence, nearly half (45.9%) would have liked more training (Story, Lytle, Birnbaum & Perry, 2002). Little has been published about peer educators' self-efficacy.

Volunteer Motivation

Numerous studies have examined the role of motivation in volunteer behavior. Reeser, Berg, Rhea, and Willick (2005) surveyed 136 adult Olympic and Paralympic Games volunteers and concluded that the volunteers acted on both altruistic and egoistic motivations. Based on a national survey of adults, Clary and Snyder (1999) identified six personal and social functions to explain the motivations for initiating and continuing volunteer service. These functions include expression of values (such as humanitarianism), understanding (opportunity to expand knowledge or skills), enhancement (psychological development), career (acquisition of career skills through volunteering), social (strengthening social relationships), and protective (volunteering alleviates personal problems).

In a qualitative study involving five focus groups Klein and Sondag (1994) identified two types of motivations among 19 university peer educators. Altruistic motivations included feeling a need to help educate others and being able to encourage

friends towards healthier behavior. Egoistic motivations included gaining job or public speaking skills, meeting new people with similar interests, and gaining personal health benefits. In the context of Social Cognitive theory, the authors attributed these motivations to self-efficacy (to be able to help others) and reinforcement (intrinsic and extrinsic rewards). However, they concluded that the expectation construct was not linked to peer educators' motivation, because the peer educators often have unclear understanding of the programs before volunteering.

Similarly Ott, Evans, Halpern-Felsher & Eyre (2003) conducted key informant interviews with five HIV peer educators in a California alternative high school, and they also identified altruistic motivation among adolescent peer educators. Their peer educators reported feelings of "wanting to give something back" and being able to protect others from the risk of HIV.

Clearly several different types of motivation are involved in recruiting and maintaining volunteers as peer educators. This literature suggests that peer educator motivation is strongly linked to the depth and duration of their involvement in the program activities. Volunteers are more engaged when volunteer activities serve their individual functional needs (Clary, 1999). Therefore, assessing and understanding the motivation of the peer educators may be useful in predicting or explaining the success or failure of volunteer peer educator projects.

Outcomes Expectations

Although published reports about peer education programs often refer to Social Cognitive Theory, little has been written about the outcomes expectations of peer educators. Klein and Sondag (1994) conducted focus groups with peer educators and

concluded that the expectation construct is not strongly linked to the decision to become a peer educator because most peer educators have no clear picture of the program before joining. More study is needed to understand peer educators' outcomes expectations.

Stages of Change

Nutrition Stages of Change. Sporny and Contento (1995) conducted a study with 615 adults to compare individuals at different stages of dietary fat reduction based on psychosocial variables. Participants were categorized as either: Precontemplation (PC): Neither eating a reduced-fat diet nor thinking about it; Contemplation (C): Not eating a reduced-fat diet, but thinking about doing it; Action (A): Eating a reduced-fat diet for less than 2 years; and Maintenance (M): Eating a reduced-fat diet for more than 2 years. Stages were corroborated by self-reported dietary fat intake. Results indicated that progression through the stages was correlated with higher scores for perceived susceptibility, perceived benefits, cues to action, motivation to comply, social modeling and self-efficacy. Stage progression was inversely correlated with higher scores for perceived barriers and lower scores for perceived susceptibility and self-efficacy.

As Sporny and Contento (1995) point out, the stages of change construct originated in smoking cessation programs. In contrast, stages of change for dietary behaviors involves behavior modification rather than cessation. Dietary behaviors are complex, but as Sporney and Contento demonstrated, it is possible to classify specifically-defined dietary behaviors by stages and relate those stages to self-efficacy and social modeling.

Physical Activity Stages of Change. Sherwood and Jeffery (2000) reviewed research on exercise behavioral determinants and concluded that exercise stage is easily

evaluated, related to physical activity levels, and correlated with psychosocial and behavioral determinants of exercise. While acknowledging the descriptive value of exercise stage, they indicated that more research is needed to establish stage as a predictor of exercise behavior.

A number of studies have examined the exercise stages of change construct with middle and high school students. Hausenblas, Nigg, Downs, Fleming, and Connaughton (2002) reported that data from 387 mostly middle-class students in an urban Florida middle school indicated that exercise barrier self-efficacy was higher among adolescents in the maintenance stage and lower among those in the preparation stage. In a review of physical activity determinants in adolescents, Nahas, Goldfine, and Collins (2003) concluded that educators should recognize that teens occupy different stages of physical activity behavior and that programs should address needs at various stages.

DeBourdeaudhuij, et al. (2005) reported validation of the stages of change model for physical activity in adolescents. The adolescents' self-reported stage for physical activity was compared with self-reported behavior. Stage was assessed by asking, "Do you believe you do sufficient sports or physical activity (yes/no)?" The response choices for no were:

- I'm not sufficiently sporting or being physically active, and I have no intention to start (precontemplation)
- I'm not sufficiently sporting or being physically active, but I intend to start with it in the next 6 months (contemplation)
- I'm not sufficiently sporting or being physically active, but I intend to start with it in the next month (preparation).

The response choices for yes were:

- I'm currently doing enough, and I started in the past month (action)
- I'm currently doing enough, and I have been for more than 6 months (maintenance).

Data indicated that adolescents in the precontemplation stage had lower activity levels than those in other stages, adolescents in the preparation stage had a more positive attitude and perceived more benefits from exercise than did any other stage except maintenance, and those in the maintenance stage reported the highest activity levels. However, they found no significant differences among the stages for sedentary behaviors, with all groups reporting an average of 3.5 hours per day watching television or using computers.

Sanderson and Taylor (1999) cited the Transtheoretical Model construct of stages of change as a potentially valid method for promoting physical activity among adolescents, but they stated more research is needed (Sanderson & Taylor, 1999).

Evaluation Issues

The effectiveness of peer education has been criticized due to the lack of outcomes evaluation (Badura, Millard, Peluso, & Ortman, 2000). Although some researchers have reported program outcomes, few have reported impact on the peer educators themselves. In their own research, Badura, et al. found that peer educators increased leadership skills and health knowledge, made changes in stages of change and changed behavior. Advocates for Youth (2002) concur that researchers should measure the impact on peer educators and that evaluation benefits program planners and funding agencies by identifying successful components and those components that should be modified to improve the program.

According to Shiner (1999) the term "peer education" does not stand for a specific set of aims and methods because there is such a diversity of intervention

approaches. Therefore, evaluators may inaccurately identify effective and ineffective approaches. For example, evaluators must distinguish between interventions that place primary emphasis on "peer delivery" (delivery of education sessions by peer educators) and interventions that emphasize "peer development" (peer educator empowerment and skills development). Peer development interventions allow peer educators more responsibility for selecting health promotion topics and developing programs, and the impact on peer educators should be evaluated.

Summary

This review of peer education literature provided a good overview of work that has been done in various settings and health behavior areas. However, much of the previous work dealt with college or university students, and those results may not apply to adolescents in middle and high school. Also, a large number of the studies were conducted in Minnesota, California, and unspecified mid-western regions of the United States that differ in many respects from the low-income, rural southern location of the present study. In addition to participants' age group and geographic location, this review pointed up the need to fill other important gaps in the current literature related to peer education rationale, theoretical basis, specific health behavior interventions, constructs, and evaluation issues.

The rationale for peer education assumes that peer education programs offer cost efficient outreach and that peer educators personally benefit from increased health knowledge (Barber, et al., 1995; Klein, et al., 1994). However, more evidence is needed to evaluate the impact of training on peer educators to determine if they gain sufficient knowledge to change their own behavior and to provide accurate information to their

peers. Peer educators may report feelings of high self-efficacy to serve as peer educators yet lack sufficient knowledge to provide effective outreach. Therefore, more evaluation is needed to determine whether peer educator training provides them with sufficient knowledge and skills to effectively conduct outreach programs (Lindsey, 1997).

Much of the peer education literature indicates that Social Cognitive Theory (SCT) and the Transtheoretical Model (TTM) provide the underlying the theoretical basis and measurable constructs for many peer education programs. Although self-efficacy is a key concept of SCT, more data is needed to verify links between changes in self-efficacy and behavioral changes (Hamden, Story, French, Fulkerson, & Nelson, 2005). TTM is relevant and appropriate for promoting physical activity, but use of Stages of Change among high school students is a recent development (Nahas, Goldfine & Collins). Sanderson & Taylor (1999) assert that more research is needed to demonstrate the applicability of TTM in physical activity interventions.

This review also revealed gaps in the literature concerning nutrition, physical activity, and stress management health behavior interventions. Reported nutrition studies occurred mainly in Minnesota and California. And the only nutrition study conducted in the rural south did not clearly describe whether the reported "life skills" improvement occurred in leadership, nutrition knowledge or behavior (Guion, 1998). Also, more physical activity studies with age-matched peer educators and participants are needed to evaluate whether such programs can increase physical activity levels among adolescents (Klein, et al., 1994.) The only found report of a peer education stress management study involved Pennsylvania high school students who received 7.5 hours of training, which left them feeling a need for more practice before initiating formal classes (Barber et al.,

1995). No reports were found about how middle and high-school students may improve stress management and teaching skills from a one-hour training session such as the participants in this study received. Clearly more study is needed in all three behavior areas.

In addition to the information missing in the specific health behavior intervention literature, questions remain to be answered about the constructs of leadership, knowledge, self-efficacy, volunteer motivation, outcomes expectations, and stages of change. Reported results of leadership training are mixed. While a one-semester college study reported significant improvements in leadership skills (Ortman, 2000), a one-year study among college and university peer educators failed to produce significant improvements (Sawyer & Pinciaro, 1997). A three-year Iowa study of seventh and eighth graders showed significant improvement of leadership skills, but the peer educators reported that they wanted more training. Therefore, more study is needed to determine what content and duration of training is needed to effectively improve adolescents' leadership skills.

None of the reviewed studies indicated what specific knowledge peer educators were trained to teach their peers about nutrition and physical activity. It is important for adolescents to understand that their daily nutrition requirements are based on their age, sex, and activity level and to know what those requirements are in order to maintain growth, development and healthy weight. None of the reviewed studies included evaluation data indicating that peer educators have a thorough understanding of current dietary guidelines for adolescents. Similarly, no studies in this review described what, if any, training was given to increase peer educators' knowledge of current physical activity recommendations for adolescents. Data is needed to determine to what extent

adolescents know the current recommendations and whether they can significantly improve their knowledge in brief training sessions.

More data is needed to verify links between changes in nutrition, physical activity, and peer educator self-efficacies. Hamden, Story, French, Fulkerson & Nelson (2005) reported successfully increasing self-efficacy for identifying low-fat foods among Minnesota high school students. It is important to test whether similar outcomes are possible in rural Southern adolescents. The reviewed studies failed to show a significant correlation between self-efficacy to engage in physical activity and increased activity levels (Sallis, Prochaska & Taylor, 2000; Pate, et al., 2003). More studies are needed to determine how to teach self-efficacy skills that will result in increased physical activity levels. Finally, little has been published about peer educator's self-efficacy to teach and more studies are needed to learn how to prepare peer educators to carry out their roles.

Volunteers are more engaged when volunteer activities serve their individual functional needs (Clary, 1999). However, motivation to volunteer as a peer educator may not be linked to volunteers' outcomes expectations because the peer educators often have unclear understanding of the programs before volunteering (Klein and Sondag, 1994). Assessing and understanding the motivation of the peer educators may be useful in predicting or explaining the success or failure of volunteer peer educator projects. More studies are needed to understand how outcomes expectations may predict volunteers' peer educator performance.

The stages of change construct has been studied in relation to both nutrition and physical activity behaviors, but there are gaps in the knowledge. Previous research among adults indicates that it is possible to relate stages of change for specifically-

defined dietary behaviors to self-efficacy and social modeling (Sporny and Contento, 1995). However, data is needed to demonstrate similar outcomes among adolescents. This review uncovered no published reports of studies that evaluated the correlation of stages of change with physical activity levels in rural settings. Youth in rural communities with high poverty levels face many environmental challenges to maintaining recommended physical activity levels. Therefore, more study is needed in that geographic/socio-economic environment to understand how to help adolescents overcome the physical activity barriers common to rural low-income communities.

This review clearly indicates the need for more research to fill existing gaps in peer education literature. Moreover, other reviewers and study authors have pointed up the need to conduct outcomes evaluations of peer education projects (Badura, Millard, Peluso, and Ortman, 2000; Advocates for Youth (2002); Shiner (1999). The objective of the current study was to attempt to fill some of gaps through an evaluation of the East Central Georgia Regional Teen Wellness Initiative 2005 training summit.

CHAPTER 3

METHODOLOGY

Introduction

The East Central Georgia Regional Teen Wellness Initiative was a peer education project composed of eight county community collaboratives (which include school health programs in their strategic plans); Medical College of Georgia, The University of Georgia (College of Family and Consumer Science); and the East Central Georgia Public Health District. The goal of the 3-year initiative was to increase awareness of and access to health promotion services among adolescents living in the eight-county region. The program was designed to train adolescent volunteers as peer educators to conduct activities within their communities to increase their peers' awareness of health issues affecting youth and to promote adoption of health protective behaviors. A Youth Training Summit was conducted on September 24, 2005 to enhance the volunteers positive attitudes about health behaviors and increase their knowledge and skills needed to become effective peer educators.

The purpose of this study was to conduct an evaluation of the 2005 Youth Training Summit to assess the effectiveness of the training and provide feedback for planning future training summits. The primary goal of the evaluation was to examine the impact of the training on the participants' nutrition and physical activity knowledge and self-efficacy skills for consuming a healthful diet, engaging in physical activity, and engaging in peer education leadership activities. The second goal was to assess stage

movement for nutrition and physical activity behaviors from pre-test to follow-up, because these behaviors would be important for peer educator role modeling later in the program.

Research Hypotheses:

Adolescents who attend the one-day, Teen Summit training sessions will:

1a. Demonstrate an increase in motivation from baseline to post-test to become peer educators within their communities;

1b. Retain their motivation to serve as per educators from post-test to follow-up;

2a. Demonstrate increased knowledge of nutrition and physical activity recommendations for adolescents from baseline to post-test;

2b. Retain the increased knowledge of nutrition and physical activity recommendations from post-test to follow-up;

3a. Demonstrate increased self-efficacy for role modeling healthful eating and physical activity behaviors and for educating their peers about relevant health topics from baseline to post-test;

3b. Retain increased self-efficacy for role modeling healthful eating and physical activity behaviors and for educating peers about relevant health topics from post-test to follow-up;

4a. Demonstrate improved leadership skills for conducting peer health promotion activities from baseline to post-test; and

4b. Retain improved leadership skills for conducting peer health promotion activities from post-test to follow-up.

Research Design

This project is considered a preexperimental design because of the lack of random sampling of participants or group assignments (Baumgartner, Strong, & Hensley, 2002). On the day of training summit participants completed a pre-test, attended general and breakout sessions, and completed a post-test at the end of the day. Participants were to have completed a follow-up survey administered by their county wellness coordinators approximately 3 months after the training summit. However, the Christmas school break coincided with the targeted 3-month follow up date, so the earliest follow up surveys were collected approximately 4 months post intervention. Additionally, some county wellness coordinators were unable to gather all their peer educators together at the same time, so collection of the follow up surveys actually occurred over a period of 4 to 6 months post intervention.

Sample Selection

The East Central Georgia Regional Teen Wellness Initiative projected a total of 160 peer educators, based on each county recruiting 20 volunteers. However, only four counties were able to recruit the targeted number of volunteers which resulted in a total recruitment of 135 volunteers. The day before the Teen Summit, the governor of Georgia cancelled all school bus transportation for field trips for the rest of the semester due to a gasoline shortage. One county was unable to find alternate transportation which prevented 19 volunteers from attending the Teen Summit. A few volunteers from some of the other counties also failed to attend the summit, reducing the total number of summit attendees to 92. Participants included male and female middle and high-school students aged 10 – 18 years. The majority were expected to be aged 13 – 16 years and

representative of county racial/ethnic proportions. Actual ages participants was 10.3 to 18.2 years with a mean age of 14.0 years. A demographic profile of the counties is in appendix A. Volunteers were recruited through the Family Connection youth councils and by recommendations from the county wellness coordinators, teachers, guidance counselors and/or administrators. The majority came from existing youth councils established by Family Connections programs. Volunteers were considered based on their leadership potential rather than their academic achievement.

The only exclusion criterion was age. The project coordinators sought to recruit volunteers of diverse age, sex, race and socioeconomic status. Students were not discriminated against based on GPA, discipline referrals or student participation in extracurricular activities. The existing youth councils were composed of students who indicated a willingness to participate in leadership development activities and community service projects. All participating volunteers (peer educators) were invited to participate in the summit training evaluation project. This study received approval from The University of Georgia Institutional Review Board. Informed consent was sought from all participants and their parent or guardian. A sample Parental Permission form is included in Appendix B and a sample of the Minor Assent form is included in appendix C.

Intervention

The East Central Georgia Regional Teen Wellness Coalition is composed of eight county community collaboratives, Medical College of Georgia, The University of Georgia (College of Family and Consumer Science), and the East Central Public Health District (District 6). The service area was an eight county rural, underserved area that included Glascock, Jenkins, Lincoln, McDuffie (zip codes: 30819 and 30824), Screven,

Taliaferro, Warren, and Wilkes Counties. This region displays demographic characteristics similar to many poor rural areas, including a high percentage of minority residents, isolation, poverty, negative health indicators, lack of educational attainment, and struggling rural economy. A demographic profile of the counties is in appendix A. There were 7,452 youths aged 10 to 18 years living in the eight-county area.

The East Central Georgia Regional Teen Wellness Coalition project built on successful interventions previously funded by the Office of Rural Health Policy. Specific Georgia projects included Tattnall County W.A.R.R.I.O.R.S. Health Center, Evans County Tigers Wellness Teams, Turner County "Focus on Wellness" Initiative, Brooks County Child Health Network, Jefferson County Warriors Health Center, and Treutlen County Health Initiative. The East Central Georgia Regional Teen Wellness Initiative logic model is in appendix D. Briefly, the project goals are:

1. To decrease the percentage of students who are using alcohol, tobacco, and other drugs.
2. To delay the onset of sexual activity among local students.
3. To increase the percentage of students who are physically active.
4. To increase the percentage of students who are eating nutritious, well-balanced meals.

Project Activities

A complete Project Management Matrix is included in appendix E. To summarize, the project director:

1. Recruited eight County Wellness Coordinators to support youth wellness teams in each county.

2. Recruited local youth wellness teams in each county. Each county wellness team was to have consisted of 20 youth volunteer peer educators, but the actual number varied from five to 20 volunteers.
3. Conducted quarterly meetings of the East Central Georgia Regional Teen Wellness Coalition.
4. Conducted the first annual regional Youth Leadership Training Summit for youth wellness team members on September 24, 2005.
5. Planned, implemented, and monitored projects (targeting local middle and high school students) that addressed issues such as alcohol, tobacco and other drug use, sexual activity, physical activity, and nutrition.

County Wellness Coordinators

The County Wellness Coordinators were responsible for supervising all Youth Wellness Team activities. They conducted monthly local youth wellness team meetings, which included an ongoing training component by providing advice and guidance for the wellness team peer educators. The coordinators were to devote approximately 10 hours per week supervising team activities.

Youth Wellness Teams (YWT):

YWT members attended the Annual Youth Leadership Training Summit. Following the training summit, the teams returned to their home counties to work on a minimum of four health promotion projects during the year. Individual peer educators were not required to work on every local project, but each member must have contributed to at least one project. Projects could target local middle and high school students. Team members were responsible for identifying local health concerns and developing projects

to address those concerns. Projects could address substance abuse prevention, abstinence education, physical fitness, and nutrition. In addition, the teams developed an ongoing healthy lifestyles youth outreach campaign designed to increase local youth awareness of these health topics. Recruitment of team members is described in the Sample Selection section above.

Quarterly East Central Georgia Regional Teen Wellness Coalition Meetings

The project director, assistant director, county collaborative directors and county coordinators conducted quarterly meetings. Representatives from each county's Youth Wellness Team were also expected to attend and participate in these meetings as full and active coalition members.

Annual Youth Leadership Training Summit

The one-day summit lasted for approximately eight hours and was held in a central location within the region. The summit planning committee consisted of the Project Director, Assistant Director, County Collaborative Executive Directors, and representatives from Medical College of Georgia, the University of Georgia, American Cancer Society, and county Wellness Coordinators. Since most of the region already had programs in place that addressed prevention of teen pregnancy and tobacco, drug and alcohol use substance, the committee determined that the leadership summit would focus on topics related to prevention of overweight and obesity. Therefore, the 2005 summit was devoted to training in nutrition, physical activity, media influence on body image, stress management, leadership, and communication. The training occurred on a Saturday and the planned schedule appears below.

Welcome and Evaluation Pre-test:	9:30 – 10:00 a.m.
Breakout Session #1	10:00 – 11:30 a.m.
Lunch	11:30 – 12:30 p.m.
Breakout Session #2	12:45 – 2:15 p.m.
Break and Snack	2:15 – 2:30 p.m.
General Session "Poetic Magic"	2:30 – 4:00 p.m.
Closing session and Evaluation post-test	4:00 – 5:00 p.m.

The morning and afternoon breakout sessions offered the following concurrent classes: two classrooms for nutrition (same lesson plan), and one classroom each for physical activity, stress management, "thinking out of the box" leadership training, and media influence on body image and eating disorders. The general session entitled "Poetic Magic" introduced participants to creative communication methods, such as poetry and rap. Most of the participants attended the welcome, general, and closing sessions. However, participants from one county decided to leave the Summit before the Poetic Magic general session, so the post-tests were administered before that session was presented. Participants were divided into groups of approximately 20 students each to attend breakout sessions. Therefore, each participant only had the opportunity to attend a total of two breakout classes. The intent was to assign the students from each county wellness team to attend different breakout session classes so that each team would have some members familiar with each topic. Two nutrition classes were scheduled for morning and afternoon breakout sessions in order to allow more students access to that topic.

Evaluation Instrument

The pre, post, and follow up instruments were paper and pencil surveys designed to collect demographics and descriptive data and to measure changes from baseline to post-intervention in the participants' motivation to become peer educators, knowledge of specific health topics, leadership skills, communication skills, and self-efficacy to conduct peer education health promotion activities and model healthful eating and physical activity behaviors (Appendix F). Specific items on the surveys have been collected from previously validated instruments as described below or developed specifically for this project.

Peer Educator Volunteer Motivation

Volunteer motivation refers to the degree of motivation and reasons (motivations) for volunteering as peer educators. Evaluation of students' reasons and levels of motivation to serve as peer educators may be useful in developing a screening instrument that can predict which volunteers are most likely to retain their commitment to serve as peer educators. Understanding volunteers' motivation would allow programmers to select volunteers who best warrant the resources needed to train and support effective peer educators. A seven-item Likert-type scale was used to evaluate motivation. The items in this scale were adapted from the Volunteer Functions Inventory (VFI) developed by Gil and Snyder (1999) and have response categories of 1 to 5. In this study, the internal consistency of the scores, measured by Chronbach's alpha, was .73. Scores were summed. Participants read a series of statements and were asked to select a response indicating how true the statement was of them. The response options were: *"Not true of you at all," "A little true of you," "Pretty true of you," "Very true of you," and*

"Completely True of you." A goal of the training summit was to make the students feel more motivated to conduct health promotions in their communities. Therefore, the first statement regarding motivation was, "I really want to be a peer educator." The other statements indicated the types of motivation, or reasons for volunteering that were important to the peer educators. This scale includes six types of motivation that serve different functions for the individual. The statements are:

- My friend(s) volunteered. (social function)
- Volunteering makes me feel important. (enhancement function)
- By volunteering, I feel less lonely. (protective function)
- Volunteering allows me to explore different career options. (career function)
- I feel it is important to help others. (values function)
- Volunteering let's me learn through direct, "hands on experience". (understanding function)

Self-efficacy

Peer Educator Self-efficacy. Peer educator self-efficacy refers to how confident the peer educators feel to conduct health promotion activities among their community peers. Since no published scales were found for measuring this type of self-efficacy, a six-item scale was developed with a Likert-type scale with response categories of 1 to 5 (*"Not at all confident" to "Completely Confident"*) to assess peer educators' confidence in their ability to use the skills and teach the health topics covered by the training summit. An example of the questions is, "How sure are you that you can teach other students about healthy eating habits?" Other topics included physical activity, stress management,

creative leadership thinking, and creative expression. Scale scores were summed. In this study, the internal consistency of the scores, measured by Chronbach's alpha, was .87.

Nutrition Self-Efficacy. Nutrition self-efficacy refers to adolescents' self-confidence in their ability to choose lower fat or lower sodium foods including fruits, vegetables, and milks. This concept is important because adolescents may lack the skills to make healthful nutrition choices in their environments. Peer educators must be able to impart these skills to their target audience. The 9-item scale used in this evaluation was taken from a questionnaire developed by Parcel, et al. (1995). An example of a question is, "How sure are you that you can drink low-fat white milk instead of regular white milk? The Likert-type response categories, coded 1 – 5, are *"not at sure," "somewhat sure," and "pretty sure," "very sure," and "completely sure."* Items in this rating scale were given numerical values of 1 to 5. Other items include asking for lettuce and tomato on your hamburger, eating cereal instead of a donut, eating fresh fruit instead of a candy bar, taking off and not eating the skin of chicken. Scale scores were summed. In this study, the internal consistency of the scores, measured by Chronbach's alpha, was .85.

Physical Activity Self-efficacy. Self-efficacy refers to adolescents' self-confidence in their ability to control or overcome barriers to participating in physical activities on a regular basis. Examples of barriers assessed include stress, lack of time, exercise equipment, and social support, and adverse weather conditions. Questions 23 - 28 were taken from an exercise self-efficacy scale developed for adults by the Cancer Prevention Research Center. The original question worded, "How sure are you that you can exercise when it's raining or snowing" was reworded "…when it's hot or cold" to better represent southern state climate concerns. An example of the questions is this

section was, "How sure are you that you can: Exercise when you feel you don't have the time?" The five-point, Likert-type response categories are *"not sure," "a little sure," and "very sure."* Response categories were coded 1 to 5. Scale scores were summed. In this study, the internal consistency of the scores, measured by Chronbach's alpha, was .80.

Peer Educator Outcomes Expectations

Peer educator outcomes expectations refers to what the participants expected to happen to them if they conducted health promotion activities as peer educators. Since no existing scales for this construct were found, a seven-item scale was developed for this study. The items were selected because either they were discussed in various reports about peer educator programs or because they are outcomes reasonable to expect from the intervention. This scale included both positive and negative outcomes expectations as follows:

- Other students will respect me (positive).
- Other students will think I am a nerd (negative).
- I will become healthier (positive).
- I will eat better (positive).
- I will be more physically active (positive).
- I will manage stress better (positive).
- I will not have enough time to do the things I want to do (negative).

Response categories in this rating scale were coded 1 to 5 indicating the likelihood of an outcome (*very unlikely to very likely*). The second and last questions (#30 and #35 on the surveys) were negative outcomes, so those scores were reversed as 5

to 1. The initial internal consistency of the scores, measured by Chronbach's alpha, was .58 and the corrected item-total correlations were low for survey questions 29, 30, and 35 (-.02, .04, and .13 respectively). Those items appear as the first, second, and last questions above. Items with item-total correlations less than .30 may be measuring something different from the rest of the scale (Pallant, 2001). Also, Klein and Sondag (1994) concluded that the construct of expectation construct was not linked to peer educators' motivation, because the peer educators often have unclear understanding of the programs before volunteering. The participants in this study may have felt less confident about the outcomes suggested by those three questions, resulting in the low item-total correlations. Therefore, those three items were omitted from all further analyses, and the Chronbach's alpha recalculated for the remaining four items was .73. Scale scores were summed.

Leadership

Carter and Spotanski (1989) defined leadership as the level of ability to influence others in identifying and working toward the goals of the group. The six-item leadership scale was extracted from the 24-item Personal Development Inventory (PDI) developed by Richard I. Carter as part of an Iowa Experiment Station Project 2385 entitled, "the Role of Youth Organizations for Students Interested in Agricultural Careers", 1982 (R. I. Carter, personal communication, September 6, 2005). Reliability of the PDI ($\alpha = .73$) was tested among high school students in Iowa (Carter and Spotanski, 1989). These questions were worded as, "How likely do you think the following things may happen if you are a peer educator?" The leadership scale included items such as, being recognized as a leader by those my own age, setting goals, and ability to explain difficult ideas to

others, express own opinions, lead a discussion, and cooperate and work in a group. Response categories in the original Likert-like scale were coded 1 to 7 (*"Strongly Disagree" to "Strongly Agree"*), but the response categories were modified and coded 1 to 5 *("Very unlikely" to "Very Likely"*) for this study, because adolescents may have difficulty distinguishing the subtle differences among seven response categories and the wording was made consistent with similar to the response categories used in the survey. The points omitted were *"slightly unlikely" and "slightly likely."* In this study, the internal consistency of the scores, measured by Chronbach's alpha, was .69. The decreased alpha level from the original scale (.73) is likely due to having reduced the number of items in the scale from 23 to 6. Scale scores were summed.

Nutrition Knowledge

Nutrition knowledge refers to knowledge about the new food guide pyramid (MyPyramid), benefits of eating breakfast, and nutrition-related chronic diseases. Questions were designed specifically designed for this survey to cover topics taught in the nutrition breakout sessions at the teen training summit. An example of the questions was, "How many cups of fruit should a person eat each day for good health?" Each question had four multiple-choice answers. Incorrect items responses were coded 0 and correct choices were coded 1. Scale scores were summed.

Dietary Recall

Dietary recall refers to participants remembering the servings of healthful food and beverages they consumed in the preceding seven days. These questions were asked on the pre-test and follow-up post-test, but they were omitted from the immediate post-test to eliminate redundancy (same day recall as pre-test). These data allowed a

comparison of dietary behavior at baseline with behavior reported at the follow up post-test to determine if change occurred in the interim. These questions are from the Centers for Disease Control and Prevention (CDC) Youth Risk Behavioral Survey (YRBS). The YRBS was developed by the CDC and has been administered every other year since 1991 on national, state, and territorial levels to a sample population of students in 9^{th} – 12^{th} grades (CDC, MMWR, 2004). This scale includes five questions about self-reported fruit and vegetable consumption and one question about self-reported milk consumption. An example of these questions was, "During the past 7 days, how many times did you drink 100% fruit juices such as orange juice, apple juice, or grape juice? (Do not count punch, Kool-Aid, sports drinks, o other fruit flavored drinks)." Each question had seven response choices ranging from *"I did not (consume the item) in the past 7 days" to "4 times or more per day."* Item responses are categories (nominal data). Responses were coded from 1 (*did not consume the food during the past 7 days*) to 7 *(consumed the food 4 times or more per day*). In this study, the internal consistency of the scores, measured by Chronbach's alpha, was .52. Scale scores were summed.

Nutrition Stages of Change

In this context, progression through the stages (precontemplation, contemplation, preparation, action, and maintenance) refers to specific dietary behaviors: eating breakfast, consuming at least two fruit servings and three vegetable servings (other than potatoes), consuming whole grain bread instead of white bread, and drinking lower fat milk instead of whole milk. It is important to know if the intervention succeeded in moving any of the peer educators forward in their stages of change toward adopting healthy nutrition behaviors. This was a five-item scale. One example of the questions

was, “On most days (5 – 7 days a week) do you eat breakfast either at home or at school?” This is an ordinal scale, and response categories were coded from 5 (maintenance stage) to 1 (pre-contemplation stage). The five response choices were: A) *Yes, I have been for MORE than 6 months*; B) *Yes, I have been for LESS than 6 months*; C) *No, but I intend to in the next 30 days*; D) *No, but I intend to in the next 6 months*; and E) *No, and I do NOT intend to in the next 6 months*. The items in this scale were adapted from the Exercise: Stages of Change – Short Form (Cancer Prevention Research Center). In this study, the internal consistency of the scores, measured by Chronbach’s alpha, was .52. Scale scores were summed.

Physical Activity Knowledge

Physical activity knowledge refers to knowledge about the relationship between physical activity and weight control, the recommended daily amount of physical activity for adolescents, and methods for increasing physical activity levels. It was important to measure changes in peer educators’ knowledge to determine if they learned in the intervention the information they would need for promoting physical activity behaviors among their peers. Five questions assessed knowledge related to physical activity recommendations for youth and methods for promoting physical activity. Some of the questions were adapted from the Youth Risk Behavior Survey (YRBS) and others were developed for this. An example of the questions was, “Which of these is most helpful in getting youth to be physically active everyday?” Each question had four multiple-choice answers. Incorrect items responses were coded 0 and correct choices were coded 1. Scale scores were summed.

Physical Activity Recall

A physical activity recall (PAR) involves determining the intensity and frequency of physical activities performed during the past seven days. Baseline activity was compared to 4-month follow up data to assess behavior changes. Questions 63 – 67 on the pre-intervention and follow-up surveys were from the Centers for Disease Control and Prevention (CDC) Youth Risk Behavioral Survey (YRBS). The recall questions were omitted from the post-intervention survey to eliminate redundancy of same day recall. This scale includes five questions to measure participation in leisure time physical activities and television viewing. Questions about participation school physical education classes and team sports were not included because this intervention targeted behavior changes related to leisure physical activity alternatives to organized sports. Item responses were categories (nominal data). Four questions asked for the number of days during the past week the participant engaged in physical activities of various exertion levels and were coded 0 to 7. One question asked for the number of hours spent watching television on an average day. The responses were coded 6 (*did not watch TV*) to 0 (*watched 5 or more hours*). In this study, the internal consistency of the scores, measured by Chronbach's alpha, was .72. Scale scores were summed.

Physical Activity Stages of Change

Stages of change refers to staging individuals in terms of their participation in regular exercise, as regular exercise is defined in the scale. It was important to measure the peer educators stages of change for physical activity to learn whether they advanced in stage following the intervention Question #68 on the pre-intervention and follow-up surveys (question #57 on the post-intervention survey) was adapted from the Cancer

Prevention Research Center, "Exercise: Stages of Change – Short Form" question developed for adults. The original definition given for regular exercise was, "Regular Exercise is any *planned* physical activity (e.g., brisk walking, aerobics, jogging, bicycling, swimming, rowing, etc.) performed to increase physical fitness. Such activity should be performed *3 to 5 times* per week for *20-60 minutes* per session. Exercise does not have to be painful to be effective but should be done at a level that increases your breathing rate and causes you to break a sweat." Using examples more relevant to rural adolescents, regular exercise was redefined as, "any physical activity that you plan, such as fast walking, aerobics, jogging, bicycling, swimming, *dancing, running games, sports (such as baseball, basketball, softball, or football), cheerleading, or other activity that makes your heart beat faster and makes you breathe deeper* (changes in italics). Such an activity should be done 3 to 5 times per week for 20 to 60 minutes at a time." Following the definition of "Regular Exercise" on the survey, the question asked was, "According to that definition, do you exercise regularly?" The five response choices were, "A) *Yes, I have been for MORE than 6 months*; B) Yes, I have been for LESS than 6 months; C) *No, but I intend to in the next 30 days;* D) *No, but I intend to in the next 6 months; and E) No, and I do NOT intend to in the next 6 months*. Response categories were coded from 5 (maintenance stage) to 1 (pre-contemplation stage).

Demographics

Questions 69 – 76 on the pre-test (date of birth, sex, race/ethnicity, grade, eligibility for free/reduced price lunch, extra-curricular activities, part-time employment, and parental educational attainment) provide descriptive data. These questions were omitted from the post-intervention and follow-up surveys. The format for question #71

(race/ethnicity) complied with The University of Georgia Institutional Review Board guidelines. Data on extra-curricular activities (question 74) was included to provide group data to better describe characteristics of students who volunteered as peer educators. Data on part-time jobs (question 7) may help explain differences in peer educators' subsequent level of involvement with program activities. Parents' educational attainment (question 76) was asked to determine whether parental education is correlated with volunteer status.

Sessions Attended

Peer educators indicated the name of all the education sessions they attended during the Teen Summit. This question was important because none of the participants attended all the sessions, and knowing which sessions they attended helped interpret their responses to other questions on the survey, such as knowledge, stages of change, and behavior. Responses were coded 0 (*did not attend*) or 1 (*did attend*). Results appear invalid. Some participants indicated they attended all sessions, but the schedule permitted each to attend only two of the five break-out sessions.

Summit Evaluation

Questions #59 – 64 provided feedback to the intervention planners that can be used to improve future interventions. The questions were worded, "How satisfied were you with the sessions you attended: Food and nutrition, Physical Activity, Thinking Out of the Box, Stress management, Body Image and the Media, and Poetic Magic. A five-point Likert-type scale ("Very unsatisfied" to "Very satisfied") was developed for this evaluation. Items in this rating scale were coded 1 to 5 and scores were summed.

Choices for Future Peer Education Projects

Participants indicated how likely they were to choose the following topics for future peer educations projects: Food and nutrition, Physical Activity, Stress management, Body Image and the Media, and Poetic Magic. These questions were asked to learn which topics most interested the participants. A five-point Likert-type scale ("*Very unlikely*" to "*Very likely*") was developed for this evaluation. Response categories were coded 1 to 5.

Open-ended Question

Question #71 on the post-intervention survey was, "Please add any additional comments you care to make about the training you received today. We welcome you suggestions for improving the training. Participants' responses are useful to program planners of future training summits.

Data Collection

Collected data were kept strictly confidential. Participants were assigned a three-digit, sequentially-numbered identification code that was printed on identification tags for the training summit. Participants assembled in a single group to complete the pre- and post-intervention surveys the day of the training summit. Participants were instructed to write their identification codes on the surveys but not their names. They were also instructed to read each question and check their answers on the surveys without conferring with others. Other adults assisted the researcher in administering the surveys and assisted participants as needed. After the surveys were completed the evaluator and adult assistants collected the instrument from participants one at a time, checking the

identification codes on the surveys against those shown on the identification tags. All completed surveys were given to the researcher.

Data Analysis

All completed instruments were stored in a secure location. The evaluator entered and analyzed all data using the SPSS 15.0 Grad Pack statistical software package. Cells were left blank for missing data. SPSS recognizes blank cells as missing data and automatically drops cases with missing data when calculating total scale scores. Therefore, those cases are not included in further analyses to compare changes in mean total scores at each time period. Missing data can be imputed, but cases with missing data are commonly omitted from further analyses if at least 95% of the sample is retained (Garson, n.d.). Missing data occurred in 2.6% of cases in this evaluation study with a range of 0% to 5.5% among the various measures. Since the percentage of missing cases was relatively small, those cases were dropped from the analyses. Electronic data files were stored on computer hard drive and backed up on a separate memory device. Data was analyzed using the statistical methods listed below:

Descriptive statistics (frequencies, ranges, means, standard deviations, modes, and medians) were calculated for all scales: scales for peer educator volunteer motivation, peer education, nutrition and physical activity self-efficacy, outcomes expectation, leadership, nutrition and physical activity knowledge, dietary and physical activities recalls and stages of change, demographic data, and program satisfaction.

One-way repeated measures ANOVAs were calculated to compare group means from pre-test, post-test, and follow-up tests on scales of motivation, self-efficacy (nutrition, physical activity, and peer education), outcomes expectations, leadership,

nutrition knowledge, nutrition stages of change, physical activity knowledge, and physical activity stages of change.

Paired-samples t-tests (repeated measures) were calculated to compare group means from pre-test to follow-up on scales for dietary and physical activity recalls. Paired-samples t-tests were also calculated to compare group means on all other constructs from pre-test to post-test to determine whether the results of the larger sample size at pre- and post-tests (n = 92) differed from results calculated on the smaller sample at follow-up (n = 72).

Independent-samples t-tests were calculated to compare pre- and post-test mean scores for nutrition knowledge, self-efficacy, stages of change, and food intake recall between groups of participants who did and did not attend a nutrition breakout session.

Effect size: Probability values indicate whether changes in independent variable values from one time period to another are statistically significant, but they do no indicate the magnitude of the effect on the independent variable (Pallant, 2001, p. 175). One statistic used to estimate effect size is eta squared (Pallant). SPSS automatically calculates partial eta squared for ANOVA tests, and eta squared can be calculated manually for t-tests. According to Pallant, Eta square values indicate effect size as small (.01), moderate (.06), or large (.14).

Open-ended (final) Question: All responses were listed and similar responses grouped into categories. Categories were coded to analyze response patterns (Jackson & Furnham, 2000).

CHAPTER 4

RESULTS

Participant Demographics

Participants (n=92) reported their ages, sex, racial/ethnic identity, grade level, eligibility for free/reduced price school lunch, extra curricular activities, part-time job status, and parental educational attainment. Demographics data are summarized in Table 4.1 below. Ages ranged from 10.3 to 18.2 years, mean 14.0 years (SD = 2.01). Nearly two-thirds were female (n = 59) and about one-third were male (n = 33). Participants self-identified as Black or African American (52.2%), White (41.3%), Hispanic or Latino (3.3%), American Indian or Alaska Native (1.1%), Asian (1.1%), or other (1.1%). Grade levels ranged from fifth to twelfth grades, with a mean of eighth grade (SD = 1.96). Eligibility for free/reduced price lunch was reported by 72.8% of participants. Extra-curricular activity involvement ranged from zero to eight activities with a mean of 2.08 (SD = 1.51). Reported activities included physical activities (team sports, gymnastics, cheerleading, and dance), agriculture-related activities (4-H Club and Future Farmers of America), band, faith-based activities, school-based clubs, and leadership activities (student council and WIA Leadership). Only 21.7% of the participants reported holding part-time jobs, and they worked an average of 11.9 hours per week. Reported parental educational attainment was 17.4% high school or less, 17.4% trade school or some college, 44.6% graduated college or more, and 15.2% don't know (five non-respondents).

Table 4.1

Demographic Characteristics of Participants (n = 92)

Variable	Frequency	%
Years of age		
10	3	3.3
11	14	15.2
12	10	10.9
13	18	19.6
14	12	13.0
15	13	14.1
16	13	14.1
17	4	4.3
18	2	2.2
No response	3	3.3
Sex		
Male	33	35.9
Female	59	64.1
Race/ethnicity		
American Indian or Alaska Native	1	1.1
Asian	1	1.1
Black or African American	48	52.2
Hispanic or Latino	3	3.3
White	38	41.3
Other	1	1.1
Grade Level		
5^{th}	7	7.6
6^{th}	15	16.3
7^{th}	13	14.1
8^{th}	14	15.2
9^{th}	13	14.1
10^{th}	20	21.7
11^{th}	5	5.4
12^{th}	5	5.4
Free or Reduced Lunch		
Eligible	67	73.6
Not eligible	24	26.4
Extra-curricular activities		
0	8	8.7
1 – 2	57	62.0
3 – 4	21	22.9
5 or more	6	6.6
Part-time job held		
Yes	20	17.7
No	67	59.3
No response	6	23.0
Parents' highest education		
High school or less	16	14.2
Trade school or some college	16	14.2
Graduated college	41	36.3
Don't know/no response	19	35.3

Hypotheses Tests

Hypothesis 1a and 1b

H1a stated that adolescents who attended the one-day, Teen Summit training sessions would demonstrate an increase in motivation from baseline to post-test to become peer educators within their communities. H1b stated that the adolescents would retain their motivation to serve as per educators from post-test to follow-up. This study also sought to understand what effect participants' outcomes expectations might have on their motivation to serve as peer educators.

Peer Educator Motivation. A one-way repeated measures ANOVA was conducted to compare scores on motivation to be a peer educator at Time 1 (pre-intervention test), Time 2 (post-intervention test), and Time 3 (four-month follow-up test). The means and standard deviations are presented in Table 4.2 below. There was a significant effect for time, Wilks' Lambda = .76, $\underline{F}$ (2, 66) = 10.26, P < .0005, multivariate eta squared = .237. However, Mauchly's test indicated the assumption of sphericity was violated (χ^2 = 8.39, P < .015). Therefore, degrees of freedom were corrected using Huynh-Feldt estimates of sphericity (ε = .92). Results indicated a significant difference in times, $\underline{F}$ (1.83, 122.78) = 7.12, p < .002 and multivariate eta squared = .096 indicated moderate effect size. Post hoc pairwise comparisons showed that there was a significant increase in motivation from Time 1 to Time 2 (p < .0005). There was an insignificant decline in mean motivation scores from Time 2 to Time 3 (p < .072), but Time 3 scores did not remain significantly higher than Time 1 means (p < .098>). Results from the paired-samples t-test were similar to the ANOVA results for the pre- and post-tests.

Table 4.2

Mean Scores for Motivation to Be Peer Educator Scores

Time period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	68	24.81	5.06
Time 2 (Post-intervention)	68	27.29	5.42
Time 3 (Four-month follow-up)	68	25.93	5.02

Frequencies were also run on the seven individual measures of motivation in the scale. Volunteering because, "I feel it is important to help others" (mean = 4.61, S.D. = .73) and because "Volunteering lets me learn through direct hands on experience" (mean = 4.05, SD .93) were the highest rated motivations for volunteering as peer educators on the pretest. Volunteering because, "My friend(s) volunteered" (Mean = 2.61, S.D. 1.29) and because "By volunteering I feel less lonely" (mean = 2.57, S.D. 1.44) were rated lowest as motivators. These patterns were consistent across all three time periods.

Outcomes Expectations. Previous research indicated that additional study is needed to understand the possible link between the Social Cognitive Theory (SCT) construct of expectations and the outcomes of peer-led interventions (Bartholomew, Parcel, Kok, & Gottlieb, 2001). The four questions retained in the analysis concerned expectations for "I will become healthier", "I will eat better", "I will be more physically active", and "I will manage stress better." A one-way repeated measures ANOVA was conducted to compare scores on the remaining four questions at Time 1 (pre-intervention test), Time 2 (post-intervention test), and Time 3 (four-month follow-up test). The means and standard deviations are presented in Table 4.3. The highest possible individual score was 20. These mean scores indicate that participants had high, positive outcomes

expectations that remained stable from before the intervention through follow-up. There was no significant effect for time, Wilks' Lambda = .97, F (2, 66) = .98, P < .38, multivariate eta squared = .03. Results from the paired-samples t-test were similar to the ANOVA results for the pre- and post-tests.

Table 4.3

Mean Scores for Outcomes Expectations

Time period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	68	17.49	2.82
Time 2 (Post-intervention)	68	17.94	3.09
Time 3 (Four-month follow-up)	68	17.46	3.26

Hypothesis 2a and 2b

H2a stated that adolescents who attended the one-day, Teen Summit training sessions would demonstrate increased knowledge of nutrition and physical activity recommendations for adolescents from baseline to post-test. H2b stated that the adolescents would retain the increased from post-test to follow-up.

Nutrition Knowledge. A one-way repeated measures ANOVA was conducted to compare scores on nutrition knowledge at Time 1 (pre-intervention test), Time 2 (post-intervention test), and Time 3 (four-month follow-up test). The means and standard deviations are presented in Table 2 below. There was a significant effect for time, Wilks' Lambda = .71, F (2, 66) = 13.48, P < .0005, multivariate eta squared = .29. However, Mauchly's test indicated the assumption of sphericity was violated (χ^2 = 10.66, P < .005). Therefore, degrees of freedom were corrected using Huynh-Feldt estimates of sphericity

(ε = .89). Results indicated a significant difference in times, F (1.78, 119.45) = 8.47, p < .001 and multivariate eta squared = .12 indicated an effect size that was moderate. The moderate effect can be understood by comparing the highest possible score for this scale, which is five, with the means in Table 4.4. Post hoc pairwise comparisons showed that there was a significant increase in nutrition knowledge from Time 1 to Time 2 (p < .0005), and although there was an insignificant decrease in nutrition knowledge from Time 2 to Time 3 (p < .68), time 3 remained significantly higher than Time 1 (p < .001). Results from the paired-samples t-test were similar to the ANOVA results for the pre- and post-tests. Results from the independent-samples t-test showed no significant difference in mean knowledge scores between participants who attended a nutrition breakout session and those who did not.

Table 4.4

Mean Scores for Nutrition Knowledge

Time period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	68	2.47	1.10
Time 2 (Post-intervention)	68	3.04	1.07
Time 3 (Four-month follow-up)	68	2.97	1.16

Physical Activity Knowledge. A one-way repeated measures ANOVA was conducted to compare scores on physical activity knowledge at Time 1 (pre-intervention test), Time 2 (post-intervention test), and Time 3 (four-month follow-up test). The means and standard deviations are presented in Table 4.5. There was a significant effect for time, Wilks' Lambda = .80, F (2, 64) = 8.19, P < .001 and multivariate eta squared = .20 indicating a large effect size. Post hoc pairwise comparisons showed that there was a

significant increase in physical activity knowledge from Time 1 to Time 2 ($p < .003$), but there was also significant decrease in physical activity knowledge from Time 2 to Time 3 ($p < .0005$). The difference in knowledge between time 1 and Time 3 was not significant ($p < .327$). Results from the paired-samples t-test were similar to the ANOVA results for the pre- and post-tests.

Table 4.5

Mean Scores for Physical Activity Knowledge

Time period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	66	2.95	1.20
Time 2 (Post-intervention)	66	3.35	1.12
Time 3 (Four-month follow-up)	66	2.82	1.23

Hypothesis 3a and 3b

H3a stated that adolescents who attended the one-day, Teen Summit training sessions would demonstrate increased self-efficacy for role modeling healthful eating and physical activity behaviors and for educating their peers about relevant health topics from baseline to post-test. H3b stated that the adolescents would retain the increased from post-test to follow-up. A secondary focus of this study was to assess stage movement for nutrition and physical activity behaviors, because advancing to or occupying the action or maintenance stages would be important for peer educators in role modeling the desired behaviors in their communities.

Nutrition Self-Efficacy. A one-way repeated measures ANOVA was conducted to compare scores on nutrition self-efficacy at Time 1 (pre-intervention test), Time 2 (post-

intervention test), and Time 3 (four-month follow-up test). The means and standard deviations are presented in Table 4.6. There was no significant effect for time, Wilks' Lambda = .93, F (2, 64) = 2.30, P < .108 and multivariate eta squared = .067. Results from the paired-samples t-test were similar to the ANOVA results for the pre- and post-tests. Results from the independent-samples t-test showed no significant difference in mean self-efficacy scores between participants who attended a nutrition breakout session and those who did not.

Table 4.6

Mean Scores for Nutrition Self-efficacy

Time period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	66	30.48	9.31
Time 2 (Post-intervention)	66	31.86	10.12
Time 3 (Four-month follow-up)	66	32.29	8.48

Nutrition Stages of Change. Dietary behaviors are complex, but it is possible to classify specifically-defined dietary behaviors by stages and relate those stages to self-efficacy and social modeling (Sporney and Contento, 1995). Therefore, this study collected self-reported staging data from participants based on their current behavior or intention to engage in five dietary behaviors on most days (5 – 7 days) of the week: eating breakfast, eating at least two servings of fruit, eating at least two servings of vegetables, eating whole grain bread instead of white bread, and drinking lower fat milk instead of whole milk.

A one-way repeated measures ANOVA was conducted to compare scores on nutrition stages of change at Time 1 (pre-intervention test), Time 2 (post-intervention test), and Time 3 (four-month follow-up test). The means and standard deviations are presented in Table 4.7. There was no significant effect for time, Wilks' Lambda = .92, F (2, 63) = 2.74, P < .07, multivariate eta squared = .08. However, results of the paired-samples t-test calculated on the initial sample size indicated there was an increase in mean scores from pre-test (M = 18.23, SD = 4.10) to post-test (M = 19.26, SD = 4.22), p < .002 (2-tailed). The eta squared value was .10, indicating a moderate effect size. Results from the independent-samples t-test showed no significant difference in mean stages of change scores between participants who attended a nutrition breakout session and those who did not.

Table 4.7

Mean Scores for Nutrition Stages of Change

Time period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	65	18.05	4.22
Time 2 (Post-intervention)	65	18.97	4.39
Time 3 (Four-month follow-up)	65	18.26	3.88

Role Modeling Healthful Eating Behaviors. The frequency with which participants consumed healthy foods served as an indicator for the degree to which they role modeled healthful eating behaviors. Therefore, questions on the pre-intervention test (Time 1) and four-month follow-up (Time 3) surveys assessed the frequency of participant's intake of six food categories: 100% fruit juice, fruit, lettuce salad, potatoes

(other than French fries, fried potatoes, or potato chips), other vegetables, and milk. A paired-samples (repeated measures) t-test was performed to assess the effect of the intervention on mean scores for frequency of consuming healthful food items. There was no significant change ($p < .78$) in mean scores from Time 1 ($M = 17.56$, $SD = 5.30$) to Time 3 ($M = 17.77$, $SD = 5.97$). Based on a total of six questions in this scale, the means indicate an average response code of 3 (consumed the food item 2 times per day) for each food category. Results from the independent-samples t-test showed no significant difference in mean healthy food intake scores between participants who attended a nutrition breakout session and those who did not.

Physical Activity Self-Efficacy. A one-way repeated measures ANOVA was conducted to compare scores on physical activity self-efficacy at Time 1 (pre-intervention test), Time 2 (post-intervention test), and Time 3 (four-month follow-up test). The means and standard deviations are presented in Table 4.8. There was a significant effect for time, Wilks' Lambda = .84, $\underline{F}$ (2, 66) = 6.38, $P < .003$ and multivariate eta squared = .16 indicating a large effect size. Post hoc pairwise comparisons showed that there was a significant increase in physical activity self-efficacy from Time 1 to Time 2 ($p < .001$), but there was also significant decrease in physical activity self-efficacy from Time 2 to Time 3 ($p < .047$). The difference in self-efficacy between time 1 and Time 3 was not significant ($p < .395$). Results from the paired-samples t-test were similar to the ANOVA results for the pre- and post-tests.

Table 4.8

Mean Scores for Physical Activity Self-efficacy

Time period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	66	21.20	5.61
Time 2 (Post-intervention)	66	23.37	6.18
Time 3 (Four-month follow-up)	66	21.79	5.73

Physical Activity Stages of Change

Exercise stage is related to physical activity levels and has been correlated with psychosocial and behavioral determinants of exercise (Sherwood and Jeffery, 2000). DeBourdeaudhuij, et al. (2005) reported that adolescents in the precontemplation stage had lower activity levels than those in other stages, adolescents in the preparation stage had a more positive attitude and perceived more benefits from exercise than did any other stage except maintenance, and those in the maintenance stage reported the highest activity levels. The survey used in this study asked participants to stage themselves for performing or intent to perform "Regular Exercise", as defined in the survey (planned, intensity level high enough to increase heart rate and induce deeper breathing). Scores were coded: 5 – Yes, have been for more than 6 months; 4 – Yes, have been for less than 6 months; 3 – No, but intend to in the next 30 days; 2 – No, but intend to in the next 6 months; and 1 – No, and do not intend to in the next 6 months. In addition to providing descriptive data, self-reported stage of physical activity was compared to physical activity self-efficacy and physical activity recall data.

A one-way repeated measures ANOVA was conducted to compare scores on physical activity stages of change at Time 1 (pre-intervention test), Time 2 (post-intervention test), and Time 3 (four-month follow-up test). The means and standard deviations are presented in Table 4.9. There was no significant effect for time, Wilks' Lambda = .99, F (2, 637) = 2.41, P < .87, multivariate eta squared = .007. The mean scores at each time indicate that the majority of participants reported that they were already doing "Regular Exercise." Results from the paired-samples t-test were similar to the ANOVA results for the pre- and post-tests.

Table 4.9

Mean Scores for Physical Activity Stages of Change

Time period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	69	4.36	.97
Time 2 (Post-intervention)	69	4.38	1.00
Time 3 (Four-month follow-up)	69	4.28	1.07

Role Modeling Physical Activity Behaviors. Participants were surveyed at pre-intervention (Time 1) and at the 4-month follow-up (Time 3) about the number of days per week they engaged in physical activities of various levels of intensity and duration and the number of hours per day spent watching television. A paired-samples (repeated measures) t-test was performed to assess the effect of the intervention on mean scores for overall physical activity engagement. Results indicated a decrease in mean scores from Time 1 (M = 20.81, SD = 7.47) to Time 3 (M = 18.96, SD = 6.77), p < .041 (2-tailed). This decrease may be due to seasonal changes. The pre-test was conducted in September

and the follow-up test was conducted in January, when outdoor activities may have declined due to seasonal weather changes.

Peer Educator Self-efficacy. A one-way repeated measures ANOVA was conducted to compare scores on peer educator self-efficacy at Time 1 (pre-intervention test), Time 2 (post-intervention test), and Time 3 (four-month follow-up test). The means and standard deviations are presented in Table 4.10 below. There was a significant effect for time, Wilks' Lambda = .60, F (2, 64) = 21.44, P < .0005, multivariate eta squared = .40. However, Mauchly's test indicated the assumption of sphericity was violated (χ^2 = 13.31, P < .001). Therefore, degrees of freedom were corrected using Huynh-Feldt estimates of sphericity (ε = .86). Results indicated a significant difference in times, F(1.72, 112.04) = 12.36, p < .0002 and multivariate eta squared = .16 indicated large effect size. Post hoc pairwise comparisons showed that there was a significant increase in peer educator self-efficacy from Time 1 to Time 2 (p < .0005). However, there was a significant decrease in mean scores from Time 2 to Time 3 (p < .006). Mean scores at Time 3 remained higher than scores at Time 1, but not significantly higher (p < .098>. Results from the paired-samples t-test were similar to the ANOVA results for the pre- and post-tests.

Table 4.10

Mean Scores for Peer Educator Self-efficacy

Time period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	66	21.44	5.69
Time 2 (Post-intervention)	66	23.97	4.96
Time 3 (Four-month follow-up)	66	21.86	5.40

Hypothesis 4a and 4b

H4a stated that adolescents who attended the one-day, Teen Summit training sessions would demonstrate improved leadership skills for conducting peer health promotion activities from baseline to post-test. H4b stated that the adolescents would retain the improved leadership skills from post-test to follow-up. A one-way repeated measures ANOVA was conducted to compare scores on leadership at Time 1 (pre-intervention test), Time 2 (post-intervention test), and Time 3 (four-month follow-up test). The means and standard deviations are presented in Table 4.11. There was no significant effect for time, Wilks' Lambda = .94, F (2, 67) = 10.26, P < .13, multivariate eta squared = .06. Post hoc pairwise comparisons indicated that there was an insignificant increase in mean leadership scores from Time 1 to Time 2 (p < .12) and an insignificant decrease in means scores from Time 2 to Time 3 (p < .07). There was also no significant difference in scores from Time 1 to Time 3 (p < .59>. Results from the paired-samples t-test were similar to the ANOVA results for the pre- and post-tests.

Table 4.11

Mean Scores for Leadership

Time period	N	Mean	Standard deviation
Time 1 (Pre-intervention)	68	25.97	3.08
Time 2 (Post-intervention)	68	26.57	3.53
Time 3 (Four-month follow-up)	68	25.72	3.45

Process Evaluation

Sessions Attended

The Teen Summit organizers did not maintain a master list indicating which training sessions each participant attended. That information was needed to understand the impact of the training on survey scores. Participants who did not attend particular session could not be expected to show changes in their survey responses from pre-test to post-test. Therefore, the post-intervention survey asked participants to identify the training sessions they attended by circling the ones they attended and not circling the ones they did not attend. The results are presented in Table 4.12, but they are of questionable validity for two reasons. First, sessions that were not circled could indicate either non-attendance or missing data. Second, although the post-test was administered before the final session was presented (Poetic Magic), 8.7% of participants circled that they had attended the session.

Table 4.12

Attendance Percentages of Training Sessions

Session	N	Percent Attended	Percent Did not Attend	Percent Missing Data
Food & Nutrition	92	55.4	39.1	5.4
Physical Activity	92	37.0	56.5	6.5
Thinking out of the Box	92	25.0	67.4	7.6
Stress Management	92	30.4	62.0	7.6
Body Image & Media	92	29.3	62.0	8.7
Poetic Magic	92	8.7	82.6	8.7

Summit Evaluation

Participants indicated how satisfied they were with the sessions they attended. Eight of the 92 participants did not answer this question. Results from the 84 respondents showed a range of 14 to 30 with a mean score of 22.40 and SD 3.10. These results appear invalid for several reasons. First, there were discrepancies between the sessions participants rated with the sessions they reported attending in questions 58-A through 58-F. Second, the maximum number of sessions any participant could have attended was three. Therefore the highest total score possible from any participant was 15 (3 sessions x 5 for points for very satisfied.). Third, the post-test was administered before the closing session, Poetic Magic, occurred. Therefore, participants with total score of 30 were gave the highest rating of 5 for all six sessions, when they could only have attended three.

Choices for Future Peer Education Projects

Questions on the post-intervention survey asked participants to score how likely they were to choose to conduct future peer education projects dealing with the six topics covered by the training sessions. Frequencies were calculated and the means and standard deviations appear in Table 4.13 below. Scores ranged from 1 to 5 (*"Very unlikely"* to *"Very likely"*). Results indicated that the mostly likely topic area for future projects was physical activity, followed closely by food and nutrition, and body image. Participants indicated they were less likely to choose "thinking out of the box," stress management, or Poetic Magic. However, "thinking out of the box" trained participants more how to plan strategies for conducting projects rather than about a specific health promotion topic. Similarly, Poetic Magic taught creative means of expression for conducting health promotions, and participants did not attend that session until after they

completed the post-test. Stress management also received a more moderate score indicating less certainty the participants would choose that area for a project.

Table 4.13

Mean Scores for Choices of Future Peer Education Projects

Topic Area	N	Mean	Standard Deviation
Food & Nutrition	92	4.17	1.24
Physical Activity	92	4.28	1.17
Thinking out of the Box	92	3.87	1.14
Stress Management	92	3.96	1.18
Body Image & Media	92	4.10	1.14
Poetic Magic [a]	92	3.76	1.30

[a] Post-test was completed before this session was presented.

Participant Comments

The final open-ended question on the post-test asked for comments about the training sessions and suggestions for improving the training. A complete list of comments is included in Appendix G. The comments were coded into five common themes shown below and the distributions appear in Table 4.14.

1. Appreciation for the training program (enjoyed the day and had a good time).
2. Enjoyed physical activity, yoga, and body image sessions
3. Educational - learned a lot about how to stay healthy
4. Suggested improvements (make it more fun, have more hands on activities, more physical activities, and more time in class to learn.

5. Criticism (Use words we are likely know, dissatisfied with yoga, and stay on time).

Over half (51.1%) of the comments were expressions of appreciation for the training and program organizers. The next most common response category (17.8%) was acknowledgement of the educational value of the training sessions. Responses in category 2 (11.1%) and category 4 (11.1%) indicate that active sessions were rated higher than passive learning sessions. A few (8.9%) of the comments expressed criticism of various aspects of the training sessions.

Table 4.14

Responses to Post-test Open-ended Question #71

Theme	Frequency	Valid Percent
1 - Appreciation	23	51.1
2 - Enjoyment	5	11.1
3 – Educational	8	17.8
4 – Improvements	5	11.1
5 – Criticism	4	8.9

Subsequent Health promotion Projects:

The 4-month follow-up survey asked participants to report the types of health promotion projects they had worked on since attending the Teen Summit training. Frequencies were run and the results appear in table 4.15. Participants (N = 67) indicated that they worked on a total of 158 projects, or an average of 2.36 projects each. Food and nutrition projects were the most frequently reported, followed by physical activity, stress

management, and body image and the media. Nearly one-third of the participants reported using rap or poetry to communicate health messages, and a small number chose other health promotion topics.

Table 4.15

Health Promotion Projects Conducted by Peer Educators

Category	N	Frequency	Valid Percent
Food & Nutrition	67	43	64.2
Physical Activity	67	39	58.2
Stress Management	67	27	40.3
Body Image	67	24	35.8
Poetry/Rap	67	21	31.3
Other Topic	67	4	6.1
Total All Projects	67	158	N/A

CHAPTER 5

DISCUSSION, CONCLUSION, AND IMPLICATIONS FOR PRACTICE

Discussion

The 2005 Teen Summit was an ambitious, first year project aimed at developing adolescent peer educators to conduct community-based health promotion activities for the East Central Georgia Regional Teen Wellness Initiative. One objective of the initiative was to reduce the prevalence of overweight among youth. Adolescent peer-education projects have targeted single health promotion behaviors, such as nutrition, physical activity, and stress management, and leadership skills (Hamden, Story, French, Fulkerson, & Nelson, 2005; Pate et al., 2003; Barber et al., 1995.) The 2005 Training Summit targeted all of those behaviors along with leadership skills.

This evaluation study was guided by Social Cognitive Theory and the Transtheoretical Model. Four hypotheses were tested for the acquisition and retention of motivation, knowledge, self-efficacy, and leadership. The theoretical constructs of role modeling, outcomes expectations, and stages of change were also measured. This chapter discusses the results of this study.

Participant Characteristics

The range of participants' ages and grade levels should be considered when interpreting the study results. Although the majority (60.8%) of the participants were females ages 13 to 16 in grades 8 through 10, nearly one-third (29.4%) were 10 to 12 years old in grades 5 through 7. The content of the training sessions and the survey

instruments may not have been appropriate for the literacy level of the younger group. In response to the post-test question asking for suggestions for improving the Teen Summit training, one participant wrote, "I think they should use words we will know most likely." The younger groups' maturity, experience, and self-confidence levels may have limited their response to the intervention.

Survey responses indicated that the participants were active in extra-curricular activities including leadership activities and other group activities, which suggests a high degree of community involvement. There were mixed indications that study participants were representative of their county socio-economic levels (Appendix A). Participants' eligibility for free and reduced lunch (72.8%) was consistent with the county averages. However, while the county demographics indicated that average levels of adult education attainment was 70% for high school graduation or less and 13% college degree or higher, participants reported parental education levels of 17.4% and 44.6% respectively. Parent education levels cannot be verified and may have overstated. However, it is possible that the participants' parents were better educated than average but their incomes were limited by employment opportunities in their rural communities. In that case the participants' leadership skills, community involvement, and motivation may reflect the influence of more highly educated parents.

Peer Educator Motivation

The volunteers' motivation to serve as peer educators increased significantly from pre-test to post-test but did not remain significantly higher at follow-up. The data indicated that volunteers were more strongly motivated by feelings of humanitarianism (wanting to help others) and the opportunity to learn new skills than by their social needs.

It appears that the participants' social needs were met through their school, community, and faith activities and that they were not motivated to volunteer to be with friends or to relieve loneliness. In fact, one participant wrote on their survey, "I'm never lonely." These findings are consistent with Klein and Sondag's (1994) focus group study which characterized peer educators' motivations as altruistic (helping to educate and encourage friends towards healthier behavior) and egoistic (gaining skills and personal health benefits). Participants' outcomes expectations for being peer educators partly predicted their motivations for volunteering. Outcomes expectations that they would engage in healthy behaviors as peer educators remained high from pre-test to follow-up. However, expectations of how other students would view the peer educators and the possible time burden on their schedules were not reliable indicators of participants' motivation. Klein and Sondag (1994) concluded that the expectation construct was not linked to peer educators' motivation, because peer educators often have unclear understanding of the programs before volunteering. However, in this study volunteers indicated that they expected to become healthier (i.e., eat better, be more active, and manage stress better), and they were motivated by the opportunity to learn new skills through "hands-on" experience. The drop in motivation from post-test to follow-up may indicate that participants' needs and expectations were not met.

Nutrition and Physical Activity Outcomes

One objective of the Training Summit was to prepare peer educators to conduct community projects promoting healthy weight status among adolescents. Each of the 90-minute nutrition and physical activity break-out sessions attempted to increase participants' knowledge and self-efficacy skills to teach and role model healthy behaviors

in their communities. The nutrition sessions provided information about dietary recommendations for adolescents, the relationship between obesity and chronic diseases, self-efficacy tips for incorporating more low-fat foods, fruits, and vegetables into daily meals and snacks, and provided time for hands-on preparation of a breakfast/snack recipe. The physical activity session included classroom instruction and outdoor group physical activities.

Nutrition Outcomes

Knowledge: One-way ANOVA results indicated that participants demonstrated improved knowledge of nutrition recommendations for adolescents from pre-test to post-test and the mean scores remained significantly higher at follow-up. However, the independent samples t-test indicated no significant difference in mean scores between the participants who attended the nutrition class and those who did not. Several possibilities may account for the similar outcomes. Nutrition knowledge topics may have been discussed in other summit sessions (Body Image and the Media; Physical Activity) and in the follow-up training. There may have been discussions about nutrition between participants and/or Wellness Directors at any point during the Teen Summit and during the follow-up period. Another possibility is that peer educators who attended the nutrition session taught what they learned to peer educators who did not attend the session.

The increase in nutrition knowledge was moderate. The moderate effect may have been due partly to having to overcome students' previous knowledge from the long standing 5 A Day program (CDC, 5 A Day, 2005), which varies from the current "MyPyramid" recommendation (USDA, MyPyramid, 2005). However, if the results

occurred at least partly because participants who attended the nutrition sessions taught those who did not, the overall effect may have been diluted. A larger effect size might have been seen if the nutrition knowledge had been reinforced during the follow-up period.

Nutrition Self-Efficacy, Role Modeling and Stages of Change: There were no significant changes during the study period in nutrition self-efficacy or role modeling, as evidenced by self-reported consumption of healthy foods. Mean scores for stages of change improved significantly from pre-test to post-test, but no significant increase was sustained at follow-up for the reduced sample size that completed the follow-up survey. Also, comparisons of mean scores of the group who attended the nutrition session vs. the group who did not showed no significant differences for self-efficacy, stages of change, or role modeling. Mean scores from pre-test through follow-up indicated that as a group the participants had only moderate levels of self-efficacy and consumed fewer than the recommended daily number of servings for all food groups, and occupied the preparation stage of change. However, post-test results of the initial sample indicated that on average the group scored themselves almost in the action stage, an indication that they were influenced during the training summit.

Overall, these results are disappointing because not only did peer educators not make significant changes in their health behaviors, but also because they did not achieve the desired level of role modeling healthy eating behaviors to their peers. Story, et al. (2002) reported that peer-led nutrition education programs are feasible, but a one-day, intensive training session may be inadequate. The Teen Summit nutrition training session lasted only 90 minutes, and it covered a broad range of topics. That was not

enough time and training for participants to absorb knowledge and skills. It is evident that peer educators needed more training to prepare them to change their own eating habits and act as role models. Placing more emphasis on self-efficacy and stage progression and less on knowledge acquisition during the initial training session may better prepare peer educators to role model healthy eating behaviors. Peer educators need additional training and reinforcement during the follow-up period while they are working on peer education projects in their communities. This suggests that Community Wellness directors should also be trained to provide ongoing nutrition training to peer educators. Behavioral change is complicated, and rural adolescents need time, training and reinforcement to adopt nutrition habits that vary from their cultural norms and to develop the skills they need for incorporating healthier choices into their daily lives. However, it must be kept in mind that adolescents have limited control over their family environment. Even if teens are willing to make changes toward healthier diets they may meet resistance from parents or caretakers who make food buying and preparation decisions. It may be possible to enlist support from parents by inviting them to attend a community meeting to learn more about the health promotion projects their teens are working on.

Physical Activity Outcomes

Physical Activity Knowledge: Physical activity knowledge increased significantly from pre- to post-test, but scores dropped significantly on the follow-up survey. It appears that the knowledge topics taught in the training session were not sufficiently reinforced by community program coordinators for participants to retain the knowledge.

Physical Activity Self-efficacy, Stages of Change, and Role Modeling: Physical activity self-efficacy increased significantly from a moderate level to a high level from

pre-test to post-test, but the increase was not sustained to follow-up. There were no significant changes in the mean Stages of Change scores at any time period, but the scores were sufficiently high to indicate most participants were in the action or maintenance stages. Self-reported physical activity levels fell significantly from pre-test to four-month follow-up. There are several possible barriers that may have contributed to the activity decline. First, the seasonal change from autumn to winter brought cold weather and fewer daylight hours. Also, school work and other activities may have competed with participant's available time for exercise. Third, much of the reported physical activity in the autumn was attributed to team sports which decline during the winter. Finally, the rural counties in which the participants reside have few resources, such as parks, walking trails, and public exercise facilities, to support safe physical activities. The mean scores for physical activity levels were lower than recommended levels at both pre-test and follow-up indicating the peer educators did not regularly role model the desired behavior. Pate et al. (2003) also reported a lack of significant increases in physical activity resulting from a rural peer educator project and recommended that future studies provide more adult staff support. Adolescents need more training and encouragement to improve self-efficacy to overcome exercise barriers and more knowledge of the intensity, types, and frequency, of exercise needed by adolescents for healthy bodies.

This study showed no significant increases in mean leadership scores. Other studies have shown that the content and duration of training may impact the effectiveness of leadership training. Story Lytle, Birnbaum, and Perry (2002) concluded that a single day of intensive training may not provide adequate time to assimilate content knowledge as well as sufficient leadership skills. While a three-year program devoted to leadership skills development resulted in significant increases (Carter & Spontanski, 1989) other programs have resulted in no significant increases (Sawyer & Pinciaro, 1997).

In addition to the brevity of leadership training provided by the Summit, the outcome may also reflect the condition of the participants at the outset. Mean leadership scores were high at every measurement time, indicating the possibility of a ceiling effect. As discussed earlier, the community program coordinators in each county recruited Teen Summit participants for their leadership potential based on recommendations from teachers and other community members familiar with them. Demographic data from the pre-test underscored the participants' involvement in leadership activities and their ability to work with groups in team sports, clubs, and other associations.

Peer Educator Self-efficacy

Results of the peer educator self-efficacy analysis were strikingly similar to the physical activity self-efficacy results. Mean peer educator self-efficacy scores increased significantly from moderate to high from pre-test to post-test but decreased significantly at follow-up. Results of this study are similar to those reported by Story, Lytle, Birnbaum & Perry (2002) who found that although training gave peer leaders more confidence, nearly half would have liked more training. The peer educator self-efficacy

questions in the current study concerned participants' confidence to teach other students about a number of behaviors including healthy eating habits and being physically active. Improving the peer educators' personal self-efficacy to perform those behaviors may increase their self-efficacy to teach others. Also, if the follow-up dip in participants' motivation to serve as peer educators resulted from unmet expectations of engaging in health behaviors as peer educators then increasing self-efficacy to engage in those behaviors may help peer educators maintain their motivation.

Data Collection Issues

Several difficulties arose in data collection. During the Summit, pre-tests were administered to the entire group in the gymnasium/auditorium and the post-tests were administered to the entire group in the cafeteria. Both conditions hampered the ability to monitor participants who may have influenced or been influenced by others around them. The surveys were long and covered many topics. Some county Wellness Directors expressed dissatisfaction with the amount of time required to complete the lengthy instruments. The post-test had to be administered before the final Summit session occurred because one county left the summit early due to the long drive home. Follow-up surveys were administered by the Wellness Directors in each county so the conditions of data collection are unknown. Additionally, some of the directors had difficulty getting all the participants to complete the surveys promptly, which delayed collection.

Conclusion

The 2005 East Central Georgia Regional Teen Wellness Youth Training Summit introduced adolescent peer educators to a wide variety of health promotion topics. Participants expressed their appreciation for what they learned about how to stay healthy

and for the fun they had. They emerged from the Summit with increased motivation to serve as peer educators, knowledge about nutrition and physical activity recommendations for adolescents, self-efficacy for engaging in physical activity and conducting peer education projects, and progression toward the action stage for healthy nutrition behaviors. However, only nutrition knowledge remained significantly higher at follow-up, and that outcome was the same for both participants who attended the nutrition session and those who did not. No improvements were seen for outcomes expectations, nutrition self-efficacy, leadership, or physical activity stages of change. It appears that peer educators did not sufficiently role model healthy nutrition and physical activity behaviors. Literature suggests that peer educators need more than one day of intensive training. The results of this study indicate that the scope of the Summit was too broad and short to have a lasting impact on peer educators. The range of ages and grade levels among participants may also have factored into the outcomes.

Achieving behavioral change is difficult with any age group, but it is particularly challenging with adolescents. Since the average age and grade level of the peer educators was 14 years and eighth grade, respectively, it can be expected that some may continue to serve as peer educators in the second and third years of the East Central Georgia Regional Teen Wellness Initiative. If that occurs and the initiative continues to target obesity-prevention behaviors then peer educators may progress in their stages of change, develop more self-efficacy, and adopt healthier behaviors which will enable them to role model those behaviors. However, program organizers should consider narrowing the learning objectives for the one-day Teen Summit and segmenting the participants into age groups with curriculum tailored to the groups' literacy and maturity levels. One way to

increase the impact of training on volunteers while continuing to target a variety of health topics would be to assign participants to learning tracks. For example, a learning track could be developed for nutrition with separate break-out sessions devoted to knowledge, self-efficacy skills, and stage progression. Each participant could then concentrate more attention on one topic. After returning to their communities, teams of nutrition peer educators could work together or with teams of physical activity peer educators to conduct health promotion projects. Also, community Wellness Directors should be trained to deliver more follow-up training to peer educators to boost improvements in knowledge, attitudes, and behavior following the Teen Summit. Wellness Directors may also try to involve peer-educators' parents to add family support and reinforcement for engaging in role modeling behaviors.

Limitations

Participants in the Teen Summit were self-selected, in that they could refuse to volunteer for the project, and there was no control group (pre-experimental design). All data was self-reported. Slightly over 20% of the participants were lost at follow-up, reducing the sample size from 92 to 72. Overall, approximately 2.6% of cases were dropped from the analyses due to missing data. None of the participants attended breakout sessions on all topics, further reducing the sample size exposed to specific parts of the intervention. The final effective sample size may have yielded insufficient power to detect significant changes at the .05 alpha level. Knowledge questions were developed for this study and were not previously validated.

Implications for Practice

Studies have shown that peer education programs are a viable method for conducting health promotion targeting various behaviors among a variety of audiences. Results of this study suggest areas that should be considered when planning, implementing, and evaluating future peer educator training programs.

- Pre-test evaluation surveys with a target audience sample and revise as needed before conducting the evaluation.
- Consider narrowing the age range for participants or tailoring the training for age-segmented groups.
- Avoid diluting the effectiveness of one-day training sessions on peer educators by developing learning tracks for specific health promotion topics.
- Consider whether it is realistic to expect peer educators to role model new behaviors within the project time frame, or if they are just expected to conduct educational projects. Plan training accordingly.
- Develop strategies for providing training boosters during the follow-up period. Wellness Directors may need additional training to provide boosters. Parental involvement could be sought to provide family support and reinforcement to peer educators.
- Maximize quality of data collection. Administer surveys to participants in smaller groups in more controlled settings. Administer follow-up surveys within three months of the initial training to minimize loss of sample size. Include Wellness Directors in evaluation planning so they will understand the benefits of evaluation to future intervention planning and program funding.

- Conduct pre- and post-intervention focus groups with a sample of peer educators to gain their input on program design.

REFERENCES

Advocates for Youth. (2002). *Guide to Implementing TAP (Teens for AIDS Prevention). A Peer Education Program to Prevent HIV and STI, 2nd ed.* Retrieved 8-20-05, from http://www.advocatesforyouth.org/publications/tap.htm

Agron, P., Takada, E. & Purcell, A. (2002). California project LEAN's food on the run program: an evaluation of a high school-based student advocacy nutrition and physical activity program. *Journal of the American Dietetic Association,* 102(3 Suppl), S103-105.)

Badura, A. S., Millard, M., Peluso, E. A. & Ortman, N. (2000). Effects of peer education training on peer educators: Leadership, self-esteem, health knowledge, and health behaviors. *Journal of College Student Development, 41*(5), 471 - 478.

Baranowski, T., Perry, C. L., & Parcel, G. S. (2002). How individuals, environments, and health behavior interact. In K. Glanz, R. K. Rimer, & F. M. Lewis (Eds.), *Health behavior and health education (3rd ed., pp. 165 – 184). San Francisco: Jossey-Bass.*

Barber, N., Bouchat, T, Bhambliss, C & Gelman, I. (1995). *Perkiomen valley peer education program.* Ursinus College, Counseling and Student Services, Collegeville, PA. (ERIC Document Reproduction Service No. ED390008)

Bartholomew, L. K., Parcel, G. S., Kok, G., & Gottlieb, N.H. (2001). Theories in health education and promotion. In Intervention mapping, designing theory – and evidenced-based health promotion programs (pp. 74 –129.) New York: McGraw-Hill

Baumgartner, T. A., Strong, C. H. & Hensley, L. D. (2002). In Conducting and reading research (3rd. ed.), *Experimental research (pp.* 166 – 185). New York: McGraw-Hill.

Buzzard, I. M, Stanton, C. A., Figueiredo, M., Fries, E. A., Nicholson, R., Hogan, C. J., & Danish, S. J. (2001). Development and reproducibility of a brief food frequency questionnaire for assessing the fat, fiber, and fruit and vegetable intakes of rural adolescents. *Journal of the American Dietetic Association, 101*(12), 1438 – 1446.

Cancer Prevention Research Center, Exercise: Stages of Change – Short Form. Retrieved 9-13-05 from http://www.uri.edu/research/cprc/Measures/Exercise02.htm

Carter, R. I. & Spotanski, D. R. (1989). Perceptions of leadership and personal development of selected high school students in Iowa. *Journal of Agricultural Education, 30*(4), 30 – 41.

Centers for Disease Control and Prevention, National Center for Health Statistics (2004), Prevalence of Overweight and Obesity Among Adults: United States, 1999-2002. Retrieved 11-19-05 from: http://www.cdc.gov/nchs/products/pubs/pubd/hestats/obese/obse99.htm

Centers for Disease Control and Prevention (CDC), BMI- Body Mass Index: BMI for Adults. Retrieved 9-9-05 from: http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-adult.htm

Centers for Disease Control and Prevention (CDC), BMI – Body Mass Index: BMI for Children and Teens. Retrieved 9-9-05 from

http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-for-age.htm

Centers for Disease Control and Prevention (CDC) (2005), 5 A Day. Retrieved September 17, 2005 from http://www.cdc.gov/nccdphp/dnpa/5aday/

Centers for Disease Control and Prevention (CDC), Morbidity and Mortality Weekly Report (2004). Methodology of the Youth Risk Behavior Surveillance System, Volume 53, No. RR-12. Retrieved 9-14-05 from http://www.cdc.gov/mmwr/PDF/rr/rr5312.pdf

Centers for Disease Control and Prevention (CDC), National Fruit & Vegetable Program. Retrieved May 4, 2007 from http://www.fruitsandveggiesmatter.gov/health_professionals/about.html

Centers for Disease Control and Prevention (CDC), Division of Adolescent and School Health. Nutrition and the Health of Young People (March 2005). . Retrieved 8-14-05 from: http://www.cdc.gov/HealthyYouth/nutrition/pdf/facts.pdf

Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS) Item Rationale for the 2005 Core Questionnaire. Retrieved 8-21-05 from http://www.cdc.gov/HealthyYouth/YRBS/pdfs/2005itemrationale.pdf

Clary, E. G. and Snyder, M. (1999, October). The motivations to volunteer: Theoretical and practical considerations. *Current Directions in Psychological Science*, *8*(5), 156-159. Retrieved September 9, 2005 from http://www.psych.ubc.ca/~schaller/Clary1999.pdf

Cowie, H. (1999). Peers helping peers: interventions, initiatives and insights. *Journal of Adolescence, 22*(4), 433 – 436.

Davis, C. L., Flickinger, B., Moore, D., Bassall, R., Baxter, S. D., & Yin, Z. (2005).

Prevalence of cardiovascular risk factors in schoolchildren in a rural Georgia Community. The American Journal of the Medical Sciences, 330(2), 53 – 59.

DeBourdeaudhuij I., Philippaerts, R., Crombez, G., Matton, L., Wijndaele, K, Balduck, A. L., et al. (2005). Stages of change for physical activity in a community sample of adolescents. *Health Education Research,* 20(3), 357 – 366.

D'Angelo, L. J. & DiClemente, R. J. (1996). Sexually transmitted diseases including human immunodeficiency virus infections. In R. J. DiClemente, W. B. Hansen, & L. E. Ponton, (Ed.). *Handbook of adolescent health risk behavior* (pp. 333 – 367). New York: Plenum Press.

French, S.A., Story, M., Fulkerson, J.A., & Hannan, P. (2004). An environmental intervention to promote lower-fat food choices in secondary schools: Outcomes of the TACOS study. *American Journal of Public Health, 94*(9), 1507-1512.

Fulkerson, J.A., French, S.A., Story, M., Nelson, H. & Hannan, P.J. (2004). Promotion to increase lower-fat food choices among students in secondary schools: description and outcomes of TACOS (Trying Alternative Cafeteria Options in Schools). *Public Health Nutrition, 7*(5), 665-674.

Garson, G. D. (n.d.). *Data Imputation for Missing Values, from Statnotes: Topics in Multivariate Analysis.* Retrieved November 11, 2007 from http://www2.chass.ncsu.edu/garson/pa765/statnote.htm.

Georgia Department of Human Resources, Division of Public Health. Overweight and Obesity in Georgia, 2005. April, 2005. Publication Number: DPH05.023HW

Georgia facts & figures: The four georgias. Retrieved August 11, 2005, Rural

communities characterized by poverty, low educational levels, and limited employment opportunities offer residents limited access to healthcare and health promotion programs. http://www.fcs.uga.edu/hace/gafacts

Georgia 2003 Youth Risk Behavior Survey (YRBS) Results. Retrieved 8-14-05 from http://www.cdc.gov/HealthyYouth/yrbs/pdfs/statefacts/georgia.pdf

Groft, J. N., Hagen, B., Miller, N. K., Cooper, N. & Brown, S. (2005). Adolescent health: A rural community's approach. *Rural and Remote Health, 5*(2), 366 – 380. Retrieved 8-22-05 from http://rrh.deakin.edu.au/publishedarticles/article_print_366.pdf

Guion, L. A. (1998). Partnerships for Progress: Summer Youth Nutrition Programs. *Journal of Extension, 36*(6), p. 5. Retrieved 8-1-05 from <http://www.joe.org/joe/1998december/iw4.html>

Hamden, S., Story, M., French, S. A., Fulkerson, J. A., & Nelson, H. (2005). Perceptions of adolescents involved in promoting lower-fat foods in schools: Associations with level of involvement. *Journal of the American Dietetic Association, 105*(2), 247-251.

Hausenblas, H. A., Nigg, C. R., Downs, D. S., Fleming, D. S. & Connaughton, D. P. (2002). Perceptions of exercise stages, barrier self-efficacy, and decisional balance for middle-level school students. *Journal of Early Adolescence, 22*(4), 436 – 454.

Healthy People 2010. http://www.health.gov/healthypeople

Jackson, C. J. and Burnham, A. (2000). Writing the survey. In *Designing and analyzing questionnaires and surveys (pp. 111 – 134). Philadelphia: Whurr Publishers.*

Klein, N. A. & Sondag, K. A. (1994). Understanding volunteer peer health educators' motivations: Applying social learning theory. *Journal of American College Health, 43*(3), 126 – 135.

Lewis, R. D., Meyer, M. C., Lehman, S. C., Trowbridge, F. L., Bason, J. J., et al. (2006). Prevalence and degree of childhood and adolescent overweight in rural, urban, and suburban Georgia. *Journal of School Health, 76*(4), 126 – 132.

Lindsey, B. J. (1997). Peer education: A viewpoint and critique. *Journal of American College Health, 45*4), 187-189.

Lytle, L. A., Murray, D. M., Perry, C. L., Story, M., Birnbaum, A. S., Kubik, M. Y., et al. (2004). School-based approaches to affect adolescents' diets: Results from the TEENS study. *Health Education & Behavior: the Official Publication of the Society for Public Health Education, 31*(2), 270-287.

Mokdad, A., Serdula, M., Dietz, W., Bowman, B., Marks, J. & Koplan, J. (1999). The spread of the obesity epidemic in the united states, 1991 – 1998. *JAMA, 282*, 1519-1522.

Mokdad, A.H., Marks, J.S., Stroup, D.F., Gerberding, J.L. (2004). Actual causes of death in the United States. Retrieved August 10, 2005, http://www.csdp.org/research/1238.pdf

Nahas, M. V., Goldfine, B. & Collins, M. A. (2003). Determinants of physical activity in adolescents and young adults: the basis for high school and college physical education to promote active lifestyles. *Physical Educator, 60*(1), 42 – 56.

Ott, M. A., Evans, N. L., Halpern-Felsher, B. L., & Eyre, S. L. (2003). Differences in

altruistic roles and HIV risk perception among staff, peer educators, and student in an adolescent peer education program. *AIDS Education and Prevention,*

15(2), 159-171.

Pallant, J. (2001). *SPSS Survival Manual.* Philadelphia, PA: Open University Press.

Prochaska, J. O., Redding, C. A., & Evers, K. E. (2002). The transtheoretical model and stages of change. In K. Glanz, R. K. Rimer, & F. M. Lewis (Eds.), *Health behavior and health education (3rd ed., pp. 99 - 120). San Francisco: Jossey-Bass.*

Puskar, K. R., Tusaie-Mumford, K., Sereika, S. & Lamb, J. (1999). Health concerns and risk behaviors of rural adolescents. *Journal of community health nursing, 16*(2), 109 – 119.

Parcel, G. S., Edmundson, E., Perry, C. L., Feldman, H. A., O'Hara-Tompkins, Nader, P. R., et al. (1995). Measurement of self-efficacy for diet-related behaviors among elementary school children. *Journal of School Health, 65*(1), 23-27.

Pate, R. R., Saunders, R. P., Ward, D. S., Felton, G., Trost, S. G. & Dowda, M. (2003). Evaluation of a community-based intervention to promote physical activity in youth: Lessons from active winners. *American Journal of Health Promotion, 17*(3), 171 – 182.

Reeser, J. C., Berg, R. L., Rhea D., & Willick, S. (2005). Motivation and satisfaction among polyclinic volunteers at the 2002 Winter Olympic and Paralympic Games. *British journal of sports medicine, 39*(4), 20-24?? Retrieved 8-28-05

from http://web24.epnet.com/citation.asp?tb=1&_ug=sid+8FB2E44F%2D1AA4%2D44BF%2D

Ryan, G. J. and Dzewaltowski, D.A. (2002). Comparing the relationships between different types of self-efficacy and physical activity in youth. *Health education & Behavior: the Official Publication of the Society for Public Health Education, 29*(4), 491-504.

Sallis, J. F., Prochaska, J. J., and Taylor, W.C. (2000). A review of correlates of physical activity of children and adolescents. *Medicine and Science in Sports and Exercise, 32*(5), 963- 975.

Sanderson, B. K., & Taylor, H. A. (1999). Handbook of health promotion and disease prevention. In J. M. Raczynski & R. J. DiClemente (Ed.). *Physical activity*, pp. 191 – 206. New York: Kluwer Academic/Plenum Publishers.

Sawyer, R. G. & Pinciaro, P. (1997). How peer education changed peer sexuality educators' self-esteem, personal development, and sexual behavior. *Journal of American College Health, 45*(5), 211-217.

Shaw, A., Fulton, L., Davis, C. and Hogbin, M. (n.d.) *Using the food guide pyramid: a resource for nutrition educators.* United States Department of Agriculture. Food, Nutrition, and Consumer Services Center for Nutrition Policy and Promotion. Retrieved September 17, 2005 from http://www.nal.usda.gov/fnic/Fpyr/guide.pdf

Shiner, J. (1999). Defining peer education. *Journal of Adolescence, 22*(4), 555-566.

Sherwood, N. E. and Jeffery, R. W. (2000). The behavioral determinants of exercise:

implications for physical activity interventions. *Annual Review of Nutrition, 20*, 21 – 44.

Sporny, L. A. & Contento, I. R. (1995). States of change in dietary fat reduction: Social psychological correlates. *Journal of Nutrition Education, 27*(4), 191 – 199.

Story, M., Lytle, L. A., Birnbaum, A. S. & Perry, C.L. (2002). Peer-led, school-based nutrition education for young adolescents: Feasibility and process evaluation of the TEENS study. *Journal of School Health, 72*(3), 121-127.

United States Department of Agriculture. (n.d.). The 2005 *Dietary Guidelines for Americans.* Retrieved September 17, 2005 from: http://www.health.gov/dietaryguidelines/

United States Department of Agriculture. (2005, April 19). MyPyramid.gov: Steps to a Healthier You. Retrieved September 17, 2005 from: http://www.mypyramid.gov/

United States Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General*. Atlanta, GA: Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, 1996.

APPENDIX A

COUNTY DEMOGRAPHIC PROFILE

	Georgia	Glascock	Jenkins	Lincoln	McDuffie	Screven	Taliaferro	Warren	Wilkes
Total Population	8186453	2556	8575	8348	21231	15374	2077	6336	10687
% Race/Ethnicity									
Asian	2.1	0	0	0.2	0.3	0.3	0	0.1	0.1
Black	28.6	8.6	40.4	34.4	38.1	44.7	59.7	58.9	43.5
Hispanic	5.3	0.5	3.0	1.0	0.7	1.4	0.2	0.6	1.3
Native American	0.3	0.3	0.1	0.1	0.6	0.1	0	0.5	0.2
White	65.1	90.6	55.9	64.4	60.0	53.7	38.2	39.7	55.1
%Proportions below poverty level									
Individual	2.1	4.1	4.0	3.3	3.0	4.0	4.5	3.7	4.0
Families	2.6	2.7	5.9	3.5	3.9	4.2	6.0	6.4	3.6
% Highest level of educational attainment[§]									
Bachelor's degree or higher	24.3	6.5	10.8	10.1	11.7	10.2	8.4	8	12
Some College or assoc. degree	25.6	19.3	18.4	24.6	19.8	18.1	15.3	14.4	17.1
High School graduate	28.7	40.3	32.9	36.3	35.2	38.6	32.6	37.1	35.9
<9th grade	21.4	33.9	38	29	33.3	33.1	43.8	31.7	35
% Eligible for free and reduced lunch									
Middle (grades 6-8)	47	77		63	67	77		84[¥]	63
High (grades 9-12)	32	67		53	59	75			55

	Georgia	Glascock	Jenkins	Lincoln	McDuffie	Screven	Taliaferro	Warren	Wilkes
%High school drop outs	0.3	0.4	0.3	0.1	0.5	0.3	0.3	0	0.2

[§]Highest level of educational attainment for persons 25 years & older.
*Grades k-12 consolidated into one school

[¥]Grades 6-12 consolidated into one school

% Unemployment Rate: 16 years and over (2005)	5.6	5.8	7.0	7.4	7.8	6.5	6.9	11.4	6.3
%of Children (0-17 yrs) below Poverty	4.5	2.8	11.3	4.8	7.2	6.2	7.4	9.3	5.7
% of Population Receiving Food Stamps (2001)	6.1	7.6	15.2	9.6	12.3	13.2	19.8	14.3	11.2
% of Population Receiving Medicaid (2001)	19.3	29	34.9	21.7	32.3	29.2	30.7	33.2	25.8

Total Population: www.census.gov
Race/Ethnicity: www.census.gov
Proportions below poverty level: www.census.gov
Educational Attainment: www.census.gov
Eligible for free and reduced lunch: www.greatschools.net
High school drop outs: 2004 Georgia County Guide or www.georgiastats.uga.edu
Unemployment Rate: County Labor Force Estimates
Children Below poverty: www.census.gov
Food Stamps: Georgia Facts and Figures (www.fcs.uga.edu/hace/gafacts)
Medicaid: Georgia Facts and Figures (www.fcs.uga.edu/hace/gafacts)

APPENDIX B

PARENTAL PERMISSION FORM

I agree to allow my child, _____, to take part in a research study titled, "Evaluation of East Central Georgia Teen Peer Educator Training Program", which is being conducted by Ms. Teresa Kaley, from the Department of Health Promotion and Behavior at the University of Georgia (706-583-0662) under the direction of Dr. Mark G. Wilson, Department of Health Promotion and Behavior (706-542-4364). I do not have to allow my child to be in this study if I do not want to. My child can stop taking part at any time without giving any reason, and without penalty. I can ask to have the information related to my child returned to me, removed from the research records, or destroyed.

- The reason for the study is to find out if students who attend the one-day training session on September 24, 2005 increase their knowledge, skills, and confidence to teach their peers to choose healthy lifestyle behaviors concerning nutrition, physical activity, and stress management.

- Students who participate in the evaluation survey will not benefit directly from completing the survey, but the researcher hopes to learn something about training peer educators that will help improve training for adolescents in the future.

- If I allow my child to take part, my child will be asked to answer a paper and pencil survey about nutrition, physical activity, stress management, and his/her confidence and desire to become a peer educator. The researcher will ask my child to complete the survey at the beginning and end of a one-day training seminar to be held on September 24, 2005. The researcher will also ask my child to repeat the survey approximately 3 months after the training seminar. This survey will take approximately 15 minutes to complete. If I do not want my child to take part then she/he will be allowed to participate in usual activities.

- The research is not expected to cause any harm or discomfort. My child can quit at any time. My child's grade will not be affected if my child decides to stop taking part.

- Any information collected about my child will be held confidential unless otherwise required by law. My child's identity will be coded, and all data will be kept in a secured location.

- The researcher will answer any questions about the research, now or during the course of the project, and can be reached by telephone at: 706-583-0662. I may

also contact the professor supervising the research, Dr. Mark G. Wilson, Dept. of Health Promotion and Human Behavior, at 706-542-4364.

- I understand the study procedures described above. My questions have been answered to my satisfaction, and I agree to allow my child to take part in this study. I have been given a copy of this form to keep.

_____	_____	_____
Name of Researcher	Signature	Date

Telephone: _706-583-0662___
Email: _tkaley@uga.edu_____

_____	_____	_____
Name of Parent or Guardian	Signature	Date

Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your child's rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

APPENDIX C: Minor Assent Form

DATE

Dear Participant,

You are invited to participate in my research project titled, "Evaluation of East Central Georgia Teen Peer Educator Training Program." Through this project I am learning about how adolescents can learn to teach their peers about making healthy lifestyle choices.

If you decide to be part of this, you will answer a paper and pencil survey about nutrition, physical activity, stress management, and being a peer educator. You will be asked to complete the survey at the beginning and end of the training session you will attend on September 24, 2005 and once again about three months later. Your participation in this project will not affect your grades in school. I will not use your name on any papers that I write about this project. You will not benefit directly from participating in this study, but I hope to learn something about training peer educators that will help other adolescents in the future.

If you want to stop participating in this project, you are free to do so at any time. You can also choose not to answer questions that you don't want to answer.

If you have any questions or concerns you can always ask me or call my teacher, Dr. Mark Wilson at the following number: 706-542-4364.

Sincerely,

Teresa B. Kaley
Department of Health Promotion and Behavior, University of Georgia
Phone: 706-583-0662
Email: tkaley@uga.edu

I understand the project described above. My questions have been answered and I agree to participate in this project. I have received a copy of this form.

_____
Signature of the Participant/Date

Please sign both copies, keep one and return one to the researcher.

Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 612 Boyd Graduate Studies Research Center, Athens, Georgia 30602-7411; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

APPENDIX D

East Central Georgia Regional Teen Wellness Initiative Logic Model Overview				
Resources	**Activities**	**Outputs Short**	**Short & Long-Term Outcomes**	**Impact**
In order to accomplish our set of activities we will need the following:	*In Order to address our problem we will accomplish the following activities:*	We expect that once accomplished, these activities will produce the following evidence or service deliver: (Process Objectives)	*We expect that if accomplished, these activities will lead to the following changes in 1-3 then 4-6 years:* (Outcome Objectives)	*We expect that if accomplished, these activities will lead to the following changes in 7 -10 years and longer:*
Funded through the RHO Grant -Full-Time Administrative Assistant/Bookkeeper. -One part-time Wellness Coordinator in each county. -Materials, supplies and telecommunication expenses. -Annual youth training summit. -Project Director's participation at mandatory annual conference. -Travel for County Wellness Coordinators. -Evaluation services **Matching Resources** -Project Director's time. -Eight Collaborative Executive Directors' time to serve as the county level Project Coordinator/Grant	**Youth Leadership Training** -Annual Youth Training Summit. -Monthly local Youth Wellness Team Meetings. **Local health Promotion Activities Targeting Middle and High School Students** -Local health promotion projects. -Ongoing local healthy lifestyles youth outreach	An **Annual Youth Training Summit will be held each July** for a minimum of 10 – 20 youth from each of the 8 counties (total of 80 – 160 youth from region). Each **local Youth Wellness Team will meet monthly**, beginning in August 2005. Each local Youth Wellness team **will plan, implement and monitor a minimum of four health promotion projects each year.**	To **decrease the percentage of local high school students who report that they have drunk beer or wine coolers** by at least 10% by the end of the 2007 – 2008 school year. To **decrease the percentage of local high school students who report that they have smoke cigarettes** by at least 10% by the end of the 2007 – 2008 school year. To **decrease the percentage of local high school students who report that they have tried marijuana** by at least 5% by the end of the 2007 – 2008 school year. To **delay the onset of sexual activity among local students** by at least a year by the end of the 2007 – 2008 school year.	To decrease the percentage of adults with: - High blood pressure - High total blood cholesterol - Diabetes - Cancer - Substance abuse issues

	campaign.			
Resources	**Activities**	**Outputs Short**	**Short & Long-Term Outcomes**	**Impact**
In order to accomplish our set of activities we will need the following:	*In Order to address our problem we will accomplish the following activities:*	We expect that once accomplished, these activities will produce the following evidence or service deliver: (Process Objectives)	*We expect that if accomplished, these activities will lead to the following changes in 1-3 then 4-6 years:* (Outcome Objectives)	*We expect that if accomplished, these activities will lead to the following changes in 7 -10 years and longer:*
Administrator. -The use of staff office space, furniture, some equipment, utilities, grounds/building maintenance, custodial services, and meeting room space for Coalition related activities. -At least 16 volunteer collaborative members to serve on the East Central Georgia Regional Teen Wellness Coalition. -Time of the Public health District, Medical College of Georgia, and The University of Georgia's staff to serve on the Coalition and assist with the annual youth training summit.		Each local Youth Wellness team **ongoing local healthy lifestyles youth outreach campaign that will involve communicating at least quarterly with the majority of middle and high school age youth in the county.**	To in**crease the percentage of local high school students who report engaging in regular physical activity** by at least 10% by the end of the 2007 – 2008 school year. To in**crease the percentage of local high school students who report eating nutritious, well-balanced meals on a regular basis** by at least 10% by the end of the 2007 – 2008 school year.	

APPENDIX E - Project Management Matrix			
Activities	**Timetable for Each Activity**	**Responsible Organization or Person**	**Anticipated Results**
Ongoing continuing education for staff members and staff of community partners.	Ongoing	Project Director; Collaborative Executive Directors; County Wellness Coordinators	
Youth Leadership Training (All Objectives)			
Recruit/select local youth wellness teams.	May 2005	Collaborative Executive Directors and other local collaborative members	Trained youth wellness teams who are capable of planning, implementing and monitoring local project related activities by July 30, 2005.
Conduct regional annual training summit for youth wellness team members	July 2005 July 2006 July 2007	Project Director	
Conduct monthly local youth wellness team meetings which will include an ongoing training component.	Ongoing beginning August 2005	County Wellness Coordinator	
Local Health Promotion Projects Targeting Middle and High School Students (All Objectives):			
Plan, implement and monitor projects (targeting local youth) that will be designed to address the issues of: alcohol, tobacco and other drug use; sexual activity; physical activity; and nutrition.	Ongoing beginning August 2005	Youth Wellness Team; County Wellness Coordinator (supervise)	Youth participating in local health promotion projects will report reduction of risks factors addressed in each of the above mentioned outcome objectives.
Plan, implement and monitor an ongoing local healthy lifestyles youth outreach campaign.	Ongoing beginning August 2005	Youth Wellness Team; County Wellness Coordinator (supervise)	
Evaluation (All Objectives):			
Prepare quarterly evaluation reports.	Ongoing beginning August 2005	Independent Evaluator	Establishment of an ongoing evaluation process by June 2005.
Present quarterly evaluation reports to East Central Georgia Regional Teen Wellness Coalition.	Ongoing beginning August 2005	Independent Evaluator	

Project Management Matrix Continued			
Activities	**Timetable for Each Activity**	**Responsible Organization or Person**	**Anticipated Results**
Conduct ongoing staff development/continuing education opportunities for the youth wellness team members, coalition staff and community partners' staff (regarding quality issues identified through evaluation process)	Ongoing beginning September 2005	Independent Evaluator; Other individuals with expertise in relevant topics.	
General information dissemination throughout county.	Ongoing beginning August 2005	Collaborative Executive Director; County Wellness Coordinator; Youth Wellness Team	.

Outcome Measures:

- The percentage of local high school students who report that they have drunk beer or wine coolers.
- The percentage of local high school student who report that they have smoke cigarettes.
- The percentage of local high school students who report that they have tried marijuana.
- The average age for the onset of sexual activity among students completing annual survey.
- The percentage of students who report engaging in regular physical activity.
- The percentage of students who report eating nutritious, well-balanced meals o a regular basis.

The six outcome objectives are interrelated and will be achieved by the end of the third year of the project. This section explains the activities listed on the following time line. The time line design is based upon notification of funding in early May 2005 for a three year funding period ending on April 30, 2008.

Strategic Planning:

As soon as we receive notification of the grant award, the East Central Georgia Regional Teen Wellness Coalition will begin meeting quarterly to track progress towards obtaining the project's stated objectives, monitor the ongoing work plan and make policy decisions. Each of the eight county collaboratives has agreed to appoint at least two collaborative members to serve on the coalition (along with their Executive Director, County Wellness Coordinator and Youth Wellness Team members). In addition, the Lincoln County Commission, Public Health District 6, Medical College of Georgia, The University of Georgia, and the Georgia Family Connection Partnership will also appoint a representative to serve on the coalition. The regional coalition will review the evaluation data quarterly at meetings in November, February, May and August of each year. The regional coalition will rely upon its management team to make the day-to-day decisions between the quarterly meetings.

APPENDIX F: PRE-TEST SURVEY

Participant I. D. #_____

East Central Georgia Regional Teen Wellness Initiative Survey

INSTRUCTIONS:

- **Write your Participant I.D. number in the space above. Your I.D. number is on your neck tag.**
- **Do not write your name on the form.**
- **For multiple choice questions, circle the letter that corresponds to your answer.**

PEER EDUCATOR QUESTIONS

The following questions are about how you feel about being a peer health educator. Check the column that best describes how well each statement describes you.

	1 Not true of you at all	2 A little true of you	3 Pretty true of you	4 Very true of you	5 Completely true of you
1. I really want to be a peer educator.	___	___	___	___	___
How true of <u>you</u> are <u>these reasons for volunteering to be a peer educator?</u>					
2. My friend(s) volunteered.	___	___	___	___	___
3. Volunteering makes me feel important.	___	___	___	___	___
4. By volunteering, I feel less lonely.	___	___	___	___	___
5. Volunteering allows me to explore different career options.	___	___	___	___	___
6. I feel it is important to help others.	___	___	___	___	___
7. Volunteering lets me learn through direct "hands on" experience.	___	___	___	___	___

This part looks at how sure you are that you can do health promotion activities among your peers in your community. Read each item and check the column that best describes how you feel.

How sure are you that you can do the following:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
8. Teach other students about healthy eating habits?	___	___	___	___	___
9. Teach other students about being physically active.	___	___	___	___	___
10. Teach other students about stress management.	___	___	___	___	___
11. Teach other students about body image and media influence.	___	___	___	___	___
12. To find creative ways to plan peer educator projects.	___	___	___	___	___
13. To express messages through poetry or other creative forms	___	___	___	___	___

For this part, think ahead to next week and answer the following questions:

How sure are you that you can do the following:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
14. Ask for lettuce and tomato on your hamburger?	___	___	___	___	___
15. Drink low-fat white milk instead of regular white milk?	___	___	___	___	___
16. Eat cereal instead of a donut?	___	___	___	___	___
17. Eat fresh fruit instead of a candy bar?	___	___	___	___	___

Still think ahead to next week and answer the following questions:

How sure are you that you can do the following:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
18. Take off and not eat the skin of your chicken?	___	___	___	___	___
19. Ask for frozen yogurt instead of ice cream?	___	___	___	___	___
20. Eat a baked potato instead of French fries?	___	___	___	___	___
21. Drink 100% fruit juice instead of a soft drink (soda)?	___	___	___	___	___
22. Eat a salad from the salad bar at school or at a fast food restaurant instead of ordering a hamburger and fries?	___	___	___	___	___

This part looks at how *sure you are you can exercise when other things get in the way.* Read the following items and check the column that best describes how you feel about each one:

How sure are you that you you can:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
23. Exercise when you are under a lot of stress?	___	___	___	___	___
24. Exercise when you feel you don't have the time?	___	___	___	___	___
25. Exercise when you have to exercise alone?	___	___	___	___	___
26. Exercise when you don't have exercise equipment?	___	___	___	___	___

How sure are you that you you can:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
27. Exercise when you are spending time with friends or family who do not exercise?	___	___	___	___	___
28. Exercise when it's raining or it's hot or cold outside?	___	___	___	___	___

This part looks at what you expect to happen if you teach other students about wellness topics as a peer educator. Read each item and check the column that best describes how you feel.

How likely do you think the following things may happen if you are a peer educator?	1 Very unlikely	2 Somewhat unlikely	3 Neither likely nor unlikely	4 Somewhat likely	5 Very likely
29. Other students will respect me.	___	___	___	___	___
30. Other students will think I am a nerd.	___	___	___	___	___
31. I will become healthier.	___	___	___	___	___
32. I will eat better.	___	___	___	___	___
33. I will be more physically active.	___	___	___	___	___
34. I will manage stress better.	___	___	___	___	___
35. I will not have enough time to do things I want to do.	___	___	___	___	___

How much do you agree or disagree with these statements about your self?

	1 Strongly Disagree	**2** Disagree	**3** Neither Agree nor Disagree	**4** Agree	**5** Stongly Agree
36. I am recognized as a leader by those my own age.	___	___	___	___	___
37. I set goals that I want to reach	___	___	___	___	___
38. I can explain difficult ideas to others to help them understand.	___	___	___	___	___
39. I can express my opinions when I feel they are important	___	___	___	___	___
40. I can lead a discussion.	___	___	___	___	___
41. I can cooperate and work in a group.	___	___	___	___	___

NUTRITION

42. How many cups of fruit should a person eat each day for good health?
    - A 1 A Day
    - B. 5 A Day
    - C. Depends on the person's age, sex, and activity level
    - D. I don't know

43. How much milk should a person drink each day for good health?
    - A. 1 cup
    - B. 2 cups
    - C. 3 cups
    - D. Adolescents don't need to drink milk every day

44. The MyPyramid includes all of the following **EXCEPT?**
    - A. Variety
    - B. Activity
    - C. Convenience
    - D. Moderation

45. Which of these is **FALSE**?
    - A. Eating breakfast is a good way to get calcium.
    - B. It is best to skip breakfast if you want to lose weight.
    - C. Eating breakfast helps you concentrate better in school.
    - D. Fruity Yogurt Treats make a healthy breakfast.

46. Unhealthy eating can lead to which of these health problems?
    A. High blood pressure
    B. Diabetes
    C. Cancer
    D. All of the above

The next 6 questions ask about food you have eaten or drunk in the *past 7 days.* Think about all the meals and snacks you had from the time you got up until the time you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

47. During **the past 7 days**, how many times did you drink **100% fruit juices** such as orange juice, apple juice, or grape juice? (Do **not** count punch, Kool-Aid, sports drinks, or other fruit flavored drinks.)
    A. I did not drink 100% fruit juice in the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 time per day
    E. 2 times per day
    F. 3 times per day
    G. 4 times or more per day

48. During **the past 7 days**, how many times did you eat **fruit?** (Do **not** count fruit juice.)
    A. I did not eat fruit in the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 time per day
    E. 2 times per day
    F. 3 times per day
    G. 4 times or more per day

49. During **the past 7 days**, how many times did you eat a **lettuce salad?**
    A. I did not eat lettuce salad during the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 time per day
    E. 2 times per day
    F. 3 times per day
    G. 4 times or more per day

50. During **the past 7 days**, how many times did you eat **potatoes?** (Do not count French fries, fried potatoes, or potato chips.)
    A. I did not eat potatoes during the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 time per day
    E. 2 times per day
    F. 3 times per day
    G. 4 times or more per day

51. During **the past 7 days**, how many times did you eat **other vegetables**? (Do **not** count lettuce salad or potatoes).
    A. I did not eat other vegetables during the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 time per day
    E. 2 times per day
    F. 3 times per day
    G. 4 times or more per day

52. During **the past 7 days,** how many **glasses of milk** did you drink? (Include the milk you rank in a glass or cup, from a carton, or with cereal. County the half pint of milk served at school as equal to one glass.)
    A. I did not drink milk during the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 glass per day
    E. 2 glasses per day
    F. 3 glasses per day
    G. 4 glasses per day

For the next 5 questions think about how you eat now and how you plan to eat in the future.

53. On most days (5 – 7 days a week) do you **eat breakfast either at home or at school?**
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months**.**
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

54. On most days (5 – 7 days a week) do you eat **at least 2 servings of fruit?**
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

55. On most days (5 – 7 days a week) do you eat at least **2 servings of vegetables**? **Do not count French fries or mashed or baked white potatoes**.
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months**.**
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

56. Do you eat **whole grain bread** instead of white bread?
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

57. Do you drink **lower fat milk (skim, 1%, or 2%)** instead of regular whole milk?
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

PHYSICAL ACTIVITY

58. What is the most important reason to have structured physical activity for youth in various settings:
    A. To keep youth from getting bored
    B. To encourage lifelong healthy habits like physical activity
    C. To turn youth into good athletes
    D. To keep youth out of trouble

59. Youth should be physically active _____ minutes everyday or most days.
    A. 20 minutes
    B. 30 minutes
    C. 45 minutes
    D. 60 minutes

60. Approximately 15% of youth are considered overweight. What is one way to decrease this trend?
    A. Read more comic books
    B. Sit on the couch and talk to friends
    C. Decrease screen time for TV, Computers, Hand Games
    D. Eat low fat candy bars for snacks

61. What are some ways you can promote physical activity among youth?
    A. Have weekly discussions about the benefits of physical activity
    B. Provide a structured physical activity program in an after school setting
    C. Plan for a TV Turnoff Week in the community and replace the TV viewing time with physical activity.
    D. All of the above

62. Which of these is most helpful in getting youth to be physically active everyday?
    A. Have an exercise buddy
    B. Have the right sports equipment
    C. Belong to a gym
    D. Live where the climate is always good

63. How many of **the past 7 days** did you exercise or participate in physical activity **for at least 20 minutes that made you sweat and breathe hard,** such as basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or similar aerobic activities?
    A. 0 days
    B. 1 day
    C. 2 days
    D. 3 days
    E. 4 days
    F. 5 days
    G. 6 days
    H. 7 days

64. On how many of **the past 7 days** did you exercise or participate in physical activity **for at least 30 minutes** that did **not** make you sweat and breathe hard, such as fast walking, slow bicycling, skating, pushing a lawn mower, or mopping floors?
    A. 0 days
    B. 1 day
    C. 2 days
    D. 3 days
    E. 4 days
    F. 5 days
    G. 6 days
    H. 7 days

65. During **the past 7 days** on how many days were you physically active for a total of **at least 60 minutes per day?** (Add up all the time you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time.)
    A. 0 days
    B. 1 day
    C. 2 days
    D. 3 days
    E. 4 days
    F. 5 days
    G. 6 days
    H. 7 days

66. On how many of **the past 7 days** did you do exercises to strengthen or tone your muscles, such as push-ups, sit-ups, or weight lifting?
    A. 0 days
    B. 1 day
    C. 2 days
    D. 3 days
    E. 4 days
    F. 5 days
    G. 6 days
    H. 7 days

67. On an average school day, how many hours do you watch TV?
    A. I do not watch TV on an average school day
    B. Less than 1 hour per day
    C. 1 hour per day
    D. 2 hours per day
    E. 3 hours per day
    F. 4 hours per day
    G. 5 or more hours per day

Read the following definition of "Regular Exercise" and then answer question #68. ***Regular Exercise*** **is any physical activity that you plan, such as fast walking, aerobics, jogging, bicycling, swimming, dancing, running games, sports (such as baseball, basketball, softball, or football), cheerleading, or other activity that makes your heart beat faster and makes you breathe deeper. Such an activity should be done 3 to 5 times per week for 20 to 60 minutes at a time.**

68. **According to that definition, do you exercise regularly**?
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

GENERAL QUESTIONS

Please provide the following information about yourself:

69. What is your date of birth (mo/da/yr)? _____

70. Are you:
    A. Boy (male)
    B. Girl (Female)

71. How do you describe yourself? Circle all that apply.
    A. American Indian or Alaska Native
    B. Asian
    C. Black or African American
    D. Hispanic or Latino
    E. Native Hawaiian or Other Pacific Islander
    F. White

72. In what grade are you?
    A. 5th grade
    B. 6th grade
    C. 7th grade
    D. 8th grade
    E. 9th grade
    F. 10th grade
    G. 11th grade
    H. 12th grade

73. Are you eligible to receive free/reduced price lunch?
    A. Yes
    B. No

74. Which of the following extra-curricular activities are you doing this school year? Check all that apply:
    A. Team sport(s)
    B. Band
    C. Cheerleading
    D. Drama Club
    E. School newspaper
    F. School yearbook
    G. Student Council
    H. School-based club
    I. Other activity: _____
    J. None

75. Do you have a part-time job after school or on the weekend?
    A. Yes **If yes, how many hours per week do you work? _____**
    B. No

76. Think about your parent that has the most education. What is that parent's highest level of education?
    A. High school or less
    B. Trade school or some college
    C. Graduated college or more
    D. Don't know

Thank you for completing this

APPENDIX G: POST-TEST SURVEY

Participant I. D. #_____

East Central Georgia Regional Teen Wellness Initiative Survey

INSTRUCTIONS:

- **Write your Participant I.D. number in the space above. Your I.D. number is on your neck tag.**
- **Do not write your name on the form.**
- **For multiple choice questions, circle the letter that corresponds to your answer.**

PEER EDUCATOR QUESTIONS

The following questions are about how you feel about being a peer health educator. Check the column that best describes how well each statement describes you.

	1 Not true of you at all	2 A little true of you	3 Pretty true of you	4 Very true of you	5 Completely true of you
1. I really want to be a peer educator.	___	___	___	___	___
How true of you are these reasons for volunteering to be a peer educator?					
2. My friend(s) volunteered.	___	___	___	___	___
3. Volunteering makes me feel important.	___	___	___	___	___
4. By volunteering, I feel less lonely.	___	___	___	___	___
5. Volunteering allows me to explore different career options.	___	___	___	___	___
6. I feel it is important to help others.	___	___	___	___	___
7. Volunteering lets me learn through direct "hands on" experience.	___	___	___	___	___

This part looks at how sure you are that you can do health promotion activities among your peers in your community. Read each item and check the column that best describes how you feel.

How sure are you that you can do the following:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
8. Teach other students about healthy eating habits?	___	___	___	___	___
9. Teach other students about being physically active.	___	___	___	___	___
10. Teach other students about stress management.	___	___	___	___	___
11. Teach other students about body image and media influence.	___	___	___	___	___
12. To find creative ways to plan peer educator projects.	___	___	___	___	___
13. To express messages through poetry or other creative forms	___	___	___	___	___

For this part, think ahead to next week and answer the following questions:

How sure are you that you can do the following:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
14. Ask for lettuce and tomato on your hamburger?	___	___	___	___	___
15. Drink low-fat white milk instead of regular white milk?	___	___	___	___	___
16. Eat cereal instead of a donut?	___	___	___	___	___
17. Eat fresh fruit instead of a candy bar?	___	___	___	___	___

Still think ahead to next week and answer the following questions:

How sure are you that you can do the following:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
18. Take off and not eat the skin of your chicken?	___	___	___	___	___
19. Ask for frozen yogurt instead of ice cream?	___	___	___	___	___
20. Eat a baked potato instead of French fries?	___	___	___	___	___
21. Drink 100% fruit juice instead of a soft drink (soda)?	___	___	___	___	___
22. Eat a salad from the salad bar at school or at a fast food restaurant instead of ordering a hamburger and fries?	___	___	___	___	___

This part looks at how *sure you are you can exercise when other things get in the way.* Read the following items and check the column that best describes how you feel about each one:

How sure are you that you you can:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
23. Exercise when you are under a lot of stress?	___	___	___	___	___
24. Exercise when you feel you don't have the time?	___	___	___	___	___
25. Exercise when you have to exercise alone?	___	___	___	___	___
26. Exercise when you don't have exercise equipment?	___	___	___	___	___

How sure are you that you you can:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
27. Exercise when you are spending time with friends or family who do not exercise?	___	___	___	___	___
28. Exercise when it's raining or it's hot or cold outside?	___	___	___	___	___

This part looks at what you expect to happen if you teach other students about wellness topics as a peer educator. Read each item and check the column that best describes how you feel.

How likely do you think the following things may happen if you are a peer educator?	1 Very unlikely	2 Somewhat unlikely	3 Neither likely nor unlikely	4 Somewhat likely	5 Very likely
29. Other students will respect me.	___	___	___	___	___
30. Other students will think I am a nerd.	___	___	___	___	___
31. I will become healthier.	___	___	___	___	___
32. I will eat better.	___	___	___	___	___
33. I will be more physically active.	___	___	___	___	___
34. I will manage stress better.	___	___	___	___	___
35. I will not have enough time to do things I want to do.	___	___	___	___	___

How much do you agree or disagree with these statements about yourself?

	1 Strongly Disagree	**2** Disagree	**3** Neither Agree nor Disagree	**4** Agree	**5** Stongly Agree
36. I am recognized as a leader by those my own age.	___	___	___	___	___
37. I set goals that I want to reach	___	___	___	___	___
38. I can explain difficult ideas to others to help them understand.	___	___	___	___	___
39. I can express my opinions when I feel they are important	___	___	___	___	___
40. I can lead a discussion.	___	___	___	___	___
41. I can cooperate and work in a group.	___	___	___	___	___

NUTRITION

42. How many cups of fruit should a person eat each day for good health?
    - A 1 A Day
    - B. 5 A Day
    - C. Depends on my age, sex, and activity level
    - D. I don't know

43. How much milk should a person drink each day for good health?
    - A. 1 cup
    - B. 2 cups
    - C. 3 cups
    - D. At my age I don't need to drink milk every day

44. The MyPyramid includes all of the following **EXCEPT?**
    - A. Variety
    - B. Activity
    - C. Convenience
    - D. Moderation

45. Which of these is **FALSE**?
    - A. Eating breakfast is a good way to get calcium.
    - B. It is best to skip breakfast if you want to lose weight.
    - C. Eating breakfast helps you concentrate better in school.
    - D. Fruity Yogurt Treats make a healthy breakfast.

46. Unhealthy eating can lead to which of these health problems?
    A. High blood pressure
    B. Diabetes
    C. Cancer
    D. All of the above

For the next 5 questions think about what you do now and plan to do or not do in the future.

47. On most days (5 – 7 days a week) do you **eat breakfast either at home or at school?**
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months**.**
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

48. On most days (5 – 7 days a week) do you eat **at least 2 servings of fruit?**
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

49. On most days (5 – 7 days a week) do you eat at least **2 servings of vegetables**? **Do not count French fries or mashed or baked white potatoes**.
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months**.**
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

50. Do you eat **whole grain bread** instead of white bread?
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

51. Do you drink **lower fat milk (skim, 1%, or 2%)** instead of regular whole milk?
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

PHYSICAL ACTIVITY

52. What is the most important reason to have structured physical activity for youth in various settings:
    A. To keep youth from getting bored
    B. To encourage lifelong healthy habits like physical activity
    C. To turn youth into good athletes
    D. To keep youth out of trouble

53. Youth should be physically active _____ minutes everyday or most days.
    A. 20 minutes
    B. 30 minutes
    C. 45 minutes
    D. 60 minutes

54. Approximately 15% of youth are considered overweight. What is one way to decrease this trend?
    A. Read more comic books
    B. Sit on the couch and talk to friends
    C. Decrease screen time for TV, Computers, Hand Games
    D. Eat low fat candy bars for snacks

55. What are some ways you can promote physical activity among youth?
    A. Have weekly discussions about the benefits of physical activity
    B. Provide a structured physical activity program in an after school setting
    C. Plan for a TV Turnoff Week in the community and replace the TV viewing time with physical activity.
    D. All of the above

56. Which of these is most helpful in getting youth to be physically active everyday?
    A. Have an exercise buddy
    B. Have the right sports equipment
    C. Belong to a gym
    D. Live where the climate is always good

Read the following definition of "Regular Exercise" and then answer question #63. *Regular Exercise* is any physical activity that you plan, such as fast walking, aerobics, jogging, bicycling, swimming, dancing, running games, sports (such as baseball, basketball, softball, or football), cheerleading, or other activity that makes your heart beat faster and makes you breathe deeper. Such an activity should be done 3 to 5 times per week for 20 to 60 minutes at a time.

57. **According to that definition, do you exercise regularly**?
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

The next questions are about today's training sessions:

58. Which sessions did you attend today? **Circle only the sessions you attended.**
    A. Food and nutrition
    B. Physical Activity
    C. Thinking Out of the Box (Leadership)
    D. Stress Management (Yoga)
    E. Body Image and Media Influence
    F. Poetic Magic

	1 Very Unsatisfied	2 Somewhat Unsatisfied	3 Did not attend session	4 Somewhat satisfied	5 Very satisfied
How satisfied were you with the sessions you attended?					
59. Food and nutrition	___	___	___	___	___
60. Physical Activity	___	___	___	___	___
61. Thinking Out of the Box	___	___	___	___	___
62. Stress Management	___	___	___	___	___
63. Body Image & the Media	___	___	___	___	___
64. Poetic Magic	___	___	___	___	___

	1 Very unlikely	2 Somewhat unlikely	3 Do not know	4 Somewhat likely	5 Very likely
How likely are you to choose these topics for a peer educator project?					
65. Food and nutrition	___	___	___	___	___
66. Physical Activity	___	___	___	___	___
67. Thinking Out of the Box	___	___	___	___	___
68. Stress Management	___	___	___	___	___
69. Body Image & the Media	___	___	___	___	___
70. Poetic Magic	___	___	___	___	___

71. Please add any additional comments you care to make about the training you received today. We welcome your suggestions for improving the training.

_____

_____

_____

_____

_____

_____

_____

_____

THANK YOU FOR COMPLETING THIS SURVE

APPENDIX H: FOLLOW-UP TEST SURVEY

Participant I. D. #_____

East Central Georgia Regional Teen Wellness Initiative Survey

INSTRUCTIONS:

- **Write your Participant I.D. number in the space above. Your I.D. number is on your neck tag. Do not write your name on the form.**
- **For multiple choice questions, circle the letter that corresponds to your answer.**
- **You are the PEER EDUCATOR because you teach your peers (other teens).**

PEER EDUCATOR QUESTIONS

The following questions are about how you feel about being a peer health educator. Check the column that best describes how well each statement describes you.

	1 Not true of you at all	2 A little true of you	3 Pretty true of you	4 Very true of you	5 Completely true of you
1. I really want to be a peer educator.	___	___	___	___	___
How true of <u>you</u> are <u>these reasons for volunteering to be a peer educator?</u>					
2. My friend(s) volunteered.	___	___	___	___	___
3. Volunteering makes me feel important.	___	___	___	___	___
4. By volunteering, I feel less lonely.	___	___	___	___	___
5. Volunteering allows me to explore different career options.	___	___	___	___	___
6. I feel it is important to help others.	___	___	___	___	___
7. Volunteering lets me learn through direct "hands on" experience.	___	___	___	___	___

This part looks at how sure you are that you can do health promotion activities among your peers in your community. Read each item and check the column that best describes how you feel.

How sure are you that you can do the following:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
8. Teach other students about healthy eating habits?	___	___	___	___	___
9. Teach other students about being physically active.	___	___	___	___	___
10. Teach other students about stress management.	___	___	___	___	___
11. Teach other students about body image and media influence.	___	___	___	___	___
12. To find creative ways to plan peer educator projects.	___	___	___	___	___
13. To express messages through poetry or other creative forms	___	___	___	___	___

For this part, think ahead to next week and answer the following questions:

How sure are you that you can do the following:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
14. Ask for lettuce and tomato on your hamburger?	___	___	___	___	___
15. Drink low-fat white milk instead of regular white milk?	___	___	___	___	___
16. Eat cereal instead of a donut?	___	___	___	___	___
17. Eat fresh fruit instead of a candy bar?	___	___	___	___	___

Still think ahead to next week and answer the following questions:

How sure are you that you can do the following:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
18. Take off and not eat the skin of your chicken?	___	___	___	___	___
19. Ask for frozen yogurt instead of ice cream?	___	___	___	___	___
20. Eat a baked potato instead of French fries?	___	___	___	___	___
21. Drink 100% fruit juice instead of a soft drink (soda)?	___	___	___	___	___
22. Eat a salad from the salad bar at school or at a fast food restaurant instead of ordering a hamburger and fries?	___	___	___	___	___

This part looks at how *sure you are you can exercise when other things get in the way.* Read the following items and check the column that best describes how you feel about each one:

How sure are you that you you can:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
23. Exercise when you are under a lot of stress?	___	___	___	___	___
24. Exercise when you feel you don't have the time?	___	___	___	___	___
25. Exercise when you have to exercise alone?	___	___	___	___	___
26. Exercise when you don't have exercise equipment?	___	___	___	___	___

How sure are you that you you can:	1 Not at all sure	2 Somewhat sure	3 Pretty sure	4 Very sure	5 Completely sure
27. Exercise when you are spending time with friends or family who do not exercise?	___	___	___	___	___
28. Exercise when it's raining or it's hot or cold outside?	___	___	___	___	___

This part looks at what you expect to happen if you teach other students about wellness topics as a peer educator. Read each item and check the column that best describes how you feel.

How likely do you think the following things may happen if you are a peer educator?	1 Very unlikely	2 Somewhat unlikely	3 Neither likely nor unlikely	4 Somewhat likely	5 Very likely
29. Other students will respect me.	___	___	___	___	___
30. Other students will think I am a nerd.	___	___	___	___	___
31. I will become healthier.	___	___	___	___	___
32. I will eat better.	___	___	___	___	___
33. I will be more physically active.	___	___	___	___	___
34. I will manage stress better.	___	___	___	___	___
35. I will not have enough time to do things I want to do.	___	___	___	___	___

How much do you agree or disagree with these statements about your self?

	1 Strongly Disagree	**2** Disagree	**3** Neither Agree nor Disagree	**4** Agree	**5** Stongly Agree
36. I am recognized as a leader by those my own age.	___	___	___	___	___
37. I set goals that I want to reach	___	___	___	___	___
38. I can explain difficult ideas to others to help them understand.	___	___	___	___	___
39. I can express my opinions when I feel they are important	___	___	___	___	___
40. I can lead a discussion.	___	___	___	___	___
41. I can cooperate and work in a group.	___	___	___	___	___

NUTRITION

42. How many cups of fruit should a person eat each day for good health?
    a. A 1 A Day
    B. 5 A Day
    C. Depends on the person's age, sex, and activity level
    D. I don't know

43. How much milk should a person drink each day for good health?
    A. 1 cup
    B. 2 cups
    C. 3 cups
    D. Adolescents don't need to drink milk every day

44. The MyPyramid includes all of the following **EXCEPT?**
    A. Variety
    B. Activity
    C. Convenience
    D. Moderation

45. Which of these is **FALSE**?
    A. Eating breakfast is a good way to get calcium.
    B. It is best to skip breakfast if you want to lose weight.
    C. Eating breakfast helps you concentrate better in school.
    D. Fruity Yogurt Treats make a healthy breakfast.

46. Unhealthy eating can lead to which of these health problems?
    A. High blood pressure
    B. Diabetes
    C. Cancer
    D. All of the above

The next 6 questions ask about food you have eaten or drunk in the *past 7 days.* Think about all the meals and snacks you had from the time you got up until the time you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

47. During **the past 7 days**, how many times did you drink **100% fruit juices** such as orange juice, apple juice, or grape juice? (Do **not** count punch, Kool-Aid, sports drinks, or other fruit flavored drinks.)
    A. I did not drink 100% fruit juice in the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 time per day
    E. 2 times per day
    F. 3 times per day
    G. 4 times or more per day

48. During **the past 7 days**, how many times did you eat **fruit?** (Do **not** count fruit juice.)
    A. I did not eat fruit in the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 time per day
    E. 2 times per day
    F. 3 times per day
    G. 4 times or more per day

49. During **the past 7 days**, how many times did you eat a **lettuce salad?**
    A. I did not eat lettuce salad during the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 time per day
    E. 2 times per day
    F. 3 times per day
    G. 4 times or more per day

50. During **the past 7 days**, how many times did you eat **potatoes?** (Do not count French fries, fried potatoes, or potato chips.)
    A. I did not eat potatoes during the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 time per day
    E. 2 times per day
    F. 3 times per day
    G. 4 times or more per day

51. During **the past 7 days**, how many times did you eat **other vegetables**? (Do **not** count lettuce salad or potatoes).
    A. I did not eat other vegetables during the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 time per day
    E. 2 times per day
    F. 3 times per day
    G. 4 times or more per day

52. During **the past 7 days,** how many **glasses of milk** did you drink? (Include the milk you rank in a glass or cup, from a carton, or with cereal. County the half pint of milk served at school as equal to one glass.)
    A. I did not drink milk during the past 7 days
    B. 1 to 3 times during the past 7 days
    C. 4 to 6 times during the past 7 days
    D. 1 glass per day
    E. 2 glasses per day
    F. 3 glasses per day
    G. 4 glasses per day

For the next 5 questions think about how you eat now and how you plan to eat in the future.

53. On most days (5 – 7 days a week) do you **eat breakfast either at home or at school?**
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months**.**
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

54. On most days (5 – 7 days a week) do you eat **at least 2 servings of fruit?**
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

55. On most days (5 – 7 days a week) do you eat at least **2 servings of vegetables**? **Do not count French fries or mashed or baked white potatoes**.
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months**.**
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

56. Do you eat **whole grain bread** instead of white bread?
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

57. Do you drink **lower fat milk (skim, 1%, or 2%)** instead of regular whole milk?
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

PHYSICAL ACTIVITY

58. What is the most important reason to have structured physical activity for youth in various settings:
    A. To keep youth from getting bored
    B. To encourage lifelong healthy habits like physical activity
    C. To turn youth into good athletes
    D. To keep youth out of trouble

59. Youth should be physically active _____ minutes everyday or most days.
    A. 20 minutes
    B. 30 minutes
    C. 45 minutes
    D. 60 minutes

60. Approximately 15% of youth are considered overweight. What is one way to decrease this trend?
    A. Read more comic books
    B. Sit on the couch and talk to friends
    C. Decrease screen time for TV, Computers, Hand Games
    D. Eat low fat candy bars for snacks

61. What are some ways you can promote physical activity among youth?
    A. Have weekly discussions about the benefits of physical activity
    B. Provide a structured physical activity program in an after school setting
    C. Plan for a TV Turnoff Week in the community and replace the TV viewing time with physical activity.
    D. All of the above

62. Which of these is most helpful in getting youth to be physically active everyday?
    A. Have an exercise buddy
    B. Have the right sports equipment
    C. Belong to a gym
    D. Live where the climate is always good

63. How many of **the past 7 days** did you exercise or participate in physical activity **for at least 20 minutes that made you sweat and breathe hard,** such as basketball, soccer, running, swimming laps, fast bicycling, fast dancing, or similar aerobic activities?
    A. 0 days
    B. 1 day
    C. 2 days
    D. 3 days
    E. 4 days
    F. 5 days
    G. 6 days
    H. 7 days

64. On how many of **the past 7 days** did you exercise or participate in physical activity **for at least 30 minutes** that did **not** make you sweat and breathe hard, such as fast walking, slow bicycling, skating, pushing a lawn mower, or mopping floors?
    A. 0 days
    B. 1 day
    C. 2 days
    D. 3 days
    E. 4 days
    F. 5 days
    G. 6 days
    H. 7 days

65. During **the past 7 days** on how many days were you physically active for a total of **at least 60 minutes per day?** (Add up all the time you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time.)
    A. 0 days
    B. 1 day
    C. 2 days
    D. 3 days
    E. 4 days
    F. 5 days
    G. 6 days
    H. 7 days

66. On how many of **the past 7 days** did you do exercises to strengthen or tone your muscles, such as push-ups, sit-ups, or weight lifting?
    A. 0 days
    B. 1 day
    C. 2 days
    D. 3 days
    E. 4 days
    F. 5 days
    G. 6 days
    H. 7 days

67. On an average school day, how many hours do you watch TV?
    A. I do not watch TV on an average school day
    B. Less than 1 hour per day
    C. 1 hour per day
    D. 2 hours per day
    E. 3 hours per day
    F. 4 hours per day
    G. 5 or more hours per day

Read the following definition of "Regular Exercise" and then answer question #68. ***Regular Exercise*** **is any physical activity that you plan, such as fast walking, aerobics, jogging, bicycling, swimming, dancing, running games, sports (such as baseball, basketball, softball, or football), cheerleading, or other activity that makes your heart beat faster and makes you breathe deeper. Such an activity should be done 3 to 5 times per week for 20 to 60 minutes at a time.**

68. **According to that definition, do you exercise regularly**?
    A. Yes, I have been for MORE than 6 months.
    B. Yes, I have been for LESS than 6 months.
    C. No, but I intend to in the next 30 days.
    D. No, but I intend to in the next 6 months.
    E. No, and I do NOT intend to in the next 6 months.

69. Which of the following topics did you choose for the projects you worked on after you attended the Teen Summit last September (Check all that apply):

a) Food and nutrition ____

b) Physical Activity ____

c) Stress Management ____

d) Body Image & the Media ____

e) Poetry or Rap Messages ____

f) Other topic (describe): _____

Thank you for completing this survey!

APPENDIX I

Post Test #1 – Student Comments

Survey question: Please add any additional comment you care to make about the training you received today. We welcome your suggestions for improving the training.

Responses (spelling, grammar, and punctuation unedited):

- Have more hands on kinds of things.
- I would train and exercise more.
- I love this job and yoga.
- I loved yoga!!!
- It was a good time. Mrs. Teresa was great & Dr. Someone was good to.
- It was Great.
- It was fun! I enjoyed Mrs. Teresa and her class. Dr. Christian was very educational. I had a great time! Thank you all!
- I loved everything we done, but I like the physical activity was the best. I loved it.
- Fun-filled day.
- This was fun I like yoga.
- The classes we had today I really enjoyed it; it was really fun. I'm glad I came.
- I really enjoyed everything you did for us to improve our wellness. Thank you so much!
- I think the programs got a great point across.
- Today was really fund and educational. I enjoyed the activities I attended today.
- Do more fun stuff.
- The yoga exercises were ok, but the "meditation" & "praying" made me feel awkward & uncomfortable. It wasn't so much the meditation and praying, but what we were meditating & praying on. I didn't know if I should say anything or if I should & could leave.
- Physical games don't need to be that boring.
- I do not know.
- I really like this program. It is good for people my age and above (11-15). Keep up the good work. Thank you!
- I like physical activity more cause we got out and played. It was really had fun. The teachers here are great.
- I had a great time learning things I never knew. Now I know how to stay healthy.
- Good.
- It was very great and you do not need two add any thin.
- I don't have any comments.
- No comments.
- I don't have o comments. I learned enough of what I need to know.
- Things improve us to do it on the time.
- Don't know.
- I would train and exercise more.