

THE IMPACT OF A JUNIOR HIGH LEADERSHIP PROGRAM ON THE
ACADEMIC SUCCESS AND LEADERSHIP DEVELOPMENT
OF AT-RISK STUDENTS

Janice Reed, B. S., M. S.

Dissertation Prepared for the Degree of
DOCTOR OF EDUCATION

UNIVERSITY OF NORTH TEXAS

May 2003

APPROVED:

Ronald Wilhelm, Major Professor

Michael Sayler, Minor Professor

Scott Forney, Committee Member

James Laney, Coordinator of Curriculum &
Instruction, Teacher Education &
Administration

John C. Stansell, Chair of the Department of
Teacher Education

M. Jean Keller, Dean of the College of Education

C. Neal Tate, Dean of the Robert B. Toulouse
School of Graduate Studies

Reed, Janice. *The impact of a junior high school leadership program on the academic success and leadership development of at-risk students*. Doctor of Education (Curriculum and Instruction), May 2003, 103 pp., 15 tables, 12 figures, 5 appendices, references, 38 titles.

The primary purpose of this study was to determine the impact of a junior high school leadership program on the academic success and leadership development of its at-risk student participants. A secondary purpose, based on impact, was to evaluate the program as a potential school-based model for adolescent at-risk intervention.

The leadership program investigated in this study is unique in three ways. First, the program is in a magnet school and the student population is heterogeneously mixed as to ethnicity and socio-economic status. Second, enrollment is open to all students. Third, its curriculum goals meet research-based criteria for effective intervention practices and leadership development.

Academic success indicators associated with at-risk students included achievement, conduct, attendance, and school engagement. Leadership development indicators included leadership practices students had experienced and leadership positions students had held.

The design of this post hoc study was the comparison of two groups of high school students who qualified as “at-risk” during their junior high years. Data collection included district or campus reports for cumulative attendance rates, grade point averages, and conduct demerits, as well as student survey responses for school activities, leadership practices experienced, and leadership positions held.

Results of multivariate and univariate inferential analyses show the leadership program had a slight positive impact on the achievement and leadership experiences of at-risk student

participants. Descriptive data analyses indicated a positive trend toward better conduct from program participants as well. The program did not have a significant impact on attendance, school engagement, and leadership positions students had held. While the program met criteria for effective at-risk intervention as well as exemplary leadership development, results were mixed, so evaluation of the leadership program as a model for at-risk student intervention is inconclusive. Further longitudinal research is recommended with a larger sample, using pretest and posttest measurements, group comparisons, and determination of short term and long term effects.

ACKNOWLEDGMENTS

The author wishes to acknowledge several individuals for their assistance during the course of this study. Thanks must be given to my original doctoral committee: Dr. Ron Wilhelm, Dr. Michael Sayler, and Dr. Patricia Moseley, for providing valuable insights that guided the course of the investigation. Appreciation is also given to Dr. Scott Forney, for stepping in to fill the vacancy on my committee. Thanks must also be given to Cheryl Helmick for facilitating the school district authorization and data collection process, and to Dr. Jim Morrow for guiding data analysis procedures. Finally, special appreciation is given to Buford Powell for his personal support and constant faith.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	ii
LIST OF TABLES	iv
LIST OF FIGURES	vi
Chapter	
1. INTRODUCTION.....	1
Statement of the Problem	
Purpose of the Study	
Significance of the Study	
Research Questions	
Research Hypotheses	
Assumptions	
Limitations of the Study	
Definition of terms	
2. LITERATURE SURVEY.....	14
3. RESEARCH METHODOLOGY.....	27
4. ANALYSIS OF DATA.....	38
5. FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS.....	79
APPENDICES	88
REFERENCE LIST.....	100

LIST OF TABLES

Table	Page
1. Sample Profile- Gender, Ethnicity, and Grade Level Proportions by Frequency and Percentages.....	40
2. Population Profile- Gender, Ethnicity, and Grade Level Proportions by Frequency and Percentages.....	41
3. Descriptive Data Analysis Summary of Group Differences in Achievement (GPA) by Gender and Ethnicity Subgroups.....	45
4. Descriptive Data Analysis Summary of Group Differences in Conduct Demerits by Gender and Ethnicity Subgroups	49
5. Descriptive Data Analysis Summary of Group Differences in Attendance Rates by Gender and Ethnicity Subgroups.....	53
6. Descriptive Data Analysis Summary of group Differences in School Engagement by Gender Subgroups	57
7. Descriptive Data Analysis Summary of Group Differences in Leadership Practices by Gender Subgroups.....	60
8. Descriptive Data Analysis Summary of Group Differences in Leadership Practices Experienced by Grade Subgroups.....	62
9. Summary of Descriptive Data Analysis of Group Differences in Leadership Positions Held by Gender Subgroups.....	63
10. Summary of Descriptive Data Analysis of Group Differences in Leadership Positions Held by Grade Subgroups.....	65
11. Summary of Multivariate Analysis of Academic Success: Achievement, Conduct, and Attendance	69
12. Summary of Test of Between-Subjects Effects for Achievement, Conduct, and Attendance by Group, Gender, and Ethnicity	71
13. Summary of Test of Between-Subjects Effects for School Engagement by Group and Gender.....	73

14. Summary of Multivariate Analysis for Leadership Development: Leadership Practices and Positions	76
15. Summary of Test of Between-Subjects Effects for Leadership Practices and Positions by Group and Gender	77

LIST OF FIGURES

Figure	Page
1. Comparison of Ethnicity Proportions in the At-Risk Population and Sample by Percent...	42
2. Comparison of Gender Proportions in the At-Risk Population and Sample by Percent.....	43
3. Comparison of Grade Level Proportions in the Population and Sample by Percent	44
4. Comparison of Gender Differences in Achievement (GPA) between the Treatment and Control Groups	47
5. Comparison of Ethnicity Differences in Achievement GPA between the Treatment and Control Groups.....	48
6. Comparison of Gender Differences in Conduct Demerits between the Treatment and Control Groups.....	51
7. Comparison of Ethnic Differences in Conduct Demerits between the Treatment and Control Groups.....	52
8. Comparison of Gender Differences in Attendance Rates between the Treatment and Control Groups.....	55
9. Comparison of Ethnic Differences in Attendance Rates between the Treatment and Control Groups.....	56
10. Comparison of Gender Differences in School Engagement between the Treatment and Control Groups.....	58
11. Comparison of Gender Differences in Leadership Practices Experienced between the Treatment and Control Groups	61
12. Comparison of Gender Differences in Leadership Positions Held between the Treatment and Control Groups	64

CHAPTER 1

INTRODUCTION

In 1983, The National Commission on Excellence in Education declared our country a “nation at risk” of being overtaken in commerce, industry, science, math, and technology because the “educational foundations of our society are being eroded by a tide of mediocrity that threaten our very future as a nation and a people” (NCEE, 1983, p.1). Eleven years later the American Institutes for Research reviewed the status of education reform in the report, *Educational Reforms and Students at Risk: A Review of the Current State of the Art (1994)*. Some factors, such as graduation rates, and academic standards had improved, but dropout rates and achievement levels for young people of color, other than Asians, remained high. Many of our country’s adolescents were just as at risk of failure in school and life in 1994 as when the alarm was first sounded in 1983. The numbers of students regarded as at risk, using traditional indicators such as children of color and children of poverty, are growing (Rossi & Montgomery, 1994). Reported projections for the year 2020 indicate children of color will comprise more than half of all students in public schools, and about one-fourth of all children in America will live in poverty (Natriello, McDill & Pallas, as cited in Rossi & Montgomery, 1994). The U.S. Census Bureau indicates Hispanic/Latinos, with 12.5 % of the population, have passed Blacks as the largest minority group in America and both groups have the highest poverty rates (U.S. Census Bureau, 2002).

Students in the United States are doing better at the elementary grades in math and science than students did in 1983. However, they are still faltering in these subject areas at the middle and high school grade levels when compared with students internationally. Researchers at

the National Center for Educational Statistics found the average math and science scores of American 13-year-olds were lower than those of their foreign counterparts (NCES, 1992). More specifically, the report, *A Nation Still At Risk*, indicates U.S. students placed 19th out of 21 nations on the Third International Math and Science Study (Thomas B. Fordham Foundation, 1998).

In 1992, 10 to 25 % of all students in the United States were estimated to be at risk of school failure (NCES, 1992). A closer examination reveals specific groups more at risk than others. The National Education Longitudinal Study of 1988, reported by Kaufman and Bradbury in *Characteristics of At-Risk Students in NELS: 88*, tracked an eighth grade cohort of students for four years and found ethnicity and socioeconomic status to be the most significant factors in academic success and high school completion. Other factors were also associated with predicting at-risk status. After controlling for SES and race-ethnicity, which were most highly correlated with dropout probability, researchers identified seven additional factors that were influential for predicting at-risk status: (Kaufman & Bradbury, 1992, v- vi)

- Coming from a single parent home background
- Changing schools frequently (two or more times other than normal progression)
- Repeating an earlier grade level
- Having poorer than average grades
- Having a sibling who dropped out of high school
- Displaying disruptive behavior
- Teachers' perceptions of underachievement
- Lack of parent involvement in school

In the last decade, cultural and ethnic diversity has dramatically increased in American society. According to 2000 U.S. census data, the foreign born population in America grew from 20 million in 1990 to 28 million by 2000 and the Hispanic/Latino minority population grew from more than 22,300,000 in 1990 to 35,300,000 (U.S. Census Bureau, 2002). Similarly, in Texas cultural and ethnic diversity, as well as poverty increased in the past decade. A comparison of the Texas Education Agency's Pocket Edition enrollment reports show that between 1991 and 2000 all ethnic minority student numbers increased. Hispanics represented the largest growing ethnic group with an increase from 34.4% to 40.6% of the entire student population. In 1991, Whites comprised 49% of all students in Texas public schools, but by the 2000-2001 school year, they only comprised 42% of the K-12 population (TEA, 2002). Poverty is also on the increase in Texas. According to the 2001 TEA figures, 49% of all students in Texas schools are classified economically disadvantaged (TEA, 2002). For many minority children, English is a second language that presents a barrier to learning, and if these students also come from low socioeconomic backgrounds, the two factors combine to place them at risk of failing or dropping out of school.

The Texas Education Code, Section 29, currently identifies the following at-risk indicators for students under the age of 21:

- low performance on a standardized assessment instrument in grades K-3
- failure to maintain an average equivalent to 70 on a scale of 100 in two or more foundation curriculum subjects during a semester of the current or preceding school year in grades 7-12
- failure to advance from one grade level to the next for one or more school years
- limited English proficiency

- failure to perform satisfactorily on an assessment instrument administered under Subchapter B, Chapter 39
- placement in an alternative education program during the preceding or current school year
- expulsion from school the previous year
- referral to, in custody, or care of the Department of Protective Regulatory Services during the previous or current school year
- homeless
- residence in a residential placement facility in the district including a detention or substance abuse facility, emergency shelter, foster home, halfway house, or psychiatric hospital during the previous or current school year
- pregnancy
- identification through PEIMS records of previously dropping out of school

Social and economic status and cultural background are two research-based characteristics of at-risk students that are recognized in education coding criteria. However, recent research shows other influences such as school mobility and attendance, self esteem and resilience, and family values and expectations also significantly impact a child's chances for success (Borman & Rachuba, 2001, Lerman, 1996). Data analysis from the national study *Prospects: The Congressionally Mandated Study of Education Growth and Opportunity* (1996) revealed statistically significant main effects for specific affective factors. Student engagement or involvement in school activities, locus of control, self-esteem, and positive attitude toward school were characteristic of resilient at-risk adolescent students. The strength of a child's

connection with the school, by involvement with teachers and participation in school-sponsored activities and organizations, can be an important force in counteracting academic risk.

Conversely, the Southwest Educational Development Laboratory identifies passive disengagement such as inattentiveness, absenteeism and truancy, and active disengagement such as school misbehavior, delinquency, and crime, among the seven highest student behaviors that increase the risk that school success outcomes will not be realized. Bempechat and Ginsberg (as cited in SEDL, 2001, section four, p. 2) found that at-risk students tend to “have minimal or no involvement in sports or extracurricular activities”. Students who become more engaged in school and classroom activities reduce the risk of dropping out, while those who become more alienated and disengaged at school increase the risk of dropping out (Catterall, as cited in SEDL, 2001).

Without school connections and positive adult recognition, some at-risk students turn to gangs for social connections, self worth, and a sense of purpose (Connecticut Clearinghouse, 2002). In a joint report released by the National Center for Education Statistics and the Bureau of Justice Statistics, titled *Students' Report of School Crime: 1989 and 1995*, the highest rates of gang presence were reported by students in public schools. The percent of students reporting gang presence at school nearly doubled between 1989 and 1995, from 15.3 % to 28.4 % (Forgione & Chaiken, 1998). These trends are consistent in Texas as well. In 2000, almost nine out of ten youths referred to juvenile probation authorities were still enrolled in and attending school (Texas Juvenile Probation Commission, 2001). The Texas Attorney General's Office report *Gangs in Texas: 1999* shows juvenile gang activity is on the increase and outnumbers adult gang activity in all jurisdictions except the largest metropolitan areas (1999). It is logical

to infer, from the research and resulting statistics, that students who are at-risk of failing or dropping out of school are also at risk of engaging in juvenile gang activity.

For the purposes of this study though, risk is confined to the likelihood of failing to complete or succeed in school. Risk factors are conceptualized as any factor or combination of factors in a child's life, identified by the U.S. Department of Education, the Texas Education Agency, and federal or state government research, that decrease the probability of success in, or completion of school. At-risk students then, possess one or more factors that place them at risk of failing in or dropping out of school.

Statement of the Problem

Statistics and percentages on achievement, attendance, and discipline for the economically disadvantaged and various ethnic subpopulations have been commonly reported for decades in government and education demographic reports. However, statistics have been less commonly reported for at-risk students as a subgroup. One plausible reason is that in the past, coding criteria for determining which students are at risk of failing or dropping out of school has not been consistent across local, state, and federal agencies. After reviewing the current U.S. Department of Education and Texas Education Code indicators that place students at risk of failing or dropping out of school, it becomes clear that numerous factors in other than poverty and ethnicity contribute to the condition. Current state criteria for determining at-risk status among students can be categorized as family background, residency, student behavior, attendance, or academic performance indicators. The complexity of the issue, the previously inconsistent methods of identifying at-risk students and the difficulty tracking their progress due to high mobility rates all create obstacles to researchers. As a result, more research is needed on effective strategies and school-based intervention programs for at-risk students.

Purpose of the Study

The primary purpose of this study was to determine the impact of an elective, junior high leadership program on the academic success and leadership development of at-risk student participants after they matriculate to senior high school. Impact was operationally defined and measured by factors current research has shown to be associated with academic success and student leadership. A secondary focus, based on impact findings, was the evaluation of this program as a nontraditional school-based intervention model for reducing risk of failure or dropout in school.

Four factors determined the leadership program's impact on academic success. They include achievement, conduct, attendance, and school engagement. Two factors, leadership experiences and leadership positions, determined the program's impact on student leadership development.

Significance of the Study

Traditional research on the factors that contribute to students becoming at risk of failing or dropping out of school focused primarily on socioeconomic status and ethnicity. Current research findings, however, recognize many other influential factors, such as family instability, school mobility, peer pressure, and lack of school engagement or active involvement. Government education agencies include even more indicators including a student's primary language, residency, conduct record, and early grade level or course failure. As a result, more students than ever before are currently identified as at-risk and they need special instructional strategies to prevent failure or dropout.

Federal agencies monitoring Title I funds have collected data on the types of traditional school-based programs for at-risk students. Most have focused solely on academics, primarily reading and mathematics skills, and utilized ability grouping, remediation or grade level retention to increase school success, but ignored affective aspects that have significant influence on at-risk behaviors (Rossi & Montgomery, 1994, Borman & Rachuba, 2001). Granted, family and economic background factors are beyond the control of schools, and socio-emotional factors, such as peer pressure and the self-esteem of middle school-aged youth, may be as well. However, school-based educational programs for at-risk students that utilize only academic strategies have had marginal success in increasing student achievement and preventing student dropout. One evaluation, the *Sustaining Effect Study*, (Carter, 1984, as cited in Rossi & Montgomery, 1994, chapter 7, p.4) concluded Title I (formerly known as Chapter I) programs showed only modest positive effects on students' reading and math skills. Overall academic gains "did little to close the gap between disadvantaged students and their more advantage peers" (Rossi & Montgomery, 1994).

Intervention programs that are based on outdated curriculum and instruction no longer work. The U.S. Department of Labor's SCANS report (1991) indicated that technological advancements in the workforce require all students to develop practical "life skills" as well as cognitive knowledge in the areas of math, science and technology. Schools must adapt both curriculum and instruction to meet these demands and ensure that all students succeed. The leadership program in this study is an elective school-based program that incorporates both academic and affective student development objectives in its curriculum. Instructional strategies identified in the school's literature meet research-based criteria for effective leadership development, life skills development, and effective at-risk intervention. Therefore, the

investigated program has the potential to be a school-based model for both at-risk intervention as well as leadership development.

Research Questions

The following questions guided the investigations of this educational study:

1. What is the leadership program's impact on the academic success of at-risk students after they matriculate to senior high school?

The following secondary questions supported interpretation of the leadership program's impact on academic success of at-risk students:

- What is the leadership program's impact on the academic success of gender subpopulations of at-risk students?
 - What is the leadership program's impact on academic success of individual ethnic subpopulations of at-risk students?
2. What is the leadership program's impact on the leadership development of at-risk students after they matriculate to senior high school?

The following secondary questions supported interpretation of the leadership program's impact on the leadership development of at-risk students:

- What is the leadership program's impact on the leadership development of gender subpopulations of at-risk students?
- What is the leadership program's impact on the leadership development of individual ethnic subpopulations of at-risk students?

Hypotheses

Hypotheses associated with the research question on academic success include:

Ho1: There is no significant difference in the means of the treatment group and the means of the control group for academic success, as measured by grade point averages, conduct demerits, attendance rates, and school engagement in activities.

Ho1A: There is no significant difference in the means of the post hoc treatment group and the control group for grade point average.

Ho1B: There is no significant difference in the means of the treatment group and the control group for conduct demerits.

Ho1C: There is no significant difference in the means of the treatment group and the control group for attendance rates.

Ho1D: There is no significant difference in the means of the treatment group and the control group for school engagement in activities.

Hypotheses associated with research question on leadership development were:

Ho2: There is no significant difference in the means of the treatment group and control group for leadership development, as measured by number of leadership practices experienced and number of leadership positions held.

Ho2A: There is no significant difference in the means of the treatment group and the control group for leadership practices utilized.

Ho2B: There is no significant difference in the means of the treatment group and control group for leadership positions held.

Assumptions

The following assumptions are necessary to the pursuance of this study:

1. It is assumed that the leadership program goals and curriculum are compatible with research on effective at-risk intervention programs, even though this was not the original purpose or design of the program.
2. It is assumed that a sufficient number of at-risk students enrolled in the leadership program courses during the three year focus of this study and matriculated to the four district high schools to generate a valid sample size that increases reliability of findings.

Limitations of the Study

This elective leadership model is currently offered only at one junior high campus in one north Texas school district, so this study was limited to the characteristics of the population of at-risk students served in that specific suburban magnet school. Consequently, the sample size was relatively small for inferential statistical analysis and generalizations to the population.

The post-hoc nature of this study and the characteristics of at-risk students' families further reduced the available population. The original group of former at-risk students from the magnet junior high was no longer intact. Some were from other high school attendance areas and could have matriculated back for their senior high years. In addition, at-risk students tend to have high mobility rates and low continuous enrollment in school districts, as was the case in this study. Sampling posed a problem in that 67 students, or 17% of the original population, had withdrawn from the district over the summer or during the first six weeks of the school year before data was collected. High mobility rates and inconsistent school enrollment are factors inherent with research on at-risk students.

A second limitation is that this study excludes background factors such as family dysfunction and lifestyle, or socio-economic pressures that are beyond the school's control, but may significantly affect educational efforts. Finally, the study focuses on short-term program

effects on at-risk students currently in high school. The leadership program's long term impact on this sample of at-risk students or on at-risk students no longer enrolled in the district was not determined. Therefore, findings are not generalizable beyond the scope of this study sample.

Definition of Terms

For the purposes of this study the following terms are defined as:

1. Academic Success- high grade point average (higher than TEA passing rate of 70%) high attendance rate (TEA uses 94% or above), good conduct (TEA: no disciplinary actions-for this study fewer than 15 campus discipline demerits), and school engagement (participation in one or more school-sponsored organizations)
2. Alternative Education Program- an educational program and facility for students temporarily removed from their local schools due to disciplinary actions
3. At-risk- a current state of being in danger of failing or dropping out of school
4. At-risk factors- factors that place a child at risk of failing or dropping out of school. (from Texas Education Code and National Center for Education Studies criteria): achievement level (cumulative GPA), attendance (cumulative attendance rate), and conduct (cumulative discipline demerits),
5. At-risk student- Any student who possesses one or a combination of factors that place him or her at risk of failing or dropping out of school.
6. At-Risk Coding- For this study, students were coded *at-risk* if they met one or more of the following USDE or TEA criteria: (a) English as a second language (ESL), (b) educationally disadvantaged, (c) grade level retention, (d) not continuously enrolled, (e) course failure in the current or previous school year, (f) state or alternative standardized assessment failure, or (g) grade level retention.

7. GPA- cumulative grade point average
8. Leadership- The ability to see a need for change, initiate, and lead the change process in the pursuit of goal attainment
9. Resilience- The ability of a student to rise above adversity and/or environmental stressors and succeed in school.
10. School engagement or involvement- Student participation in school sponsored activities and organizations.
11. School mobility- Lack of continuous enrollment; changing schools or districts frequently (NELS:1988- two or more times from grades 1-8, except to next level)

In summary, the issue of students at risk of failing or dropping out of school has changed as dramatically as our society has in the past fifty years. New research has expanded our definition and identification. Consequently, a larger and more diverse group of students is designated at-risk in every public school district today. Diversity of need and background requires flexible, individualized instruction. Model school programs that worked for a small group of relatively homogeneous students in the past will not work with the larger, heterogeneous group identified as at-risk in most public schools today. Educators face greater challenges in determining effective practices and programs, and may need to “look outside the box” at alternative models and strategies.

CHAPTER 2

REVIEW OF LITERATURE

Overview of Student At-Risk Intervention Programs

Federal programs targeted for at-risk students from low-income families began with President Johnson's "War on Poverty" in the early 1960s and the resulting Elementary and Secondary Education Act of 1965. Under this "equal education opportunity" legislation Chapter I, later renamed Title I, aided local school districts in educating the disadvantaged or children of poverty, while Title VII addressed the needs of bilingual students. Subsequent reauthorizations of ESEA added programs to support other targeted "at-risk" populations such as Native Americans, migrant, and homeless children (Ravitch, 2000).

Traditional school-based interventions, mainly under original Title I regulations, used compensatory approaches such as ability grouping, pull-out programs, or grade level retention aimed at children of poverty in grades one through three (Rossi & Montgomery, 1994; Farkas & Hall, 2000). The 1994 reauthorization of the Elementary and Secondary Education Act expanded Title I designations to include grades 4-12 and reorganized services to be restructuring resources rather than addition or replacement parts of a student's education (Policy Studies Associates, 1995).

Four major national reports and studies were released near the end of the twentieth century. The National Commission on Excellence in Education monograph *A Nation At Risk* (1983), the *National Education Longitudinal Study of 1988* (NELS: 88), the 1994 American Institutes for Research update, *Educational Reforms and Students At Risk: A Review of the Current State of the Art* (Rossi & Montgomery, 1994), and the ESEA mandated evaluation of

Chapter I *Prospects: The Congressionally Mandated Study of Educational Growth and Opportunity (1995)* produced volumes of research findings on students who were at risk of failing or dropping out of school. Most of the factors or stressors that place children “at risk” originate outside of school, in the child’s background and home environment. (Kaufman & Bradbury, 1992; Rossi & Montgomery, 1994; Borman & Rachuba, 2001). Rossi and Montgomery, in their status report for the Department of Education (1994) specify prenatal conditions, quality of [child’s] health, family characteristics, peer influences, community climate, and social status as environmental factors that significantly influence a child’s readiness to learn. Kaufman and Bradbury (1992), in their analysis of data from the *National Education Longitudinal Study of 1988*, identify single parent home backgrounds and frequent school mobility as other influential factors that affect student success. Yet some resilient “at-risk” students overcome these barriers and achieve subsequent success. Research indicates these students possess counter characteristics such as self esteem, a locus of control, and engagement, or sense of school connection; all of which lead to positive attitudes towards learning (Borman & Rachuba, 2001).

Armed with new information on the nature of “at-risk” students, and the expanded Title I designations for older students and other ethnic groups, educational researchers and policymakers in the 1990s focused on intervention strategies for middle and high school “at-risk” youth. A proliferation of intervention programs for adolescents sprung up across the nation. After a decade, they have now been researched and evaluated. Volume 2 of the book *Raising the Educational Achievement of Secondary Students*, (Policy Studies Associates, 1995) profiled elementary and secondary school programs across America that were successful in improving academic performance of low achievers and identified research-based ideas and promising

practices common to most of these programs. Four kinds of curriculum or instruction innovations were commonly utilized in featured schools: substantive depth within only a few central themes, use of an interdisciplinary approach, program/community collaboration, and integration of both academic and occupational focuses. Flexible, sometimes unconventional, organizational plans, such as school-within-a-school, clusters, interdisciplinary teams, or small scale learning communities, were also utilized.

The American Institutes for Research report for the U.S. Department of Education (1994) identified emerging strategies for “at-risk” teens that replace the traditional “special education” model which pulled students out of class to reinforce the same content at (perhaps) a slower pace and used technology for drill and practice. Research suggests two categories of promising strategies: emerging curriculum strategies and emerging organization strategies. Examples of promising curriculum strategies include the integration of academic, vocational and technological skills, the provision of real-world learning experiences, the utilization of community resources for adult mentoring, tutoring, and role-modeling, and the development of alternative assessments such as oral exams and interviews. Examples of promising organizational strategies include the coordination of all community social services to facilitate assistance, the individualization of incentive and reward structures, use of heterogeneous grouping, use of cooperative learning activities, and student/staff organization in small-scaled learning communities, such as the school-within-a-school concept. (Rossi & Montgomery, 1994)

Lerman (1996) examined the “at-risk student problem” from the employment perspective, and investigated the school’s role in helping at-risk youth meet the demands of twenty-first century employers. Lerman’s report designates the school as the most appropriate setting for reaching at-risk youth because publicly funded youth job-training programs have

failed to “document significant positive impacts” and because “virtually all at-risk students go through the public school system” (p. 2). Lerman advocated a school-based model that incorporates research on factors that influence student dropout with the findings of the 1991 Secretary’s Commission on Achieving Necessary Skills report. SCANS specified foundation skills and processes that are needed for success in the work force, and recommended innovative methods of instruction to help students learn those skills.

Another report undertaken by the Urban Institute identified 51 intervention programs found effective through scientific evaluation. The resulting guidebook, *Teen Risk-Taking: Promising Prevention Programs and Approaches*, by Eisen, Pallitto, Bradner, and Bolshun (2000), specified six elements common to the 21 most effective programs. Successful community programs for “at-risk” teens were theory-based, had well-developed curricula that emphasized social, communication, and problem-solving skills, focused on behavior goals, involved the community, and were intensive in duration. Half of the most effective programs were delivered over the course of ten sessions, and two were taught over an entire school year.

A synthesis of these professional evaluations of over 100 effective intervention programs for adolescents reveals several common elements (see Appendix A). To summarize, effective programs for “at-risk” teens focus on challenging, relevant academic content integrated with occupation and technology skills training, in a variety of “real world” learning experiences. Effective intervention programs for adolescents utilize an interdisciplinary approach that emphasizes student goal setting and recognition of goal attainment. Finally, effective organizational strategies include coordination of school and social services, flexible instruction designs, small-sized learning environments, and community involvement in the form of adult tutors, career mentors, and role models. Two additional synthesis evaluations (Rossi &

Montgomery, 1994; Eisen, Pallitto, Bradner, & Bolshun, 2000) emphasized the necessity of substantial program duration for the positive effects to become internalized within the students and to prevent “fade out” effects when students exit a program. True intervention and removal of risk for students requires long term utilization of effective behaviors and positive attitudes.

Overview of Student Leadership Programs

Since 1972, leadership has been recognized as a specific type of ability, or gift, that students might possess. Former U.S. Commissioner of Education Sidney P. Marland, in his report to Congress, identified leadership among six gifts students might possess that would require special educational provisions (Marland, 1972). The 1988 Jacob K. Javits Gifted and Talented Students Education Act reaffirmed this designation:

“Gifted and talented students give evidence of high performance capability in specific academic fields, or in areas such as intellectual, creative, artistic, or leadership capacity, and require services or activities not ordinarily provided by a school in order to fully develop such capabilities.” (P.L. 100-297, 1988)

The Texas Education Agency also supported the concept of multiple gifts, each with special educational needs, in its 1997 Texas Education Code definition of a gifted and talented student:

In this subchapter, “gifted and talented student” means a child or youth who performs at or shows the potential for performing at a remarkably high level of accomplishment when compared to others of the same age, experience, or environment, and who:

- (1) exhibit high performance capability in an intellectual, creative, or artistic area;

(2) possesses an unusual capacity for leadership; or

(3) excels in a specific academic field. (TEC, Title 19, Part II, Rule D)

These government definitions of giftedness are supported by scholars in the field of gifted and talented theory such as Francoys Gagne and experts on leadership theory such as John W. Gardner. In Gagne's *Differentiated Model of Giftedness and Talent* (1997), leadership is recognized within the socioaffective aptitude domain of giftedness. According to him, "one cannot be talented without first being gifted" and "the process of talent development manifests itself when the child or adolescent engages in systematic, learning, training, and practising" (Gagne, 1997, p.2). Former Secretary of Health, Education and Welfare John Gardner devoted twenty-five years to the study of leadership. He concludes in his book, *On Leadership*, that "most men and women go through their lives using no more than a fraction... of the potential within them", and that leadership gifts are among the "untapped capabilities" (1990, p. xix).

Following federal gifted and talented education legislation and the U.S. Department of Education project, *National Excellence: A Case for Developing America's Talent* (1993), more programs for students with leadership ability began finding their way into public schools. Usually these programs, however, were implemented at the high school level for elected offices. To date, this review of literature found no leadership education model originating from local gifted and talented programming or local gifted education curriculum guides in public school districts. There are entire schools dedicated to leadership education, such as New York's High School for Leadership and Public Service. However, such public schools usually utilize a magnet school approach rather than limit enrollment to students with identified leadership ability.

Several factors may account for public school districts' reluctance to include leadership development in their provisions for gifted students or even to offer leadership courses within the general education program. Although the U.S. Department of Education, Texas Education Agency, and theorists such as Gagne and Gardner identify leadership as a gift that few in the general population possess, a review of current leadership literature indicates the business sector and general public view leadership as a set of skills most individuals can develop. One popular guidebook states that "leadership is an observable set of learnable practices" that ordinary people can acquire (Kouzes and Posner, 1995, p.16), while another from the PSI Successful Business Library opens with the claim that "anyone who chooses to can become a leader" by learning a "specific set of skills and knowledge" (Ponder, 1998, p.1). This inconsistency between the construct of leadership as a natural ability or gift only a few have, versus the construct of leadership as a set of skills all can acquire is linked to the second issue- a lack of valid, reliable identification instruments for students. Both scholars and corporate experts agree that leadership involves affective elements such as interpersonal, problem-solving, and decision-making skills. Leadership education theorists often include ethereal qualities such as intuitive vision, or the prediction and forecast of both problems and solutions, which seem to require special natural ability (Sisk & Rosselli, 1996; Karnes, 2000). Reliable, valid instruments for identifying adults with leadership ability are not, however, reliable or valid for use with children. To date, instruments designed to measure leadership ability are usually self-rating formats. Even those that incorporate and compare observer ratings provide mainly subjective information.

Recent U.S. Department of Education and Office of Educational Research reassert the belief that students with talent potential are found in all cultural groups, across all economic strata and are found in all disciplines. The introduction to *National Excellence: A Case for*

Developing America's Talent calls for an increase in learning opportunities for gifted disadvantaged and minority students because “these youngsters with outstanding talents need extra support in overcoming their barriers to achievement”, and “schools must make more high-level learning experiences available to them” (1993, Introduction, p.4). Title 10, part B of the 1994 education legislation, *Improving America's School Act*, gives priority to “the identification and provision of services to gifted and talented students who may not be identified and served through traditional assessment methods” and includes economically disadvantaged individuals, individuals with limited-English proficiency, and individuals with disabilities. Accurate identification of children with leadership ability is difficult to begin with and made even more difficult when barriers such as language, family background, and achievement factor in.

Consequently, there have been few leadership development provisions in gifted education across public school districts in the United States. Some districts then target students already identified as school leaders by election to a leadership position. School leadership programs exclusively for elected leaders fail to include students with natural leadership ability who are also out of the social loop, as many at-risk students are. An informal survey of six national leadership programs offered in Texas schools reveals most are restricted to elected school organization officers, students recommended by teachers and counselors, or students nominated by a significant number of peers (see Appendix B).

An eligibility criterion based on a significant number of peer nominations will yield a student group with social skills, but not necessarily leadership skills. Screening criteria based on teacher nominations and high achievement may also exclude students with leadership potential. Regular classroom teachers tend to perceive at-risk teens unfavorably (Kaufman & Bradley, 1992) or hold low expectations for them by the time they reach adolescence.

The nationally recognized Peer Helpers and PAL programs combine goals for student leadership development and for risk behaviors prevention, in that teens in the program are trained to be peer leaders offering nonacademic assistance to the at-risk youth in their schools. The at-risk youth, recipients of the peer counseling, are mainly exposed to decision-making and communication development, but not leadership training, academic assistance, or career awareness in these programs.

No school-based leadership program specifically for at-risk youth was uncovered by a review of literature. Of the more than 25 leadership programs reviewed only one, a community based organization, was specifically targeted for at-risk teens susceptible to gang membership and possible school dropout. The Teens Against Gang Violence (T.A.G.V.) *Youth Summer Leadership Program* was developed for youths nine to eighteen years of age, to improve social and cognitive skills and the ability to resist peer pressure through positive peer leadership. This program is theory-based and combines typical goals and objectives for at-risk student intervention and leadership programs (Teens Against Gang Violence, 1998). Although the TAGV program may serve as a prototype model for out-of-school at-risk intervention and leadership development, it is more replicable in a neighborhood center environment than in a school setting.

Research on evaluation of student leadership programs is scant. School leadership programs tend to rely on theory to support the inclusion of specific program components. However, only one of the national school based leadership programs reviewed for this study, the Flippen and Associates *Teen Leadership Program*, provided specific program evaluation results in their curriculum literature.

When features common to effective at-risk intervention programs are compared with features common to nationally recognized school-based leadership programs, several overlap (see Appendix C). Goal setting and recognition, interpersonal skills, community connections, substantial duration, alternative assessment, and having a theoretical base constitute the effective intervention program features found in most of the student leadership programs reviewed. The *Flippen Teen Leadership Program* and the leadership program investigated in this study also incorporate the additional intervention features of integrating an academic and career focus. It should be noted that the leadership program investigated in this study actually utilizes elements of the *Flippen Teen Leadership* curriculum for one or more of its courses, but also incorporates other student leadership materials and community resources. In comparing recognized leadership programs with features of effective at-risk intervention programs, only the leadership program investigated in this study emphasizes technology knowledge and application (see Appendix D).

The program investigated in this study represents a non-traditional leadership program for two reasons. First, although leadership has been recognized at the federal and state level as an area of giftedness, this program is not limited to identified gifted and talented students. Instead, it is offered as an elective and is open to any student enrolled in the magnet school. Second, the curriculum for this program addresses learning objectives from both cognitive and affective domains as well as the “life skills” essential in the workforce. Together, these features provide two reasons for studying the program as a possible intervention for at-risk youth.

The third reason the leadership program was selected concerns identification of natural leaders. Dropout prevention and leadership development seem to be on opposite ends of the education spectrum. However, as previously noted there are few instruments designed to

identify leadership aptitude in students younger than college age, and even fewer have been thoroughly field tested for both reliability and validity. Consequently, gifted and talented education programs in public school districts across the nation tend to focus on two domains, high general intelligence and specific academic ability because valid and reliable identification instruments are available for those aptitudes. Students with true leadership potential, however, may not possess these other gifts and may be overlooked in public education.

Leading gifted and talented educators recognize the discrepancy and call for increased focus on leadership in schools. Feldhusan and Richardson (1996) articulated the need for early leadership education in the preface to their book, *Leadership Education*:

The development of leaders as a national priority requires that the concept of leadership be stressed at an early age in the education of youth. Leadership education as a curriculum thrust in schools has promise as a field of study much the same as the arts and sciences. Youth who will someday fill the various leadership roles in our society can develop their skills in a non-threatening learning environment (p. 1).

This school based leadership program incorporates features common to promising programs for at-risk student success as well as features common to nationally recognized programs for teen leadership development. Leadership program criteria was synthesized from the 1999 *Summary of the Leadership Program* booklet, the *Leadership Center 7-9 Overview* and *Year At A Glance*, charts in the 1999-2000 curriculum guide, and the school district's *Program of Studies- Secondary 2002-2003* (pp. 12-13). Program elements that match effective at-risk intervention program practices include:

- An interdisciplinary approach to instruction
- Theory and research based curriculum

- Integrated academic and career focus
- Technology applications emphasis
- Active student learning and goal setting
- Authentic learning contexts and adult mentors through field trips, service projects, and consultants outside of classroom in the community
- Use of alternative measures and assessments
- Small class sizes
- Substantial duration through one to three year course options

The junior-high leadership program appears to contain ten of the eleven features of promising programs for at-risk student success (see Appendix C). An *interdisciplinary approach* integrates language arts, social studies, speech and technology content in *authentic contexts* that include campus activities and off campus field trips and community service projects. The curriculum is *student goal oriented* in that goal setting is taught as a content skill and students have been recognized in school, district, and local news for achieving individual and team project goals. The program also stresses civic responsibility and community service using *adult mentors*, and building *intercommunity connections* while *integrating academic and career focuses*. *Technology applications* are incorporated into unit plans for teacher lessons and for student products. *Class sizes* are kept small with an average teacher-pupil ratio of 1:16 over the past two and one half years. Finally, because the program has three year-long courses, it meets the criteria of *substantial duration* to give students who elect to take all three courses time to develop, assimilate, and apply knowledge and skills with support and guidance.

In summary, the leadership program investigated in this study met current research-based criteria for promising practices in at-risk intervention as well as effective leadership development. Since enrollment is open to all students, rather than elected school leaders or gifted students, the program offers the possibility of attracting a variety of students with leadership potential, including those who may be at-risk of school failure and dropout.

CHAPTER 3

RESEARCH METHODOLOGY

Research Design

The main focus of this research was to determine the impact of an open enrollment junior high leadership program on the academic success and leadership development of at-risk student participants. A secondary focus, after impact had been determined, was the evaluation of this program as a potential school-based intervention model for reducing the risk of school failure or dropout.

This is an ex post facto study of at-risk students' academic success and leadership development after they completed one or more courses in a junior-high leadership program and matriculated to senior high school.

Four indicators determined the leadership program's impact on at-risk students' academic success: achievement, conduct, attendance, and school engagement. Data for the first three indicators were collected from campus and district records. Achievement was measured by cumulative grade point averages. Conduct was measured by cumulative demerits, and attendance was measured by cumulative attendance rates. Data for school engagement were collected from responses to part one of a questionnaire designed for this study and distributed to all subjects in the study. This variable was measured by the number of school-sponsored organizations and activities subjects participated in.

Two indicators determined the leadership program's impact on at-risk students' leadership development: leadership experience and leadership position. Data were collected from responses to parts two and three of a questionnaire distributed to all subjects in the study.

Leadership experience was measured by the number of specified leadership practices students had utilized since leaving junior high. Leadership position was measured by the number of leadership offices students had held since leaving junior high.

Population

The leadership program is an integral feature of a magnet school located in an upper middle class suburban neighborhood. Under the junior high configuration, students in 7th, 8th and 9th grades are enrolled on the campus together. The school's district is predominately situated in a northern suburb of the Dallas metroplex, but the southern portion actually extends into older neighborhoods in the city of Dallas and the magnet school's student population is drawn from all sections.

The district has experienced considerable demographic change and increased diversity in the past decade. According to Texas Education Agency Snapshot reports, from 1994 to 2000, the district saw a 12 % increase in "minority" populations, from 38 % of the student enrollment to 50 %. Hispanics represent the largest minority subpopulation in the school and account for the largest minority growth in the district from 11 % in 1995 to 19 % in 2000 (TEA, 2001). Since the junior high being studied is a magnet school, and students from neighborhoods throughout the district may attend, the school's overall population tends to reflect the district's increased diversity. The Texas Education Agency Campus Report for the 2000-2001 school year shows a total count of 782 students for Westwood Junior High. Within the population 50.1 % were White, 26.7 % were Hispanic, 19.2 % were African American, and 4 percent were classified as Asian/Pacific Islander (TEA, 2002). Between 1999 and 2002, the school's average enrollment was 750 students.

Until the 2001-2002 school year districts in Texas did not consistently identify and classify “at-risk” subpopulations in their data records. Rather, they often used the “economically disadvantaged” student designation to identify the at-risk subpopulation.

The highest dropout rates in Texas come from students with low socioeconomic or educationally disadvantaged backgrounds, students from Hispanic ethnicity, and those of male gender (TEA Performance Reports, 2002). Three TEA Compensatory Education criteria for identifying students who are at-risk of failing school are also reported in district records for years prior to 2002. The criteria include limited English proficiency (LEP), one or more course failures, and state TAAS test failures. Therefore, the following TEA criteria were used to determine the at-risk population for this study:

- a school district classification of “educationally disadvantaged”
- school district designation of LEP, one or more course failures
- one or more TAAS subtest failures
- one or more grade levels retained.

Of the five years the leadership program has been implemented, students from the first two years are now in college or out in the workforce and not readily available to study. Therefore, school records for seventh, eighth, and ninth graders enrolled in 1999-2000, 2000-2001, and for ninth grade only in 2001-2002 were obtained. Criteria used to define the sample population included all former magnet school students enrolled between the years 2000 and 2002, who were determined to be “at-risk” during those years, and who were currently enrolled in a senior high school within the district. Three hundred eighty seven students comprised the

original population pool at the end of the 2002 school year. An update prior to data collection in the fall of the 2002-2003 school year resulted in only three hundred twenty. During the interim five months, 67 at-risk students from the population had withdrawn from the school district or were no longer on senior high school enrollment records due to placement in a correctional facility or alternative education program. Two sample groups were then drawn from this current target population.

Sample

The two groups used in this study were independent samples, in that data collected from individuals in one group were theoretically unrelated to data from individuals in the second group. There were no expected data influences of one sample on the other sample. Cluster sampling was used to draw subjects for the treatment group and proportionate matching was used to draw subjects for the control group from the school's population of at-risk students.

Treatment Group

Criteria used to determine the treatment group included all at-risk students formerly enrolled in the magnet junior high who had completed at least one of the courses in the leadership program and were currently enrolled in a senior high school within the district. To identify these students, enrollment rosters for all leadership courses during specified years were obtained. The program was first implemented in the 1997-1998 school year. As previously established, students from the first years were assumed to have completed senior high school and are currently scattered across the country in colleges or out in the work force. In addition, these students were products of the program's early implementation years, when "bugs" were still being worked out of the system. According to program evaluation research, innovations

require time to produce valid results. Data obtained after the first year of implementation usually produce more accurate information on optimum program effects because during the first year program components are being refined and teachers are becoming proficient (Hord, 1996). Therefore, leadership course rosters and district reports from the later years, 1999-2000, 2000-2001, and 2001-2002, were used to identify leadership participants who were also “at-risk” students. Thirty-seven students comprised the treatment sample. Of those, eighteen were male and nineteen were female. Twenty were tenth graders, fifteen were eleventh graders, and two were twelfth graders.

Control Group

A matching technique was used to draw a control sample that matches the characteristics of the treatment group for number and gender in each of the three grade levels, with the exception of leadership program participation. At-risk students from the population who did not participate in the leadership program were first identified and grouped by gender and current grade level. Then, a systematic selection process matched gender and grade level proportions with the treatment group in order to increase the likelihood that any population variances would be equal and to increase the power of tests used to analyze data. Thirty-seven students were then placed in the control group.

Procedures

Data Collection

Data were collected from school records and from student survey responses to provide information in answering the research questions:

1. What is the leadership program's impact on the academic success of at-risk students?

To determine the leadership program's impact on the academic success of at-risk student participants, data were collected on four academic success indicators: achievement, conduct, attendance, and school engagement. Achievement data came from cumulative grade point averages (GPAs) reported by campuses for each student. Conduct data came from campus records of the number of demerits each student had accumulated at the point of data collection. Criteria for earning conduct demerits were set at the district level in order to provide consistency across campuses. Attendance data came from cumulative absences reported by the district for each subject since entering ninth grade, compared to cumulative school days for that same period. The resulting percentages gave attendance rates. Finally, school engagement data came from student responses on part I of a survey designed for this study.

The survey, titled *School Activities Questionnaire*, consists of a checklist format in order to quantify data and increase accuracy and consistency of the responses. The instrument is divided into three sections: High School Activities, Leadership Practices, and Leadership Positions. An inclusive list of school sponsored organizations had been obtained from the district's web site. Students then indicated by check mark which school- sponsored organizations they belonged to on the *School Activities Questionnaire* (see Appendix E).

2. What is the leadership program's impact on the leadership development of at-risk students?

To determine the program's impact on the leadership development of at-risk student participants, data were collected on two leadership indicators: leadership practices and positions of leadership. Both indicators were measured by student responses on parts II and III of the *School Activities Questionnaire*.

Experiences students in the treatment group had after leaving junior high were relevant in determining the program's impact on leadership development. This program offers courses all three years of junior high so some students do not complete it until the end of ninth grade. Therefore, to allow time for students to apply their learning, the questionnaire limits responses to students' experiences at the senior high school level. Grade level was originally used as one of the grouping variables in order to measure differences in short term and long term effects. As a rule, tenth graders would have had less time for the leadership program to impact them than eleventh and twelfth graders would have had. On the other hand, a phenomenon known as fade out effects might diminish the program's impact on twelfth graders. However, response to the surveys was so small, particularly from twelfth graders, so grade level was subsequently rejected as a grouping variable for data analysis.

To further determine the leadership program's impact on specific subgroups of interest to educators, gender and ethnicity were used as grouping variables for data analysis.

Ethical Standards

Many of the subjects in this study are students of minor age so precautions were taken to protect their privacy and rights under the guidelines set by the Human Rights Policy of the University of North Texas Institutional Review Board. Guidelines included:

- 1) Risks to subjects are minimized and reasonable.
- 2) Selection of subjects is equitable within the purposes and setting of the research.
- 3) Informed consent will be sought and appropriately documented.

- 4) Adequate provisions are made to protect the privacy of subjects and maintain the confidentiality of data (UNT, 2001).

There were no foreseeable risks to the subjects of this study in the treatment or control groups. The selection of the subjects in the treatment sample was equitable because the all individuals who meet the criteria were included. Selection of subjects for the control sample was based on objective gender and grade level matching criteria with systematic sampling. District student identification numbers were used in place of student names for data recording and analysis in order to protect the privacy of participants.

Data Analysis

All data were analyzed using the Statistical Package of the Social Sciences (SPSS) software, 10.0 version (Chicago). This program is a comprehensive system for analyzing data from almost any type of file.

The null hypothesis for each dependent variable was tested against a non-directional alternative hypothesis. In other words, the alternative hypothesis for each academic dependent variable and each leadership dependent variable is that the mean of the treatment group will be different from the mean of the control group.

Therefore, the following hypotheses were tested in data analyses for academic success:

Ho1: There is no significant difference in the means of the treatment group and the control group for academic success as measured by cumulative grade point averages, cumulative conduct demerits, cumulative attendance rates, and participation in school activities.

Ho1A: There is no significant difference in the means of the treatment group and the control group for grade point average.

Ho1B: There is no significant difference in the means of the treatment group and the control group for conduct demerits.

Ho1C: There is no significant difference in the means of the treatment group and the control group for attendance rates.

Ho1D: There is no significant difference in the means of the treatment group and the control group for school engagement in activities.

The following hypotheses were tested in data analysis for leadership development:

Ho2: There is no significant difference in the means of the treatment group and control group for leadership development, as measured by number of leadership practices utilized and number of leadership positions held.

Ho2A: There is no significant difference in the means of the treatment group and the control group for number of leadership practices utilized.

Ho2B: There is no significant difference in the means of the treatment group and control group for number of leadership positions held

The academic success indicators of attendance, grade point average or GPA, and conduct could be analyzed with multivariate parametric tests using a general linear model. Data for these factors were collected from all subjects in the sample. Therefore, a multivariate (MANOVA) test was conducted to determine main and interaction effects (group, gender and ethnicity) of all three academic dependent variables (GPA, demerits, and attendance rates). Data for school engagement, however, depended on student responses to part I of the survey. Only 24 of the 74, or 32%, returned the survey even after two distributions, so data for the school engagement

factor had to be analyzed separately using the general linear model univariate test. Tests of between-subjects and descriptive data analysis of each academic dependent variable (GPA, demerits, attendance rates, and school activities) aided interpretation of any statistically significant main or interaction effects found.

Box's Test of Equality of Covariance Matrices was conducted to determine homogeneity of the covariance matrices across the groups for the multivariate analyses of the academic success indicators, and Levene's Test of Equality of Error Variances was conducted to determine the homogeneity of error variance across the groups for the between-subjects test of effects.

The leadership development indicators of experience and position could be analyzed with multivariate (MANOVA) tests using a general linear model. Responses from parts II and III of the *School Activities Questionnaire* were first totaled on each subject's survey form. Individual and total scores for leadership practices and total scores for leadership positions were entered into the database. Then, a multivariate test was conducted to determine main and interaction effects for the leadership dependent variables (leadership practices and leadership positions). To determine any statistically or practically significant main or interaction effects (group, gender, and ethnicity) between the two sample groups univariate tests were conducted separately for each dependent variable (practices and positions).

Box's Test of Equality of Covariance Matrices was conducted to determine homogeneity of the covariance matrices across the groups for the multivariate analyses of the leadership indicators, and Levene's Test of Equality of Error Variances was conducted to determine the homogeneity of error variance across the groups for the between-subjects test of effects.

The level of significance for evaluating differences (α) was set at .05 with a .95 confidence level to balance the risk of making either a Type I or Type II error in determining whether to reject the null hypotheses. Power ($1 - \beta$) and practical significance (η^2) are also reported when a statistically significant difference was found. Practical effects were determined by partial eta squared values.

In summary, whenever possible, multivariate tests were conducted in order to present a composite analysis of the program's overall impact on academic success and on leadership development. Three of the academic variables- achievement, conduct, and attendance- were analyzed together since data came from all 74 subjects. The fourth academic success variable- school engagement- was analyzed separately, since data came from only the 24 subjects who responded to the *School Activities Questionnaire*. The two leadership development variables – practices and positions- were analyzed together since data for both came from the same 24 subjects. The multivariate and univariate tests produced descriptive data analysis and tests of between-subjects, and the multivariate tests provided an additional composite analysis of main effects and interaction effects between the independent variables- group, gender, and ethnicity.

CHAPTER 4

ANALYSIS OF DATA

The main purpose of this research was to determine the impact of an open enrollment, junior high leadership program on the academic success and leadership development of at-risk student participants. Impact was operationally defined and measured by factors that current research has shown to be associated with academic success and student leadership.

Factors associated with academic success included achievement, measured by cumulative grade point averages; conduct, measured by cumulative discipline demerits; attendance, measured by cumulative attendance rates; and school engagement, measured by the number of school-sponsored activities subjects have participated in since leaving junior high. Data on the first three factors were collected from campus and district records. Data on school engagement were collected from survey responses to part I of the self-report *School Activities Questionnaire* developed for the study. Factors associated with student leadership development included leadership experience, measured by the number of various practices utilized since leaving junior high and leadership position, measured by the number of school leadership positions subjects have held since leaving junior high. These data were collected from survey responses to parts II and III of the self-report *School Activities Questionnaire*.

All data were analyzed using the Statistical Package of the Social Sciences software (SPSS), 10.0 version (www.spss.com). This computer program is a comprehensive system for

analyzing data from almost any type of file, and runs univariate and multivariate analyses using a general linear model.

Descriptive Data Analysis

Sample and Population Profile

A total of 74 at-risk students comprised the sample. Thirty-seven students in the treatment group represented all the at-risk students currently enrolled in one of the district's four senior high schools who had participated in the leadership program while attending the junior high. Thirty-seven students in the control group were matched to the treatment group for gender and grade level. Grade level was originally used as a grouping variable with the intention of determining short term versus long-term program effects. However, only two twelfth grade students from the treatment group were currently enrolled in the district at the time of data collection.

Only the three main ethnic groups in the population are reflected as ethnicity levels in the sample. There were no Native Americans and only two Asians initially in the sample. These two ethnic groups have extremely small representations in the at-risk population as well. Any results from statistical data analysis then would not be reliable. Consequently, these two ethnic groups were not included as ethnicity levels in the study. Table 1 indicates the group assignments and gender, ethnicity, and grade level proportions by frequency and percentage for the final sample.

Table 1

Sample Profile- Gender, Ethnicity and Grade Level Proportions by Frequency and Percentage

Grouping Variables	Levels	<i>n</i>	%
Group	Control	37	50.0%
	Treatment	37	50.0%
Gender	Female	38	51.4%
	Male	36	48.6%
Ethnicity	Asian	0	00.0%
	Af. American	12	16.2%
	Hispanic	33	44.6%
	White	29	39.2%
Grade Level	Tenth	40	54.1%
	Eleventh	30	40.5%
	Twelfth	4	05.4%

Table 2 provides comparison data on the gender, ethnicity, and grade level proportions in the at-risk population of 320 students that study samples were drawn from. Asian proportions are shown to confirm the extremely small number within the at-risk student population.

Table 2

Population Profile- Gender, Ethnicity, and Grade Level Proportions by Frequency and Percentage

Grouping Variables	Levels	<i>n</i>	%
Gender	Female	176	55.0%
	Male	144	45.0%
Ethnicity	Asian	14	0.04%
	Af. American	62	19.4%
	Hispanic	130	40.6%
	White	114	35.6%
Grade Level	Tenth	148	46.2%
	Eleventh	78	24.4%
	Twelfth	94	29.4%

The sample reflects a ratio similar to the population for ethnic proportions. In both the population and in the sample, Hispanics represent the largest ethnic group, followed by Whites, African Americans, and Asians. These proportions are similar to those at the state level for students in grades K-12. The TEA Pocket Edition Report for 2000-2001 indicated slightly more White students (42 percent) than Hispanic (40.6 percent), but the gap is closing each year. There were two Asian students in the original study sample. However, the subject from the treatment group withdrew before data were collected, so the remaining Asian from the control group was subsequently dropped and replaced with a subject that was matched for

gender and grade level. Figure 1 indicates ethnic proportions in the population and in the sample by percentage.

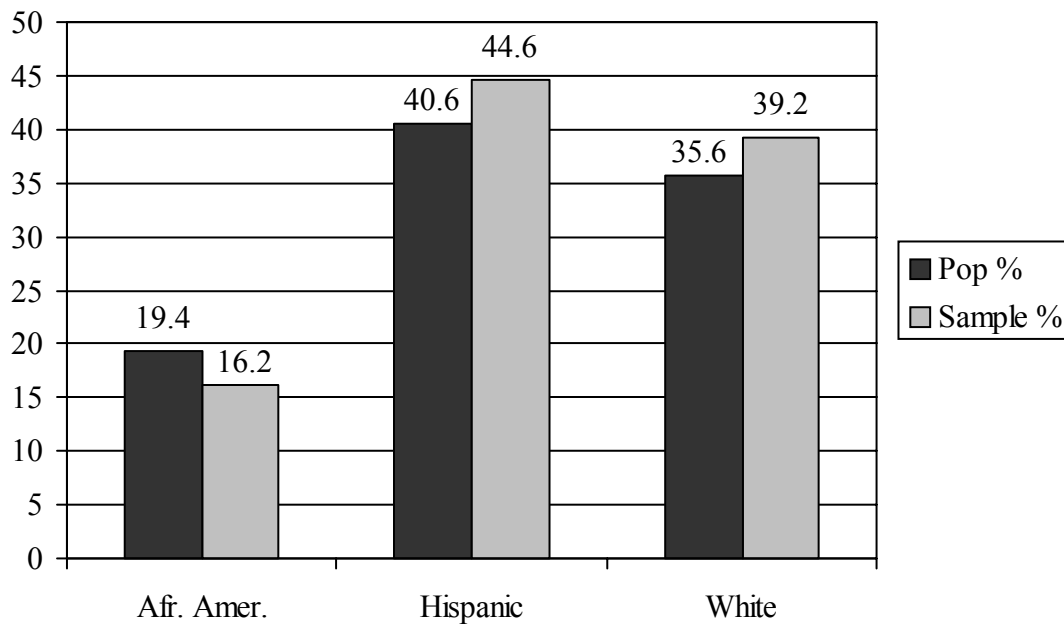


Figure 1. Comparison of Ethnicity Proportions in the At-Risk Population and in the Sample by Percentages

Gender proportions in the treatment group were not similar to gender proportions in the population. In the population, there were 10% more males than females, but in the sample, there were 2.8% more females than males. This is because gender proportions occurred naturally in the population, while gender proportions in the sample were controlled by assignment to the treatment group and then matched in the control group. Figure 2 indicates these dissimilar gender proportions in the population and sample by percentages.

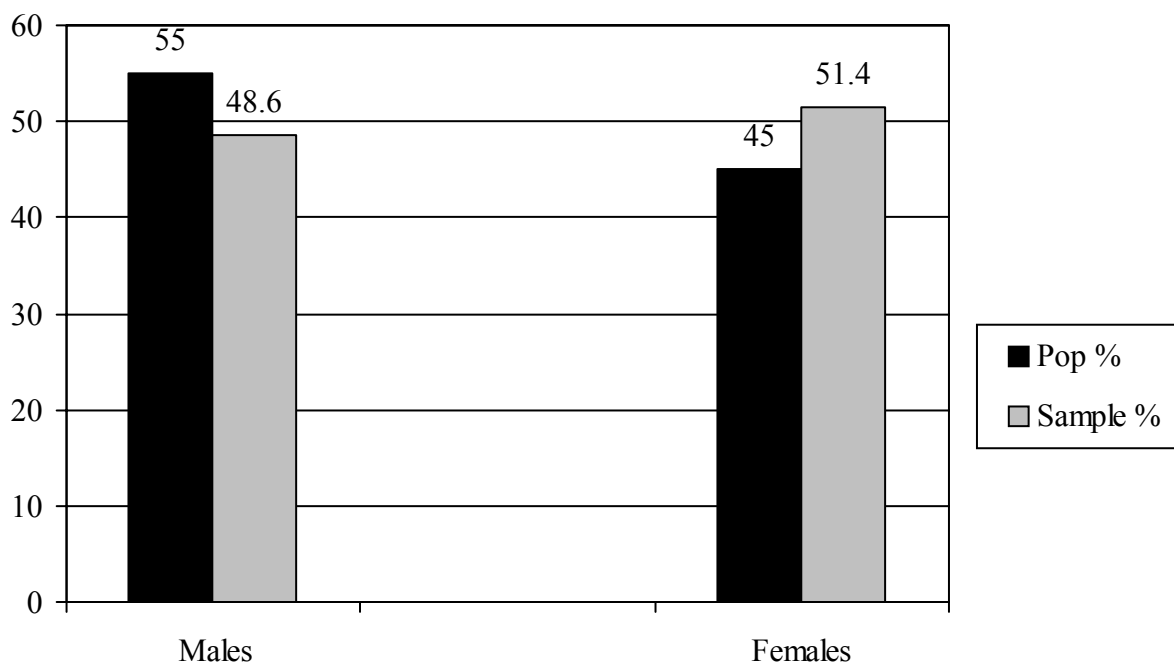


Figure 2. Comparison of Gender Proportions in the At-Risk Population and in the Sample by Percentages

Grade level proportions in the sample also were not similar to the grade level proportions in the population. Tenth grade represented the greatest proportion in both the population and in the sample. However, in the population eleventh grade represented the least proportion, while in the sample; twelfth grade represented the least proportion. Again, grade level proportions occurred naturally in the population, while gender proportions in the sample were controlled by the characteristics of the treatment group. Figure 3 indicates grade level proportions in the population and in the sample.

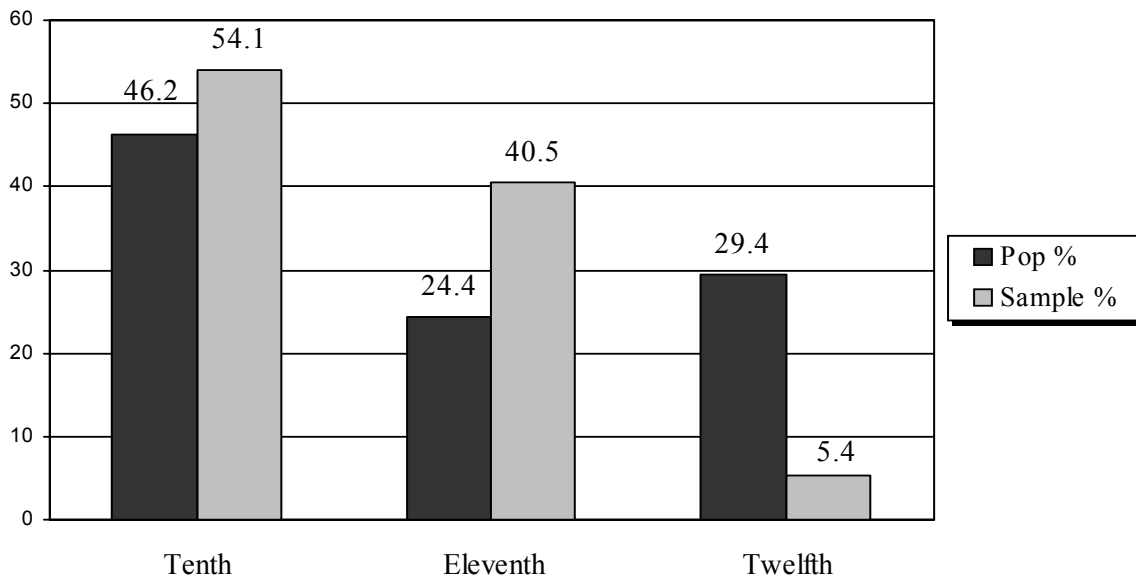


Figure 3. Comparison of Grade Level Proportions in the Population and in the Sample by Percentages

Research Question 1. What is the leadership program’s impact on the academic success of at-risk student participants?

To answer this research question, descriptive data analyses include mean differences between the two sample groups, and trend differences across the gender and ethnic subgroups on the four measures of academic success: achievement, conduct, attendance, and school engagement.

Table 3 provides descriptive data analysis of mean differences for achievement as measured by cumulative grade point averages. Independent variables in the sample are labeled group, gender, and ethnicity. The total sample mean for grade point average, (GPA) was 80.3,

($SD = 8.11$). The GPA mean for the treatment group ($M = 83.0$, $SD = 7.17$) was higher than for the control group ($M = 77.6$, $SD = 8.17$) by 5.4 points. Also, the means for all of the ethnic and gender subgroups were higher for the treatment group than for the control group.

Table 3

Descriptive Analysis Summary of Group Differences in Achievement (GPA) by Gender and Ethnicity Subgroups

Group	Gender	Ethnicity	M	SD	n
Control	Female	Af. Amer.	73.3	2.42	4
		Hispanic	82.3	10.29	9
		White	79.7	7.39	6
		Total	79.6	8.71	19
	Male	Af. Amer.	84.1	4.74	2
		Hispanic	73.8	6.74	10
		White	75.5	7.52	6
		Total	75.5	7.23	18
	Total	Af. Amer.	76.9	6.25	6
		Hispanic	77.9	9.41	19
		White	77.6	7.43	12
		Total	77.6	8.17	37
Treatment	Female	Af. Amer.	75.8	3.42	3
		Hispanic	80.2	5.84	5
		White	87.7	7.63	11
		Total	83.9	8.07	19

(table continues)

Table 3 (continued)

Group	Gender	Ethnicity	<i>M</i>	<i>SD</i>	<i>n</i>
	Male	Af. Amer.	88.4	3.53	3
		Hispanic	80.6	4.96	9
		White	81.1	7.51	6
		Total	82.1	6.18	18
	Total	Af. Amer.	82.1	7.59	6
		Hispanic	80.5	5.07	14
		White	85.4	8.04	17
		Total	83.0	7.17	37
Control			77.6	8.17	37
Treatment			83.0	7.17	37
Total Sample			80.3	8.11	74

Descriptive data analysis indicated a distinct trend toward higher grade point averages (GPA) in the treatment group than in the control group. This trend also holds for both female and male gender subgroups in the treatment group, as represented by figure 4. The GPA mean for males in the treatment group was higher than the mean of the males in the control group by 6.6 percent, and the GPA mean for females in the treatment group was higher than the mean for females in the control group by 4.3 percent. The means for both gender subgroups in the treatment group were higher than the total sample.

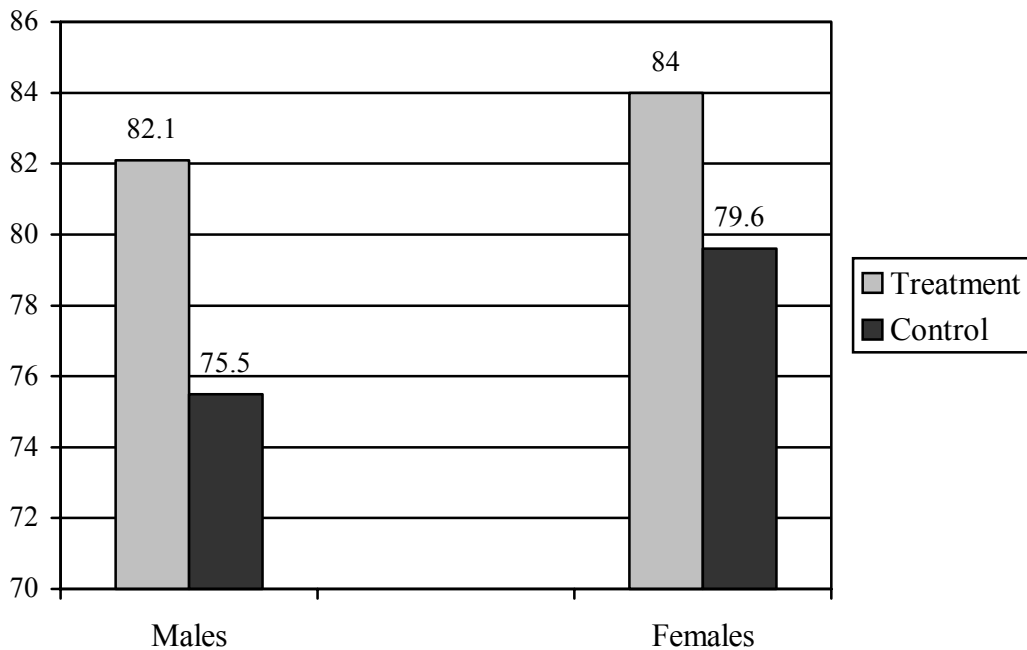


Figure 4. Comparison of Gender Differences in Achievement GPA between the Treatment and Control Groups

Figure 5 reflects this same trend toward higher grade point averages among the three ethnic subgroups of the treatment group than the ethnic subgroups of the control group. The GPA mean for African Americans in the treatment group was higher than the mean for African Americans in the control group by 5.2 percent. The GPA mean for Hispanics in the treatment group was higher than for Hispanics in the control group by 2.6 percent. The GPA mean for Whites in the treatment group was higher than for Whites in the control group by 7.8 percent. Of all the ethnic subgroups, Whites in the treatment group had the highest GPA mean while African Americans in the control group was the lowest.

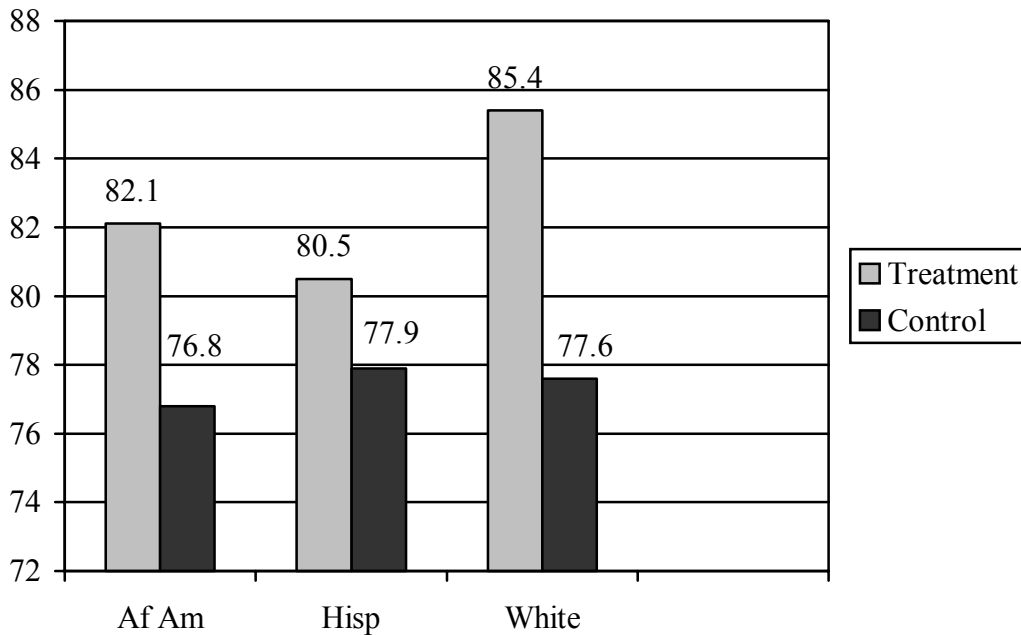


Figure 5. Comparison of Ethnic Differences in Achievement GPA between the Treatment and Control Groups

Table 4 provides descriptive data analysis of mean differences for conduct, which was measured by cumulative demerits. Independent variables in the sample are labeled group, gender, and ethnicity. The total sample mean for conduct was 7.8 demerits ($SD = 12.90$). The total conduct mean for the treatment group ($M = 4.9$, $SD = 8.71$) was lower than the mean for the control group ($M = 10.6$, $SD = 15.66$) by 5.7 demerits. With the exception of Hispanic females in the control group ($M = 2.8$, $SD = 6.67$) means for the gender and ethnic subgroups of the treatment group were lower than for the control group. The greatest difference between conduct means for any of the subgroups was for males. The mean for males in the treatment group was lower than for males in the control group by 10.6 demerits. The conduct mean for females in the

treatment group was lower than for females in the control group by 1.0 demerit. The conduct mean for African Americans in the treatment group was lower than for African Americans in the control group by 2.5 demerits. The conduct mean for Hispanics in the treatment group was lower than for Hispanics in the control group by an average of 4.6 demerits. The conduct mean for Whites in the treatment group was lower than for Whites in the control group by an average of 6.7 demerits. There was only one combination of subgroups where students in the control group had lower conduct demerit means than students in the treatment group did. Hispanic females in the control group had a lower mean than Hispanic females in the treatment group by an average of 7.2 demerits. However, Hispanic males in the control group had the highest mean of 21.8 and White females in the treatment group had the lowest mean of 2.3 demerits.

Table 4

Descriptive Data Analysis Summary of Group Differences in Conduct Demerits by Gender and Ethnicity Subgroups

Group	Gender	Ethnicity	Mean	Std. Deviation	<i>n</i>
Control	Female	Af.Amer.	7.5	9.57	4
		Hispanic	2.8	6.67	9
		White	8.3	18.07	6
		Total	5.5	11.53	19
	Male	Af. Amer.	5.0	7.07	2
		Hispanic	21.8	18.32	10
		White	10.0	17.61	6
		Total	16.0	17.85	18

(table continues)

Table 4 (*continued*)

Group	Gender	Ethnicity	Mean	Std. Deviation	<i>n</i>
	Total	Af. Amer.	6.7	8.17	6
		Hispanic	12.8	15.41	5
		White	9.2	17.03	12
		Total	10.6	15.66	37
Treatment	Female	Af. Amer.	3.3	5.77	3
		Hispanic	10.0	15.41	5
		White	2.3	6.06	11
		Total	4.5	9.41	19
	Male	Af. Amer.	5.0	3.53	3
		Hispanic	7.2	11.21	9
		White	3.0	3.46	6
		Total	5.4	8.15	18
	Total	Af. Amer.	4.2	3.76	6
		Hispanic	8.2	12.34	14
		White	2.5	11.57	17
		Total	4.9	8.71	37
Control			10.6	15.66	37
Treatment			4.9	8.71	37
Total Sample			7.8	12.90	74

Descriptive data analysis indicated a trend for lower cumulative conduct demerits among both gender subgroups of the treatment group as represented in figures 6. Females in the treatment group had the lowest estimated conduct demerit mean of 4.5 while males in the control group had the highest estimated conduct demerit mean of 16.0.

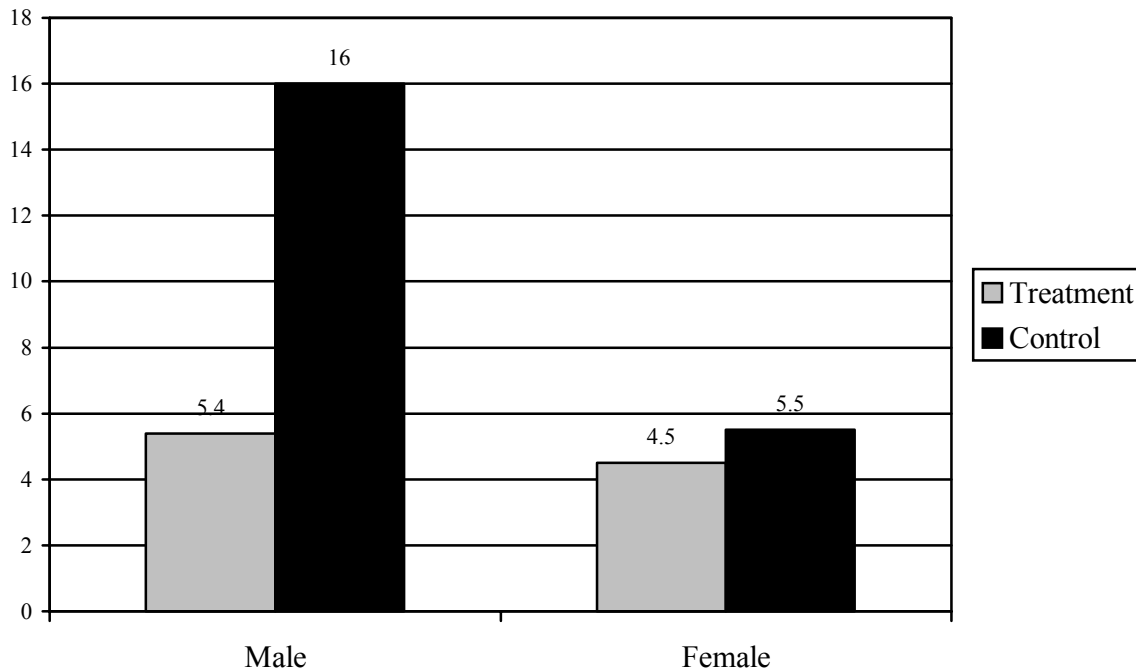


Figure 6. Comparison of Gender Differences in Conduct Demerits between the Treatment and Control Groups

All ethnic subgroups of the treatment group also had lower conduct demerit means than all ethnic subgroups of the control group, as represented in figure 7. The greatest difference in means was for Whites. Whites in the treatment sample ($M = 2.5$, $SD = 11.57$) had the lowest estimated conduct demerit mean of all ethnic subgroups, while Whites in the control group had a mean of 9.2 ($SD = 17.03$). Hispanics in the control group had the highest estimated conduct demerit mean of all with 12.8 ($SD = 15.41$).

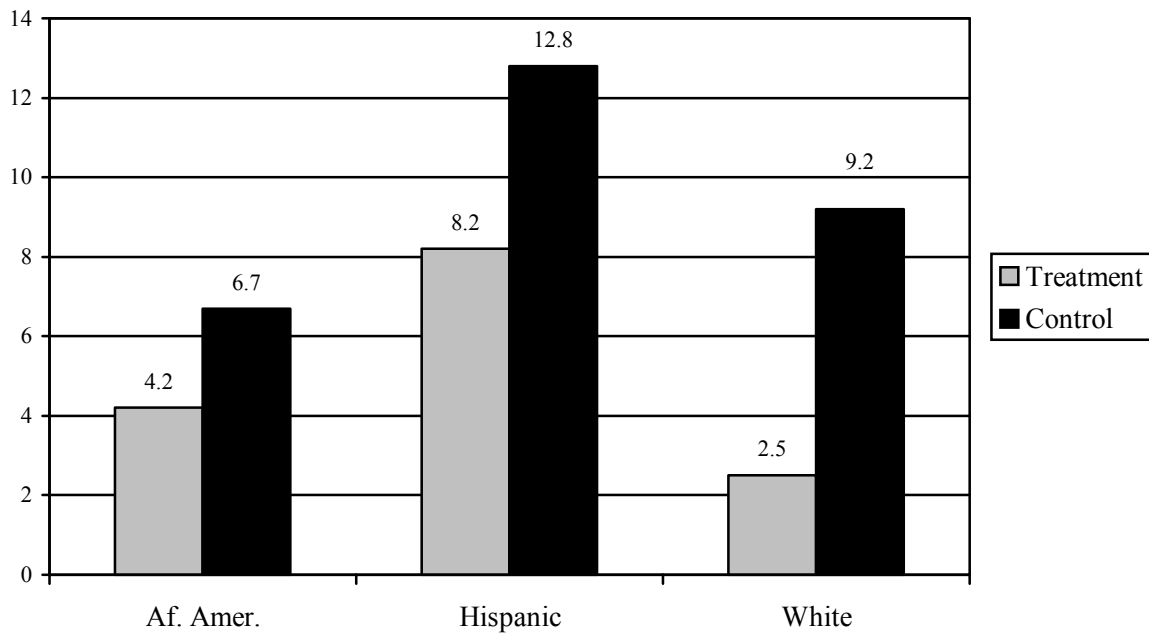


Figure 7. Comparison of Ethnic Differences in Conduct Demerits between the Treatment and Control Groups

Table 5 provides descriptive data analysis of mean differences for attendance, which was measured by cumulative attendance rates. Independent variables in the sample are labeled group, gender, and ethnicity. The total sample mean for attendance was 95.0 ($SD = 3.80$). Differences in attendance rates between the treatment group ($M = 95.3$, $SD = 2.97$) and the control group's mean ($M = 94.7$, $SD = 4.50$) were minimal. There was a difference of less than one percent between the mean of the treatment group and the mean of the control group. Females in the control group had a higher attendance mean than females in the treatment group, but the difference was only 1.7 percent. Of all the subgroup combinations, African American

males in the control group had the highest attendance mean of 99.0 ($SD = .00$) and Hispanic males in the control group had the lowest mean of 91.1 ($SD = 5.00$). African American males in the control group had also had a higher attendance mean than African American males in the treatment group.

Table 5

Descriptive Analysis Summary of Group Differences in Attendance Rates by Gender and Ethnicity Subgroups

Group	Gender	Ethnicity	Mean	Std. Deviation	<i>n</i>
Control	Female	Af. Amer.	96.6	4.74	4
		Hispanic	97.7	1.66	9
		White	94.5	4.29	6
		Total	96.5	3.50	19
	Male	Af. Amer.	99.0	0.00	2
		Hispanic	91.1	5.00	10
		White	93.8	3.24	6
		Total	92.9	4.78	18
	Total	Af. Amer.	97.4	3.87	6
		Hispanic	94.3	5.00	19
		White	94.1	3.64	12
		Total	94.7	4.49	37
Treatment	Female	Af. Amer.	97.8	0.61	3
		Hispanic	94.8	2.04	5
		White	94.0	3.79	11
		Total	94.8	3.30	19

(table continues)

Table 5 (*continued*)

Group	Gender	Ethnicity	Mean	Std. Deviation	<i>n</i>
	Male	Af. Amer.	97.6	1.10	3
		Hispanic	95.1	3.28	9
		White	95.9	1.36	6
		Total	95.8	2.57	18
	Total	Af. Amer.	97.7	0.80	6
		Hispanic	95.0	2.82	14
		White	94.6	3.23	17
		Total	95.3	2.97	37
Control			94.7	4.49	37
Treatment			95.3	2.97	37
Total Sample			95.0	3.79	74

Descriptive data analysis revealed no consistent attendance trends between the two groups. Only one consistent trend was found for attendance. For ethnic groups, regardless of group assignment, African Americans had higher attendance rates than the other two ethnic groups.

Figure 8 reflects the minimal mean differences in attendance rates between the treatment and control groups, and between males and females in the treatment group and control group.

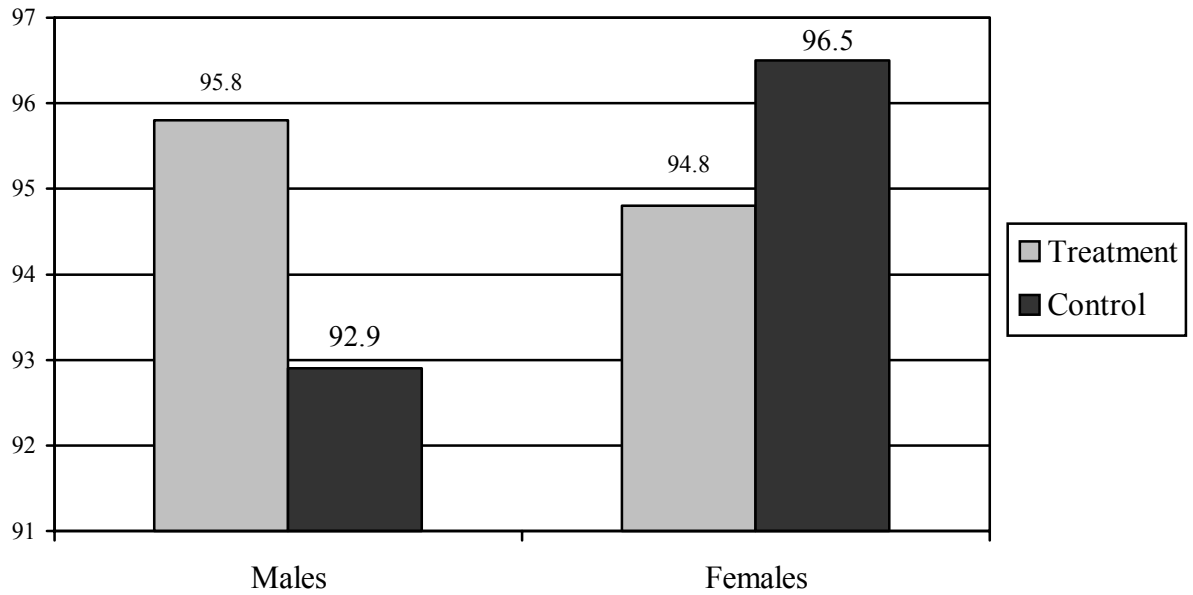


Figure 8. Comparison of Gender Differences in Attendance Rates between the Treatment and Control Groups

A consistent trend was found for higher attendance among all African American students than for Hispanics and Whites in the total sample, as reflected by figure 9. The total sample mean for attendance rate was 95.0, while the attendance rate mean for all African American students was an estimated 97.6. African Americans in the treatment group had the highest mean of 97.7, while Whites in the control group had the lowest mean of 94.1. Both Hispanics and Whites in the control group had a mean attendance rate under the total sample mean.

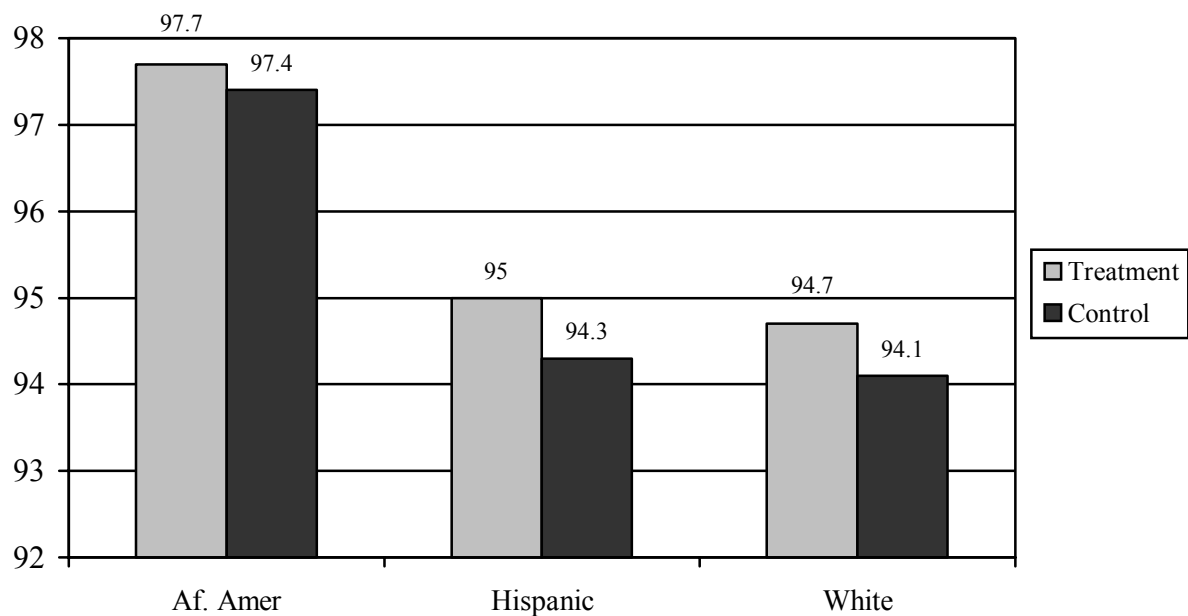


Figure 9. A Comparison of Ethnic Differences in Attendance Rates between the Treatment and Control Groups

Table 6 provides descriptive data analysis of mean differences for school engagement, which was measured by participation in school activities as indicated by responses to the self-report questionnaire. Only 24 subjects responded to the *School Activities Questionnaire*, so results for this variable are reflective of only 32% of the sample. Independent variables analyzed were group and gender. Ethnicity differences were not tested due to the extremely small sample size and variability within levels of this variable. The total sample mean for school engagement was 2.0 activities. The treatment group's mean for school engagement was 2.1 activities while the control group's was 1.8 activities. Differences in participation in school activities between the two sample groups and all of the gender and ethnic subgroups

were minimal. Students in the treatment group tended to participate in more than two school-sponsored activities, while students in the control group tend to participate in less than two school-sponsored activities. However, there was a difference of only .30, or less than one activity, between the mean of the treatment group and the mean of the control group. Of all the subgroups, females in the control group had the highest school engagement mean of 2.3 and males in the control group had the lowest mean of .8.

Table 6

Descriptive Analysis Summary of Group Differences in School Engagement by Gender Levels

Group	Gender	Mean	Std. Deviation	N
Control	Female	2.3	1.50	9
	Male	0.8	0.95	4
	Total	1.8	1.51	13
Treatment	Female	2.2	1.09	5
	Male	2.0	1.67	6
	Total	2.1	1.37	11
Control		1.8	1.51	13
Treatment		2.1	1.37	11
Total		2.0	1.42	24

Descriptive Analysis revealed only minimal mean differences in school engagement between the treatment group and control group, and between gender levels of the treatment group and the gender levels of the control group. A trend was found, however, for increased school engagement among all female students in the sample, as reflected by figure 10. Means for the two sample groups indicated a tendency toward the total sample mean of 2.0.

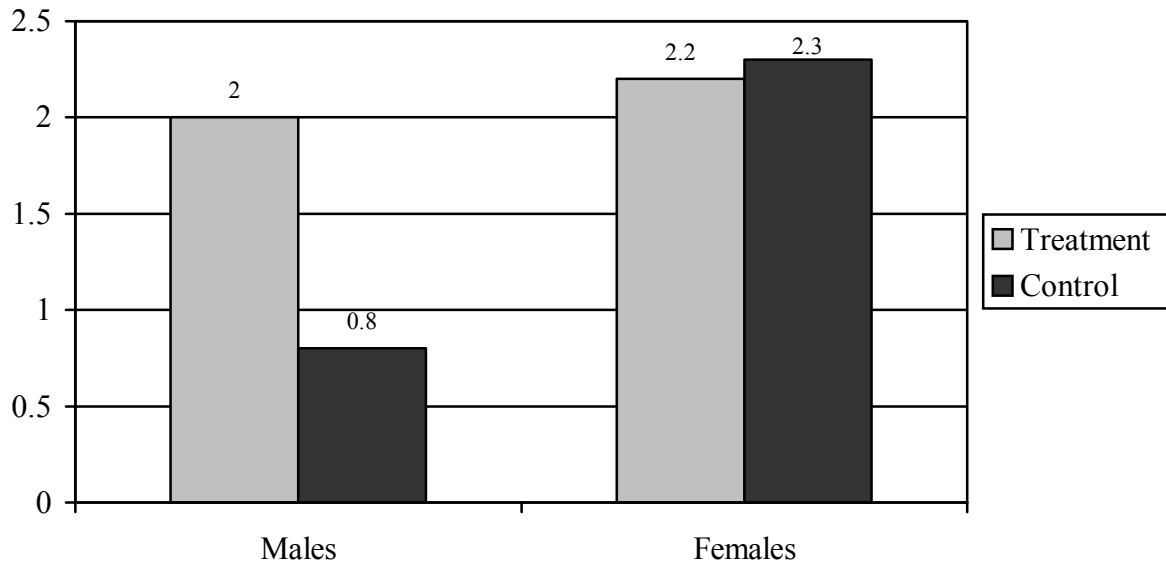


Figure 10. Comparison of Gender Differences in School Engagement between the Treatment and Control Groups

Research Question 2. What is the leadership program’s impact on the leadership development of at-risk student participants?

To answer this research question, descriptive data analyses include mean differences between the two sample groups, and trends across the gender and ethnic subgroups on the two measures of leadership development: experience and position. With the exception of standard deviations, all statistics are reported to the tenth place.

Table 7 provides descriptive data analysis of mean differences in leadership experience, measured by the number of specified leadership practices experienced as indicated by student responses to part II of the self report questionnaire. As previously reported only 24 subjects responded to the *School Activities Questionnaire*, so results for this variable are reflective of only 32% of the sample. Independent variables in the sample are labeled group and gender. Ethnicity differences were not tested nor used for inferential statistical analysis due to the extremely small sample size and variability across the groups. The total sample mean for leadership practices was 1.2. The treatment group's mean for leadership practices was 1.7 and the control group's mean was .8. Mean differences in leadership practices experienced between the two sample groups and the gender levels were noticeable since there were only five practices identified in the questionnaire. There was a mean difference of 0.9 or approximately one leadership experience, between the treatment group and the control group. Of all the subgroups, females in the treatment group had the highest leadership experience mean with 1.8, and males in the control group had the lowest leadership experience mean with 0.8.

Table 7

Descriptive Analysis Summary of Group Differences in Leadership Practices Experienced by Gender Subgroups

Group	Gender	Mean	Std. Deviation	<i>n</i>
Control	Female	0.9	0.92	9
	Males	0.5	1.00	4
	Total	0.8	0.92	13
Treatment	Female	1.8	0.44	5
	Male	1.7	0.51	6
	Total	1.7	0.46	11
Total	Female	1.2	0.89	14
	Male	1.2	0.91	10
	Total	1.2	0.88	24

Descriptive data analysis indicated a trend for more leadership practices experienced by the treatment group than the control group. Both gender subgroups in the treatment group also practiced leadership more than the gender subgroups in the control group. Figure 11 shows females and males in the treatment group had estimated means of almost two, while females and males in the control group had estimated means of less than one.

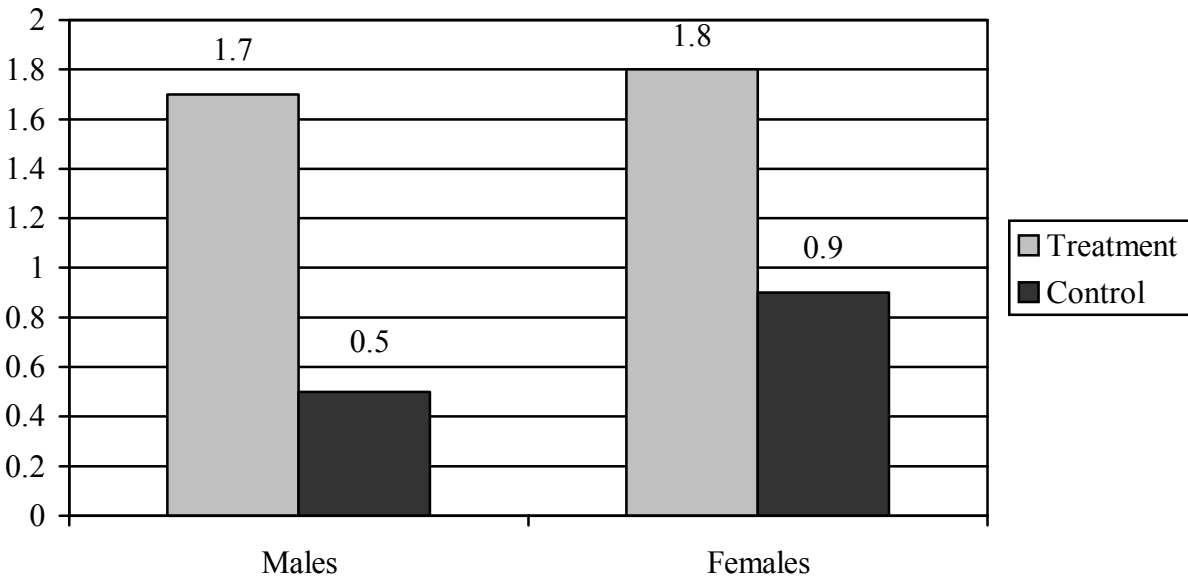


Figure 11. Comparison of Gender Differences in Leadership Experiences between the Treatment and Control Groups

A second univariate test grouped leadership practices by grade level. Although survey responses were not reflective of whole sample proportions, each grade level was represented by at least two subjects. Table 8 provides descriptive statistical analysis of mean differences in leadership practices by grade level. Students in the treatment group at all three of the grade levels utilized leadership practices more than students in the control group did. The twelfth grader in the treatment group utilized leadership practices the most, with a mean of 2.0 and tenth graders in the control group utilized leadership practices the least, with a mean of 0.6. The poor survey return created an extremely small sample, and the disproportionate number of tenth graders responding created

considerable variability in error variance across the groups. Therefore, grade level analysis was used only for descriptive purposes, and not for generalizing or determining short or long-term program effects.

Table 8

Descriptive Analysis Summary of Group Differences in Leadership Practices Experienced by Grade Level

Group	Grade Level	<i>M</i>	<i>SD</i>	<i>n</i>
Control	Tenth	0.6	0.89	5
	Eleventh	0.7	1.0	6
	Twelfth	1.5	0.70	2
	Total	0.8	0.92	13
Treatment	Tenth	1.8	0.44	5
	Eleventh	1.6	0.54	5
	Twelfth	2.0	0.00	1
	Total	1.7	0.46	11
Total	Tenth	1.2	0.91	10
	Eleventh	1.1	0.94	11
	Twelfth	1.7	0.57	3
	Total	1.2	0.88	24

Table 9 provides descriptive data analysis of leadership position, measured by the number of offices students had held in specified school-sponsored organizations since leaving junior high. Students indicated leadership positions held by their responses to

part III of the self-report questionnaire. Since only 24 subjects responded to the *School Activities Questionnaire* results for this variable are reflective of 32% of the sample.

Independent variables in the sample are labeled group and gender. Ethnicity differences were not tested or used for making inferential generalizations, due to the extremely small sample size and variability across groups. The total sample mean for leadership positions was 0.2. The treatment group's mean for leadership positions was .02 and the control group's mean was 0.2. Means for both sample groups were extremely low, and there was no difference found between the two sample groups.

Table 9

Descriptive Analysis Summary of Group Differences in Leadership Positions Held by Gender Levels

Group	Gender	<i>M</i>	<i>SD</i>	<i>n</i>
Control	Female	0.1	0.33	9
	Male	0.3	0.50	4
	Total	0.2	0.38	13
Treatment	Female	0.0	0.00	5
	Male	0.3	0.82	6
	Total	0.2	0.60	11
Total	Female	0.1	0.26	14
	Male	0.3	0.67	10
	Total	0.2	0.48	24

Descriptive data analysis indicated only minimal mean differences for leadership positions held between the treatment group and the control group, and by gender levels in the treatment group and gender levels in the control group as represented in figure 12.

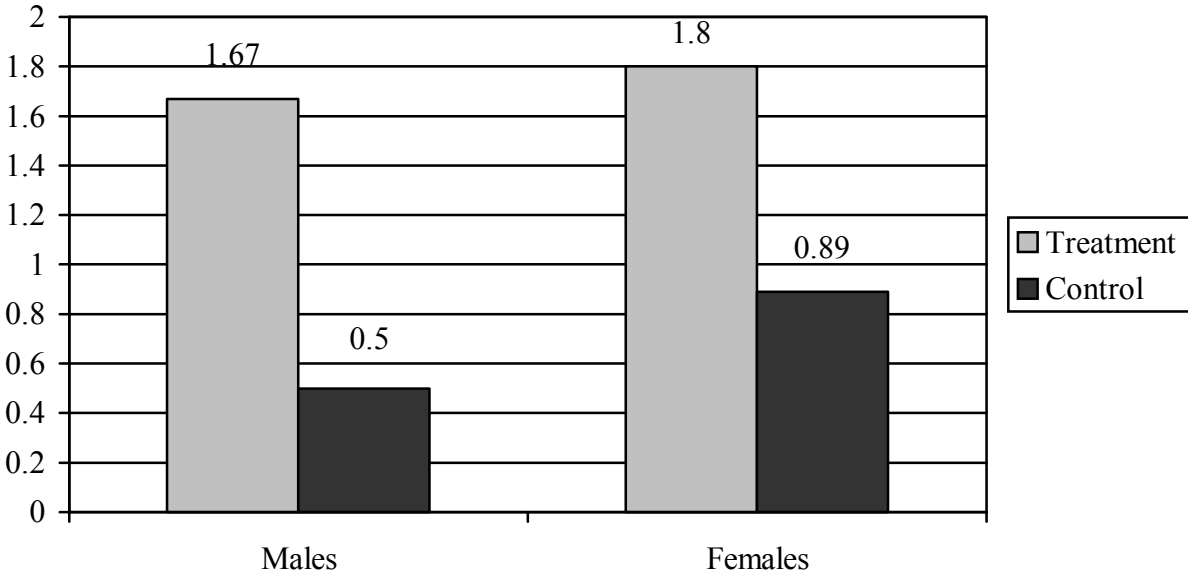


Figure 12. Comparison of Gender Differences in Leadership Positions Held between the Treatment and Control Groups

Since most positions of leadership in school sponsored organizations traditionally are held by seniors, a separate univariate test was run for grade level differences in leadership position means. Table 10 indicates descriptive statistical analysis of leadership position by grade level. Only three twelfth graders responded to the survey, but had a combined mean of 1.0, while the mean for the 11 eleventh graders was 0.0, and the combined mean for the 10 tenth graders was 0.10. The only twelfth grader responding from the treatment group held the most,

with two leadership positions in school organizations. No eleventh graders in either sample group indicated they had held a school leadership position. Consequently, the error variance for leadership positions was extremely unequal across groups.

Table 10

Descriptive Analysis Summary of Group Differences in Leadership Positions Held by Grade Level

Group	Grade Level	<i>M</i>	<i>SD</i>	<i>n</i>
Control	Tenth	0.2	0.45	5
	Eleventh	0.0	0.00	6
	Twelfth	0.8	0.71	2
	Total	0.2	0.38	13
Treatment	Tenth	0.0	0.00	5
	Eleventh	0.0	0.00	5
	Twelfth	2.0	0.00	1
	Total	0.2	0.60	11
Total	Tenth	0.1	0.32	10
	Eleventh	0.0	0.00	11
	Twelfth	1.0	1.0	3
	Total	0.2	0.48	24

Summary of Descriptive Data Analyses

Academic success indicators included achievement, conduct, attendance, and school engagement. Descriptive data analyses indicated a slight trend toward higher achievement, or GPA, and toward fewer conduct demerits for the treatment group who had participated in the leadership program than for the control group who had not participated in the program. No trends were observed for attendance and school engagement between the two sample groups or between the gender subgroups in the treatment group and control groups.

Leadership Development indicators included leadership practices experienced and leadership positions held. Descriptive data analyses indicated a slight trend toward greater leadership practices experienced by the treatment group who had participated in the leadership program. No trend was observed for positions held between the two sample groups or between the gender levels of the treatment group and gender levels of the control group.

Inferential Data Analysis

Research Question 1. What is the leadership program's impact on the academic success of at-risk student participants?

Academic success indicators for this study included achievement, measured by cumulative grade point averages; conduct, measured by cumulative demerits; attendance, measured by cumulative rates; and school engagement, measured by participation in school-sponsored activities.

To answer the first research question several related hypotheses were tested using a multivariate analysis. They are:

Ho1: There is no significant difference in the means of the treatment group and the control group for academic success as measured by cumulative grade point averages, cumulative demerits, cumulative attendance rates, and school engagement in school-sponsored activities.

Ho1A: There is no significant difference in the means of the treatment group and the control group for grade point average.

Ho1B: There is no significant difference in the means of the treatment group and the control group for conduct demerits.

Ho1C: There is no significant difference in the means of the treatment group and the control group for attendance rates.

Ho1D: There is no significant difference in the means of the treatment group and the control group for school engagement in activities.

Whenever a statistically significant main effect was found, practical significance was also determined. First, the partial eta square statistic (η^2) was calculated. The value was then interpreted using Cohen's criteria for effect size (cited in Huck, 2000).

Data for achievement (GPA), conduct (demerits), and attendance (rates) were collected from school records for all 74 subjects in the sample, so multivariate analyses were conducted using these as dependent variables and using group, gender, and ethnicity as independent variables. Student responses on part I of the *School Activities Questionnaire* provided data for the school engagement variable. As previously reported the return rate for this survey was extremely poor. Only 24 students or 32% of the whole sample responded after two distribution attempts. Therefore, the dependent variable school engagement was not included in the

multivariate analysis. Instead, a univariate ANOVA analysis of this variable was conducted using group and gender as independent variables. Ethnicity was not included in testing or analysis for this variable due to the small sample size and variability across groups.

For multivariate analyses, the assumption of equal variances was tested using Box's Test of Covariance Matrices to determine homogeneity, or equality, of the covariance matrices across the groups. For the analysis of achievement, conduct, and attendance across group, gender, and ethnicity levels, the test statistic was .051, so the assumption of homogeneity was met.

Table 11 provides a summary of multivariate analysis for three of the academic success dependent variables – achievement (GPA), conduct (demerits), and attendance (rates). The general linear model computes test statistics using four leading tests of group differences. For the purposes of this study, Wilk's Lambda test was used as a guide for inferential interpretation of statistical differences on the omnibus F test. Wilk's Lambda is the traditional test for multiple interval dependents and multiple groups formed by the independents (Gill, as cited in Garson, 2002).

The multivariate MANOVA test indicated no statistically significant differences for the group main effect at the $\alpha = .05$ level when the dependent variables GPA, conduct demerits, and attendance rates were analyzed together. Therefore, based on multivariate analysis the null hypothesis H_0 was retained.

A statistically significant difference, $F(2, 73) = 2.24, p < .05, 1 - \beta = .77$, was found however, for the main effect ethnicity regardless of sample group assignment. A statistically significant difference, $F(5, 73) = 3.45, p < .05, 1 - \beta = .94$ was also found for the interaction effect of gender and ethnicity. However, the partial Eta squared values for

ethnicity ($\eta^2 = 0.10$) and for the interaction of gender and ethnicity ($\eta^2 = 0.14$) revealed extremely small effect sizes.

Table 11

Summary of Multivariate Analysis of Academic Success: Achievement, Conduct, and Attendance

Effect	<i>F</i>	<i>p</i>	η^2	1 - β
Group	2.10	0.11	0.09	0.50
Gender	0.59	0.62	0.03	0.16
Ethnicity	2.24	0.04*	0.10	0.76
Group*Gender	0.63	0.60	0.03	0.13
Group*Ethnicity	0.32	0.92	0.02	0.13
Gender*Ethnicity	3.45	0.00*	0.15	0.93
Group*Gender*	1.25	0.29	0.06	0.47
Ethnicity				

* $p < .05$

A post hoc test of between-subjects effects provided additional information that separated the analysis of each dependent variable and pinpointed where, within the levels of ethnicity and gender, interactions were producing statistically significant differences. For this analysis, the assumption of equal variances was tested using Levine's Test of Equality of Error Variances to determine if the error variance of each dependent variable was equal across the groups. For the between-subjects test of effects on achievement, the

test statistic was .008, and for conduct, the test statistic was .044 so the assumptions of equality were not met. For attendance however, the test statistic was .051, so the assumption of homogeneity was met.

Table 12 provides a summary of the post hoc multivariate between-subjects test that separated analysis of three of the academic dependent variables. This time, a statistically significant difference, $F(1, 73) = 5.10, p < .05, 1 - \beta = .60$, was found between the two sample groups for grade point averages. The analysis of power indicated sufficient strength for the test to be robust to type II error, so the null hypothesis Ho1A was rejected. The practical effect size for grade point average, or GPA ($\eta^2 = .08$) however, was extremely small. A statistically significant difference, $F(5, 73) = 6.43, p < .05, 1 - \beta = .89$, was also found for the interaction effect between gender and ethnicity regardless of sample group assignment. For conduct demerits, no statistically significant difference was found between the two sample groups. Therefore, the null hypothesis Ho1B was retained. For attendance rates, no statistically significant difference was found for group main effect so the null hypothesis Ho1C was retained. A statistically significant difference, $F(2, 73) = 4.06, p < .05, 1 - \beta = .60$, was found only for the secondary effect between the ethnic subgroups in the treatment and control groups.

Table 12

Summary of Multivariate Test of Between-Subjects Effects for Achievement, Conduct, and Attendance by Group, Gender, and Ethnicity

Effect	Dep. Variable	<i>F</i>	<i>p</i>	η^2	1 - β
Group	GPA	5.10	0.03*	0.08	0.60
	Conduct Dem.	1.59	0.21	0.03	0.23
	Attendance	0.23	0.64	0.00	0.07
Gender	GPA	0.16	0.68	0.00	0.06
	Conduct Dem.	0.83	0.36	0.01	0.14
	Attendance	0.26	0.60	0.00	0.08
Ethnicity	GPA	0.46	0.64	0.02	0.12
	Conduct Dem.	1.29	0.28	0.040	0.27
	Attendance	4.06	0.02*	0.116	0.70
Group* Gender	GPA	0.54	0.47	0.01	0.11
	Conduct Dem.	0.91	0.35	0.01	0.16
	Attendance	1.66	0.20	0.03	0.25
Group* Ethnicity	GPA	0.76	0.47	0.02	0.17
	Conduct Dem.	0.17	0.85	0.01	0.07
	Attendance	0.07	0.94	0.00	0.06

(table continues)

Table 12 (continued)

Effect	Dep. Variable	<i>F</i>	<i>p</i>	η^2	1 - β
Gender*Ethnicity	GPA	6.43	0.00*	0.17	0.89
	Conduct Dem.	0.79	0.46	0.03	0.18
	Attendance	2.83	0.07	0.08	0.54
Group*Gender* Ethnicity	GPA	1.71	0.32	0.04	0.25
	Conduct Dem.	1.81	0.17	0.06	0.36
	Attendance	2.19	0.12	0.07	0.43

* $p < .05$

The dependent variable school engagement was not included in the multivariate analysis. Student responses on part I of the *School Activities Questionnaire* provided data for this fourth academic success variable. As previously reported the return rate for this survey was extremely poor. Only 24 students, or 32% of the whole sample, responded after two distribution attempts. A univariate ANOVA test of this variable was conducted using group and gender as independent variables. Ethnicity was not included in testing and analysis of school engagement due to the extremely small sample size and variability within levels of this variable. Table 13 provides a summary of the between-subjects effects for school engagement as measured by student participation in school-sponsored activities. No statistically significant difference was found between the treatment group and control group, so the null hypothesis H_0 was retained. There were no statistically significant differences between any of the gender subgroups in the treatment and control groups either.

Table 13

Summary of Univariate Test of Between-Subjects Effects for Academic Success: School Engagement by Group, or Leadership and Gender

Source	<i>df</i>	<i>F</i>	<i>p</i>	η^2	1 - β
Group	1	0.87	0.36	0.04	0.14
Gender	1	2.21	0.15	0.10	0.29
Group* Gender	3	1.33	0.26	0.06	0.20
Corrected total	23				

$p < .05$

Research Question 2. What is the leadership program’s impact on the leadership development of at-risk student participants?

Leadership development indicators included leadership experiences, measured by number of specified practices utilized, and leadership positions, measured by number of offices held in school-sponsored organizations.

To answer the second research question several related hypotheses were tested using multivariate analyses. They included:

Ho2: There is no significant difference in the means of the treatment group and control group for leadership development, as measured by number of leadership practices utilized and number of leadership positions held.

Ho2A. There is no significant difference in the means of the treatment and control groups for leadership practices utilized.

Ho2B: There is no significant difference in the means of the treatment and control groups for number of leadership positions held.

Whenever a statistically significant main effect was found, practical significance was determined by calculating the partial Eta square statistic (η^2). The value was then interpreted using Cohen's criteria for effect size (cited in Huck, 2000).

Student responses on parts II and III of the *School Activities Questionnaire* provided data for the leadership practices and leadership positions variables. As previously reported the return rate was poor. Only 24 students or 32% of the whole sample responded after two distribution attempts. The analysis of academic success had included data from all 74 subjects for three of the dependent variables and data from just 24 subjects for the fourth variable, school engagement. Therefore, separate analysis of that variable was required.

For determining the leadership program's impact on students' leadership development, data on both dependent variables came from 24 students. This reduced sample size was therefore used to conduct multivariate analysis. Independent variables included group and gender. Ethnicity was not included in testing or analysis for this variable due to the small sample size, lack of African American representation, and variability across groups.

Box's Test of Covariance Matrices to determine homogeneity or equality of the covariance matrices across the groups indicated a test statistic of .074, so for the analysis of leadership practices and positions the assumption of homogeneity was met.

Table 14 provides a summary of multivariate analysis for the two leadership development dependent variables-practices experienced and positions held. Group, gender, and ethnicity were independent variables analyzed. For the purposes of this study, Wilk’s Lambda test was again used as a guide for inferential interpretation of statistical differences on the omnibus F test. The multivariate MANOVA test indicated a statistically significant difference, $F(1, 23) = 4.85, p < .05, 1 - \beta = .73$, for the group main effect. Therefore, the null hypothesis H_0 was rejected. The partial eta squared value ($\eta^2 = .34$) indicated the difference to be of medium practical significance.

Table 14

Summary of Multivariate Analysis for Leadership Development: Leadership Practices and Positions

Effect	<i>F</i>	<i>p</i>	η^2	$1 - \beta$
Group	4.85	0.02*	0.34	0.73
Gender	1.04	0.37	0.10	0.21
Group*Gender	0.15	0.87	0.02	0.07

* $p < .05$

Table 15 provides a summary of information on between-subjects effects for each dependent variable separately and explains the main effect difference found in multivariate analysis. There was a statistically significant difference, $F(1, 23) = 9.87, p < .05, 1 - \beta = .85$, in leadership practices experienced between the treatment and control groups. Therefore, the null hypothesis for H_0 was rejected. The effect size ($\eta^2 = .33$) indicates the difference is of a

medium practical significance. No statistically significant difference was found in leadership positions held between the treatment group and the control group so the null hypothesis for Ho2B was retained. In addition, no statistically significant differences in gender were found for either of the dependent variables- practices and positions.

Table 15

Summary of Multivariate Test of Between-Subjects Effects for Leadership Development: Practices and Positions by Group and Gender

Effect	Dep. Variable	F	Sig.	η^2 .	1 - β
Group	Practices	9.86	0.01*	0.33	0.85
	Positions	0.00	0.95	0.00	0.05
Gender	Practices	0.62	0.44	0.03	0.12
	Positions	1.23	0.28	0.06	0.19
Group*Gender	Practices	0.15	0.70	0.01	0.07
	Positions	0.21	0.65	0.01	0.07

* $p < .05$

Summary of Inferential Statistical Analyses

Academic success indicators included achievement, conduct, attendance and school engagement. Multivariate tests were conducted for three of these variables. A univariate ANOVA test was conducted for the fourth dependent variable, school engagement, since data were collected from only 32 percent of the sample responding to the *School Activities Questionnaire*. The initial multivariate analysis of grade point averages, conduct demerits, and

attendance rates indicated no statistically significant main effect difference for group.

Statistically significant differences were found for ethnicity and the interaction of ethnicity and gender. However, partial eta squared values indicated miniscule practical effect sizes for these secondary effects. Ethnicity accounted for approximately 10 percent of the variance and gender combined with ethnicity accounted for approximately 14 percent, or only 24 percent of the total variance.

The post hoc MANOVA test of between-subjects effects provided separate analysis of each of the dependent variables - grade point average, conduct and attendance. This time testing revealed a statistically significant difference, $F(1, 73) = 5.10, p < .05, 1 - \beta = .60$ between the two sample groups for grade point averages so the null hypothesis H_{01} was rejected. The effect size ($\eta^2 = .08$) indicated this difference was of extremely small practical significance, however.

No statistically significant differences in the means were found between the treatment and control groups for conduct demerits, attendance, and school engagement. Therefore, the null hypotheses H_{01B} , H_{01C} , and H_{01D} were all retained.

Leadership Development indicators included leadership practices experienced and leadership positions held. Initial multivariate analysis of the two dependent variables indicated a statistically significant difference, $F(1, 23) = 4.85, p < .05, 1 - \beta = .73$, for group main effect so the null hypothesis H_{01} was rejected. The effect size ($\eta^2 = .34$) indicated this difference was of medium practical significance. No statistically significant differences were found for gender main effect or the interaction effect of group with gender.

The post hoc MANOVA test of between-subjects effects provided separate analysis of the two dependent variables, leadership practices and positions. This time testing revealed

a statistically significant difference between the groups for leadership practices experienced, $F(1, 23) = 9.87, p < .05, 1 - \beta = .85$), but not for leadership positions held, $F(1, 23) = 0.00, p < .05, 1 - \beta = .05$). Therefore, the null hypothesis Ho2A was rejected, while the null hypothesis Ho2B was retained.

Statistically significant differences between the treatment group and the control group were found in one of the four academic success variables (achievement) and one of the leadership development variables (practices experienced). The results of inferential data analysis indicate the leadership program did have a slight impact on the academic success and leadership development of the at-risk students who participated. The following chapter interprets the significance of the program's impact, identifies factors that may have adversely affected results, and evaluates the feasibility of using the program as a school-based model for at-risk intervention.

CHAPTER 5

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to determine the impact of a junior high school leadership program on the academic success and leadership development of its at-risk student participants. Impact was operationally defined and measured by factors that current research has shown to be associated with academic success and student leadership. A secondary focus, after the program's impact had been determined, was the evaluation of this leadership program as a potential school-based intervention model for reducing the risk of failure or dropout in school.

The review of literature on at-risk adolescent students indicated a need for more research on effective school-based intervention. The leadership program's goals and curriculum investigated in this study met the following synthesized criteria for effective practices and programs:

- Interdisciplinary approach to instruction
- Theory and research based curriculum
- Integrated academic and career focus
- Technology applications emphasis
- Student goal setting and recognition
- Authentic learning contexts
- Alternative assessment measures
- Small class sizes

- Substantial duration of one to three years

In addition to meeting criteria for effective intervention, enrollment is open to all students, rather than just elected officers or gifted students. Therefore, the program has the potential to attract a variety of students including those who are at-risk of failing or dropping out of school.

The sample was drawn from the population of all former at-risk students of the magnet junior high currently enrolled in grades ten, eleven, or twelve. The treatment group consisted of all former at-risk students, now in senior high, who had enrolled in and completed at least one of the three leadership courses while attending the magnet junior high. The control group was then drawn from the remaining population pool by matching the gender and grade level proportions of the treatment group. By matching the two samples according to proportionate characteristics, they became more homogeneous, thus increasing the likelihood that any population variances are equal and increasing the power of tests used to analyze data. This step was important since the sample group sizes were relatively small for making generalizations from the data.

Although two ethnic groups, Native Americans and Asians, were represented in the at-risk population, no Native Americans and only two Asians were represented in the initial sample. These numbers were too small for reliable comparisons so these two subjects were subsequently dropped and replaced with two others who were matched for gender and grade level. Consequently, African Americans, Hispanics and Whites were the ethnic groups used as grouping levels for ethnicity.

Findings

Results for Research Question 1: What is the leadership program's impact on the academic success of at-risk student participants?

To determine the impact of this elective leadership program on the academic success of at-risk student participants several research-based indicators were tested. They included achievement, measured by cumulative grade point averages; conduct, measured by cumulative demerits received; attendance, measured by cumulative rate; and school engagement, measured by participation in school-sponsored activities.

Multivariate descriptive and inferential statistical analyses indicate a slight positive impact on the achievement, or grade point averages of students who had participated in the leadership program. Descriptive data analyses of conduct also indicated a positive trend toward fewer demerits for the treatment group than for the control group and fewer demerits for both genders in the treatment group than for the control group. Inferential statistical analysis however, did not find significant differences in conduct between the two groups. Descriptive and inferential analyses of attendance and school engagement indicated no significant differences between the treatment and control groups. Females in the sample tended to be more engaged in school-sponsored activities than males, regardless of group assignment. However, findings for school engagement represent only the 32 percent of the sample that responded to the *School Activities Questionnaire*.

Results for Research Question 2: What is the leadership program's impact on the leadership development of at-risk student participants?

Of the two dimensions investigated to determine the leadership program's impact, leadership development was most directly related to the treatment. To determine the impact of the elective program on the leadership development of at-risk student participants, two indicators were tested. They included practices, measured by the number of specified leadership practices students had experienced, and positions, measured by the number of offices students had held in school-sponsored organizations (see Appendix E). Findings for these two indicators represent the 32 percent of the sample that responded to the *School Activities Questionnaire*.

In summary, multivariate inferential data analyses indicated a slight positive impact on the overall leadership development of at-risk students who had participated in the program. Descriptive data analysis and post hoc inferential analysis also indicated that the leadership program has specifically had a positive impact on the number of leadership practices student participants had experienced. Descriptive analysis of gender differences indicated both females and males in the treatment group had practiced leadership more than females and males in the control group. According to multivariate inferential analysis, the leadership program appears to have had no significant impact on the positions of leadership held by student participants since entering high school. Twelfth grade students in the sample held more positions of leadership than tenth or eleventh grade students, regardless of group assignment.

DISCUSSION

There are several research-based characteristics associated with at-risk students that may have negatively influenced the results of this study, including high rate of school mobility, family socioeconomic status and resilience.

School mobility is a research-based characteristic of at-risk students that impacted sampling in this study. At-risk students tend to move from school to school and district to district with only short periods of continuous enrollment. This phenomenon posed a problem in drawing sample groups from the originally identified population of three hundred and eighty students. Between the initial sampling stage and time of data collection, sixty-seven students had withdrawn from the district, been placed in an alternative education facility, or been retained at the junior high level. Six of those students had been selected for the initial sample. Of those six, one student had been part of the post hoc treatment group and could not be replaced so five subjects from the control group were redrawn and matched for gender and grade level characteristics. Mobility may also have impacted results for the school engagement, leadership practices and leadership positions factors. The frequent changing of schools and districts negatively affects a student's ability to stay engaged through participation in school-sponsored organizations or to be elected to offices in those organizations.

Families of at-risk students tend to have low socioeconomic status and this could have negatively affected the study participants' opportunities to engage in school activities or practice leadership. Many adolescents from low-income families must work after school to help support the family and have no time to participate in and lead school activities.

Finally, resilience is an affective characteristic of academically successful students that research found crosses cultural and socioeconomic boundaries. Borman and Rachuba, in reporting on the results of the *Prospects* study, cite developmental psychologists who recognize "that among groups at high risk for developing particular difficulties, many individuals emerge unscathed by adversity. The capacity for resilience varies from individual to individual" (2001, p. 2). The fact that students in this leadership program self select to enroll in the elective courses

may indicate that those who were also at-risk students possess this elusive quality and have high expectations for themselves. There may have been other at-risk students in the population though who possess true leadership ability, but did not select the leadership program because they lack resilience and high expectations for themselves.

One of the acknowledged limitations of this study was the extremely small sample size. Rather than conducting a full comprehensive evaluation of the leadership program, this study focused on one segment of the program's total enrollment: at-risk students. This research focus immediately reduced the potential treatment sample from all former leadership program participants now in senior high to just those who had been designated as "at-risk" while in junior high. Once these students were identified and classified by gender and ethnicity, a matching control group was drawn from the at-risk population. As a result, the final sample totaled only 74 subjects, 37 in the treatment and 37 in the control, and excluded two ethnic groups found in the at-risk population. Also, short term and long term program effects could not be compared as had been originally designed, due to the small number of subjects at the twelfth grade level available to study. Of the 74 subjects in the total sample, only four were currently in the twelfth grade.

Grade level and small sample size then most likely affected the accuracy of results for school activities, leadership practices, and leadership positions. Data for these variables depended on responses from the *School Activities Questionnaire*. As previously reported, this survey had a poor rate of return. Only 32 percent of the study sample, or 24 students, responded to the survey after two distribution attempts. More than half of these 24 subjects were sophomores in tenth grade, which in this district was the entry year into the senior high school level. Data were collected in the fall of the year, when many of these students were adjusting to high school and learning about school organizations. They would not have had sufficient time

to join some school-sponsored organizations or been eligible for offices of leadership. The three seniors in the total sample held an average of one position of leadership while the ten tenth graders in the reduced sample held an average of less than one position of leadership.

The conclusions of this study are that this junior-high leadership program has had a slight positive impact on the academic success of its participants in achievement (GPA) and conduct. The program has also had a slight positive impact on the leadership development of its participants in the number of leadership practices they have experienced.

The small sample size, poor survey response, lack of balanced grade level representation, and student background factors may all have negatively influenced results for some of the factors measured. Therefore, evaluation of the leadership program as an intervention model for at-risk students is inconclusive. However, the program's curriculum and goals met research-based criteria for effective at-risk intervention and for exemplary leadership development. The slight positive impact on the participants' achievement, conduct, and leadership practices imply there is a potential for its dual use as an at-risk education intervention model as well as a leadership development model. Further study on adolescent at-risk intervention and a more comprehensive evaluation of this leadership program as a potential intervention model is recommended.

Recommendation for Future Research

Results from this study suggest further research is needed to conclusively evaluate the elective, junior high leadership program as a model of effective school-based intervention for at-risk adolescents. Recommendations include:

1) A longitudinal study is needed of all at-risk participants in the leadership program from the time of enrollment to graduation from high school. To more accurately determine the program's impact pretreatment measurements of achievement, conduct, attendance, school engagement, leadership practices and leadership positions need to be collected and recorded in the first year and compared with post-treatment measurements in the senior year.

- Detailed records of individual student enrollment in one, two, or all three of the leadership courses are recommended. Whether a student participated in one course or all three could have significantly influenced the program's impact on academic success and leadership development, but there were no clear or complete records of previous course enrollment available.
- Review current literature on cultural influences and academic success. A closer inspection of this study's data by ethnicity levels reveals Hispanic males, regardless of group assignment, had lower achievement, more conduct demerits, and poorer attendance rates than any other subgroup. Culture appears to influence academic success and be a valid predictor of at-risk status when applied to Hispanics and new strategies may need to be developed specifically for this ethnic group.

2) More research is needed on identification of adolescent youth with leadership potential.

3) Reliable field tested identification instruments need to be available in public schools.

In summary, results of the study show this elective leadership program for junior high students had a mild positive impact on the achievement, conduct, and leadership experiences of its at-risk student participants. The review of literature revealed no research that linked at-risk student intervention with leadership development, and uncovered very few valid, reliable leadership identification instruments were found for use with adolescent students. Yet, few school districts offer leadership education to all students in the population. Hopefully these results will encourage further study of the type of leadership program investigated as an intervention model for reaching students who have a high probability of failing or dropping out of school as well as an enrichment model for developing untapped leadership ability.

APPENDIX A

Common Features of Promising At-Risk Intervention Programs

Effective Program Features	Teen Risk-Taking: Promising Prevention Practices and Approaches (Urban Institute)	Raising the Educational Achievement of Secondary School Students (Policy Studies Assoc.)	Educational Reforms and Students At-Risk: A review of Current State of the Art (American Institutes for Research)	Helping Discover Youth by Improving Linkages between High Schools and Careers (Urban Institute)
Interdisciplinary Approach	*	*		*
Community Connections	*	*	*	*
Substantial Duration	*		*	
Integrated Academic & Career Focuses		*	*	*
Student Goal Orientation & Recognition		*	*	
Small Sized Program		*		*
Flexible Organizational Structure	*	*	*	*
Technology Application Emphasis			*	*
Adult Mentors	*	*	*	*
Theory Based Curriculum	*	*	*	*
Alternative Assessment		*	*	*

APPENDIX B

Common Features of Teen Leadership Programs

Program Features	Teen Leadership Course-TEA approved (F. Flippen & Assoc.)	Leadership Develop. Program (Karnes & Chauvin)	Nat. Honor Soc. & Nat. Assoc. Stud. Councils & LEAD conference & camp	Nat. Beta & Junior Beta Club & Leadership Academies	National Peer Helpers Assoc. (NPHA)	Peer Assistance & Leadership Service (PALS)	Junior High Leadership program (investigated for this study)
Interdisc. Curriculum	*	*					*
Substantial Duration	*	*	*	*	*	*	*
Group Dynamics	*	*	*	*	*	*	*
Interpersonal Skills	*	*	*	*	*	*	*
Communication Skills	*	*	*	*	*	*	*
Prob. Solving & Dec. Making	*	*	*	*	*	*	*
Student Goal Setting & Recognition	*	*	*	*	*	*	*
Self Awareness	*	*	*	*	*	*	*
Theory Based	*	*	?	?	*	*	*
Eligibility Criteria							
Open Enrollment	*					varies	*
Election to School Office			*				
Teacher or Peer Nomination		*			*	*	
Grade Point Average or Test Score			*	*			

APPENDIX C

Comparison of Recognized Teen Leadership Programs and Features of Effective At-Risk Intervention Programs

Features of Effective At-Risk Intervention Programs	Teen Leadership Course-TEA Approved (Flippen & Assoc.)	Leadership Develop. Program (Karnes & Chauvin)	National Honor Soc. & Nat. Assoc. of Student Councils-LEAD program	National Beta & Junior Beta Club Leadership Academies	National Peer Helper Assoc. (NPHA)	Peer Assistance and Leadership Service (PALS)	Junior High Leadership Program (investigated for this study)
Interdisciplinary Curriculum	*	*					*
Inter-community Connections			*	*	*	*	*
Substantial Duration	*	*	varies	varies	varies	varies	*
Integrated Academic & Career Focus	*						*
Student Goal Orientation & Recognition	*	*	*	*	*	*	*
Small Sized Program or Classes	*						*
Flexible Organization Structure		*			*	*	
Adult Mentors							*
Technology Applications Emphasis							*
Theory-Based	*	*					*
Alternative Assessments	*	*	N/A	N/A	*	*	*

APPENDIX D

Junior High Leadership Program

Belief Statement:

All students possess special talents and leadership potential. The Leadership Center is designed to provide all students opportunities to identify, enhance, and practice leadership skills.

As such, we believe that they learn best when:

- They are challenged;
- They experience an atmosphere rich with possibilities;
- They confront real-life experiences or simulations requiring problem-solving and decision-making;
- They are actively engaged in the learning experience;
- They take time to reflect
- They collaborate on wide varieties of experiences;
- They extend themselves in service to others;
- They assume responsibility for self-assessment
- Other beliefs:
- School and parent partnering increases the quality of success for each child;
- Community alliances enrich the variety of student experiences

Key Content Areas

- Social Awareness
- People Awareness
- Influence
- Communication Tools

Process Strands

- Analytical Thinking
- Critical Thinking
- Leadership Process
- Communication
- Technology

Curriculum/Content Strand Clusters (All three courses grades 7-9)

- Goal setting, time management, decision-making
- Personal Excellence, personality style, talent and career exploration, leadership style
- Team building and conflict resolution techniques
- Cultural Similarities and differences, etiquette
- Societal and civic values, responsibilities, and participation, government purposes and role in society
- Public Speaking and writing skills, technology presentation skills

Instructional Strategies

- Active participation
- Application of high order thinking skills
- Thematic, interdisciplinary instruction
- Authentic contexts for learning
- Individual and group experiences
- Multiple measures and methods of assessment

Sources: 1999 Leadership Program Curriculum guide and brochure, 2002

Secondary Program of studies and course descriptions

APPENDIX E

SCHOOL ACTIVITIES QUESTIONNAIRE

NAME: _____ DATE: _____

GRADE LEVEL: (CIRCLE ONE) 10 11 12 SCHOOL: (CIRCLE ONE) RHS, PHS, BHS, LHS

I. HIGH SCHOOL ACTIVITIES- the following applies to high school clubs and other organizations you currently belong to or have belonged to since entering senior high school. Place a check next to all you have participated in.

- _____ Academic Decathlon
- _____ Athletic Team (not PE class)
- _____ Art Club
- _____ Band
- _____ Cheerleading
- _____ Chess Club
- _____ Choir/ Ensemble
- _____ Computer Club
- _____ Debate Club/Team
- _____ DECA
- _____ Destination Imagination/ Odyssey of the Mind
- _____ Drama/Thespians Club
- _____ Drill Team
- _____ Environmental Club
- _____ FCA
- _____ Filmmakers Club
- _____ French Club
- _____ German Club
- _____ "Interact" or "Link" International Club
- _____ Japanese Club
- _____ Journalism: Newspaper/ Yearbook/ Lit Magazine
- _____ Junior Engineering/ JETS
- _____ Latin Club
- _____ Mock Trial
- _____ Morning TV Broadcast Team
- _____ Mu Alpha Theta
- _____ National Honor Society
- _____ Orchestra
- _____ PACE Club
- _____ Peer Helpers
- _____ Pre-Law Club
- _____ Pre-Med Club
- _____ Robotics Club
- _____ SAAD
- _____ Spanish Club
- _____ Speech Club
- _____ Student Athletic Council
- _____ Young Life
- _____ Wranglers/

II. LEADERSHIP PRACTICES- place a check next to all you have done since 9th grade:

- I have **started a new club or organization** at school or in my community.
- I have **organized others** to solve a problem at school or in my community.
- I have **led a group project** for a school assignment or for an organization outside of school
- I have **started a petition** to change a policy at school or in my community.

III. HIGH SCHOOL LEADERSHIP POSITIONS HELD- place a check next to all you hold or have held since 9th grade:

- Sophomore Class Officer
- Junior Class Officer
- Senior Class Officer
- Band/ Orchestra Officer
- Choir Officer
- Drill Team officer
- Captain of a Sports Team
- Student Council Officer
- Student Athletic Council Officer
- Art Club Officer
- Chess Club Officer
- Computer Club Officer
- Debate Club/Team Officer
- DECA officer
- Drama Club /Thespians Officer
- Environmental Club
- FCA officer
- Filmmakers Club Officer
- French Club Officer
- German Club Officer
- “Interact” or “Link” Officer
- Japanese Club Officer
- Journalism Editor
- Junior Engineering Club/ JETS Officer
- Latin Club Officer
- Mock Trials Leader
- Morning TV Producer
- Mu Alpha Theta Officer
- National Honor Society Officer
- PACE Club officer
- Pre-Law Club officer
- Pre-Med Club officer
- Robotics Club officer
- SAAD officer
- Spanish Club officer
- Speech Club officer
- Young Life officer

REFERENCES

- Borman, G. & Rachuba, L. (2001). *Academic success among poor and minority students: An analysis of competing models of school effects* (Report No. 52). Washington, D.C.: Center for Research on the Education of Students Placed At Risk (CRESPAR).
- Catterall, J. (1986). School dropouts: policy prospects. In SEDL (2001). *Rural students at risk: In Arkansas, New Mexico, Oklahoma, and Texas*. Retrieved December 30, 2002 from <http://sedl.org/rural/atrisk/>
- Connecticut Clearinghouse. (n.d.) *Teen gangs*. (fact sheet). Retrieved April 19, 2002 from <http://www.ctclearinghouse.org/teengng.htm>
- Council for Exceptional Children. (1990). *Giftedness and gifted: what's it all about?* (Report No. E476). Reston, VA: Eric Clearinghouse for Handicapped and Gifted Children. (ERIC Document Reproduction Service No. 321481)
- Eisen, M, Pallitto, C., Bradner, C., & Bolshun, N. (2000). *Teen risk-taking: Promising programs and approaches*. Washington, D.C.: Urban Institute.
- Farkas, G., & Hall, S. (2000). Can title 1 attain its goal? In Ravitch, Diane (Ed.), *Brookings papers on educational policy 2000*. (2000, pp. 59-104). Washington, D.C.: Brookings Institution.
- Fiorgone, P. Jr. & Chaiken, J. (1998). *Students' report of school crime: 1989 and 1995*. (NCES No. 98-241). Retrieved April 19, 2002 from <http://necs.ed.gov>
- Flippen, M. B. (1999). *Teen leadership: Developing leaders for the future*. College Station, TX: M. B. Flippen & Associates.
- Gagne, F. (1997). A differentiated model of giftedness and talent. *Gifted Journal*. July, 15-16.
- Gardner, J. W. (1990). *On leadership*. New York: Free Press.
- Garson, D. (2002). *GLM: MANOVA and MANCOVA*. Retrieved September 1, 2002, from <http://www2.chass.ncsu.edu/garson/pa765/manova.htm>

Hinkle, W. J. (1998). *Applied statistics for the behavioral sciences* (4th ed.). Boston: Houghton Mifflin.

Huck, S. (2000). *Reading statistics and research* (3rd ed.). New York: Longman.

Jacob K. Javits education act of 1988, IASA. (1988). Re-authorized in 1994, ESEA, 10, part B, sections 10201-10205. (1994.) Retrieved on April 15, 2002 from <http://ww.ed.gov/legislation/ESEA/sec10201.html>

Kaufman, P., & Bradury, D. (1992). *Characteristics of at-risk students in nels: 88*. (NCES No. 92-042). Washington, DC: National Center for Education Statistics.

Kouzes, J., & Posner, B. (1995). *The leadership challenge*. San Francisco: Josey-Bass.

Lerman, R. (1996). *Helping disconnected youth by improving linkages between high schools and careers*. Presented at American Enterprise Institute Forum on America's Disconnected Youth: Toward a Preventative Strategy, Washington D.C. Retrieved March 11, 2002 from <http://www.urban.org/pubs/disconec.htm>

Marland, S.P., Jr. (1972). *Education of the gifted and talented, volume 1*. Report to the Congress of the United States by the U.S. Commissioner of Education. Washington, D.C.: U.S. Government Printing Office.

National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. A report prepared for the United States Department of Education. Retrieved on March 17, 2002 from <http://www.ed.gov/pubs/NatAtRisk.html>

Office for the Education of Special Populations. (2001). *Description of the 2001-2005 state plan to reduce the dropout rate*. Austin, TX: Texas State Education Agency.

Office of the Attorney General. (2000). *Gangs in Texas: 1999*. Retrieved April 9, 2002 from http://www.oag.state.tx.us/AG_Publications/pdfs/1999gangs.pdf

- Policy Studies Associates. (1995). *Raising the educational achievement of secondary school students: volume 2 profiles of promising practices*. Prepared for the U.S. Department of Education. Retrieved April 9, 2002 from <http://www.ed.gov/pubs/Raising/vol2/title.html>
- Ponder, R. (1998). *The leader's guide: 15 essential skills*. Central Point, Oregon: Oasis Press.
- Rossi, R. & Montgomery, A. (Eds.). (1994). *Educational reforms and students at risk: A review of the current state of art*. Retrieved March 14, 2002, from <http://www.ed.gov/pubs/EdReformStudies/title/html>
- Secretary's Commission on Achieving Necessary Skills, U.S. Department of Labor. (1991). *What work requires of schools: A SCANS report for America 2000*. Retrieved September 20, 2002 from <http://wdr.doleta.gov/SCANS/>
- Sisk, D., & Rosselli, H. (1996). *Leadership: A special type of giftedness*. Unionville, New York: Fireworks Press.
- Southwest Educational Development Laboratory. (2001). *Rural students at risk: In Arkansas, New Mexico, Oklahoma and Texas*. Retrieved December 30, 2002 from <http://www.sedl.org/rural/atrisk/>
- Teens against violence program: Services and skills*. (1998). Boston, MA: Sanctuary Web Publishing. Available at <http://www.tagv.org/services.htm>
- Texas Education Agency. (2001). *2001 comprehensive annual report on Texas public schools*. Austin, TX: Texas Education Agency.
- Texas Education Agency. (2002) *Pocket edition report*. Austin, TX: Texas Education Agency. Retrieved March 14, 2002 from <http://www.tea.state.tx.us/perfreport/pocked/2001.html>
- Texas Education Agency. (1998). *Texas Education Code, title 19, part II, rule D: Educational programs for gifted and talented students*. Retrieved August 18, 2002 from <http://www.tea.state.tx.us/gted/gtlawd.htm>
- Texas Juvenile Probation Commission. (2001). *State of juvenile probation activity Texas*. Austin, TX: TJPC.

- Thomas B. Fordham Foundation. (1998). *A Nation still at risk: An education manifesto*. Washington, DC: Thomas B. Fordham Foundation. Available from <http://www.fordhamfoundation.org.html>
- United States Census Bureau. (2002). *United States census 2000*. Retrieved April 4, 2002, from <http://www.census.gov/main/www/cen2000.html>
- U.S. Department of Education, Office of Educational Research and Improvement. (1993) *National excellence: A case for developing America's talent*. Washington, D.C.: Government Printing Office.
- U.S. Department of Education, Planning and Evaluation Service. (1995). *Prospects: The congressionally mandated study of educational growth and opportunity- analysis and highlights*. Retrieved April 9, 2002 from <http://www.ed.gov/offices/OUS/PES/esed/prospect.html>
- University of North Texas, Institutional Review Board for the Protection of Human Subjects in Research. (2000, September). *Investigator's guide to use of human subjects in research*. Retrieved March, 2002 from [http:// www.coe.unt.edu.htm](http://www.coe.unt.edu.htm)
- Wirt, J., Choy, S., Gruner, A., Sable, J. (2001.) *The condition of education 2000* (NCES No. 2000-062). Washington, DC: National Center for Education Statistics.