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College of Humanities and Sciences  
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The Impact of a Peer-Led Program on the Peer Leaders'  
Leadership-Related Skills

A thesis submitted in partial fulfillment of the  
requirements for the degree of Master of Science at  
Virginia Commonwealth University.

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## Acknowledgement

I would like to thank my advisor and thesis chair, Steve Danish, for his generous assistance and support throughout this project. Among his many contributions, he helped shape ideas, suggested areas for further inquiry, and used his many contacts and resources when difficult questions arose. He certainly demonstrated many of the “superleadership” qualities investigated in this project. I would also like to thank the other members of my thesis committee, Liz Fries and Bob Greene, for their support, guidance, and helpful suggestions that enabled me to learn a great deal about research.

My fellow graduate students were also of great help to me throughout this project. I especially thank Rob Nicholson, who was always willing to answer questions about statistics and take the time to share his knowledge of research. Cyndy Townsend is also owed special thanks for her helpful hints and recommendations that facilitated the project’s completion. I am very grateful for the support I received from Tina Smarsh, who was always willing to listen to my concerns and provide encouragement.

I would like to thank several members of my family, especially my parents, Bill and Anne Hogan, and my sister, Colleen, for their continuous support that has aided many of my accomplishments, including this one. Finally, in addition to my parents, I am very thankful to my grandparents, Bill and Marion Hogan and Bill and Olga Jadick, for teaching me the value of education, hard work, and discipline.

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## Abstract

### THE IMPACT OF A PEER-LED PROGRAM ON THE PEER LEADERS' LEADERSHIP-RELATED SKILLS

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A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science at Virginia Commonwealth University.

Virginia Commonwealth University, 2000.

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Leadership and goal setting skills were examined for 49 high school students who implemented a peer-led health and life skills program for sixth grade students. Participants completed surveys that included a leadership scale and a goal setting scale constructed for this study, and an adapted version of the Goals Inventory. Surveys were administered to the participants prior to a 3-day training (Time Point 1), immediately following the training (Time Point 2), and at the completion of leading 12, 1-hour workshops (Time Point 3). The results indicate that high school peer leaders perceived an increase in both their leadership and goal setting skills. Results from retrospective pretest measures of the leadership and goal setting scales also indicate that the

participants had overestimated those skills prior to their peer-leadership experience. The findings suggest that improved leadership and goal setting skills are ways that adolescents can benefit from a peer leadership experience.

## CHAPTER I

### INTRODUCTION

The competent community is one that develops the necessary resources, including the fuller development of the resources of the people in the community itself, in order to successfully deal with its problems (Iscoe, 1974). This means that the community must have a number of leaders that are able to help their fellow community members develop their skills and abilities. DePree (1989), for instance, suggests that leaders are people who facilitate others in reaching their potential. Mantz and Sims (1997) state that in modern situations, the most appropriate leader is one who can lead others to lead themselves. Such leaders are defined by Mantz and Sims as “Superleaders” because they help unleash the abilities of those around them, and in doing so the group or community’s competence is strengthened. Thus helping others identify goals for themselves and helping them learn how to develop and implement a plan to reach those goals is an important skill for leaders to possess (Danish & Nellen, 1997).

Peer leadership programs are designed to place youth in a position to assist their peers, often through tutoring, counseling/helping, or teaching. It is believed that establishing peer leadership programs in schools and communities is one way to provide youth with a valuable opportunity to learn and practice leadership skills that cannot always be taught in a classroom (Weisbender & Edwards, 1996). Therefore, peer

leadership programs are one way that a community can help develop its resources. By using such programs to develop the leadership skills of its youth, the community expands the number of people that can consequently help others develop their skills and abilities. This allows the community to increase its competence and expand its capacity to overcome problems.

Peer leaders are believed to learn leadership skills, develop responsibility, and better understand the processes for helping others (Weisbender & Edwards, 1996). Youth in peer leadership positions are also thought to develop communication skills, learn patience, and make psychological gains (Drellishak, 1997; Gould & Lomax, 1993). Although it is thought that peer leadership programs can promote the development of leadership and other related skills in youth, this area has received little research attention. The purpose of the current research is to examine the possible impact that a peer-led program has on the leadership-related skills of the youth leading the program. Since an important part of building a community's competence involves leaders that are able to help others reach their potential, the leadership-related skills that will be examined in this study focus on the leaders' ability to help others identify and plan ways to reach goals for themselves.

Implications for this study include gaining information as to whether the youth leaders of a peer-led program perceive themselves as improving the skills that allow them to help others develop their skills and abilities. This information is important because an expanded understanding of how peer leaders benefit from the experience can promote the use of peer-led interventions in schools and communities. Furthermore, it is important to

understand whether such variables as gender and race affect how peer leaders benefit from the experience. This information can point to ways to enhance peer leadership training, and help communities optimally develop its youth leadership potential.

### Overview

In Chapter II the literature in the areas of peer leadership and service-learning are reviewed, with an emphasis on the types of benefits that youth can derive from peer leadership and service-learning experiences. Within Chapter II the research literature regarding the measurement of leadership skills in youth is also examined. Chapter III contains the statement of the problem in terms of an area of needed research and the purpose of the present study. The method of the proposed study is presented in Chapter IV, including the sample, design, and assessment instruments. Chapter V contains the statistical results of the proposed hypotheses. Finally, Chapter VI includes a discussion of the results, limitations of the study, and the implications for future research.

## CHAPTER II

### REVIEW OF THE LITERATURE

The review of the literature is divided into four sections. The first section pertains to peer leadership and includes a discussion of why programs use peer leaders, a description of the major types of peer leadership activities, and a review of the benefits that peer leaders derive from the experience. The second section pertains to service-learning and includes issues relevant to researching the benefits of service-learning and a review of the benefits that service-learning participants derive from the experience. In the third section, issues relevant to measuring leadership skill development in youth are presented. In the fourth section a summary of the literature review is provided.

#### Peer Leadership

##### Why Use Peer Leaders?

Effective use of resources. One reason to use youth to tutor, counsel, or teach other youth is because in many instances they can be the most effective. According to Bandura's social learning theory (Bandura, 1977), much of what we learn is acquired through observational learning, or the modeling of behaviors by others. One major component of observational learning is the necessity of the individual to pay attention to the person modeling the behavior or performing the action. For instance, within any social group there are some individuals that command greater attention by virtue of their social status. Closer attention may be paid to the message that a peer tutor, counselor, or

teacher is sending because of the admired status that he or she has within the social sphere of youth in that community. In addition, individuals are often more strongly influenced by people that are the most similar to themselves. An adolescent that is tutoring, counseling, or teaching another adolescent is likely to gain that person's attention because he or she will be similar in age, will use similar vernacular expressions and language, and will be able to relate to similar experiences common to adolescents in that particular community.

The educational pyramid model proposed by Seidman and Rappaport (1974) provides further justification for using peers as leaders. The educational pyramid suggests that services can begin with a professional that trains and supervises less experienced individuals to provide that service. Those less experienced individuals then provide that training and service to individuals with even less experience. The procedure continues until the target individuals are affected, but in the process multiple levels of people receive the training and gain the experience. This allows for the expansion of the service to more people than the professional alone can serve and optimizes the use of manpower. By utilizing youth to tutor, counsel, or teach their peers, many more targeted youth gain the services that they need for their continued health and development than could be provided by a limited number of teachers, counselors, and educators. Such an educational pyramid not only impacts individual youth, but its pervasiveness instills a positive change in the environment, an important part in determining a program's effectiveness (Weissberg, Caplan, & Harwood, 1991). The number of people impacted

by the program also allows the community to increase its competence and expand its capacity to overcome problems.

Although theory suggests that peer-led programs can be effective in changing behaviors of the target audience, it is important to understand the research that has examined outcomes for these programs. Published studies examining the effectiveness of peer-led programs are limited. In addition, the diversity of peer-led programs that have been evaluated makes them difficult to compare because of different aims, implementation strategies, and evaluation methods (Milburn, 1995). In particular, programs differ in the extent that the peer-leaders actually lead the program, with some programs better classified as adult-led and peer-assisted. In an attempt to provide some clarity in this area, this review will focus on outcomes for health behavior change interventions that are led entirely by adolescent peer leaders.

A study by Prince (1995) examined the effectiveness of a smoking prevention program for high school students. The six-session program, "Tobacco, No Thanks (TNT)," was implemented by either high school peer leaders or adult leaders. Thirty participants in the peer-led group, 31 participants in the adult-led group, and 32 participants in the control group were administered tobacco use surveys and a self-efficacy questionnaire before the program was implemented, at the completion of the program, and at a one-month follow-up. Results indicate that both the peer-led and adult-led groups showed a significant reduction in the number of cigarettes smoked daily when compared with the control group. However, there were no significant differences in the number of cigarettes smoked daily between the peer-led group and the adult-led group.



Methodological limitations, such as non-random assignment of participants to groups, likely hindered the interpretation of the results.

A study by Rickert, Jay, & Gottlieb (1991) examined the effectiveness of a single-session AIDS education intervention targeted at adolescents between the ages of 12 and 18, and led by either high school peer leaders or adult leaders. The intervention consisted of didactic instruction and the viewing of a videotape about AIDS transmission and prevention. Twenty-seven participants in the peer-led group, 28 participants in the adult-led group, and 27 participants in the control group were compared on a survey of their knowledge and attitudes related to AIDS at post-test only. Results indicate that both the adult-led and peer-led groups had significantly more knowledge about AIDS and its transmission than the control group, but there were no differences between the peer-led and adult-led groups on this measure. In this case, when examining the efficacy of a peer-led intervention relative to an adult-led intervention, perhaps it is a lot to expect that a single session intervention can produce effects that are large enough to distinguish between the two types of interventions.

A study by Cohen, Felix, and Brownell (1989) compared peer-led and adult-led interventions for nutrition, blood pressure, and smoking prevention for middle school students. Each of the interventions consisted of four, 45-minute sessions, with 233 fifth grade students receiving the nutrition program, 325 sixth grade students receiving the blood pressure intervention, and 328 seventh grade students receiving the smoking prevention intervention. Students were randomly assigned to either the peer-led or adult-led intervention. High school peer leaders attended a four-day training prior to

implementing the program, and subsequently implemented the intervention in teams of four or five leaders per classroom.

The participants were assessed before the intervention and one-year after the intervention on their knowledge of the skills that would enable adoption of the healthy behavior targeted by each intervention, and by carbon monoxide testing for smoking behavior on 10% of the sample. Results indicate that the peer-led group demonstrated a greater increase in their knowledge of skills for preventing high blood pressure than the adult-led group. Both the peer-led group and the adult-led group significantly increased their knowledge of skills for nutrition, but there was not a significant difference between the groups. There was not any significant change in smoking behavior for either the peer-led or adult-led groups.

The results from these outcome studies suggest that participants make positive changes in behavior as a result of peer-led interventions, and that peer-led interventions are at least as effective as adult-led programs -- and may be better for intervening on some behaviors. Although process research for peer-led programs is limited, there is one study that examines the processes by which adolescent peer leaders may influence the effects of an intervention. Ozer, Weinstein, Maslach, and Siegel (1997) examined the personal qualities of peer leaders that had an impact on the effectiveness of an AIDS Prevention intervention. Fifteen ninth grade peer leaders received 6 weeks of training as part of a daily, one-hour class. Teams of three leaders then taught a 5-session program to 120 seventh grade students in 5 classrooms. The seventh grade students completed measures before and after the intervention. Assessment included measures of AIDS-

related knowledge and attitudes, communication self-efficacy (such as confidence in talking with friends about sexually transmitted diseases), the perceived popularity of those engaging in sexual activity, and self-efficacy related to condom use.

In addition, seventh grade students completed a measure of their perceptions of the peer leaders. This measure contained two factors, including the extent that the seventh grade students viewed the peer leaders with positive regard (such as the peer leaders' level of warmth, expertise, and credibility) and the perceived similarity of the peer leaders to the seventh grade students. Results from the study indicated that seventh grade participants who expressed positive regard for peer leaders were more likely to indicate that sex does not make teenagers more popular and to report more confidence that they could talk with their peers about sexual topics and topics related to AIDS. The participants' perceived similarity with the peer leaders did not influence the results; however, the three-item measure that assessed perceived similarity may not have been an adequate measure of this construct. Although this study does not compare the results of a peer-led intervention to an adult-led intervention, it does suggest some processes for how peer-led programs can be effective, and points to the necessity of looking more closely at the types of behaviors that peer leaders are best able to influence.

In conclusion, there are several limitations for determining the actual effectiveness of peer-led programs. First, there are relatively few studies that have examined the effects of peer-led programs, and even fewer that have compared the outcomes for a peer-led and adult-led intervention. Second, the studies that have compared peer-led to adult-led interventions have typically used a small number of

participants in the study, and the actual intervention has often used a relatively small number of sessions that might reduce the effect size and make it difficult to determine much difference in outcomes. Finally, the use of stronger measures that also examine the processes involved in peer leadership are necessary to determine the types of interventions for which peer leaders can be most effective. Research suggests that peer-led programs are effective for promoting change among the program participants, but further research is necessary to understand the types of behaviors for which peer interventions are best.

Peer leaders benefit. A final purpose for using peer leaders is that they themselves benefit from the experience. First, they gain the knowledge and the skills acquired from the training that are necessary to perform their functions as peer leaders. For instance, peer teachers may gain a better understanding of the information that they are teaching, and peer counselors may improve their helping skills. Second, in the process of taking on a peer leadership role, peer leaders may gain additional benefits that are not directly related to the knowledge and skills developed from the training. For instance, peer leaders are believed to learn leadership skills, develop responsibility, and understand the processes for helping others (Weisbender & Edwards, 1996). Youth in peer leadership positions may also develop communication skills, learn patience, make psychological gains, and increase their knowledge that affects their decision-making and ultimately their behavior (Drellishak, 1997; Gould & Lomax, 1993).

Despite the belief that the youth that serve as peer leaders benefit in some way themselves, there are relatively few empirical studies that examine specific benefits to the

leaders. One of the primary reasons for the lack of consistent research is that the hypothesized effects of a peer leadership experience on the peer leaders are wide ranging. The result is that there are relatively few constructs that have been consistently examined across studies. In addition, a variety of different measurement instruments have been used, even among those studies that examine the same constructs. Although it is thought that peer leadership programs can promote the development of leadership skills in youth and build the competence of the community, this area of research has received little attention.

A review of the literature suggests that there are two areas of research that are pertinent to an examination of the possible benefits of peer leadership programs. The first area of research includes what can be considered peer leadership activities, including peer tutoring, peer counseling/helping, and peer teaching. The second area of research is service-learning, which is a term that describes a more broad range of voluntary activities that allow youth to serve the community. Reviewing the literature in both areas is important to understanding possible benefits to peer leaders.

#### Description of Peer Leadership

The activities of peer tutoring, peer counseling/helping, and peer teaching will be considered together as peer leadership activities. A brief description of each of the separate activities is followed by the benefits of such programs to the peer leaders.

Peer Tutoring. “Peer tutoring” is a term used to describe a system that uses students to help other students learn or better understand material that is taught in school. Peer tutoring often uses a student who has demonstrated achievement in an academic

subject area to help another student within the same grade or classroom who has a weakness in that subject area. However, two other distinct forms of peer tutoring include cross-age peer tutoring and classwide peer tutoring. In cross-age peer tutoring, older peers on different academic levels help younger students who need additional help with their school work (Franca, Kerr, Reitz, & Lambert, 1990). In classwide peer tutoring, all students within a classroom have an opportunity to participate in the roles of both tutor and tutee, regardless of their previously demonstrated achievement in the subject area (Greenwood, 1997). Thus a student may serve as a tutor for another student, and then reverse roles and become the tutee. Regardless of the form that peer tutoring takes, the important similarity is that a child or adolescent provides help in an academic subject area to one or more other peers.

Peer Counseling/Helping. The terms “peer counselor” and “peer helper” will be considered together because they denote a similar role, although the function of the peer counselor/helper role differs across settings. It is recognized that there are diffuse and multipurpose objectives of peer counseling and peer helping programs, and that these differences affect the type of functions that a peer counselor/helper performs (Kim, McLeod, Rader, & Johnston, 1992). In a broad sense, a peer counselor/helper is a child or adolescent who generally receives some type of training in order to help a peer adjust to something new or resolve some type of problem. Peer counselor/helpers are utilized to meet individually with students to help them adjust to a new school (Peterson & Peppas, 1988), to facilitate small group discussions (Yaccarino, 1995; Sprinthall, Hall, & Gerler, 1992), or to make themselves available for students who need help with personal

problems (Dolan, 1995; Robinson, Morrow, Kigin, & Lindeman, 1991). Regardless of the functions performed by the peer counselor/helper, the important similarity is the special training and status provided to the student for use in helping his or her peers.

Peer Teaching. The terms “peer teaching” or “peer education” are used to describe methods whereby children or adolescents teach the acquisition of knowledge and skills to a group of peers. The topics that the peer educators teach vary widely, but the topics frequently involve subject matter in the area of health or personal development. Peer educators teach about topics such as asthma (Gibson, Shah, & Mamoan, 1998), smoking prevention (Macri & Tsiantis, 1997; Perry, Killen, Slinkard, & McAlister, 1980), drug and alcohol prevention (Baklien, 1993; Botvin, Baker, Filazzola, & Botvin, 1990; Perry, Grant, Ernberg, & Florenzano, 1989), sexuality (Sawyer, Pinciaro, & Bedwell, 1997), and goal setting (Danish, 1997). Although these programs differ on the subject matter that is taught, the similarity among peer-taught programs is that knowledge and skills are being primarily conveyed by a child, adolescent, or young adult to a group of his or her peers.

#### Benefits to Peer Leaders

Self-esteem. One construct that has been examined across a few studies on peer leadership is the construct of self-esteem. It is hypothesized that by participating as a peer leader, youth increase their self-esteem and positive feelings about themselves. Yogev and Ronen (1982) compared 73 high school student tutors with 98 other high school students that elected not to participate in the tutor program. Training for the tutors involved three weekly class hours, and the tutoring occurred twice a week. Students

completed the Rosenberg Self-Esteem Scale prior to the program and then eight months later toward the end of the academic year. Results indicate that the student tutors made significantly larger increases in self-esteem than the control group.

A study by Kim, McLeod, Rader, and Johnston (1992) examined possible changes in self-esteem among high school students trained as peer counselors. The student counselors, who were not a representative random sample, went through an initial training and then also met every-other week for one and a half hours during the academic year. The self-esteem of student counselors was measured before and after the program using the Peer Training Evaluation Instrument, a measure created for the study. Although a control group was not used, results indicate a significant increase in self-esteem for the student counselors.

Other studies that have examined self-esteem in peer leaders have had more ambiguous results. Sawyer, Pinciaro, & Bedwell (1997) examined the self-esteem of college students trained as peer educators for a sexuality education program at ten institutions. Peer educators were given the Rosenberg Self-Esteem Scale prior to training, after the first semester as a peer educator, and then after the second semester as a peer educator. Although the results indicate that the mean scores for the Rosenberg Self-Esteem Scale increased, the change was not statistically significant. Taken together these studies suggest that there is some evidence that a peer leadership experience positively affects the way that the leaders feel about themselves. However, the relatively few sound methodological studies investigating this construct, and some ambiguous results, suggest that the impact of a peer leadership experience on self-esteem is not conclusive.



Self-concept. A second construct that has been examined among peer leaders is self-concept. It is hypothesized that the experience of being a peer leader causes youth to alter the image that they have of themselves and the way that they think about themselves. Cohen, Kulik, and Kulik (1982) did a meta-analysis of the effects that peer tutoring programs have on the tutor. The authors located 65 studies that examined the effects of school tutoring programs, and 16 of those studies investigated changes in tutors' self-concept. In 12 of those studies self-concept was higher for tutors than for those who did not serve as tutors, but only 4 of those 12 studies indicated that increases in self-concept were statistically significant. In addition, the mean effect size for those 16 studies was .18, indicating that tutoring creates a small effect for self-concept when measured across studies.

A few more recent studies illustrate the different results that can be obtained when attempting to measure self-concept. A study by Hahn and LeCapitaine (1990) used the Tennessee Self-Concept Scale (TSCS) to compare the self-concepts of 22 former high school peer counselors to a matched control group. Results indicated that there were not any differences in self-concept between the peer counselors and the control group. Franca, Kerr, Reitz, and Lambert (1990) used the Piers-Harris Children's Self-Concept Scale to measure self-concept in peer tutors prior to the tutoring intervention and then after the tutoring intervention. Results from the study also indicate that changes in self-concept were not significant.

A study by Bowman and Myrick (1985) examined peer leaders' perception and beliefs about oneself in school by using the Attitudes toward Self in School (ATSS)

survey developed for the study. This construct could be considered similar to the self-concept construct, but more narrowly focused on the image a person has of oneself in school. Results indicate that the peer leaders experienced a significantly positive change in attitudes toward themselves, as measured by the ATSS, after the peer counseling intervention. This study provides some support for the idea that the self-concept of peer leaders may indeed change, but the change is less broad and more specific to the type of intervention that is being performed. In general, the effects of peer leader programs on the peer leaders' self-concept appear to be mixed.

Locus of Control. It is hypothesized that students serving as peer leaders make gains in their belief that they have personal control over events in their lives. Through leading peers, students gain a sense of competence resulting in a stronger belief that their own actions can produce desired consequences. A study by O'Hearn and Gatz (1998) measured the internal locus of control of high school leaders that taught a skill-based, goal-setting program to middle school students. This program, developed by Danish, Meyer, Mash, Howard, Curl, Brunelle, and Owens (1998), is designed to teach goal setting over 10 workshops. High school leaders were provided a two-day training before implementing the program, one booster session, and weekly supervision meetings. The internal locus of control of 26 high school leaders was measured before and after teaching the GOAL program using the Nowicki-Strickland Locus of Control Scale for Children. Although the results indicate that the leaders' scores increased marginally on the internal locus of control instrument, this change was not statistically significant. However,

leaders did show a significant increase in their knowledge of goal setting skills as measured by a knowledge test given before and after implementing the program.

Ego functioning. Some researchers hypothesize that the changes experienced by peer leaders include the development of a more advanced stage of ego functioning. More advanced stages of ego development are characterized by such attributes as greater personal autonomy, internal self-evaluated standards, the ability to assume responsibility for one's life, the capacity for complex abstract thought, and the establishment of personal goals (Sprinthall, Hall, & Gerler, 1992; Hahn & LeCapitaine, 1990; Cognition, 1977). Sprinthall, Hall, and Gerler (1992) used the Loevinger Sentence Completion Form to measure the level of ego stage development in peer counselors, and Cognition (1977) used the same instrument to measure the stage of ego development in peer teachers. Both studies compared scores on the measure obtained prior to the program intervention and then after the program intervention, without the use of a control group. A third study, by Hahn and LeCapitaine (1990), used the Washington University Sentence Completion Test to compare the stage of ego functioning of 22 former high school peer counselors to a matched control group. The results of each of these three studies indicate that peer leaders experience a significant shift into a more advanced stage of ego development after performing the intervention.

Cognitive structural complexity, a construct related to ego development, was measured in peer leaders in a study by Sprinthall and Scott (1989) using Hunt's Conceptual Level (CL) test. The results indicate that peer leaders gained one-third of a stage in conceptual level after the intervention (peer counseling), a significant move away

from concrete thought and toward abstract thinking. These measures of positive change in ego development and conceptual level, consistent among all four studies, are perhaps the strongest indicator of the type of personal growth that is possible for peer leaders. However, relatively few studies investigating the effects on peer leaders have examined this construct.

Moral development. A few researchers have used the Defining Issues Test (DIT) to examine possible changes in the level of moral development among peer leaders (Sprinthall et al., 1992; Sprinthall & Scott, 1989; Cagnetta, 1977). The DIT utilizes Kohlberg's stage theory of moral development to assess the level of value or moral judgment that a person uses when confronted with a difficult decision. Sprinthall and Scott (1989) compared 60 high school females that volunteered as peer tutors to 15 high school females that volunteered to be teacher aides. The peer tutors received 10 units of training and then tutored fourth and fifth grade females for 3 tutoring periods per week, with each tutoring period lasting approximately 20 minutes. Also, each tutor met with a teacher and a counselor 1-day per week for a reflection seminar and an opportunity for the tutor to get assistance. Both the peer tutor group and the teacher aide control group were tested prior to the program and then after the program's completion. Results indicate that the peer tutors, compared to the teacher aide control group, increased from a low range of moral judgment to a moderate range for their age group.

Two other studies have shown changes in moral development for peer leaders. The study by Cagnetta (1977) used the DIT to examine the moral development of high school peer teachers compared to a control group. Sprinthall, Hall, and Gerler (1992)

also used the DIT to examine changes in the moral development of high school students participating as leaders of small group discussions with middle school students. The results of both studies indicate a significant shift to a more advanced stage of moral reasoning among the peer leaders. It is hypothesized that by participating in peer leadership activities, peer leaders learn to actively take into account the perspective of those they are helping. In essence the peer leaders learn to empathize with others, resulting in a more advanced form of moral decision-making that takes into account perspectives other than their own.

Empathy and emotional development. If the peer leadership experience causes students to look at situations from another person's perspective, then peer leaders should also become more empathic. Indeed, other researchers that have examined empathy and emotional development in peer leaders have found positive changes. The study by Yogev & Ronen (1982) measured changes in empathy for peer leaders and found that, after the intervention, peer leaders evidenced significantly more empathy on the measure than a control group. Similarly, Hahn and LeCapitaine (1990) used the Dupont Affective Development Test and found that peer leaders moved to a more advanced stage of emotional development after the intervention compared to a control group. Other studies have examined the peer leaders' relationships to others in different ways. A scale created by Kim et al. (1992) called the Advances Social Values scale sought to measure the extent to which the values held by peer leaders reflect the values held through mutual interpersonal relationships based on reciprocity. The scale is essentially a measure of

empathy, and the researchers found that peer leaders showed a significant change in empathy from the pre-test to the post-test.

In addition to advances in moral decision-making and emotional development, an increase in empathy can result in more observable empathic behaviors. Bowman & Myrick (1985) examined changes in 41 fourth and fifth grade students that participated as peer facilitators for small group discussions with second grade students. Using the Survey of Student Helping Responses, a measure created for the study, the researchers found that peer leaders made a shift to more empathic helping responses when comparing responses from pre-test to post-test. The peer leaders' use of advising and evaluating responses decreased by 20%, whereas their questioning responses increased by 9% and their feeling-focused responses increased by 8%.

Franca et al. (1990) studied the social interactions of behaviorally disordered students from a self-contained classroom that participated in a peer tutoring intervention for math. The peer tutors were observed in a physical education class before, during, and after the tutoring intervention that lasted from 7 to 19 sessions, depending on the tutor. The peer tutors' positive and negative verbal interactions to other students were recorded during intervals of the physical education class. The researchers found that the peer tutors exhibited an increase in positive social interactions and a decrease in negative social interactions during the tutoring intervention, and maintained this change after the intervention was completed. Both the Bowman and Myrick (1985) and the Franca et al. (1990) studies indicate that psychological changes that are measured in peer leaders can be transferred into positive behaviors that are more observable and that can impact others.

Behavior changes. Other studies indicate that there are additional observable behavior changes that occur as well. Maher (1982) compared the behaviors of special education high school students that were randomly assigned to three different treatment groups. One group served as peer tutors, a second group received peer tutoring, and a third group received group counseling. The academic performance, the number of disciplinary referrals, and the percentage of days in school attendance were measured for the two marking periods prior to the intervention and then for one marking period after the intervention was complete. During the ten-week intervention, the tutors tutored twice a week for 30 minutes and met with a teacher for 15 to 20 minutes. Results from the study indicate that peer tutors had significantly fewer absences, had significantly fewer disciplinary referrals, and did better in some academic subjects than the two other comparable groups of students.

Peterson & Peppas (1988) compared the grade point averages of high school students that served as peer counselors to the grade point averages of a control group. The peer counselors were members of a peer counseling course that met twice a week, during which time they were trained in helping skills over a period of 18 sessions. During the second semester each peer counselor was assigned to a help recipient. The peer counselor met with that person once a week for 9 sessions, during which time the peer counseling class continued to meet. Grade point averages for both the peer counselor group and the control group were assessed before the intervention period and then after the intervention period. Results indicate that the levels of achievement as

measured by grade point average was significantly higher in the peer counselors than in the control group.

Moore and Allen (1996) published results from an evaluation of the Valued Youth Program, which uses middle school students that are at-risk of dropping out of school to tutor younger children. A group of 101 randomly selected student tutors was compared to a control group consisting of 93 randomly selected students. The groups were compared at the beginning and at the end of a two-year evaluation period. Results indicate that only 1% of the student tutors dropped out of school at the end of the two-year period, compared to 12% of the students in the control group.

### Service-Learning

The intention of service-learning is to provide youth with a volunteer experience that helps the community while simultaneously helping the youth develop his or her thoughts, attitudes, and skills. Although it takes many forms, service-learning is a term that can be defined loosely as an educational activity, program, or curriculum that seeks to promote students' learning through experiences associated with volunteerism or community service (Sheckley & Keeton, 1997). The activities associated with service-learning are very broad because of the essentially limitless types of service that can be performed within one's community. Examples of service learning activities include working in soup kitchens, visiting the elderly in nursing homes, tutoring other students, and working on beautification projects. The activities, however, do not necessarily have to be altruistic in nature, and may include activities such as work on behalf of a political party or candidate (Markus, Howard, & King, 1993).



In addition to the broad range of activities that can be identified as service-learning, there are innumerable ways to assist students to learn from their service experience. Perhaps the most common feature of service-learning programs is that they are usually offered as classes on the high school or college level. From there, however, the programs become distinct and unique from each other, depending on the course design and the individual instructor. The length of time that the students are committed to volunteering may vary from a few weeks to a semester to a year. The intensity of the service may also vary, such as volunteering for one hour a week or volunteering two hours a day three times a week.

Another important difference between programs is the type of structured learning that is provided. Some programs may offer students time to reflect on their service experiences within a structured classroom setting through any number of activities such as journal writing, small group discussions, large group discussions, written reports, readings, or oral presentations. Other programs may not provide any structured reflective component or may rely on on-site visitations for reflection on the experience (Rutter & Newmann, 1989). Although the idea behind service-learning is often to provide an opportunity for students to connect real-world experiences to knowledge gained in other ways (such as through reading or through teacher lectures), programs assist students to make this connection in varying degrees (Conrad & Hedin, 1982; Rutter & Newmann, 1989). Nevertheless, the provision of a structured reflection seminar has been identified as an important contributor to positive student changes (Conrad & Hedin, 1982; Waterman, 1997).

### Researching the Benefits of Service-Learning

A great deal of the literature on service-learning focuses on the broad range of benefits that are gained by the students participating in the program. However, the benefits discussed in the literature are mostly the result of theory and anecdotal evidence. There is relatively little research that has used appropriate methodologies to determine the extent to which the hypothesized benefits actually occur. Sheckley and Keeton (1997) note that the service-learning literature is heavily weighted toward the description of the design of service-learning programs and anecdotal evidence of program outcomes. There are several reasons for this shortcoming in research, many of which have to do with the nature of service-learning itself.

First, service-learning activities, even within a single program, often encompass a broad range of activities that makes a single evaluation difficult. Some students may be serving in a homeless shelter while other students are tutoring elementary school students. With students performing such different activities, their experiences, and hence their learning, may be quite different. It is difficult, if not impossible, for programs to use only one or two measures that accurately determine the different changes made by students performing different service-learning activities.

A second difficulty with evaluating outcomes of service-learning programs is the individualized nature of the learning experience. Even if all students are volunteering in the same setting, their experiences are likely to be different within that setting. In addition, even similar experiences may result in different interpretations of the experience in terms of what they find to be personally meaningful. For instance, two youths visiting

the elderly in a nursing home may learn quite different things from the experience. One youth may recognize that she has a special talent for working with people that she never knew she had, resulting in the consideration of a career in nursing and an increase in self-esteem that affects other areas of her life. A second youth, having the same interactions, may develop a more advanced moral perspective after becoming more tolerant to the differences between people. Since different students often have different agendas about what they want from a program, the predictability of what is to be learned is greatly reduced (Shumer, 1997).

Shortcomings in service-learning research may also derive from the expectation that the changes that occur in the students happen immediately. Many of the outcomes thought to occur from service-learning, such as increases in self-esteem and changes in self-efficacy, are personal characteristics that may not change quickly (Wade & Saxe, 1996). It may be that the service-learning experience interacts with other, later experiences to produce changes in such personal characteristics. Moore and Allen (1996) propose that there may be “sleeper effects” from a service-learning experience that could only be discovered through longitudinal studies. In one of the few studies to examine student attitudes from a longitudinal perspective, Youniss and Miranda (1997) found that many participants of a high school service-learning experience believed several years later that the experience had made a major impact on their lives. Thus researching the long-term benefits of service-learning may be equally as important as examining the immediate impact of such an experience.

## Benefits to Students

Despite the difficulties associated with service-learning research, there are several empirical studies that investigate the potential benefits to students that participate in such programs. For purposes of this review, the existing research of the benefits of service-learning will be grouped into three broad categories proposed by Waterman (1997). The first category suggests that service-learning enhances the learning of material that is part of the traditional in-school curriculum. In other words students are able, through service or volunteer work, to make use of and practice the skills they have learned in the classroom. This experience helps the students to make sense of class material that may be more abstract, thus making the material or skills more relevant and better remembered.

The second category proposed by Waterman (1997) suggests that service-learning promotes the personal development of the student participants. Forming relationships with others through the service experience, whether it is with those who are being served or with the adult supervisors, inevitably leads to positive changes in self when such relationships are reflected upon and become meaningful. The service-learners cannot touch others without themselves being touched. In addition, the exposure to different people and situations with which youth would not normally come into contact may result in personal changes in attitude and thinking.

The third broad category proposed by Waterman (1997) is the ability of service-learning to foster civic responsibility among the student participants. Students that participate in service activities and reflect on those experiences are thought to develop a desire to continue to serve their communities in some capacity. They gain first-hand

knowledge of societal issues or individual needs and see that their efforts can make a difference, prompting them to continue their service efforts. In addition, exposure to a wide range of people, possibly including the disadvantaged or persons in need, creates greater tolerance for people different from themselves (Conrad & Hedin, 1982). Finally, the experience is thought to generate a caring attitude in participants because they are given the opportunity to look beyond themselves in serving others (Brendtro, 1985). Thus service-learning is thought to prompt the individual to recognize needs within the community and understand that one possesses skills to make an impact on those needs. This is thought to result in the desire to use the personal skills developed to continuously serve the community.

Enhanced learning. Some of the research has indicated that service-learning does enhance learning, perhaps even giving students a greater desire to learn. Markus, Howard, and King (1993) compared the course grades of college students participating in a service-learning class with those participating in a traditional lecture class that was without a service-learning component. All students were actually part of the same class on contemporary political issues, but two of the eight sections were randomly chosen to participate in a service-learning component with the other six sections serving as the control. The results indicate that students in the service-learning sections averaged a course grade between a B+ and an A-, whereas students in the traditional sections had a mean course grade between a B and a B+, a statistically significant difference. Service-learning students were also more likely to agree that they performed up to their potential

in the course, an indication that perhaps they had a greater desire to put forth the necessary effort.

A study by Shumer (1994) compared students involved in a service-learning program at an alternative magnet school with a control group. In the year prior to participating in the service-learning program, the students had a significantly lower over-all grade point average than the control group. By the end of the year, the students that participated in the service-learning program achieved higher grades than the control group. Although this study seemingly indicates the impact of service-learning on over-all grade point averages, the results may be confounded because the service-learning students also received tutoring throughout the year. Nevertheless, the study also found a statistically significant improvement in school attendance for those participating in the service learning program. There is a great deal of anecdotal evidence that suggests that students enjoy service-learning programs more than traditional classroom instruction, and the study by Shumer (1997) indicates that this enjoyment may translate into better attendance and a greater desire to learn.

Personal development. A study by Rutter and Newmann (1989) examined eight exemplary community service programs. Four students from each program were randomly selected and interviewed prior to their service experience and then after the experience. Their anticipated benefits were coded into five main categories that included the acquisition and pursuit of social relationships, personal growth and development, acquisition of useful skills and knowledge, community awareness and involvement, and career exploration and vocational experience. Prior to the service experience, only 11 out

of 32 students anticipated that the acquisition and pursuit of productive social relationships was something that they would learn from the experience. After the service experience, 27 out of the 32 students indicated that this was one of the most important skills learned from the experience. In addition, 18 of the 32 students cited personal growth and development as another important result of their service experience. Another outcome of this study is that all of the students in the eight community service programs, when compared to a matched control group, found more opportunities for personal development in their service programs than in any other context, including classes, family, extracurricular activities, and jobs.

A study by McGowan and Blankenship (1994) suggests that service-learning has a positive affect on students' self-understanding and behavior toward the people whom they serve. The study examined 12 college students that participated in a semester-long service-learning class that included weekly individual visits with a homebound older adult. Students were asked to record their thoughts or experiences related to the project in three journal entries per week. Changes in the students' self-understanding and behavior toward the older adults were measured through content analysis of the journals. Results indicate that the students generally progressed through a period of personal conflict, followed by a period of unexpected personal insights, followed by a change in their position toward themselves and their companions. Ten of the 12 students altered their interactions with the older adult as a result of this reflective process.

It has been suggested that changes in moral and ethical thinking, along with value development, are promoted by the combination of service and reflection (Conrad &

Hedin, 1982; Wade & Saxe, 1996). A study by Conrad and Hedin (1982) examined changes in moral development in students participating in experiential education programs by comparing two of the programs to a control group. The moral development of students was measured by using the Defining Issues Test prior to the program and then after the program. Both of the experiential education groups made significant gains in moral development when comparing their scores from before the program to after the program, and also when comparing their increases to the scores of the control group.

Batchelder and Root (1994) compared 48 students from a service-learning program to 48 students taking courses similar in content and taught by the same instructor but without the service-learning component. Results indicate that the service-learning students showed significant increases in prosocial reasoning from pre to post and also compared to the control group. The students' ability to have autonomy within their program was found to be the strongest predictor of prosocial reasoning, indicating that the independence that students often have in such programs promotes the development of more mature forms of moral reasoning.

The literature also suggests that service-learners feel a sense of accomplishment in taking on important responsibilities and expand their ideas of the types of tasks that they can achieve. This sense of accomplishment and belief in their abilities is thought to increase their feelings of self-esteem and self-efficacy (Waterman, 1997). A study by Miller and Neese (1997) surveyed two classrooms of middle school students that had participated in a service-learning program and found that 91% of the students agreed that the experience made them feel good and believe in themselves. Conrad and Hedin



(1982) assessed 27 experiential education programs in which students were involved in volunteer community service, career internships, community study/political action, or adventure education. Using the Rosenberg Self-Esteem Scale to measure the students' self-esteem prior to the program and then after the program, the students in 23 out of the 27 programs showed an increase in self-esteem. Although only 9 of those programs had increases that were statistically significant, the study does indicate that gains in self-esteem do occur in service-oriented programs. As further evidence, when 6 of the programs in the study were compared to control groups, students in the program groups were found to have greater increases in self-esteem than students in the control group.

Moore and Allen (1996) report the results of an eight-year longitudinal evaluation of a program designed to foster positive development in youth by combining classroom-based discussions with volunteer work. The Teen Outreach program has junior and senior high school students regularly attend classroom discussions throughout the academic year on such issues as family stress, human growth, and understanding oneself and one's values. The evaluation included 472 randomly selected program participants and 496 randomly selected control students that did not participate in the program. All students were given a self-report questionnaire at the beginning and at the end of the program period that asked whether the student had ever been pregnant or caused a pregnancy, failed a course, and been suspended. Results indicate that, compared to the control group, the program participants had a 32% lower rate of course failure in school, a 37% lower rate of school suspension, a 43 % lower rate of pregnancy, and a 75% lower rate of school drop out.

Exposure to new situations, jobs, and tasks may assist student participants in recognizing that they possess skills or abilities that they previously did not know that they had. Thus it is believed that service-learning allows students to investigate careers in which they may be interested, or gain exposure to careers that they previously may not have considered (Franta, 1994). This hypothesis has been less clearly researched. The study by Batchelder and Root (1994) is one of the few studies that attempt to assess whether a service-learning experience has an impact on students' occupational thinking. In the study, which compared 48 service-learning students to 48 students that did not participate in service-learning, students' journal entries were scored for statements in which students discussed occupational concerns. Results indicate that students spent more time writing (and presumably thinking) about occupational identity in later journal entries. Nevertheless, the impact of service-learning on a students' occupational development has not been extensively investigated and requires further research.

Fostering civic responsibility. Giles and Eyler (1994) surveyed 72 undergraduate students prior to a service-learning class, 5 weeks into the class, and after their semester of service was completed. Results indicate that students were significantly more likely to aspire to leadership roles and to endorse the importance of having an impact on the political system after participation in the class. Students were also more likely to endorse the importance of involvement in the community after their service. In the study by Markus et al. (1993), students in the service-learning sections showed significant increases in their ratings of the personal importance they placed on ideals of service to others. For instance, students placed more importance after their service-learning

experience on such ideals as volunteering their time helping people in need and finding a career that provides the opportunity to be helpful to others or useful to society. Service-learning students also had higher mean ratings than students in the control group on such statements as the belief that one can make a difference in the world.

A study by Myers-Lipton (1996) examined the impact of service-learning on a person's concern with global issues, such as the desire for international peace and the wish to help find solutions to problems such as hunger and disease. The study compared a group of college students enrolled in a two-year service-learning program, a group of college students that participated in service activities but not in a service-learning class, and a group of college students randomly selected from the student population that did not participate in any service activities. Students' scores on the International Understanding Cognitive Scale were measured prior to students' participation in the programs, at the completion of the first summer service experience, and at the completion of the program. Results indicated that service-learning students showed larger increases in global concern than the other two groups. This sound methodological study provides evidence that service-learning can impact how students view the world and can provide motivation for students to be involved in making changes in the world.

#### Measuring Leadership Skill Development in Youth

Although leadership development is important to understand, there is very little research that has focused on leadership skill development in youth. Instead, research in the area of leadership has generally focused on examining leadership styles and situational influences of leadership among adults (Edwards, 1994). In addition to the

lack of research in the area of youth leadership skill development, there is some indication that it is difficult to measure whether youth perceive their leadership skills as changing. One component of a study by Singer (1990) examined whether age and gender affect self-efficacy with reference to leadership. High school students were asked to complete a questionnaire that included three items that measured their self-efficacy in regard to leadership. These items asked students to rate how effective they would be as a leader if they were in a leadership position, how well their own ability fits requirements for a leadership position, and how easy it would be for them to succeed in a leadership position. Results indicate that all of the adolescents, irrespective of age and gender, believed that they would be equally effective in leadership positions and that their own abilities would match the requirements of leadership to a similar extent. However, older males had greater confidence in their ease in succeeding in a leadership position.

The results of the study by Singer (1990) illustrate the confidence that adolescents have in their leadership skills and abilities. However, the extent to which the adolescents in the study were involved in leadership activities is unknown. Adolescents may have a tendency to overestimate their leadership skills and abilities if they have not had significant experience in a leadership position. After serving as leaders they may then have a more realistic perception of their leadership skills. If adolescents' perceptions of their leadership skills were compared before and after their participation in a leadership experience, their more realistic assessment of their leadership skills after the intervention may result in the appearance that their leadership skills actually decreased after their

participation in the leadership experience. This would mainly be due to the fact that they had originally overestimated their leadership skills.

This phenomenon of a person's changed perceptions of his or her own leadership skills can affect the results of a repeated measures design that measures leadership skills at pre- and post-intervention. Howard (1982) suggests that a response-shift bias can occur when a participant's awareness or understanding of the variable being measured, such as leadership skill, changes as a result of the treatment or intervention. In other words, the participants initially form an understanding of what the points on the response scales represent in terms of the degree of the particular perceptions they have, and then their understanding of the available self-report responses changes after the experience (Howard, Ralph, Gulanick, Maxwell, Nance, & Gerber, 1979). Thus the participants are responding to the scales with two different perspectives and understandings of what those scales mean.

An alternative approach to measuring change in perceived leadership skill is to use a retrospective pre-test measure (Howard, 1982). Using this approach, participants answer each item twice. They first answer the item in the traditional posttest manner, and then immediately after answering the item they answer the same item again, this time in reference to how they perceive themselves to have been just before the leadership experience. Since the posttest ratings and the retrospective pretest ratings are made in close proximity, they are each likely to be rated from the same perspective and understanding of leadership. Pretest ratings can then be compared to retrospective pretest ratings to determine whether a response-shift has occurred. Several studies have

demonstrated that the retrospective pretest method has validity when compared with other objective measures of change (Howard, Millham, Slaten, & O'Donnell, 1981; Howard et al., 1979). The evidence suggests that adolescents may tend to initially overestimate their leadership skills, and thus the retrospective pre-test method is a potential alternative to dealing with this factor.

### Summary

Peer leadership and service-learning have several similarities, yet it is also important to acknowledge their distinctiveness. Both peer leadership and service-learning programs place youth in a position to serve others in the community. Peer leaders generally tutor, teach, or help others in the community who are in the same age range or have a similar status. Although service-learning may involve peer leadership activities, the range of activities and the populations that service-learning participants serve are much more broad than those of peer leadership programs. For instance, service-learning can include such activities as working in soup kitchens, visiting the elderly in nursing homes, or cleaning up a neighborhood.

Perhaps the most distinctive difference between the two types of programs is the extent to which service-learning programs attempt to make the activity a learning experience. Service-learning programs generally contain some type of reflective component or attempt to connect the service experience to classroom learning in some manner. When peer leadership programs contain this intentional emphasis on learning they actually can be considered a service-learning activity. However, peer leadership

programs often focus on the activity of tutoring, teaching, or helping, without intentionally connecting the experience to the peer leaders' own learning.

Although both service-learning and peer leadership programs may differ on the extent that they intentionally structure participants' learning from the experience, both programs expect that participants will benefit in some way. Investigation of such expected benefits is where the two literatures converge. Research for both service-learning and peer leadership programs have investigated such benefits as improved self-esteem, changes in self-concept, moral and emotional development, improvement in problematic behavior, and improved knowledge. However, one difficulty with the research is the lack of consensus about how individuals actually benefit from peer leadership and service-learning experiences. There are many proposed benefits, but the literature often contains anecdotal evidence of program outcomes (Sheckley & Keeton, 1997) or the empirical outcomes are not always consistent across studies.

The development of leadership skills is one benefit that has been mentioned in the literature but has not been empirically studied. As previously discussed, the development of leadership skills among community members increases community capacity and leads to the development of a more competent community. Although it is believed that peer leaders learn leadership skills as a result of their experience (Weisbender & Edwards, 1996), there is not yet any research that has evaluated whether or not this actually occurs. Similarly, although there is evidence that students who participate in service-learning activities are more likely to aspire to leadership roles (Giles & Eyler, 1994), there is not yet any research that investigates whether actual leadership skills are affected by

participation in service-learning activities. Thus it appears that a necessary direction of research in the area of peer leadership and service-learning is to determine the impact that such experiences have on an individual's leadership skills. Leadership skill development among youth in general, however, has not been sufficiently studied. Studies such as the present one are needed to understand how the development of leadership skills in youth may be affected by a peer leadership experience.



## CHAPTER III

### STATEMENT OF THE PROBLEM

In this chapter a statement of the problem has been developed as a result of the review of the literature. The purpose of the present study is also defined, as are the proposed hypotheses.

#### Statement of the Problem

Youth are used as peer leaders because they are effective in implementing programs, their involvement results in a greater number of youth receiving a particular service, and the peer leaders themselves often benefit from the experience. There is some evidence that peer-led programs are as equally effective as adult-led programs (Prince, 1995; Rickert, Jay, & Gottlieb, 1991). If this is the case, then it is important to determine whether there may be additional benefits to using peer-led programs, such as the development of the leadership skills of the peer leaders. Although research has examined a variety of possible benefits to peer leaders that includes personal development, positive behavior changes, learning, and increased desire to serve others, whether peer leaders develop other leader-related skills has not been investigated.

Since it is important that communities develop the resources of the people in the community itself in order to more successfully deal with its problems (Iscoe, 1974), the community must promote the development of leaders who will help others to reach their

potential. Peer leadership programs may be a means to facilitate the development of leader-related skills among youth in the community, and thus it becomes important to determine if such skills are affected by the peer leadership experience. Understanding how leader-related skills may be affected can point to ways to enhance peer leadership training and can help communities optimally develop its youth leadership potential. In addition, evidence of how the peer leaders benefit from the experience can reinforce decisions to use peer-led programs when they are as effective as adult-led programs for the target participants.

#### Purpose of the Present Study

The present study examined whether a peer-led program that included teaching goal setting skills affected the leaders' perceptions of their own leader-related skills. High school students selected by their schools to be peer leaders participated in a 3-day training aimed at teaching the leaders how to implement a 12-workshop, goal-setting and health-oriented program to sixth grade students. After the 3-day training, the high school students led each of these 12, approximately one-hour workshops in the classroom for the sixth grade students. High school leaders were surveyed regarding their perceptions of their leader-related skills prior to their training (Time Point 1), after their 3-day training (Time Point 2), and then after they implemented all 12 workshops (Time Point 3). Consistent with the literature on peer leadership and service-learning, it was proposed that high school students that participate as peer leaders perceive that they have improved their leadership skills as a result of the experience. It was also proposed that the high school leaders initially overestimate their leadership skills prior to training, and that after

the leadership experience they retrospectively rate themselves as having been lower on leadership skills before the experience. In addition, the variables of age, gender, ethnicity, and personal goal orientations were examined to determine their influence on the high school students' leadership skills.

The following hypotheses were proposed and examined:

Hypotheses:

- (1) Peer leaders' Retrospective Time Point 1 scores (assessed at Time Point 3) on leadership skills and perceived ability to set goals for themselves will be significantly lower than their Traditional Time Point 1 scores.
- (2) There will be a significant positive increase in leadership scores from Retrospective Time Point 1 to Time Point 2, and from Time Point 2 to Time Point 3.
- (3) Students with fewer other leadership experiences and a higher rate of attendance for leading the Goals for Health program will have the most amount of change in leadership scores from Retrospective Time Point 1 to Time Point 3.
- (4) Leaders' perception of their own ability to set goals for themselves will increase from Retrospective Time Point 1 to Time Point 2, and from Time Point 2 to Time Point 3.

## CHAPTER IV

### METHOD

The present study examined the impact that participation in a peer-led program had on the peer leaders' leadership skills. The influence that several variables have on leadership skills was also examined. This chapter contains a brief description of the sample, design, and assessment instruments.

#### Participants

High school students from 6 rural schools (4 schools in Virginia and 2 schools in New York) were recruited by their individual schools for participation as leaders of the Goals for Health program. Refer to Appendix A for a description of the Goals for Health Program. Although guidelines were provided to assist schools in recruiting potential leaders, schools were allowed flexibility in determining the method of recruitment and selection criteria. The guidelines provided to the schools suggested that potential leaders have a minimum 2.8 G.P.A., an outstanding attendance record, and an exemplary disciplinary record. Additional guidelines suggested that potential leaders be highly motivated, be interested in helping younger students, be involved in extracurricular activities, and have leadership potential.

Five of the six schools selected leaders from among the students who volunteered as well as from those students who were identified as good leaders and were personally

recruited by school officials. One school used the members of a health occupations class to serve as leaders. Students took this class as an elective, and a primary focus of the class was to give students an opportunity to become familiar with occupations in the health field. It was suggested that all schools make it a priority to have equal gender representation and ethnic diversity that was representative of the student body for both the middle school and the high school. A total of 142 high school students from the six schools were selected to participate as peer leaders and surveyed prior to beginning their three-day training. However, one student was excluded due to inconsistent demographic responses from the student. Thus the sample consisted of 141 students, including 42 males and 99 females ranging in age from 14 to 18, with a mean age of 15.6 ( $SD=1.09$ ). The ethnicity of the sample participants was largely White, Caucasian American, or European (51.1%) and African American or Black (41.1%), with others identifying themselves as American Indian (2.1%), Asian American or Oriental (.7%), and Other (4.3%).

Training. High school leaders received three days of training, conducted by staff of the Life Skills Center at Virginia Commonwealth University, prior to leading the workshops for middle school students. In order to become familiar with the conceptual framework of the program, the first day of training focused on having the high school students participate in several of the activities that they would eventually lead. The second day of training focused on understanding the qualities of a good leader, how to teach skills and present information, and how to give and receive feedback. The second day also included practice in leading a workshop, and the students were given feedback

about their performance. The third day of training again focused on practice in leading workshops, and also included training in classroom management techniques and strategies. All leaders also received a 3-hour booster training session midway through the implementation of the program, approximately after the sixth workshop.

### Procedures and Design

Overview. The pre-program survey (Time Point 1) was administered to the high school leaders in January and February of 1999 before they received their three-day leader training. The post-training survey (Time Point 2) was administered during those same months at the end of the three-day training. The post-program surveys (Time Point 3) were administered in May and June of 1999 after the leaders completed teaching the 12 sessions of the Goals for Health program. All of the students at a particular school were tested on the same day. All of the survey booklets were pre-coded with student identification numbers.

Measures pertinent to this study were included in the three Goals for Health leader surveys. The leadership skill surveys consisted of 17 leader-related behaviors and 5 goal-related behaviors that were constructed for the purposes of this study (Appendix B). These surveys were administered prior to training as part of a larger survey booklet that included items related to health behaviors and attitudes. Following the 3-day training, only the surveys of leader-related behaviors and goal-related behaviors were included in the questionnaire booklet.

A separate survey was constructed to administer to the leaders after they had completed leading the 12-workshop program (Appendix C). Since it was expected that

the participants' understanding of leadership may have changed as a result of leading the program, a survey was constructed using the retrospective pre-test method described by Howard (1982). All of the items from the pre-training survey were included for participants to rate their leadership skills in a post-intervention manner. However, after answering each item as they perceived their leadership skills now, they were asked to rate the same item a second time with regard to how they perceived their leadership skills to have been just before they started as a Goals for Health leader. Since the posttest ratings and the retrospective pretest ratings are made in close proximity, they are each likely to be rated from the same perspective and understanding of leadership. Measures that pertain to the present study are discussed below.

Assessing Leadership-Related Skills. The survey of leadership skills was constructed for this study and contained 17 items. All items in the survey were statements that participants were asked to rate according to how much they agree or disagree with each statement. The response format consisted of a 7-point Likert-type scale ranging from "strongly disagree" to "strongly agree." The first five items in the survey pertained to leadership skills that focused on helping others to set goals for themselves, an important skill for leaders to possess (Danish, 1997; Mantz & Sims, 1997). Examples of such items included "I am good at building the confidence of other people so that they can reach their goals" and "I am good at helping other people to develop a plan to reach their goals."

The next 12 items focused on skills that are often important for leaders to possess, such as speaking in front of a group, listening to other people's ideas, and helping other

people set goals for themselves (Mantz & Sims, 1997). Examples of such items were “I am good at speaking in front of a group”, “I am good at listening to other people’s ideas”, and “I am good at helping other people set goals for themselves.” Each item was scored from 1 to 7, and the 17 items were summed to determine a total score. The total score for this scale could range from 17 to 119, with higher scores indicating more confidence in leadership skills. Reliability coefficients for each of the Time Points are reported in Table 1.

Factor Analysis. In order to better understand the underlying factors of the leadership scale, an exploratory principal component factor analysis was performed on the 17 items in the scale from Time Point 1. The factors were rotated using a varimax rotation in order to approximate a simple structure while maintaining orthogonal factors. Factors with eigenvalues above 1.00 were retained. Four factors were retained using this criterion, with the eigenvalues and percentage of variance accounted for by each factor presented in Table 2. The factor matrix with items, factors, and factor loadings is presented in Table 3.

The first factor comprised 6 items, had an eigenvalue of 4.84, and accounted for 28.5% of the variance. The items in this factor were related to assisting others establish and achieve personal goals, and therefore the factor was named goal direction. The second factor comprised 6 items, had an eigenvalue of 3.79, and accounted for 22.3% of the variance. The items in this factor were related to providing direction, and therefore the factor was named providing direction.



Table 1

Reliability (Alpha) For Scales


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Scale	Alpha
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Leadership Scale (N=48)

Time Point 1 (Traditional Pretest)	.90
Time Point 2	.93
Time Point 3 (Posttest)	.92
Time Point 3 (Retrospective Pretest)	.93

Goal Scale (N=48)

Time Point 1 (Traditional Pretest)	.93
Time Point 2	.94
Time Point 3 (Posttest)	.93
Time Point 4 (Retrospective Pretest)	.91

Goals Inventory (N=141)

Learning Orientation Subscale	.76
Performance Orientation Subscale	.80

Table 2

Factors, Eigenvalues, and Percentages of Variance Accounted For By Each Factor

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Factor	Eigenvalue	% of Variance	Cumulative % of Variance
1	4.84	28.47	28.47
2	3.79	22.28	50.75
3	2.69	15.79	66.54
4	1.22	7.15	73.69

---

Table 3

Items and Factor Loadings For Varimax Rotation

Abbreviated Item	Factor			
	1	2	3	4
1. Helping others set goals	.83	.31	.14	.02
2. Building the confidence of others	.77	.20	.35	-.10
3. Helping others develop a plan	.86	.26	.25	-.01
4. Helping others follow through with a plan	.82	.25	.22	-.01
5. Encouraging others to share learning	.79	.28	.21	-.07
6. Helping others express ideas	.74	.25	.34	-.06
7. Speaking in front of others	.23	.68	.16	.25
8. Expressing own opinions	.18	.64	.45	.24
9. Explaining things to others	.34	.49	.54	-.04
10. Listening to others	.29	.18	.85	-.07
11. Giving others a chance to speak	.33	.17	.80	-.05
12. Good at organizing	.40	.32	.45	.28
13. Asking others to do tasks	.34	.80	.06	-.03
14. Getting others to understand ideas	.32	.73	.25	-.22

Table 3 continued

Items and Factor Loadings For Varimax Rotation

---

Abbreviated Item	Factor			
	1	2	3	4
15. Good at leading a group	.20	.82	.14	-.20
16. Avoid asking others to do tasks	-.06	-.03	.05	.86
17. Getting others to talk about ideas	.39	.53	.32	-.41

---

The third factor comprised 4 items, had an eigenvalue of 2.69, and accounted for 15.8% of the variance. The items in this factor reflected skills related to interpersonal communication, and therefore the factor was named interpersonal communication. The fourth factor comprised one item, had an eigenvalue of 1.22, and accounted for 7.2% of the variance. This item had been negatively worded and may have produced confusion among the respondents, resulting in the item not correlating highly with the other items even after being recoded. Nevertheless, this item was retained as part of the scale due to the exploratory nature of this study.

Assessing Goal-Related Behaviors. Five items created for the survey focus on the individual's goal-setting ability and use of goal-setting behaviors in his or her life. Examples of items include "I am good at developing a plan to reach goals that I have set for myself" and "I set goals in many different areas of my life." Total scores on this scale could range from 5 to 35. Each item was scored from 1 to 7, and the 5 items were summed to determine a total score. The total score for this scale could range from 5 to 35, with higher scores indicating more confidence and use of goal setting skills. Reliability coefficients for each of the time points are reported in Table 1.

Factor Analysis. A principal component factor analysis was performed on the 5 items in the goal scale. This factor analysis yielded only one factor with an eigenvalue above 1.00. The eigenvalue of this one factor was 4.04 and accounted for 80.77% of the variance.

Learning and Performance Goal Orientations. This measure was adapted from the Goals Inventory (Roedel, Schraw, & Plake, 1994) and is designed to measure the

constructs “learning orientation toward goals” and “performance orientation toward goals.” A learning orientation toward goals is an individual’s concern for personal improvement and mastery, and is associated with high self-agency and persistence in the face of difficulty (Roedel et al., 1994). A performance orientation toward goals is a concern for normatively high performance that could lead to maladaptive behaviors such as self-aggrandizement and lack of persistence (Roedel et al., 1994). The adapted version of the Goals Inventory consisted of subscales that included 6 items measuring the learning orientation and 5 items measuring the performance orientation. This measure (Appendix D) was administered at Time Point 1 as part of the Goals For Health Survey.

The response format consisted of a 5-point Likert-type format that ranged from “strongly disagree” to “strongly agree.” Responses of “strongly disagree” and “disagree” were scored as  $-2$  and  $-1$ , respectively. A response of “not sure” was scored as  $0$ , and responses of “agree” and “strongly agree” were scored as  $1$  and  $2$ , respectively. Thus total scores for the learning orientation could range from  $-12$  to  $12$ , and total scores for the performance orientation could range from  $-10$  to  $10$ . The reliability coefficient for this measure, assessed at Time Point 1, was  $.76$  for the learning orientation subscale and  $.80$  for the performance orientation subscale.

Demographic and Other Information. Items requesting the participants’ age, gender, and ethnicity were included in the pre-intervention survey. An additional item was also added at the end of the post-intervention survey that asked the participants to list the other school or community activities in which they considered themselves assuming a

leadership role (Appendix C). This item was used as a measure of the number of other leadership experiences in which the high school leaders were involved.

## CHAPTER V

### RESULTS

This section will report the results for participants at each time point, as well as the results of the proposed hypotheses.

#### Preliminary Analysis

Time Point 1. A total of 142 high school students from the six schools were selected to participate as peer leaders and surveyed prior to beginning their three-day training. Of the 142 surveys that were administered at Time Point 1 (prior to training), one survey was excluded from the database due to inconsistent demographic responses. The reader is referred to Table 4 for a summary of demographics from the participants at Time Point 1. At Time Point 1 there were 141 students, including 42 males and 99 females ranging in age from 14 to 18 with a mean age of 15.6 ( $SD=1.09$ ). The ethnicity of the participants was largely White, Caucasian American, or European (51.1%) and African American or Black (41.1%), with others identifying as American Indian (2.1%), Asian American or Oriental (.7%), and Other (4.3%).

Time Point 2. Prior to the administration of the surveys at Time Point 2, 14 of the students withdrew from the peer leadership program. In addition, 2 students were absent for survey administration at Time Point 2. Independent samples t-tests for age, learning orientation toward goals, performance orientation toward goals, and responses on the



Table 4

Demographics and Descriptives of Participants at Time Point 1 (N=141)

Variable	<u>n</u>	Percent
<u>Gender</u>		
Males	42	29.8
Females	99	70.2
<u>Age</u>		
14	23	16.3
15	46	32.6
16	41	29.1
17	25	17.7
18	6	4.3
<u>Ethnicity</u>		
Asian American or Oriental	1	.7
African American or Black	58	41.1
White or Caucasian American	72	51.1
American Indian	3	2.1
Other	6	4.3
Missing	1	.7

leadership scale all showed no differences between those students who participated in the survey at Time Point 2 and those who did not (age -  $t=-.07$ ,  $p=.94$ ; learning orientation toward goals -  $t=.24$ ,  $p=.81$ ; performance orientation toward goals -  $t=-.18$ ,  $p=.91$ ; leadership scale -  $t=.39$ ,  $p=.70$ ). Chi-square analyses were performed between the groups for ethnicity, and there were no differences,  $X^2(4, N=141)=1.16$ ,  $p=.89$ . Chi-square analyses were also performed between the groups for gender, and there were no differences  $X^2(1, N=141)=.40$ ,  $p=.56$ ).

Time Point 3. There were two serious problems with data collection at Time Point 3. First, in two of the schools there was difficulty reconvening all of the peer leaders to take the survey after they had finished implementing the program. As a result there were a total of 49 peer leaders from two schools who did not complete the survey at Time Point 3. A second problem with data collection occurred because all of one school's surveys ( $n=19$ ) were lost in the mail after they had been completed. Although there was a total of 57 completed surveys at Time Point 3, only 49 of the participants had completed surveys at all three time points. Refer to Table 5 for a summary of demographics from the participants at Time Point 3.

A comparison was made between the participants who had completed surveys at Time Point 3 and those who did not complete surveys at Time Point 3. Independent samples t-tests for age, learning orientation toward goals, performance orientation toward goals, and responses on the leadership scale all showed no differences between those students who participated in the survey at Time Point 2 and those who did not (age -  $t=-.79$ ,  $p=.43$ ; learning orientation toward goals -  $t=.59$ ,  $p=.56$ ; performance orientation

Table 5

Demographics and Descriptives of Participants at Time Point 3 (N=49)

Variable	<u>n</u>	Percent
<u>Gender</u>		
Males	16	32.7
Females	33	67.3
<u>Age</u>		
14	5	10.2
15	20	40.8
16	19	38.8
17	5	10.2
18	0	0
<u>Ethnicity</u>		
Asian American or Oriental	1	2.0
African American or Black	21	42.9
White or Caucasian American	24	49.0
American Indian	2	4.1
Other	1	2.0

toward goals -  $t=.55$ ,  $p=.43$ ; leadership scale -  $t=.55$ ,  $p=.43$ ). Chi-square analyses were performed between the groups for ethnicity, and there were no differences,  $X^2$  (4,  $N=141$ )= $4.06$ ,  $p=.40$ ). Chi-square analyses were also performed between the groups for gender, and there were no differences  $X^2$  (1,  $N=141$ )= $.54$ ,  $p=.46$ ).

### Results of Hypotheses

*Hypothesis 1: Peer leaders' Retrospective Time Point 1 scores (assessed at Time Point 3) on leadership skills and perceived ability to set goals for themselves will be significantly lower than their Traditional Time Point 1 scores.*

A paired t-test was used to examine whether there was a significant difference between the Retrospective Time Point 1 scores on the leadership scale and the Traditional Time Point 1 scores on the leadership scale. The reader is referred to Table 6 for the means and standard deviations for the leadership scale at each of the time points. Consistent with the hypothesis, peer leaders' Retrospective Time Point 1 scores on the leadership scale ( $M=88.40$ ,  $SD=15.34$ ) were significantly lower than their Traditional Time Point 1 scores on the leadership scale ( $M=96.63$ ,  $SD=11.44$ ,  $t=4.11$ ,  $p<.01$ ).

A paired t-test was also used to examine whether there was a significant difference between the Retrospective Time Point 1 scores on the goal scale and the Traditional Time Point 1 scores on the goal scale. The reader is referred to Table 7 for the means and standard deviations for the goal scale at each of the time points. Consistent with the hypothesis, peer leaders' Retrospective Time Point 1 scores on the goal scale ( $M=24.69$ ,  $SD=6.40$ ) were significantly lower than their Traditional Time Point 1 scores on the

Table 6

Means and Standard Deviations For Total Leadership Scale Score (N=48)

---

Time Point	<u>M</u>	<u>SD</u>
Traditional Time Point 1	96.63	11.44
Time Point 2	100.00	12.63
Time Point 3 (Post-test)	101.85	11.98
Retrospective Time Point 1	88.40	15.34

---

Table 7

Means and Standard Deviations For Total Goal Scale Score (N=47)

---

Time Point	<u>M</u>	<u>SD</u>
Traditional Time Point 1	29.33	5.56
Time Point 2	27.90	6.47
Time Point 3 (Post-test)	29.63	4.93
Retrospective Time Point 1	24.68	6.46

---

goal scale ( $M=29.44$ ,  $SD=5.52$ ,  $t=5.58$ ,  $p<.01$ ). These results indicate that, for both the leadership scale and the goal scale, peer leaders rated themselves lower on the Retrospective Time Point 1 than on the Traditional Time Point 1.

*Hypothesis 2: There will be a significant positive increase in leadership scores from Retrospective Time Point 1 to Time Point 2, and from Time Point 2 to Time Point 3.*

An analysis of variance with repeated measures was used to assess changes in leadership scores between Retrospective Time Point 1 (retrospective pretest), Time Point 2, and Time Point 3. The reader is referred to Table 8 for comparisons between the mean leadership scores at each of the time points. There was a significant within subject effect found for changes in leadership scores over the three time points,  $F(2, 94)=20.23$ ,  $p<.01$ . Examination of the pairwise comparisons showed that leadership scores at Time Point 2 ( $M=100.0$ ,  $SD=12.63$ ) were significantly higher than leadership scores at Retrospective Time Point 1 ( $M=88.40$ ,  $SD=15.34$ ). Similarly, leadership scores at Time Point 3 ( $M=101.85$ ,  $SD=11.98$ ) were significantly higher than leadership scores at Retrospective Time Point 1 ( $M=88.40$ ,  $SD=15.34$ ). However, there were no differences between the scores at Time Point 2 and Time Point 3.

The reader is referred to Figure 1 for a representation of the leadership scores at the three time points. Although the hypothesis suggested that there would be a significant increase in leadership scores for each of the time points, the results indicate that this did not occur. Leadership scores at Time Point 2 were significantly higher than leadership scores at Retrospective Time Point 1. In addition, leadership scores at Time Point 3 were

Table 8

Pairwise Comparisons Between The Means For The Leadership Scale Total Score  
For Retrospective Time Point 1, Time Point 2, and Time Point 3 (N=48)

(I) Time Point with Mean	(J) Time Point with Mean	Mean Difference (I-J)
1 ( <u>M</u> =88.40)	2 ( <u>M</u> =100.0)	-11.60*
	3 ( <u>M</u> =101.85)	-13.46*
2 ( <u>M</u> =100.0)	3 ( <u>M</u> =101.85)	-1.85
	1 ( <u>M</u> =88.40)	11.60*

\*  $p < .05$



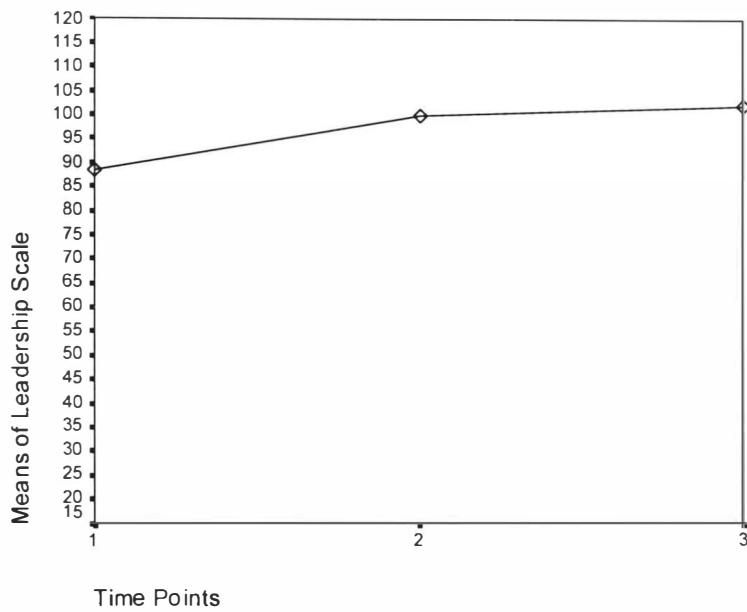


Figure 1. The mean total scores for the 17-item leadership scale at Retrospective Time Point 1, Time Point 2, and Time Point 3 (n = 48).

significantly higher than leadership scores at Retrospective Time Point 1. However, contrary to the hypothesis, leadership scores at Time Point 3 were not significantly higher than leadership scores at Time Point 2.

*Hypothesis 3: Students with fewer other leadership experiences and a higher rate of attendance for leading the Goals for Health program will have the most amount of change in leadership scores from Retrospective Time Point 1 to Time Point 3.*

A multiple regression was planned to test this hypothesis. According to Tabachnick and Fidell (1996), a minimum sample size of 50, plus a specified additional number of cases for each independent variable, is necessary to perform a multiple regression. Unfortunately, the sizeable attrition in this study reduced the sample to below 50 at Time Point 3. In an effort to still perform a regression analysis with data that had been collected, a revised hypothesis was substituted.

*Revised Hypothesis 3: A higher personal learning orientation, lower performance orientation, and older age will result in higher perceptions of leadership ability.*

A hierarchical regression was performed to determine the amount of variance in the perceptions of leadership ability that is predicted by the learning orientation toward goals, the performance orientation toward goals, the peer leaders' age, and demographic variables such as ethnicity and gender. For entry in the regression, independent variables that had greater theoretical importance were given priority and entered first in the equation (Tabachnick & Fidell, 1996). It was hypothesized that having a learning orientation toward goals would allow someone to adapt their skills to various situations and persist when confronted with difficult situations, thus enabling that person to develop

a variety of leadership skills. As a consequence, the variable of learning orientation was entered as step 1 in the regression. Similarly, performance orientation was hypothesized to be negatively related to leadership skills because individuals high on performance orientation would be less likely to persist when confronted with a difficult situation. This variable was entered as step 2 in the regression.

Age was hypothesized to also be an important variable for determining leadership skills because older adolescents may have had more opportunities to be in leadership positions and thus build their leadership skills. The variable of age was entered as the third step in the regression. Finally, demographic variables of ethnicity and gender were entered as the fourth and final step in the regression. It was hypothesized that opportunities for leadership based on gender or ethnicity could be different, although these variables may be less important than the other variables previously entered. Due to the mostly White and African American ethnicity of the participants, ethnicity was coded into two groups, either White or Non-White. Table 9 shows the summary of regression results.

The overall regression equation was significant for predicting scores on the leadership scale,  $R=.650$ ,  $F(5, 134)=19.57$ ,  $p<.01$ . Learning orientation toward goals, entered in step 1, contributed significantly to the prediction of scores on the leadership scale,  $R^2=.305$  (adjusted  $R^2=.300$ ),  $F_{inc}(1, 138)=60.61$ ,  $p<.01$ . This step indicates that the variable of learning orientation accounted for 30.5% of the total variance for the total leadership score. Performance orientation toward goals, entered in step 2, did not

Table 9

Hierarchical Regression Analyses Predicting Perceived Leadership Ability from Learning Orientation, Performance Orientation, Age, Gender, and Ethnicity

Step and Variable	<u>B</u>	<i>B</i>	R <sup>2</sup>
Step 1			
Learning Orientation	2.13	.55*	.31
Step 2			
Performance Orientation	-.01	-.004	.305
Step 3			
Age	2.67	.20*	.34
Step 4			
Ethnicity	7.05	.25*	.42
Gender	3.2	.10	

\* $p < .01$

account for any additional variance for the total leadership score,  $\underline{R}^2=.305$  (adjusted  $\underline{R}^2=.295$ ),  $F_{inc}(1, 137)=.003$ ,  $p=.953$ .

The covariate of age, entered in step 3, contributed significantly to the prediction of scores on the leadership,  $\underline{R}^2=.34$  (adjusted  $\underline{R}^2=.344$ ),  $F_{inc}(1, 136)=7.95$ ,  $p<.01$ . This step indicates that age accounted for 3.5% of the total variance for the leadership score.

Ethnicity and gender, entered in a block at step 4,  $\underline{R}^2=.422$  (adjusted  $\underline{R}^2=.400$ ),  $F_{inc}(2, 134)=9.09$ ,  $p<.01$ . This step indicates that the covariates of ethnicity and gender accounted for 7.8% of the variance for the total leadership score. The four steps of the hierarchical regression accounted for 42.2% of the total variance in the total leadership score.

Correlations were conducted for each of the covariates (learning orientation, performance orientation, age, ethnicity, and gender). The reader is referred to Table 10 for the variable correlation matrix. Results revealed that age was significantly positively correlated with learning orientation ( $r=.18$ ,  $p<.05$ ) and leadership score ( $r=.30$ ,  $p<.01$ ). Learning orientation was significantly positively correlated with performance orientation ( $r=.31$ ,  $p<.01$ ) and leadership score ( $r=.56$ ,  $p<.01$ ). Performance orientation was significantly correlated with leadership score ( $r=.18$ ,  $p<.05$ ). In summary, a learning orientation toward goals, age, and ethnicity and gender contributed significantly to the variance in predicting scores on the leadership scale. Performance orientation toward goals, however, was not a significant predictor of variance for scores on the leadership scale.

Table 10

Correlation Matrix for Variables

---

Variables	2	3	4
1. Age	.18*	.09	.30**
2. Learning		.31**	.56**
3. Performance			.18*
4. Leadership			

---

\* $p < .05$ \*\* $p < .01$

*Hypothesis 4: Leaders' perception of their own ability to set goals for themselves will increase from Retrospective Time Point 1 to Time Point 2, and from Time Point 2 to Time Point 3.*

An analysis of variance with repeated measures was used to assess changes in goal scores between Retrospective Time Point 1, Time Point 2, and Time Point 3. The reader is referred to Table 11 for comparisons between the goal scores at each of the time points. There was a significant within subject effect found for changes in goal scores over the three time points,  $F(2, 92)=15.078$ ,  $p<.01$ . Examination of the pairwise comparisons showed that goal scores at Time Point 2 ( $M=27.85$ ,  $SD=6.53$ ) were significantly higher than goal scores at Retrospective Time Point 1 ( $M=24.68$ ,  $SD=6.46$ ). Similarly, goal scores at Time Point 3 ( $M=29.62$ ,  $SD=4.98$ ) were significantly higher than goal scores at Retrospective Time Point 1 ( $M=24.68$ ,  $SD=6.46$ ). However, there was not a significant difference between the scores at Time Point 2 and Time Point 3 ( $p=.07$ ).

The reader is referred to Figure 2 for a representation of the mean for the goal scores at the three time points. Although the hypothesis suggested that there would be a significant increase in goal scores for each of the time points, the results indicate that this did not occur. Goal scores at Time Point 2 were significantly higher than goal scores at Retrospective Time Point 1. In addition, goal scores at Time Point 3 were significantly higher than goal scores at Retrospective Time Point 1. However, contrary to the hypothesis, goal scores at Time Point 3 were not significantly higher than goal scores at Time Point 2.

Table 11

Pairwise Comparisons Between The Means For The Goal Scale Total Score For  
Retrospective Time Point 1, Time Point 2, and Time Point 3 (N=47)

(I) Time Point with Mean	(J) Time Point with Mean	Mean Difference (I-J)
1 ( <u>M</u> =24.7)	2 ( <u>M</u> =27.9)	-3.17*
	3 ( <u>M</u> =29.6)	-4.94*
2 ( <u>M</u> =27.9)	3 ( <u>M</u> =29.6)	-1.77
	1 ( <u>M</u> =24.7)	3.17*

\*  $p < .05$



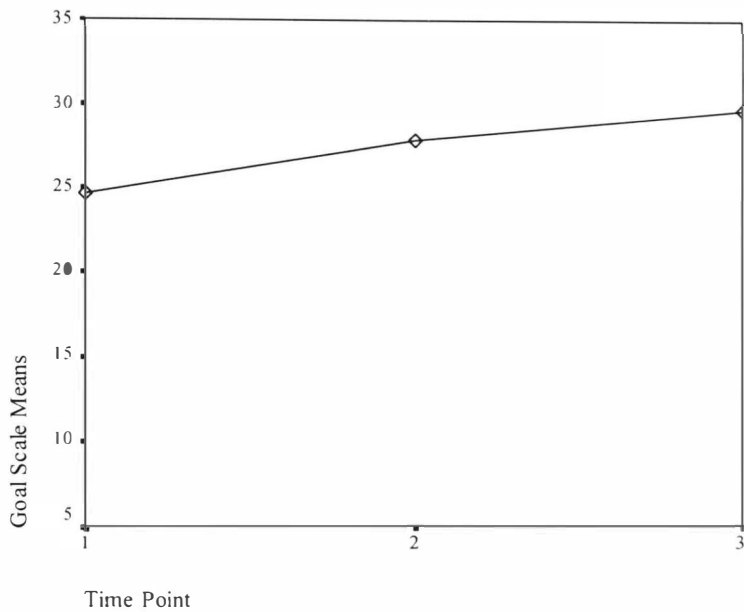


Figure 2. The mean total scores for the 5-item goal scale at Retrospective Time Point 1, Time Point 2, and Time Point 3 (N = 47).

## CHAPTER VI

### DISCUSSION

In this section the results of the hypotheses will be discussed, limitations of the study will be reviewed, and implications for future research will be considered.

This study sought to examine the impact that a peer-led program has on the perceived leadership skills and goal setting behavior of the adolescent peer leaders. Despite suggestions in the literature that peer leaders learn leadership skills as a result of the experience (Weisbender & Edwards, 1996), there has been little research that has examined changes in leadership skills among adolescent peer leaders. However, there is some evidence that adolescents tend to believe that they all possess effective leadership abilities (Singer, 1990). There is also evidence that a person's understanding of a quality such as leadership, and the perceived level of their own leadership skills, may change as the result of taking on a leadership role (Howard, 1982). Thus, the central hypotheses of this study examined how adolescent peer leaders' perceptions of their leadership skills and goal setting ability change as a result of being trained to be a leader and leading an intervention, and what factors might contribute to their perceptions of leadership skills.

In order to examine leadership skills in adolescent peer leaders, a 17-item survey was developed. Items in this survey were based on theory that suggests that effective leaders should have skills to help others set goals for themselves, in addition to

possessing other types of organization and communication skills that are important for leaders to possess (DePree, 1989; Danish, 1997; Mantz & Sims, 1997). A factor analysis was performed on the 17 items of the leadership survey, and 16 of the items loaded on three factors. The first factor, named goal direction, is directly related to the leadership theory that suggests that it is important for leaders to possess skills to help others set goals for themselves. This factor includes skills such as helping others develop a plan to reach their goals and helping others follow through with their plan, and accounted for the most variance (28.5%) in the scale.

The second factor, named providing direction, includes skills such as speaking in front of others and asking others to do tasks, and accounted for 22.3% of the variance in the scale. The third factor, named interpersonal communication, includes skills such as listening to others and explaining things to others, and accounted for 15.8% of the variance in the scale. These three factors in the scale (goal direction, providing direction, and interpersonal communication) also appear to be closely associated with the Path-Goal Theory of leadership that suggests four important leadership behaviors (House & Dessler, 1974). The Path-Goal Theory of leadership suggests that effective leaders exhibit: “Achievement-oriented behavior” that encourages others to strive to meet their goals; “directive behavior” that sets expectations and initiates structure; and “supportive behavior,” that is concerned with maintaining pleasant interpersonal relationships.

It is believed that the similarity of three factors in the leadership scale to concepts in other leadership theories lends some validity to the scale. In particular, the factor that accounts for the most variance, goal direction, contains the types of skills that are

theorized to lead to the most effective leadership in modern situations ( Mantz & Sims, 1997). However, despite 16 items loading on three factors, there was one item in the scale that loaded on a fourth factor. This item, related to avoiding asking other people to do tasks for the group, was the lone negatively worded item and may be indicative of an acquiescence bias by the respondents whereby they tended to agree with statements regardless of their content (DeVellis, 1991). A possible alternative explanation is that the leadership scale was placed at the end of a lengthy survey and respondents may have paid less attention to the wording of this particular item, especially since it was the only one that was negatively worded. Regardless, the item was retained in this study. Further analysis is required in a future study to determine the value of the instrument and whether that item should be omitted.

With regard to the hypotheses, it was hypothesized that peer leaders would perceive themselves as having a high degree of leadership ability before being trained as peer leaders. However, it was hypothesized that after actually assuming a leadership role to implement the program, peer leaders' understanding of leadership would change and they would perceive that their leadership skills prior to beginning the program were lower than they had originally believed. The results of this study provide evidence to support this hypothesis. Peer leaders rated themselves relatively high on leadership skills prior to having any training or implementing the program. After they had finished implementing the program and were asked to retrospectively rate their leadership skills from before they began leading the program, peer leaders rated their skills as having been significantly lower than their initial leadership skill ratings. This suggests that

adolescents tend to believe that they possess good leadership skills, but that after being trained and having a leadership experience they have a more realistic perception of what their leadership skills were actually like prior to the leadership experience.

A second hypothesis was that peer leaders' perceptions of their leadership skills would increase from their retrospective ratings to their ratings after training, and then again from their ratings after training to when they had completed implementing the program. The results indicate only partial support for this hypothesis. Peer leaders' perceptions of their leadership skills significantly increased after training, and the increase after implementing the program was significantly greater than their retrospective ratings from before training. However, there was not a significant increase from the point immediately after training to the point when they had completed implementing the program. Thus, it appears that the training was an important factor for increasing peer leaders' perceptions of their leadership skills, and that this perception was maintained after they had implemented the program.

There are also several alternatives to consider when interpreting the results for this hypothesis. First, there may have been a ceiling effect for the scale so that a significant difference was not demonstrated between the point after training and the point after they had implemented the program. A second alternative is that the directions for the retrospective pretest were unclear. The directions asked respondents to think about themselves and their leadership skills just before they started as a Goals For Health leader. It is unknown whether the respondents made their retrospective ratings for the time period before they were trained or the time period after they were trained but before

they began implementing the program. It may be that respondents made their retrospective ratings relative to the point after training but before implementing the program, in which case the experience of implementing the program would have a larger impact on their perceptions of their leadership skills than indicated by the present analyses.

A third alternative is that perceptions of leadership skills may have changed during the time that the program was being implemented, but that this change was not detected because only three time points were measured. It is possible that peer leaders may have perceived their leadership skills as being high after training, but that these perceptions may have decreased after implementing the program for a few sessions. However, after implementing the program for the entire 12 sessions, their perceptions of their leadership skills may have increased back to initial levels. Such changes would not have been detected by the current research design that did not assess perceived leadership skills during the time that the program was being implemented. Although the results support the hypothesis that perceived leadership skills increased as a result of being a peer leader, these other alternatives make it difficult to determine the extent to which the training, as opposed to the act of implementing the program, contributed to this increase.

The third hypothesis asserted that having a higher personal learning orientation toward goals, a lower performance orientation toward goals, and older age would result in higher perceived leadership ability. The results suggest that having a learning orientation toward goals, whereby the individual has a concern for personal improvement and mastery, was the greatest predictor of high scores on the leadership scale. It is likely

that adolescents who seek to challenge themselves and continue to persist when confronted with difficulties may have a stronger belief in their leadership abilities. Having a performance orientation toward goals, whereby an individual has concern for a normatively high performance that could lead to a lack of persistence, did not significantly predict leadership scores.

Having an older age was found to add slightly to the prediction of higher scores on the leadership scale. It may be that being older would allow the adolescent to have had the opportunity to participate in more leadership roles, and therefore the person would have more confidence in his or her leadership ability. Although other demographic variables were not theorized to contribute significantly to the prediction of leadership scores among adolescents, gender and ethnicity accounted for almost 8% of the variance. In particular, the non-White group, which was mostly African Americans, had higher scores on the leadership scale.

It has been suggested that both African Americans and women may have a more personal style of leadership that is more focused on an exchange of ideas between the leader and others (Kezar & Moriarty, 2000). The theories on which the present scale was based are focused on a more personal style of leadership that stresses interpersonal communication and sharing ideas to help others achieve their goals. It may be that this scale was more closely related to the leadership skills and style of African Americans and women, and therefore they scored higher on this scale. It is important to recognize that this analysis was performed on the leadership scale after the first time point because the third time point failed to have enough participants for a regression. As previously

discussed, adolescents may initially overestimate their leadership abilities prior to being in a leadership role, and it is uncertain how this factor might impact the variables that contribute to predicting perceptions of leadership skills after a leadership experience.

A fourth hypothesis was that peer leaders' perceptions of their ability to set goals for themselves would increase from their retrospective ratings to their ratings after training, and then again from their ratings after training to after they had completed implementing the program. Similar to the results for the second hypothesis regarding leadership skill over time, the results indicate only partial support for the fourth hypothesis. Peer leaders' perceptions of their goal setting ability significantly increased after training, and the increase after implementing the program was significantly greater than their retrospective ratings from before training. However, there was not a significant increase from the point immediately after training to the point when they had completed implementing the program.

It may be that the training was an important factor for increasing peer leaders' perceptions of their goal setting ability, and that this perception was maintained after they had implemented the program. However, the alternatives previously discussed in relation to analyzing the results for the leadership scale may also be applicable for the goal setting scale. It may be that there was a ceiling effect for the scale, the directions for the retrospective pretest may have been unclear, or the three time points for assessment may have been inadequate to detect changes in scores over time.

Study Limitations. There are several additional limitations to this study that must be considered. First, the study lacks a control group in order to compare changes in the



leadership and goal scales. Without a control group, variables other than participating as a Goals For Health leader cannot be eliminated from consideration as possible causes for the changes observed. For example, the observed increase in perceived leadership skills may simply be an increase that takes place over time as adolescents mature.

Similarly, the lack of a control group makes it difficult to determine whether the changes may be a function of the measurement methods. For example, reliability is threatened because the scales' temporal stability is not known. In addition, the retrospective part of the survey may have elicited a response from the participants to make systematically lower ratings on the retrospective items relative to the traditional post-test items. However, an examination of individual surveys suggests that participants did not make lower ratings on all of the items in their survey. Their tendency to discriminate between individual items may reduce the plausibility that they responded to the retrospective part of the scale in a biased manner.

A second limitation to the study is that the validity of the leadership and goal scales is not known. For instance, it is difficult to know for certain whether the construct of leadership is being measured, or some other construct. Also, it is difficult to know whether changes on the scale are very meaningful to actual behavior. For example, it is not known whether increases on the leadership scale might result in better observed leadership behaviors. All of the above factors limit the assumptions that can be made about the results.

Implications for future research. It is theorized that peer leadership programs provide an opportunity for adolescents to develop their leadership skills, but there is

limited research directed toward how such leadership skills may develop. This study attempted to gain an understanding of some possible changes among peer leaders' perceived leadership skills and goal setting abilities, but future research in this area is needed. First, it is recommended that future research compare change in perceived leadership skills to a control group. Second, it is important that future research include multiple measures of assessment of leadership. For example, observational ratings of the peer leaders' leadership behavior can be made and compared to their self-report ratings. In addition, ratings can also be gathered from the participants being led by the peer leaders in an attempt to gauge how they perceive the peer leaders' leadership behavior.

Future research should also examine possible differences in perceived leadership skills among adolescents of different gender and ethnicity. It is possible that adolescents of different gender and ethnicity have different styles of leadership, and the origin and ultimate impact of such differences are unknown. Finally, it is important to examine the broad implications of adolescents having more positive perceptions of their leadership skills and increasing their confidence in their leadership ability. Investigations should focus on whether such increases result in communities having not only more leaders, but also more effective leaders, and the extent to which this increases the community's competence to successfully deal with its problems.

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## APPENDIX A

The *Goals for Health* program is a health education program, funded by the National Cancer Institute, designed to positively impact the health behaviors of middle school students living in rural areas of Virginia and New York. Three major health behaviors that are associated with reducing the risk for cancer - including decreasing dietary fat, increasing fiber, and being tobacco-free – are the major focuses of the program. The first year of the program consists of 12, one-hour workshops taught by high school leaders (usually 3 to 5 per classroom) to sixth grade students in the middle school. The workshops include experiential activities that teach goal setting and other life skills along with health information that enables the sixth grade students to assess their health behaviors and build skills to implement their decisions about health. The second year of the program takes place when the students are in seventh grade, and consists of 10, one-hour workshops taught by the school's health instructor. The seventh grade program reinforces what was learned in the sixth grade program, and also focuses more intensely on skills to live a tobacco-free lifestyle.

## APPENDIX B

Leadership Scale

Think about times when you have worked with other people in a group. This group could be a club, a sports team, a class, a scout troop, a church group, etc. Circle how much you agree or disagree with each statement below.

Directions: Circle how much you agree or disagree with each statement.

1. I am good at helping other people set goals for themselves.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

2. I am good at building the confidence of other people so that they can reach their goals.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

3. I am good at helping other people to develop a plan to reach their goals.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

4. I am good at helping other people to follow through with the plan they have made to reach their goals.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

5. I am good at encouraging other people to share what they have learned.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

6. I am good at helping other people to express their ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

7. I am good at speaking in front of other people.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

8. I am good at expressing my opinions to other people when I believe they are important.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

9. I am good at explaining things that other people may not know.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

10. I am good at listening to other people's ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

11. I am good at giving other people a chance to speak and share their ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

12. I am good at organizing what I want to accomplish.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

13. I am good at being the one to ask other people to do specific tasks.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

14. I am good at getting other people to understand my ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

15. I am good at leading a group of people.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

16. I would rather avoid asking other people to do tasks for the group.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

17. I am good at getting other people to talk about their ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

### Goal Scale

Think about how you go about doing things in your own life.  
Circle how much you agree or disagree with each statement below.

Directions: Circle how much you agree or disagree with each statement.

1. I set goals for myself often.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

2. I am good at setting goals for myself.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

3. I am good at developing a plan to reach goals that I have set for myself.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

4. I am good at following through with a plan to reach goals that I have set for myself.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

5. I set goals in many different areas in my life.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

1. If you have a goal that you have set for yourself, please list that goal:

---

## APPENDIX C

Leader Scale

Think about times when you have worked with other people in a group. This group could be a club, a sports team, a class, a scout troop, a church group, etc. Circle how much you agree or disagree with each statement below.

Important Directions! Please Read!

Each of the statements on the following pages is written twice.

- a. For the first statement, circle how much you agree or disagree with the statement as it relates to you and your leadership skills NOW.
- b. For the second statement, think about yourself and your leadership skills just before you started as a Goals For Health leader. Looking back, how should you have evaluated yourself and your leadership skills as they were THEN, just before you started as a Goals For Health leader? Circle your choice.

Example:

ex. a. (Now) I know a lot about setting goals.

(Think about how much you currently know about setting goals, and circle how much you agree or disagree with the statement.)

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

- b. Before I started, I knew a lot about setting goals.

(Think back to just before you started as a Goals For Health Leader. Currently, how much do you think that you knew THEN about setting goals, just before you started as a Goals For Health leader? Circle your choice.)

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

Directions: Circle how much you agree or disagree with each statement.

1 a. (Now) I am good at helping other people set goals for themselves.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at helping other people set goals for themselves.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

2 a. (Now) I am good at building the confidence of other people so that they can reach their goals.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at building the confidence of other people so that they can reach their goals.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

3 a. (Now) I am good at helping other people to develop a plan to reach their goals.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at helping other people to develop a plan to reach their goals.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree



4. a. (Now) I am good at helping other people to follow through with the plan they have made to reach their goals.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at helping other people to follow through with the plan they made to reach their goals.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

5. a. (Now) I am good at encouraging other people to share what they have learned.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at encouraging other people to share what they have learned.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

6. a. (Now) I am good at helping other people to express their ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at helping other people to express their ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

7. a. (Now) I am good at speaking in front of other people.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at speaking in front of other people.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

8. a. (Now) I am good at expressing my opinions to other people when I believe they are important.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

- b. Before I started I was good at expressing my opinions to other people when I believed they were important.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

9. a. (Now) I am good at explaining things that other people may not know.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

- b. Before I started I was good at explaining things that other people may not have known.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

10. a. (Now) I am good at listening to other people's ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

- b. Before I started I was good at listening to other people's ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

11. a. (Now) I am good at giving other people a chance to speak and share their ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at giving other people a chance to speak and share their ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

12. a. (Now) I am good at organizing what I want to accomplish.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at organizing what I wanted to accomplish.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

13. a. (Now) I am good at being the one to ask other people to do specific tasks.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at being the one to ask other people to do specific tasks.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

14. a. (Now) I am good at getting other people to understand my ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at getting other people to understand my ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

15. a. (Now) I am good at leading a group of people.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at leading a group of people.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

16. a. (Now) I would rather avoid asking other people to do tasks for the group.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I would rather avoid asking other people to do tasks for the group.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

17. a. (Now) I am good at getting other people to talk about their ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at getting other people to talk about their ideas.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

Goal Scale

1. a. (Now) I set goals for myself often.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I set goals for myself often.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

2. a. (Now) I am good at setting goals for myself.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at setting goals for myself.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

3. a. (Now) I am good at developing a plan to reach goals that I have set for myself.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

b. Before I started I was good at developing a plan to reach goals that I had set for myself.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

4. a. (Now) I am good at following through with a plan to reach goals that I have set for myself.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

- b. Before I started I was good at following through with a plan to reach goals that I had set for myself.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

5. a. (Now) I set goals in many different areas in my life.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

- b. Before I started I set goals in many different areas in my life.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Mildly Disagree	Neither Agree Nor Disagree	Mildly Agree	Moderately Agree	Strongly Agree

1. If you have a goal that you have set for yourself, please list the goal and your progress on reaching the goal.

---

2. Please list the other school or community activities (besides Goals For Health) where you consider yourself to take on a leadership role.

_____	_____
_____	_____
_____	_____
_____	_____

## APPENDIX D

Check the answer that best describes how much you agree or disagree with each statement.

Directions: Check only one answer for each question.

1. I am the kind of person that likes to learn.
  - 1 strongly disagree
  - 2 disagree
  - 3 not sure
  - 4 agree
  - 5 strongly agree
  
2. It is important for me to get better grades than my classmates.
  - 1 strongly disagree
  - 2 disagree
  - 3 not sure
  - 4 agree
  - 5 strongly agree
  
3. I choose hard things to do even if I don't do as well at them.
  - 1 strongly disagree
  - 2 disagree
  - 3 not sure
  - 4 agree
  - 5 strongly agree
  
4. I work very hard to improve myself.
  - 1 strongly disagree
  - 2 disagree
  - 3 not sure
  - 4 agree
  - 5 strongly agree

5. I work hard even when I don't like an activity.
- 1 strongly disagree
  - 2 disagree
  - 3 not sure
  - 4 agree
  - 5 strongly agree
6. I feel angry when I do not do as well as others.
- 1 strongly disagree
  - 2 disagree
  - 3 not sure
  - 4 agree
  - 5 strongly agree
7. It is important to me to always do better than others.
- 1 strongly disagree
  - 2 disagree
  - 3 not sure
  - 4 agree
  - 5 strongly agree
8. I like others to think I know a lot.
- 1 strongly disagree
  - 2 disagree
  - 3 not sure
  - 4 agree
  - 5 strongly agree
9. I enjoy hard school projects.
- 1 strongly disagree
  - 2 disagree
  - 3 not sure
  - 4 agree
  - 5 strongly agree



10. I want to reach my goals.

- 1 strongly disagree
- 2 disagree
- 3 not sure
- 4 agree
- 5 strongly agree

11. It bothers me the whole day when I make a big mistake.

- 1 strongly disagree
- 2 disagree
- 3 not sure
- 4 agree
- 5 strongly agree

Vita

