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An evaluation of the academic outcomes of the Upward Bound program at Virginia Union University

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**AN EVALUATION OF
THE ACADEMIC OUTCOMES OF
THE UPWARD BOUND PROGRAM
AT VIRGINIA UNION UNIVERSITY**

**A Dissertation
Presented to
The Faculty of the School of Education
The College of William and Mary**

**In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Higher Education Administration**

by

James Edward Laws, Jr.

April 1996

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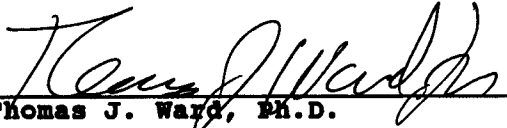
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ABSTRACT

This study analyzed the impact the Upward Bound program at Virginia Union University had on students' freshman year performance. The population selected for the study were those students who participated in Virginia Union University's Upward Bound program during the academic years 1984-85 through 1993-94 and entered Virginia Union University after completing the program.

The Upward Bound participants were compared to a comparable control group of non-Upward Bound students. The two groups were measured on the following variables: need for remedial math, need for remedial English, placement on academic probation, drop-out rate, average freshman GPA, average (for credit) math grade, and average (for credit) English grade.

The findings were mixed. Upward Bound had a statistically significant positive effect on students' English (for credit) performance. Conversely, a statistically significant negative effect was found regarding Upward Bound's effect on participants need for remedial math and freshman (for credit) math performance. The findings on the variables remedial English, academic probation, drop-out rates, and freshman GPA were not statistically significant.

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Chapter I

Proposal

Introduction

Administrators and instructors from all levels of education recognize that education from kindergarten through grade 12 (K-12) and postsecondary education should make a collaborative effort to improve all students' chances of academic success (C. Taylor, personal communication, March 21, 1994; Elam, Rose, and Gallup, 1994; Sommerfeld, 1994; Schwartz, 1994; and Russ, 1993;). Collaboration between K-12 and postsecondary educational institutions should be directed toward improving the skills of the future workforce by decreasing drop-out rates, increasing graduation rates, improving the academic and technical skills of high school graduates, and assisting students in making a smooth transition from high school to the postsecondary educational arena. To achieve these goals, the barriers that separate the various levels of education should be eliminated. A seamless educational procedure should be created to move students successfully through each level of the academic process and into the world of work (State Council of Higher Education for Virginia, 1992). In an effort to bridge the gap between K-12 and postsecondary education and augment the academic achievement of high school students, the Federal Government initiated the Upward Bound program in 1964. Since that date, additional programs to link K-12 to postsecondary education have been developed.

Current research about the academic abilities of high school students shows that significant numbers of students leave high school without the academic skills needed to compete in the workforce or the higher education arena (Intress, 1994; National Center on Education and the Economy, 1994; Wesson, 1993). American Collegé Testing (ACT) reports that "if current trends in basic skill deficiencies continue, by the year 2000 American business will be spending at least \$25 billion annually on remedial training programs for new employees alone" (ACT, 1994, page 1). The State Council of Higher Education for Virginia has reported that one in four Virginia college freshmen required remedial coursework during 1993-94, and that Virginia's colleges and universities spent approximately \$25 million to provide remedial education during that year (State Council of Higher Education, 1994). To reverse these statistics and improve the academic and technical skills of students, ACT suggests that a reciprocal relationship among K-12, post-secondary education, and the workforce be established and maintained.

Recent trends suggest that colleges, universities, businesses, and other postsecondary educational institutions should strive to become proactive in nurturing academic success by developing an interest in student achievement as early as the elementary school years. Hickey (1994) and Sommerfeld (1994) suggest that teachers and administrators at the K-12 level strive

to provide an academic environment and support system that assures each student's continued success, both academically and professionally, after high school graduation.

The Federal Government, the Virginia Department of Education (DOE), the State Council of Higher Education for Virginia (SCHEV), colleges and universities, and other state agencies sponsor a cadre of programs to improve students' postsecondary academic performance by connecting K-12 to colleges and universities. These programs cover a broad range of objectives, from improving students' academic and technical skills to improving teacher education and training.

Problem Statement

Programs aimed at preparing students for postsecondary education are varied and originate at the federal, state, and institutional levels. In spite of these efforts, students continue to enter colleges and universities without the necessary academic preparation (State Council of Higher Education, 1994).

The Upward Bound Program

The federally funded Upward Bound program is the most firmly established of these academic enhancement programs. Upward Bound seeks to prepare high school students for the rigors of postsecondary education curricula. It links K-12 programs with four-year postsecondary education programs. Students participating in Upward Bound are afforded an opportunity to take courses at four-year institutions to improve their reading, mathematics, and English skills. Program participants receive

tutoring during the school year, and during the summer months, they are permitted to live on campus and take classes for six weeks. In addition to improving academic skills, Upward Bound also orients students to the campus life experience. Upward Bound is a part of a larger project known as the Trio program.

The name "TRIO" was coined in the late 1960s when Congress enacted the third in a series of programs designed to help disadvantaged students pursue postsecondary education. The three original programs were *Upward Bound* (created by the 1964 *Economic Opportunity Act*), *Talent Search* (established by the *Higher Education Act of 1965*), and *Special Services for Disadvantaged Students* (now called *Student Support Services*, authorized by the *Higher Education Amendments of 1968*). Over the years the TRIO programs have been expanded and improved to provide a wider range of services and to reach more students who need assistance. Today, the TRIO programs consist of six fully independent programs.

The primary purpose of the TRIO programs is to prepare disadvantaged persons to enter and successfully complete postsecondary education. All of the TRIO programs identify low-income and first-generation college students and provide them with encouragement, support, and assistance. TRIO services are designed to improve academic performance, increase student motivation and facilitate transitions from one level of education to the next. (United States Department of Education, 1994)

In the Commonwealth of Virginia, the Upward Bound program is in operation at several two-year and four-year colleges and universities. It may be found at Clinch Valley Community College, Hampton University, Mary Washington College, Norfolk State University, Old Dominion University, Rappahannock Community College, Roanoke College, Saint Paul's College, South West Virginia Community College, Tidewater Community College, University of Virginia, Virginia Polytechnic Institute, Virginia State University, Virginia Union University, and Wythville Community College.

Other Academic Enhancement Programs Administered by the State

The Virginia Department of Education, similarly, administers several programs that in whole or in part seek to prepare students for the academic challenges of a college curriculum. Most notable are the Virginia Graduate Assistance Project (VGAP), Project Youth Experiencing Success (Project YES), Advancement Via Individual Determination (AVID), and School-to-Work Transition. The following reflects the amount of state or federal funding appropriated for these programs for the 1994-95 academic year:

Program	Amount Appropriated	Source of Funding
VGAP	\$ 750,000	State Government
Project YES	\$10,470,997	State Government
AVID	\$ 490,800	State Government
School-to-Work	\$ 330,000	Federal Government
Total	\$16,458,997	

The aforementioned programs are in the beginning or pilot stages; therefore, it is too early to evaluate their effectiveness.

For the 1994-95 academic year the Federal Government awarded Virginia Union University \$277,349 to operate its Upward Bound program (Hearn, 1994). The academic enhancement programs administered by the Virginia Department of Education cost the state and federal governments a total amount of \$16,458,997 for the 1994-95 school year. In spite of these efforts, the State Council of Higher Education for Virginia reported that one in every four students entering Virginia's postsecondary educational

institutions is ill-prepared academically and in need of remedial coursework (State Council of Higher Education, 1994). This raises the question as to whether Upward Bound and other academic enhancement programs are succeeding in preparing students for the scholastic challenges of postsecondary education. Answering this question may aid in evaluating and improving the effectiveness of these kinds of programs.

Proposed Research

The purpose of this research is to assess the effectiveness of the Virginia Union University Upward Bound program. This program was selected for study because the university has a long-standing Upward Bound program, and many of the new programs have not been in operation long enough to evaluate their impact on the performance of students once they enter postsecondary educational institutions.

The population at Virginia Union University was selected for this study because a significant number of the students attending the Virginia Union Upward Bound program attended Richmond public schools--an urban school system of 27,000 students of which 95 percent are minorities. Many of the students in urban school divisions may be categorized as "at risk" and conceivably could benefit from Upward Bound or other academic enhancement programs administered by the state. The students selected to attend the Upward Bound program are those who exhibit the potential to succeed in postsecondary educational programs, but may require additional academic development while still in high school.

Therefore, studying this population may provide insight about the impact the Upward Bound program at Virginia Union University has on the academic skills of inner city minority students. The findings may help enhance the effectiveness of Upward Bound and similar programs administered at the state and institutional levels.

The Upward Bound Program at Virginia Union University

Upward Bound programs have two components. Each program has a six-week summer program that affords students an opportunity to live on campus and take classes. During the academic year, Upward Bound operates as a tutorial program that helps students with course work.

Summer Program

At Virginia Union University, participants in Upward Bound take courses in English, math, science, history/social studies, reading writing, and foreign language. The summer program aims to prepare students for the courses they will take in the upcoming academic year in high school. High school seniors participating in the summer Upward Bound program are preparing themselves for their upcoming college courses. Each student's performance is evaluated through homework assignments and other projects, but they receive no formal grades. It is thought that assigning grades may increase the pressure to perform on what are already defined as "at risk" students (Hearn, 1995). Testing takes place for initial placement and to monitor progress. The only exception to this policy of not giving formal grades applies

to high school seniors. A senior may take the college-level freshman English course and receive college credit for it. In addition to the aforementioned academic courses, students are also required to participate in a workshop in music, art, drama, or Spanish. They participate in daily, one-hour group sessions aimed at improving their social skills. Their evenings are filled with a variety of exercises such as games, movies, recreational activities, and presentations from members of the community. On Friday evening they return home to their families and come back to campus on Sunday evening. As an incentive to participate in the program, students are paid \$15.00 per week.

Academic Year

During the academic year the Upward Bound program operates only on Saturdays. Students are offered tutoring in the basic courses, but the program is flexible so that it may address special needs of each student (e.g., foreign language). The students also participate in a community service project. For example, they may collect and distribute food to the needy during the holidays. The students are paid \$5.00 per week for participating in the program during the academic year.

Research Questions

Main Research Question

Do Virginia Union University students who participated in the Upward Bound program meet the academic challenges found in the postsecondary educational arena more effectively than comparable students who did not participate in Upward Bound?

Subsidiary Research Questions

Did fewer Upward Bound participants require remedial math than their non-Upward Bound counterparts?

Did fewer Upward Bound participants require remedial English than their non-Upward Bound counterparts?

Were Upward Bound students less likely than their non-Upward Bound counterparts to be placed on academic probation?

Were Upward Bound students less likely than their non-Upward Bound counterparts to drop-out during their first year in postsecondary education?

Were Upward Bound students more likely than their non-Upward Bound counterparts to return to college after completing their freshman year?

Significance of the Study

This study will provide colleges and universities that participate in the Upward Bound program with information about the program's strengths and weaknesses. The findings may serve as a guide for the improvement, development, and implementation of new programs that share the goals of Upward Bound. Improving these academic enhancement programs may increase the number of students who enter the domain of postsecondary education academically prepared and decrease the number of college freshmen in need of remedial education. Improving the Upward Bound program may aid in decreasing the financial burden colleges and universities incur when providing remedial education.

Prior Research and Issues for Measuring the Success of Upward Bound and Other Academic Enhancement Programs

As previously mentioned, Upward Bound and other academic enhancement programs seek to better prepare students for

postsecondary education activities. Researchers such as Hunt and Hardt (1969), Hunt, Hardt, and Victor (1968), McCalley (1969), Burkheimer, Riccobono, and Wisenbaker (1979), Exum and Young (1981) and Steel and Schubert (1983) have used a variety of criteria to determine the success of these programs. They have measured the academic improvement participants experience while still in high school and after entering the postsecondary educational arena. They also have evaluated the level of motivation participants have to seek postsecondary education after they have been involved in an academic enhancement program. They have measured success by analyzing the manner in which a program is operated. A review of the research literature suggests that successful programs are those that improve the academic performance at the high school and/or postsecondary levels and improve the chances that a student will successfully complete a postsecondary education program. Although the focus of this study will be on measuring the impact Upward Bound has on students' academic performance and their motivation to continue their higher education (i.e., progress and persistence), other researchers like Palmer (1978), Office of Education Evaluation and Market Research (1980), Navaratnam (1991), and Pueblo Community College (1991) suggest that successful programs are those that are operated efficiently, reach the target population, and utilize their resources effectively.

Academic Improvement and Motivation

Hunt and Hardt (1969) used academic improvement and motivation as measures for determining the success of an Upward Bound program. They surveyed students using the following criteria: (1) importance of college graduation, (2) possibility of college graduation, (3) self-evaluated intelligence, (4) motivation for college, (5) interpersonal flexibility, (6) self-esteem, (7) internal control, and (8) future orientation.

In a previous study, Hunt, Hardt, and Victor (1968) used the same criteria as Hunt and Hardt (1969) and found that participation in Upward Bound was effective in motivating students to attend college. The rate of college enrollment for program participants was 68 percent, compared to 48 percent for nonparticipants.

McCalley (1969) reviewed the manner in which Upward Bound programs have been evaluated. She focused on the way changes in students' attitudes and motivation were used as criteria for reporting the success of a program. McCalley also noted that the impact a program has on its community may also be used to measure success. She concluded with the following reference to the 1969 work of Hunt and Hardt.

According to longitudinal studies undertaken by Hunt and Hardt with respect to students' attitudes on several important change measures, it was found there were significant score increases in such areas as motivation for college, interpersonal flexibility, self-esteem, internal control, and future orientation (p. 52).

Burkheimer, Riccobono, and Wisenbaker (1979) and Exum and Young (1981) measured success by analyzing the postsecondary educational "progress and persistence" of Upward Bound students. To examine progress and persistence, Exum and Young performed a longitudinal study and measured success based on how well students met the program's educational objectives. "The educational objectives in this study consisted of the degree of academic achievement, persistence in secondary education, graduation, and success in aspiring to and gaining admission to postsecondary institutions" (p.349).

Steele, and Schubert (1983) measured the academic performance of high school Upward Bound students and measured their motivation and aspiration for postsecondary education. Due to a low response rate, their findings were nonconclusive.

Methodology

Virginia Union University was selected for this study because it has a long-standing Upward Bound program. A review of the university's Upward Bound records revealed that 26 students completed the program between 1985 and 1994. To evaluate the program, information on the academic performance of all 26 students will be retrieved. Gay (1987) expressed the opinion that "for correlational studies at least 30 subjects are needed to establish the existence or nonexistence of a relationship. For causal-comparative studies and many experimental studies a minimum of 30 subjects is generally recommended." To include a sample of 30 or more students, as Gay recommended, in the Upward

Bound program, it would be necessary to collect data on students who participated in the program more than 10 years ago. The content of the Upward Bound program and the math and English courses may have changed in the past 10 to 15 years. Therefore only program participants between 1985 and 1994 will be included, thus decreasing the sample size.

Data will be retrieved on each student's freshman year academic performance. The data will include the following: each student's end-of-the-year freshman GPA, scores in basic skill courses (i.e., math and English), information on whether remedial courses were needed, and whether the participant dropped out prior to completing the first year. This data will be compared to a similar group of Virginia Union students who did not participate in the Upward Bound program.

Since socioeconomic standing is a criteria for participation in Upward Bound, the control group will be selected from those non-Upward Bound students who qualify for tuition assistance under the Federal Government's Pell Grant program. Students who receive Pell Grants are determined to be in financial need based upon a formula set forth by the Federal Government. The formula takes into consideration each student's total financial standing (i.e., student's/parent's income, number of family members in college simultaneously, assets, etc.). Using the Pell Grant recipients as a bench mark for selecting the control group may be the most effective way to select a group of non-Upward Bound participants comparable to the research group. Additionally, the

control group will be matched with the research group on other variables including gender, ethnicity, high school GPA, and year of the freshman experience (e.g., if the research group consists of three African-American males who were freshmen in 1987, the control group will also include three African-American males who were freshmen in 1987).

In addition to being aimed at students from lower socioeconomic backgrounds, Upward Bound also focuses on first-generation college students. The control group will also be matched with the program participants on this variable.

The scoring will be consistent for each criterion. The data will be scored as 1 or 2. A score of 1 means the student performed in the negative (i.e., below-average grades, dropped out freshman year, received academic probation, or required remedial coursework). The score of 2 represents a positive performance (i.e., grades equal to or above average, completed freshman year, no academic probation, and no need for remedial coursework). See table 1.1.

VARIABLE

SCORE

	<u>1</u>	<u>2</u>
Freshman GPA	<2.0	≥2.0
Freshman Year Completed	Dropped Out	Completed
Academic Probation	Yes	No
Freshman Math Grade	<2.0	≥2.0
Remedial Math	Taken	Not Taken
Freshman English Grade	<2.0	≥2.0
Remedial English	Taken	Not Taken

Table 1.1

Subsequent to retrieving and scoring the data, a chi-square will be used as the method of statistical analysis. The chi-square test will compare the frequency of the scores between the two groups on the data recorded in table 1.1.

The total (average) freshman GPA, math, and English scores for each group will also be recorded. A t-test will be used as the method of analysis for the average scores of the two groups. The findings of the chi square and the t-test will support or reject the research hypothesis that the Upward Bound program increases at-risk students' ability to meet successfully the academic demands of postsecondary educational institutions. See table 1.2.

UPWARD BOUND STUDENTS			NON-UPWARD BOUND STUDENTS			
	Freshman GPA	Math Grade	English Grade	Freshman GPA	Math Grade	English Grade
1						
2						
3						
4						
5						
↓						
26						
Total Average						
Table 1.2						

To assure confidentiality, this study will not report the individual scores of any student. The results will address only the findings for each group on the variables studied.

Limitations

This study will be limited to Upward Bound students at Virginia Union University. The specificity of the target population not only narrows the findings to Upward Bound participants but to Upward Bound participants at a single university. This may reduce the generalizability of the findings to other programs designed to aid students' transition to college.

Also, there are several programs in the Commonwealth of Virginia that link K-12 to postsecondary educational institutions

with the objective of preparing students for postsecondary education. Since participation in Upward Bound is based largely on the students' financial condition, which may or may not be a qualifier for participation in other programs, these findings may not be generalized for other types of academic enhancement programs.

Summary

The need to offer remedial education to college students may cause administrators at the K-12 and postsecondary education levels to doubt the effectiveness of the Upward Bound program and other programs to enhance students' academic skills. The findings of this research may offer specific information about the strengths and weaknesses of the Upward Bound at Virginia Union University. It is anticipated that, with caution, the findings may serve as a guide to other programs that seek to prepare high school students for the rigors of postsecondary education curricula.

Definition of Terms

1. **At-Risk Students** - The Virginia Board of Education defines at-risk students as students who have fallen behind in skills and studies, have a high probability of not successfully completing formal education, or have dropped out of school.
2. **DOE** - The Virginia Department of Education

3. **Minority Students** - African-American male and female students.
4. **Postsecondary Educational Institutions** - Two-year and four-year colleges and universities.
5. **Remedial Education** - The State Council of Higher Education for Virginia defines remedial courses as course work in preparation for lower-level courses. Remedial courses are limited to English Composition, Reading, Mathematics, and English as a Second Language.

Chapter 2

Literature Review

Introduction

Since its origin, there have been evaluations of the Upward Bound program. One of the earliest evaluations was that of Lang (1967). As the Upward Bound program has continued to grow and similar school-college transition programs have been developed, evaluations have become vital tools used to demonstrate the success of these programs and justify their continued funding.

As colleges, universities, and businesses report that high school graduates have a deficiency in academic skills (American College Testing, 1994) (State Council of Higher Education for Virginia, 1994), evaluations have become a vital component of transitions programs. At issue is not whether such programs are needed, but rather, how effective they are at preparing students for the postsecondary educational arena. As the spending for Upward Bound and other programs continues to increase, so does the amount of money colleges and universities spend on providing remedial education for college freshmen (State Council of Higher Education, 1994). Evaluations help to determine the strengths and weaknesses of such programs and develop methods to achieve maximum effectiveness and efficiency from them.

Characteristics of the Typical Successful Upward Bound or Other School-College Transition Program

The nexus of Upward Bound and other school-college transition programs is to motivate high school students to pursue postsecondary education and to prepare them academically to meet

the challenges posed by postsecondary education curricula. The typical Upward Bound program is a collaborative effort between a local school division and a four-year university. It is operated on a college campus. Usually the program is composed of a tutorial component that assists high school students during the academic year and a summer residential program in which students will be afforded an opportunity to study intensively on the college campus for approximately six weeks.

The successful program should be able to properly identify and reach its target population (Palmer, 1978). The earlier it is able to reach the students, the stronger its impact will be on them (Young and Exum, 1982). Although the goal of Upward Bound is to prepare students for college, the successful program will have to first focus on improvement in academic performance during the students' high school years (Poulos, 1982). Along with improving high school grades, decreasing the drop-out rate at the high school level should also be a focus of the program (Exum and Young, 1981).

A strong summer component is vital to the success of a Upward Bound program. It is during the summer residential component that a strong impact may be made on participants (Lang, 1969) (McCormick and Williams, 1974). The summer component affords participants an opportunity to experience life on a college campus before their college careers officially begin.

The summer experience allows students to become accustomed to the academic environment, and the transition from high school to college becomes much smoother.

The ideal program must also have good leadership. Its administration should be flexible so that the program may be able to adjust to the changing needs of the students (Navaratnam, 1991).

Finally, the successful transition program should be willing to undergo evaluations of itself. Evaluations may be general in that they analyze the overall program, or they may focus on specific discipline areas.

Regardless of how broad or narrow the focus of an evaluation, they are needed to better understand the program's strengths and weaknesses (Doyle, 1975). Comparison of participants' performance to nonparticipants' is a beneficial way of evaluating program effectiveness (New York Board of Education, 1973), (Tan, 1985), (United States Department of Education, 1987), and (McCarthy, 1991).

The aforementioned are the characteristics associated in the literature with successful Upward Bound programs or other school college transition programs. The exceptions would be that some non-Upward Bound programs may (1) not have a summer residential component, (2) are usually coordinated and administered within in the high school rather than on a college campus, and (3) may be a collaborative effort between high schools and four-year or two-year postsecondary educational institutions. Regardless of theses

differences the goals of Upward Bound and other school college transition programs are to motivate and prepare students for postsecondary education.

Review of Literature

The goal of this research is to evaluate the success of the Upward Bound program at Virginia Union University. Therefore, the following literature review reflects research that has evaluated other Upward Bound and similar pre-college transition programs, and it focuses on the manner in which program success has been defined and measured.

Criteria for evaluating the success of Upward Bound and other pre-college transition programs may be divided into five categories--(I) academic achievement and academic performance, (II) motivation, (III) self-esteem, (IV) progress and persistence and, (V) administration and program operation.

I. Academic Achievement and Academic Performance

Academic Achievement and academic performance involve evaluations that analyze the level at which participants graduate from high school, their entry into postsecondary education institutions, high school grades in specific subjects, high school GPA, college grades in specific subjects, and college GPA.

Melnick (1971) reviewed the research on approximately 25 studies of the success of Upward Bound students. His collection of data extended from 1963 to 1970. His findings revealed that

academic performance is a dominant measure of success. The findings regarding the effect Upward Bound has on participants' academic achievement vary.

Upward Bound Evaluations that Report a Positive Impact on Academic Performance

Lang (1967) and McCormick and Williams (1974) specifically reviewed the impact of Upward Bound's summer residential component and its effect on academic achievement.

Lang (1967) evaluated the effectiveness of the Rutgers Educational Action Programs Upward Bound (REAP-UB) at Rutgers University. He determined that participation in the summer program did have a positive impact on students' academic achievement. Although Lang's research suggested that the summer residential element may be the stronger component of the Upward Bound program, he warned that when students leave the summer program and return to their home environment, their academic performance may be negatively impacted by the contrary influences of family, friends, or other variables.

McCormick and Williams (1974) selected the following four variables upon which to evaluate the Upward Bound program at the University of South Florida. They hypothesized that:

I. As self-concept becomes more positive, level of achievement will rise and level of aspiration will become more realistic.

II. Greater changes will occur in the relevant variables during the summer on-campus part of the program year than will occur during the academic year.

III. Students in the summer on-campus program for the first time will manifest greater changes in the relevant variables than will students for whom it is a second or third time experience.

IV. Gains in self-concept, achievement, and reality of level of aspiration are a function of length of time a participant has in the program. (McCormick and Williams, 1974, p. 48)

The first variable of the McCormick and Williams study was in the area of motivation which will be discussed in the subsequent section about motivation as a measure of success. On the second and third variables, they found that students benefit more academically from the summer residential part of Upward Bound than from the tutorial portion which takes place during the academic year.

Henderson (1968) examined the Upward Bound program at Colorado State College. He found that "Upward Bound students were successful in college as shown by their mean academic grades. He found that special intensive guidance and counseling assisted Upward Bound students substantially in their transition to college including their academic performance" (p. 584-A).

Billings (1969) analyzed the success of the national Upward Bound program. He measured whether Upward Bound participants were academically prepared for postsecondary educational curricula. He found that 80 percent of the Upward Bound students in his study were admitted to college (i.e., they were academically prepared for admission). Further, he reported that "Upward Bound students remained in college at about the same rate as all other college students" (p.96).

Butler and Gibson (1975) suggested that, to measure program success, the percentage of Upward Bound students who attended and completed college be compared with the number of similar non-Upward Bound students who attended and completed college.

Farrow (1977) found that the Rutgers University Upward Bound program had a positive effect on students' academic success in college. His results suggested that Upward Bound provided students with academic skills to meet the curricula demands of colleges and universities. He found that "the college success rate for participants in the Rutgers Upward Bound program was significantly higher than for nonparticipants" (p. 50).

Exum and Young (1981) performed a longitudinal study on Upward Bound participants from northwestern Iowa and southwestern Minnesota. They used ninth, tenth, and eleventh graders from selected target schools. Although the level of significance varied, based on the age of each cohort group, they found a positive relationship between Upward Bound participation and academic improvement. Their findings further showed that 98 percent of program participants completed secondary education and 77 percent enrolled as full-time students in postsecondary education institutions.

Poulos (1982) evaluated the Upward Bound program in Detroit public schools. He sought to determine the effect of the program on students' performance on the California Achievement Test (CAT) in reading comprehension and mathematics. Comparing the scores of the program participants with a control group, he found that

the pretest and posttest gains of program participants were generally higher than the control group gains in reading comprehension and mathematics. His findings further revealed that the program was successful in helping students complete high school and enroll in institutions of higher education.

When Upward Bound was originated in the 1960's, it was one of three programs aimed at improving the educational and economic condition of at risk students. The three programs were Upward Bound, Talent Search and Special Services. They became known as the TRIO program (United States Department of Education (1994).

Read (1982) evaluated the TRIO/Special Services Program at the University of Minnesota. She compared the grade point averages of freshmen participating in the program with those of students not participating in the program. Both groups were from similar socioeconomic backgrounds. Read's findings revealed that new students participating in the TRIO programs completed a higher portion of credits than the control group. The comparison group maintained a grade point average equal to or higher than that of the control group. The TRIO participants also ended the school year with a higher level of self-esteem than the control group.

Young and Exum (1982) considered whether length of time in Upward Bound was correlated with the level of academic achievement. Their sample consisted of Upward Bound participants in grades nine, ten, and eleven. They concluded that "the more years of participation, the more successful the outcomes among

participants. At least two years of participation in the program seems to produce measurable changes in academic performance" (p. 298).

Rather than evaluate an entire Upward Bound program, some researchers have evaluated participants' performance in specific academic disciplines as a measure of success.

Palmer (1978) studied and made recommendations for improving the reading component of the program. She said that success of the program was dependent upon whether it identified and reached the population most in need of its services. She suggested that reading skills may be enhanced through participation in Upward Bound once the reading deficiency is properly identified as developmental, remedial, or corrective.

Developmental reading refers to the actual learning of reading skills in a progressive manner with instruction relatively well balanced between word recognition and comprehension. Remedial reading, however, is concerned with developing competency in areas of specific weaknesses. The student is usually taken outside of the classroom until basic weaknesses are overcome. When the student is ready to resume developmental reading, he returns to the classroom. Corrective reading is a phase of remedial reading but deals with minor problems as opposed to major problems and may be handled inside the regular class room.
(Palmer, 1973, p. 3)

Young (1980) studied the effects of Upward Bound on high school students in grades 9 through 11. Although his findings varied depending on the student's grade level, when comparing the pretests to the posttests, his results suggested that Upward Bound students made significant gains in reading and spelling.

Merchant (1986) sought to determine whether participation in the Upward Bound six-weeks reading program impacted reading achievement. Her initial findings showed a statistically significant gain in reading achievement at the end of the summer program. A subsequent follow-up study showed that nine months later reading scores continued to improve.

Upward Bound Evaluations that Report No Effect on Academic Performance

Bybee (1969) measured the academic achievement of Upward Bound students in the science disciplines. The Upward Bound group received special lectures and support materials in science. The pretest and posttest findings yielded no significant difference between the two groups. Bybee's findings in this domain suggest that Upward Bound had no impact on the participants' academic development in the area of science.

Rutgers University (1969) studied the relationship between Upward Bound and academic performance. The study revealed no difference in the college GPAs of Upward Bound participants and nonparticipants.

Rushmore and Scope (1969) reviewed the summer reading component of the Upward Bound program at Hofstra University. Their evaluation of reports written by the participants revealed that the participants continued to have difficulty with writing skills in spite of their involvement in Upward Bound.

McCalley (1969) also found Upward Bound to be ineffective at preparing students academically for postsecondary education.

The United States Comptroller General (1974) measured success of the Upward Bound program by analyzing data on student progress. The data from the study also showed that "the students were approximately 2 to 4 years below grade level when they entered the Upward Bound program and were still about 2 to 4 years below grade level when they graduated from the program" (pp. 16-17).

The United States Comptroller General (1974) also analyzed data about the number of Upward Bound participants enrolled in college compared to the number who actually completed a college program. The findings showed that "a high percentage of dropouts had low grades and that some of those remaining in college appeared to have academic problems" (p. 17).

Information on the college performance of 792 former Upward Bound students at the 15 projects who dropped out of college showed that 508, or about 64 percent, had been on probation or had grade point averages below 2.0 (C averages). Of these, 168, or about 33 percent, had been academically suspended. Also, 378 or about 74 percent had left college with less than a 2.0 grade point average before completing 1 year's credit. (United States Comptroller General, 1974, p. 17)

Limited data shows [sic] that, although Upward Bound apparently has motivated students to seek a college education, it does not appear to have been effective in achieving its goal of equipping students with the skills needed to succeed in college. (p.31)

Burkheimer, Riccobono, and Wisenbaker (1979) showed that there was no significant difference between the grade point average of Upward Bound participants and nonparticipants. However, when they stratified the data based on the type of postsecondary educational institution (i.e., two-year,

vocational, or four-year), their findings revealed that the grade point average of Upward Bound participants was lower than that of nonparticipants.

Gill (1992) indirectly examined the Upward Bound program through her evaluation of the special services component. She surveyed 103 Upward Bound students who had been admitted to Bowie State University. Her findings revealed that 73.8 percent of the respondents (college freshmen) felt they would need tutoring. The need for tutoring ranked third. The need for academic counseling and financial aid ranked first and second. Although the need for tutoring ranked third, the high percentage of students with the need suggested that Upward Bound may not be successful at preparing them for higher education.

Non-Upward Bound College Transition Programs that Show a Positive Relationship Between Program Participation and Academic Achievement

Academic achievement has also been the benchmark to measure the success of other programs that mirror Upward Bound. The research findings in this domain are similar to the findings regarding Upward Bound.

The New York Board of Education (1973) evaluated the College Bound Program which operates in 32 New York City high schools. Academic achievement and admission into college were used as criteria for determining the success of the program. The study found that participation in the program had a positive effect on the subjects' math and reading scores.

Non-Upward Bound programs have also been evaluated based on their ability to increase academic performance in specific academic disciplines.

Like the New York Board of Education (1973), Doyle (1975) also evaluated the College Bound program. In the area of reading skills, Doyle found that the participants' reading grades improved 1.3 to 1.5 years (i.e. grade levels). For math scores, he found that the subjects' grades increased from 1.2 to 1.9 years. The third evaluation component, science and social studies, showed that the subjects' average social studies grade increased from 1.9 to 5.6 and that the mean science score improved from 4.3 to 5.7.

As a further measure of the program's success, a follow-up study revealed that "over 90 percent of those who graduate from the program were accepted into college and that over 70 percent of those enrolled in college were still enrolled as seniors" (p. 14).

Ortiz and Kendler (1974) reported on the New York City Medical College Summer Program--an academic enhancement program aimed at preparing disadvantaged minority students for medical college. Unlike other academic enhancement programs that seek to prepare high school students for college, this program targeted minority students already attending college. The authors listed the following descriptors as a typical pattern exhibited by the minority college student desiring to become a physician.

1. He has less than average preparation in the sciences and mathematics both in the quality and quantity of courses taken.
2. He has less than average reinforcement of scientific subject matter because these science and mathematics courses have not been taken over a long period of time.
3. He has less than average preparation in study skills, such as reading, writing, vocabulary, and test-taking.
4. He has been uncounseled or miscounseled with respect to the preparation needed at various educational levels for effective medical school preparation, admission, and completion.
5. He has some degree of doubt as to the possibility of his becoming a doctor due to his inadequate preparation, his inability to finance a medical education, and a low self-image resulting from a lifetime exposure to discrimination. (Ortiz and Kendler, 1974, p. 694)

To address these deficiencies, the program offered academic development in the areas of science, math, reading, writing, and study skills. "A report prepared with the aid of an outside evaluator characterized the 1973 summer program as successful on the basis of opinions elicited from both staff members and participants" (p. 695).

Clemendor and Moore (1978) followed-up the aforementioned work of Ortiz and Kendler (1974). Unlike Ortiz and Kendler, Clemendor and Moore had five years of records to review in evaluating the success of the program. During the first five years, 210 students completed the program. The researchers compared the academic performance of program participants to that of nonparticipants. They found that participation in the program had a positive effect on academic performance.

Of seven accepted students who were invited to but did not participate in the 1975 and 1976 programs, four (57 percent) encountered academic difficulties. This figure is compared with the 25 percent (five of 20) who participated during this period and later encountered academic difficulties.

Thus, it appears that participation in the program had an effect on later performance among these students, although the specific relationships are unclear. (Clemendor and Moore, 1978, pp. 659-660)

Alvin Community College (1982) proposed a method for evaluating its developmental program -- remedial courses in math, English, and reading for academically deficient students. The evaluation process was in the proposal form and had not been implemented at the time the report was issued. The evaluation model proposed by the college was similar to that used in other studies.

The evaluation design will consist of a comparison of two randomly selected groups of low-achieving students. One group will consist of randomly selected students who are taking developmental courses, and the other will consist of a randomly selected group of low-achieving students who are not in any developmental studies. The comparison will consist of the following:

- A. Retention - Number of semesters enrolled
- B. Grade Point Average - Overall college work completed
- C. Academic Skill Growth - Pre- and post-tests to determine if developmental students have a significant gain in academic skills over low-achieving students that do not participate in developmental students. (Alvin Community College, 1982, pp. 21-22)

Kammer, Fouad, and Williams (1988) evaluated the effectiveness of the Pre-College Program (PCP) at the University of Wisconsin. The program included a seven-week summer school session on the college's campus. Seventy-three percent of the participants reported that they had attended one or more

postsecondary schools and their average GPA was 2.8. "In all, 71 percent of the students enrolled in college, majored in math, science, or engineering (including medicine and health), and 64 percent indicated that they were choosing math, science, or engineering careers" (p. 44).

Ackermann (1989) measured the success of the Supergraduate program -- an academic enhancement program administered in a collaborative manner among Hamilton High School, West Los Angeles College, and the University of California at Los Angeles. Ackermann found that the program participants improved their academic skills. Students' English and writing skills improved. Their confidence in their academic ability increased as did their desire for entering higher education institutions.

A newly developed program aimed at preparing students for postsecondary educational activities is the Advancement Via Individual Determination (AVID) program. Swanson (1989) and The San Diego County Office of Education (1991) offer findings about AVID's effectiveness in preparing students for postsecondary education.

Swanson (1989) reported on the AVID project in San Diego County, California. Students participating in the program received tutorial assistance in all academic areas and were encouraged to take college preparatory courses. The success of the program was measured by the academic performance of the students while they were still in high school and their academic

performance after they entered postsecondary educational institutions. Swanson reports that "in four years, the writing-to-learn component of the program has helped students raise their mean grade point average from 2.2 (in the general track classes) to 3.2 (in college preparatory classes)" (p. 63).

Of the first six classes that the Clairemont project has graduated, 178 of 181 AVID students enrolled in colleges, 89 percent in four-year institutions, and 11 percent in community colleges. At San Diego State University, the cumulative grade point average of the first six classes was 2.46; the freshman average was 1.9. At the University of California at San Diego, AVID graduates earned a cumulative average of 2.47, while the overall freshman average was 2.83. (Swanson, 1989, p. 64)

The San Diego County Office of Education (1991) analyzed the AVID program found at Clairemont High School in San Diego County, California. Research found that 225 of the 238 graduates of the AVID program entered post-secondary educational institutions and that the average GPA for AVID students ranged between 3.1 and 3.3. They further found that on the Comprehensive Test of Basic Skills (CTBS), AVID students improved in 11 language and mathematics skills areas.

Ackermann (1991) sought to determine the effects of the Summer Bridge programs at the University of California, Los Angeles (UCLA). The objective of the Freshman Summer program and Transfer Summer program (FSP/TSP) was to improve students' adjustment to college life, academic performance, and persistence

rates among low-income students. The survey findings revealed that students felt the programs were beneficial in helping them to adjust to the academic and non-academic components of college life.

In the area of academic performance, Ackermann reviewed the freshman year GPA of students who participated in the preceding summer program (i.e., 1988-89 GPA of students who participated in the summer 1988 programs).

The mean GPA achieved by students during FSP/TSP (summer 1988) was 2.64; it fell slightly during the fall quarter to 2.30, and then increased slightly to 2.37 in the winter quarter. The mean cumulative grade point average for summer, fall, and winter was 2.49, or approximately between a C+ and B- average. (Ackermann, 1991, p. 206)

Non-Upward Bound Programs that Show a Negative Relationship Between Program Participation and Academic Achievement

Like some Upward Bound evaluations, research findings for some non-Upward Bound transition programs also failed to show a positive relationship between program participation and academic achievement.

Tan (1985) analyzed the success of the SEEK (Search for Education, Elevation, and Knowledge) program at Baruch College. SEEK is a six-week summer program aimed at academically preparing incoming freshmen at the college. Comparing the academic performance of participants to nonparticipants, Tan found that "nonparticipants passed a greater percentage of their coursework than participants" (p. 15). Although the difference was not statistically significant, the fall GPA for participants was higher than that for nonparticipants. The findings also showed

that the participants took more non-credit courses than did the nonparticipants. "The likelihood of withdrawal from college was higher for participants than for nonparticipants, and participants received more grades of WU (equivalent to course failure) than did nonparticipants. Participants also reenrolled for the spring semester at a lower rate than nonparticipants. Tan concluded that the program's attempt to prepare students for college in a six-week interval before the freshman year was not enough time.

This study, however, provides little evidence that participation in the 1984 program contributed to improved academic performance in the first year. Rather, program participation did not outweigh the strong influence of background and educational preparation on later college performance. Prior factors--particularly students' academic preparation as measured by their high school average and initial scores on basic skills test--played a much greater role in predicting how students would do. (Tan, 1985, p. 23)

Tan's findings suggested that academic enhancement programs should begin working with students as early as possible during the middle and/or high school years.

II. Motivation

Motivation as a measuring tool may be defined as a program's ability to increase the participant's desire to seek higher education. Like academic performance, motivation to seek higher education is a major component of the Upward Bound program.

Studies That Show a Positive Relationship Between Participation in Upward Bound and Motivation to Seek Postsecondary Education

Melnick (1971) reviewed a series of evaluations on Upward Bound. His analysis of the studies conducted by others found that the participation in Upward Bound does increase students' motivation to attend postsecondary educational institutions.

Lang (1967) used motivation to attend college as a criteria for evaluating the Upward Bound program at Rutgers University. He found that participation in the program positively affected students' motivation for college. He reported that students' attitudes about the importance of high school graduation and the possibility of attending college changed positively after they participated in the program.

Herson (1968), comparing an experimental group to a control group, found that Upward Bound may have motivated participants to meet academic requirements.

Hunt, Hardt, and Victor (1968) indicated that participation in Upward Bound affected college enrollment. Their findings showed the Upward Bound rate of college enrollment at 68 percent and the non-Upward Bound control group rate at 48 percent.

McCalley (1969) also did a national study of the Upward Bound program. As mentioned earlier, her study found Upward Bound to be ineffective at preparing students academically for higher education but, she also found that there was a positive relationship between participation in Upward Bound and motivation to attend college.

Rutgers University's (1969) results implied that the longer students participated in the Upward Bound program the greater was their desire for postsecondary education. The study showed that Upward Bound students were more informed on matters such as admissions requirements and financial aid than their non-Upward Bound counterparts.

Rushmore and Scope (1969) reviewed the summer reading component of the Upward Bound program at Hofstra University. They reported the program as being successful, based on the increase in students' motivation to read and further their education. "...student counsellors and other teachers observed that students were reading extensively during their spare time" (p. 122). There was a positive change in students' attitudes.

Some students began to realize that there was a world other than their own and they could enter it if they wished but only through education. Finally, there was a significant number of books missing at the end of the program. Whether these books were read or not, at least many of these students owned books for the first time in their lives. (Rushmore and Scope, 1969, P. 123)

McCormick and Williams (1974) reported that "as self-concept becomes more positive, level of achievement will rise and level of aspiration will become more realistic" (p. 48). They found that as self-concept becomes more positive, the level of achievement rises and aspirations become more realistic.

The United States Comptroller General (1974) analyzed data about the number of Upward Bound participants enrolled in college

compared to the number who actually completed a college program. The study revealed that Upward Bound participation has a positive relationship with students' desire to attend college.

Limited data shows [sic] that, although Upward Bound apparently has motivated students to seek a college education, it does not appear to have been effective in achieving its goal of equipping students with the skills needed to succeed in college (United States Comptroller General, p.31).

Burkheimer, Riccobono, and Wisenbaker (1979) used educational aspirations, postsecondary educational progress and persistence as measures of a program's success. Their research revealed that "Upward Bound participants continued their formal education beyond high school at considerably higher rates than nonparticipants" (p. 77). Their findings suggested that a higher percentage of Upward Bound participants were motivated to seek higher education than were nonparticipants.

Steel and Schubert (1980) considered students' level of motivation for postsecondary education as an indicator of how well Upward Bound prepared students for postsecondary education. They concluded that "the Upward Bound program continues to enhance youths' preparation for postsecondary education and, presumably, the likelihood that they will enter and complete a postsecondary program" (p. 18).

The United States Department of Education (1987) also did a national study of the Upward Bound program. The research findings showed that participation in Upward Bound increased students' motivation to attend postsecondary educational institutions and that Upward Bound students earned more college

credits than comparable non-Upward Bound students. However, the findings also revealed that after 21 months in college, the retention rate of Upward Bound students was no different than that of a similar group of non-Upward Bound students.

Studies that have Found a Negative Relationship or No Relationship Between Upward Bound Participation and Motivation to Seek Postsecondary Education

Burkheimer, Levinsohn, Koo, and French (1976) found a negative relationship between Upward Bound academic counseling and entry into postsecondary educational institutions. The authors attributed their negative findings to "measurement error, inappropriate choice of variables, or inappropriate analysis of models" (p. 9.26).

James (1978) offered a synopsis of the national evaluations of the Upward Bound program. He referenced studies that examined the effects of Upward Bound on underachieving minority students. He specifically cited the work of Hunt and Hardt (1969) in which the attitudes, motivation, and achievement of African-American students were used as indicators of the success of the program. The findings from a sample of African-American students were compared with those of a group of Anglo-American students. Hunt and Hardt concluded that there was no distinction between African-American program participants and Anglo-American nonparticipants regarding the effect of the Upward Bound program upon the students' attitude and motivation. They further concluded that Upward Bound had no significant effect on either group in the area of academic achievement.

Non-Upward Bound Transition Programs and Their Relationship to Motivation

Programs similar to Upward Bound have also used students' motivation to attend college as a criteria to evaluate the success of the program.

In addition to using academic achievement as a measure of success, the New York Board of Education (1973) also used motivation. The program was successful in reaching and surpassing its goal of having 80 percent of the participants meet the requirements for college admission. The study also showed that, when compared to an equal group of non-participants, a statistically significant higher portion of participants received financial aid. This finding suggested that the non-academic counseling part of the project was successful in motivating students.

Rodriguez and Blocher (1988) sought to measure the effects of career awareness programs on enhancing the aspirations of academically and economically deprived Puerto Rican women. Although their study was not a direct measure of academic ability, the program, like Upward Bound, was designed to assist disadvantaged students in entering the postsecondary education setting. Using an experimental design, the researchers administered three treatments -- (1) the Modified Adkins Career Choice Modular Program, (2) the Alternative Career Development Program, and (3) a placebo treatment which offered no systematic career intervention to a control group. They found that the two treatments did have a significant effect on the career maturity

of the participants. More importantly, and applicable to this study, was their finding that as individuals felt they had more control over their environment, their aspirations and motivations increased. It appears that the implementation of the specially designed career interventions, such as the Modified Adkins Career Choice Program and the Alternative Career Development Treatment, over a period of time, do produce changes in locus of control. As people come to believe that they can control their environments and their own future, career attitudes may also become more mature. It may be that locus of control is an important mediating variable in facilitating career development for this student population. (p. 279)

Generalizing these findings to Upward Bound programs may suggest that as Upward Bound increases students' academic ability and motivation, it may also increase their locus of control. The increase in the locus of control may positively influence their desire or motivation for postsecondary education.

Ackermann (1989) measured the success of the Supergraduate program -- an academic enhancement program administered in a collaborative manner among Hamilton High School, West Los Angeles College, and the University of California at Los Angeles. It was aimed at preparing marginal students who showed academic potential for postsecondary education.

Ackermann found that the program participants improved their attitudes/expectations regarding postsecondary education. As participant's confidence in their academic ability increased so did their desire for entering higher education institutions.

Cave and Quint (1990) analyzed the impact of the Career Beginning program. They found that program participants attended college at a higher rate than did nonparticipants. For example, "48.5 percent of the controls attended a four-year or two-year college at some point between June 1988 and May 1989, while 53.2 percent of the experimental group did so" (p. 60). They further found that Career Beginnings influenced the type of postsecondary educational institutions in which the participants enrolled. "Apparently, Career Beginnings may have led some who would have attended vocational programs to attend schools with two-year degree programs or four-year colleges, and led others who would have begun at a two-year college to go into a bachelor's degree program" (p. 62).

Simmons (1994) evaluated the pre-college transition programs at the University of Virginia. The three programs analyzed were the Research Assistantship Program (RAP), Introduction to Engineering (ITE), and Summer Transition Program (STP). The programs exposed selected at-risk high school students to college life and were designed to build early relationships between students and faculty.

Through the use of self-reports, questionnaires, and analysis of data on freshman year performance, Simmons studied

two groups of participants. The groups were tracked for the two years immediately following their participation in the programs. He found that the programs were successful in motivating students to enter undergraduate programs. Simmons offered the following conclusion.

Of the students who participated in the RAP and ITE during this study, all 48 students are currently enrolled in colleges and universities including Brown, Cornell, University of Virginia, Duke, and Georgia Tech. Thirty-four percent plan to enroll in graduate programs immediately after graduation. Sixty-one percent say that their attitude toward college life has changed-that they are more serious, more focused, more directed-after participating in the summer programs.

None of the students who participated in the summer programs have dropped out of college as of the beginning of the 1993 fall term.

Among the RAP group, 10 stated that they planned to earn an advanced degree. Of the ITE group, 18 planned to enroll in graduate school after earning the baccalaureate degree. Among the STP students, 33 planned go on to graduate school. (P.45)

III. Self Esteem

Self Esteem is similar to motivation but deals specifically with how students feel about themselves as a result of participation in a program. The amount of increase in students' self-esteem after they have participated in Upward Bound or some other type of transition program has been used to measure the success of such programs.

Upward Bound Programs and Their Relationship to Self-Esteem

McCormick and Williams (1974) addressed the role of self-esteem as it pertains to students successfully making the transition from high school to college. They found that as self-concept becomes more positive, the level of achievement rises and aspirations become more realistic.

Butler and Gibson (1975) proposed that evaluations not be based solely on the participant's enrollment in higher education. They recommended that the level of improvement in the students' self-esteem or self-actualization be used as measures of the program's success.

An Upward Bound participant may never receive a college degree, but it is possible that he may gain a new self-image from the experience, guidance, and concern provided him through the program. That particular student, [sic.] then has been inwardly motivated. Though he may not finish college, or even enroll, an experience like Upward Bound could mean the difference between his thinking that he cannot succeed in life and his pursuing and finding his interest elsewhere in society. (Butler and Gibson, 1975, p. 12)

Young (1978) held that the success of the Upward Bound program should not be measured by its ability to prepare students academically for colleges and universities, but by the program's ability to prepare students psychologically and emotionally for the higher education environment. He was particularly concerned about preparing the "typical" Upward Bound student (i.e., inner city, minority, low income) who enters the "selective" (i.e., rural, Ivy League, affluent, mostly white) college environment. In addition to preparing students academically, Young says Upward Bound must also help students select a college that will best

serve him or her emotionally and psychologically. "We must do everything that we can to see that the students [sic] psychological, spiritual, financial, and physical needs can be met by the school they choose and if we feel that they cannot, we must advise them to seek another" (p. 11)

Salter (1982) studied the effects Upward Bound had on students' self-concept, achievement needs, self-confidence, self-control, personal adjustment, autonomy needs, endurance needs, and grade-level change. She found that Upward Bound positively affected the self-ratings on the personality traits studied, and that length of participation in the program had a significant positive effect on self-ratings and achievement needs.

As previously mentioned, the Upward Bound program began as one of a three-part program. The other two parts were Talent Search, and Special Services for Disadvantaged Students. The three-part program became known as the Trio program. Read's (1982) study of participants in the TRIO/Special Services program at the University of Minnesota revealed that the program participants ended the school year with a higher level of self-esteem than the control group.

Merchant's (1986) findings showed a statistically significant gain in self-esteem at the end of the Upward Bound Summer Reading program. A follow-up study showed that, nine months later, the self-esteem scores returned to the pretest level.

IV. Progress and Persistence

Progress and persistence measures involve studies that have looked at how well students progress through a postsecondary educational institution subsequent to participating in an academic enhancement program.

Billings (1969), using college attendance and retention as measures, found that 80 percent of Upward Bound students were admitted to college. Further, this study showed that "Upward Bound graduates remain in college at about the same rate as all other college students" (p. 96).

Burkheimer, French, Levinsohn, and Riccobono (1977) sought to examine the association between educational progress and persistence (particularly in connection with the postsecondary experience) and participation in the Upward Bound program. They performed a national survey of participants and found that Upward Bound did have an impact on educational expectations (i.e., motivation) and educational progress and persistence. "A significantly larger percentage of the former participants (55 percent) expected to complete at least a four-year college education than did the nonparticipants (40 percent), and, among former participants, expectations were generally higher given longer participation in the Upward Bound program" (P. 6.11). Researchers further found that the number of Upward Bound participants entering postsecondary educational institutions exceeded the number of nonparticipants by almost 20 percentage points. "For nonparticipants entry rates were 39 percent, 50

percent, and 58 percent for tenth-through twelfth-grade cohorts; respectively. Analogous rates for former Upward Bound participants were 55 percent, 68 percent, and 76 percent" (p. 6.13).

Burkheimer, Riccobono, and Wisenbaker (1979) used educational aspirations, postsecondary educational progress and persistence as measures of success. Their research revealed that "Upward Bound participants continued their formal education beyond high school at considerably higher rates than nonparticipants" (p. 77).

McCarthy (1991) reported that, "nationally, Upward Bound students have been graduating from college at four times the rate of students from similar backgrounds who weren't in the program" (p. A19).

A Negative Relationship or No Relationship Between Upward Bound Participation and Progress and Persistence

The United States Comptroller General (1974) found that participation in Upward Bound did not have an impact on participants' retention rates.

The results from our statistical tests indicate that the 15 projects have succeeded significantly in motivating participants to enroll in college. However, we found the association between exposure to the program and college retention to be insignificant; those with more exposure were not succeeding at significantly higher rates than those with less exposure. (United States Comptroller General, 1974, pp. 17-18)

Non-Upward Bound Programs and Their Relationship to Progress and Persistence

Doyle (1975) found a positive relationship between participation in the College Bound program and progress and persistence. Of those students participating in the program between October 1974 and May 1975, "over 90 percent of those who graduated from the College Bound program operating in New York City schools were accepted into colleges and over 70 percent were still enrolled as seniors" (p.14).

Kammer, Fouad, and Williams (1988) found that the Pre-College program at the University of Wisconsin was effective in decreasing the drop-out rate of high school students. None of the program participants dropped out of high school. Seventy-three percent of the participants reported that they had attended one or more postsecondary schools and their average GPA was 2.8.

Cave and Quint (1990) analyzed the impact of the Career Beginning program. Managed by the Center for Human Resources at Brandeis University, Career Beginning is in operation at 24 sites around the country. Cave and Quint found that program participants remained in college at a statistically significant higher rate than students in the control group.

Ackermann (1991) sought to determine the effects of the Summer Bridge programs at the University of California, Los Angeles (UCLA). The programs were referred to as the Freshman Summer Program (FSP) and the Transfer Summer program (TSP). Her findings in the area of persistence showed that "97% of FSP students and 93% of TSP students continued into their third

quarter at UCLA (Spring quarter of the 1988-89 academic year), indicating that FSP/TSP was successful at retaining its students" (p. 206).

Burley (1994) used the meta-analysis technique to measure the aggregate success of several academic enhancement programs. He organized the findings of several research studies where comparison and control groups were used to measure the effectiveness of a program. The meta-analysis technique allowed him to evaluate whether such programs are generally successful in increasing students' persistence in higher education. He found that "the evidence indicates that well thought-out, self-paced and competency-based programs keep students from dropping out" (p. 15).

Simmons (1994) used drop-out rates as a measure of success in his evaluation of the pre-college programs at the University of Virginia--the Research Assistantship Program (RAP), Introduction to Engineering (ITE), and Summer Transition Program (STP). He found the programs to have a positive influence on progress and persistence.

According to figures for the 1990-92 academic years, retention of at-risk minority students participating in the three programs described versus nonparticipants increased from 55% to 76%, thus supporting the potential success of such interventions. (Simmons, 1994, p. 45)

V. Administration

Program administration used as an assessment focus is based on how well a program functions from a managerial or administrative perspective. Doyle's (1975) evaluation of the

College Bound Program in New York City Schools revealed that the staff and administration "were highly motivated, had a strong identification with the program, knew the project's goals and implementation criteria, and cared a great deal about the students" (p. 14).

Passow (1978) reviewed a cadre of compensatory educational programs aimed at aiding disadvantaged children and youth. His prescription for success is not based on an individual component of a program, but rather on a master plan for improving the education of the disadvantaged.

Within the educational plan, there must be stress placed on developing and implementing appropriate curricular designs, consumer participation, staff development programs, for all concerned, supportive services, and evaluation. Finally, it must be interrelated with other facets of the larger urban problems, such as housing, employment, recreation, and health. (HEW Urban Task Force, 1970, p.6) (Passow 1978, p. 32)

Ross (1984) says a successful Upward Bound program may be measured in the "informal" sense by answering the question "what makes a good program special" (p. 86).

Navaratnam (1991) evaluated the School-TAFE (Technical and Further Education) program, located in Queensland, Australia, for its effectiveness and efficiency. Measures for the evaluation included organizational structure and operation. On these variables Navaratnam found the program to be ineffective. He cited the lack of written policies on the organization and operation of the TAFE Centre and the lack of a funding policy.

Summary

The review of literature represents an extensive search for studies that have evaluated the success of Upward Bound and other transitional programs to prepare students for postsecondary education. The literature extends over the past 27 years from Lang (1967) to Burley (1994) and Simmons (1994).

The literature reveals that the success of Upward Bound has been measured in a variety of ways. However, motivation to attend college and academic preparation for postsecondary education appear to be at the forefront of ways to evaluate a program's success. The importance of these variables as indicators for success should not be surprising since they are the cornerstone for the Upward Bound program.

There is little disagreement among researchers that participation in Upward Bound or other academic development programs has been successful in motivating students to seek postsecondary education (Murray, 1971). Similarly there is little disagreement among researchers that Upward Bound and other transitions program positively influence self-esteem. The lack of concurrence is on the issue as to whether these programs prepare students academically for postsecondary education curricula.

Henderson (1968), Herson (1968), Billings (1969), Doyle (1975), Farrow (1977), Read (1982), Merchant (1986), and Cave and Quint (1990) suggest that, in addition to motivating students to attend colleges and universities, these programs also prepare

students to meet the academic challenges they will face in the higher education setting. Conversely, Bybee (1969), McCalley (1969), Rutgers University (1969), Rushmore and Scope (1969), U.S. Comptroller General (1974), Clemendor and Moore (1978), Exum and Young (1981), Tan (1985), Young and Exum (1982), and (Gill 1992) agree that such programs motivate students to seek higher education, but say that they do not prepare students for the academic requirements of postsecondary educational institutions.

In a similar vein, there are mixed findings on the impact of Upward Bound programs on the drop-out rate of students once they enter college. Billings (1969), Ackermann (1991), Burley (1991), and Simmons (1994) have reported a positive relationship between program participation and students' progress and persistence. The U.S. Department of Education (1987) found a negative relationship between program participation and progress and persistence.

It is these variables--academic performance and progress and persistence--that will be used as the benchmarks for measuring the success of the Upward Bound program at Virginia Union University. Findings on these variables may provide additional information regarding the success of academic enhancement programs and may assist officials at Virginia Union University to say with more confidence that their program is or is not successful.

Chapter 3

Methodology

To measure the success of the Upward Bound program at Virginia Union University, this study compared the freshman year academic performance of Upward Bound students to a comparable group of non-Upward Bound students. Statistical analyses were used to compare the outcome data on the subjects' academic performance and progress and persistence.

Academic performance was measured by evaluating the students' level of achievement in the freshman math and English courses, their need or lack of need for remedial courses, and the group's average GPA at the end of the freshman year. Progress and persistence were measured by evaluating the students' successful matriculation through the freshman year and whether they returned to begin the sophomore year.

Subjects

The subjects in the research group were students who participated in the Upward Bound program at Virginia Union University while they were high school students and subsequently entered the university as freshmen. Selection of subjects was limited to those who had their freshman year experience between 1985 and 1993. Participants in the Upward Bound program prior to 1985 were not included due to concern that the content of the program may have changed since that time.

Control Group

The control group consisted of a comparable group of non-Upward Bound students. The university's research department provided a list of freshmen students for each academic year from 1984-85 through 1993-94. Using a chart of random numbers, students were selected from each academic year. For the control group, the academic year of the freshman experience was matched with the same freshman academic year as the subjects in the research group. As each potential participant was selected for the control group, the corresponding records were retrieved from the registrar's files to determine whether he/she matched the research group counterpart on gender, ethnicity, socioeconomic status, and high school grade point average (GPA). If a match was not made, the process was repeated. Although time consuming, this process assured randomness in the selection of the control group. Matching on gender and ethnicity are self explanatory. Matching on socioeconomic status and GPA were more complex and require a detailed explanation of the procedure.

Matching on Socioeconomic Status

Students participating in Upward Bound are selected for the program because they are considered to have academic potential but need additional academic support to reach their true capabilities. They must also be categorized within the lower socioeconomic strata. The federal Upward Bound office provides a formula, based on family size and income, which determines whether students meet the socioeconomic criteria to participate

in the program. For example, effective June 1995, a family unit of three may have an annual income of no more than \$18,885. In order for the child(ren) to participate in Upward Bound. As the family size increases or decreases, there is a pre-determined maximum allowable income for program participation. The maximum family income is slightly higher for students seeking to participate in Upward Bound in the states of Alaska and Hawaii.

Similarly, the Pell Grant program is a federally funded grant program for undergraduate students. It is awarded to students based upon their income and family size; therefore, receipt of a Pell Grant was a criterion for matching the control group with the research group. After a group of students was selected for the control group, the names were submitted to the university's financial aid office to verify their socioeconomic status.

Matching on High School GPA

Where possible, high school GPAs were matched identically. Since an identical match was not always possible, those that were within the same range were matched. Virginia Union University recorded high school GPAs on a 4 point scale. (e.g., 0.0 through 0.9, 1.0 through 1.9, 2.0 through 2.9, 3.0 through 3.9, to 4.0). The GPA of each control group member was matched within the same GPA range of the participants in the research group. If a subject in the research group had a GPA of 2.5, the matching subject in the control group had a GPA between 2.0 and 2.9.

Sample size

As previously mentioned, the students selected for this study were those that had the freshman year experience between 1985 and 1994. The total number of Upward Bound students who entered Virginia Union University during that time period is 26. Gay (1987) recommends a minimum of 30 subjects for causal comparative studies. To increase this sample size to 30, it would have required including subjects who participated in the university's Upward Bound program prior to 1985. The quality of the program and the content of the freshman coursework may have changed over the past 10 or more years. To include students in the study who participated in Upward Bound more than 10 years ago might not have provided a fair evaluation of the program. Therefore, for this study, it was decided to perform the evaluation with a research group and control group each consisting of 26 students.

While gathering data on the research group, it was discovered that records on six members of the research group were unavailable. Consequently, the sample size of the research group and control group was reduced from 26 to 20.

Scoring and Measurements

Success of Upward Bound at Virginia Union University was measured by the students' academic performance and their progress and persistence. As previously mentioned, academic performance was measured by recording the student's freshman year math and English grades for each semester, whether remedial math or

English courses were taken, and whether students were placed on academic probation at anytime during the freshman year. Progress and persistence measurements were taken regarding whether the students dropped-out or completed the freshman year and whether they returned for the sophomore year.

The scoring was consistent for each criterion. The data were scored as 1 or 2. A score of 1 indicated that the student performed in the negative (i.e., below-average grades, dropped out in the freshmen year, received academic probation, or required remedial coursework). The score of 2 represented a positive performance (i.e., grades equal to or above average, completed freshman year, no academic probation, and no need for remedial coursework). Grades of incomplete (I) were scored as 1, (i.e., below average). Grades of withdrawal(W) were not included in the analysis of the data. If the incomplete grade was changed to a regular letter grade, the scoring reflects the final letter grade. See table 3.2 for scoring chart.

<u>VARIABLE</u>	<u>SCORE</u>	
	<u>1</u>	<u>2</u>
Freshman GPA	<2.0	≥2.0
Matriculation through Freshman Year	Dropped Out	Completed
Freshman Year Academic Probation	Yes	No
Freshman Math Grade	<2.0	≥2.0
Remedial Math	Taken	Not Taken
Freshman English Grade	<2.0	≥2.0
Remedial English	Taken	Not Taken

Table 3.2

Subsequent to retrieving and scoring the data, a chi-square was used as the method of statistical analysis. The chi-square test compared the frequency of the scores (i.e., above average or below average) between the two groups.

The total (average) freshman GPA, math, and English scores for each group were also recorded. A t-test was used as the method of analysis for the average scores of the two groups. The findings of the chi-square and the t-test were used to support or reject the research hypothesis that the Upward Bound program increases at-risk students' ability to meet successfully the academic demands of postsecondary educational institutions. Results of the chi-square and t-test are discussed in the following chapter on research findings.

Chapter 4

Findings

The Upward Bound Program at Virginia Union University

Upward Bound programs have two components. Each program includes a six-week summer program that affords students an opportunity to live on campus and take classes. During the academic year, Upward Bound operates as a tutorial program that helps students with high school coursework (Hearn, 1994).

Summer Program

At Virginia Union University, participants in Upward Bound take courses in English, math, science, history/social studies, reading, writing, and foreign languages. The summer program's objective is to prepare students for the courses they will take in the upcoming academic year in high school. High school seniors participating in the summer Upward Bound program prepare themselves for their upcoming college courses. Each student's performance is evaluated through homework assignments and other projects, but the students receive no formal grades. It is thought that assigning grades may increase the pressure to perform on what are already defined as "at risk" students. Testing takes place for initial educational placement and to monitor academic progress. The only exception to this policy of not giving formal grades applies to high school seniors. A senior may take the college-level freshman English course and receive college credit for it (Hearn, 1995).

In addition to the aforementioned academic courses, students are also required to participate in a workshop in music, art, drama, or Spanish. They participate in daily, one-hour group sessions aimed at improving their social skills. Their evenings are filled with a variety of exercises such as games, movies, recreational activities, and presentations from members of the community. On Friday evening they return home to their families and come back to campus on Sunday evening. As an incentive to participate in the program, students are paid \$15.00 per week.

Academic Year Program

During the academic year the Upward Bound program operates only on Saturdays. Students are offered tutoring in basic courses, but the program is flexible so that it may address special needs of each student (e.g., foreign language). The students also participate in a community service project. For example, they may collect and distribute food to the needy during the holidays. The students are paid \$5.00 per week for participating in the program during the academic year.

Admission

Students become eligible to participate in Upward Bound after they have completed the eighth grade. For admission into the program, students must meet a pre-determined socioeconomic status level and, where possible, be first generation college students. Aside from these admission guidelines, the university has a great deal of flexibility regarding the criteria for admission into the program.

Most students entering the program do so upon the recommendation of school counselors and teachers. Some enter upon the recommendation of community agencies (e.g., social services organizations) (Hearn, 1995). In addition to evaluating the students' socioeconomic conditions, Louis Hearn, the program coordinator at Virginia Union, also interviews each student and considers his/her total home environment. There are no specific guidelines regarding a minimum or maximum GPA for admission. However, Mr. Hearn says the average GPA of the students entering the program is between 2.0 and 3.0.

Ninety percent of the students admitted into the Virginia Union Upward Bound program have demonstrated an academic need. They are the students who are recommended by counselors, teachers, and community agencies because they have academic potential but need the Upward Bound intervention. The remaining 10 percent are admitted because they have demonstrated social deficiencies (e.g., the inability to work with others or fully integrate themselves into mainstream society) (Hearn, 1995).

Placement

Students are given the Test of Academic Proficiency (TAP) as early as the sixth grade level. Students may progress from the sixth grade and into high school grade levels although they have not passed the TAP test. However, when a student applies for entry into Upward Bound he/she must have passed the TAP test or the application will not be considered (Hearn, 1995).

To properly place students who have entered the Upward Bound program, the Comprehensive Test of Basic Skills (CTBS) is used. The CTBS is often coupled with teacher-made tests. These two types of tests are also used to monitor students' progress throughout the program. The test results from the Upward Bound program are compared with the students' high school test scores. Analyzing the scores from the two academic settings helps the Upward Bound staff better evaluate the students' progress. For example, if a student performs well in a subject in high school and does extremely poor in same subject at the same level in Upward Bound, perhaps the student is not applying himself/herself in the Upward Bound program. Or, if a student performs poorly in a particular discipline in high school and continues to perform poorly in Upward Bound in the same discipline, the continuity of the test scores alert the Upward Bound staff to increase tutoring or take additional steps to help the student.

The Curriculum

As previously discussed, the curriculum consists of core academic courses (i.e., English, math science, history/social studies, reading, writing, and foreign language) and specialized workshops (i.e., music, art, drama, dance, photography and critical thinking). The curriculum is student driven. The aforementioned courses are made available based on students' needs. However, the more specialized courses are mostly associated with the summer program.

The Faculty

The Upward Bound instructors used during the academic year are faculty members from the Richmond City public school system. They meet licensure standards adopted by the Virginia Board of Education to teach in the public school system.

Faculty members from the Richmond City public schools, along with faculty members from Virginia Union University, teach during the summer residential component of the program. University faculty teach those high school seniors who want to take freshman college English during the summer. They are also used to teach other courses when high school teachers are not available.

Working Relationships Between Students and Teachers

The Virginia Union Upward Bound program experiences very little turn-over with its teachers. The students who enter the program after completing the eighth grade are exposed to the same teachers for each year of their Upward Bound experience. Ideally, this permits the development of a strong and positive relationship between students and teachers. Some students become comfortable enough with teachers to seek advice on confidential matters not pertaining to academics (Hearn, 1995). Often students who have completed the program and entered some other postsecondary educational institution return during summer breaks to renew acquaintances with teachers.

Advising and Counseling

Since the goal of Upward Bound is to prepare students for postsecondary education, all participants are advised of the need

to be in their high school's college preparatory curriculum. They are informed of the types of courses in which they should enroll in order to be accepted into higher education institutions. Aside from this, no other formal counseling takes place.

The program does offer an informal form of group counseling which takes place every fourth Saturday during the academic year. Under the leadership of a trained counselor, students are given the opportunity to come together to share the many issues and concerns that face each of them. Informal advice and support come from these sessions.

Statistical Findings

The overall purpose of this study was to determine whether Upward Bound participants attending Virginia Union University performed better during their freshman year in college than did their non-Upward Bound counterparts. The following research questions were posed to investigate the students' performance:

Main Research Question

Do Virginia Union University students who participated in the Upward Bound program meet the academic challenges found in the postsecondary educational arena more effectively than comparable students who did not participate in Upward Bound?

Subsidiary Research Questions

Did fewer Upward Bound participants require remedial math than their non-Upward Bound counterparts?

Did fewer Upward Bound participants require remedial English than their non-Upward Bound counterparts?

Were Upward Bound students less likely than their non-Upward Bound counterparts to be placed on academic probation?

Were Upward Bound students less likely than their non-Upward Bound counterparts to drop-out during their first year in postsecondary education?

Were Upward Bound students more likely than their non-Upward Bound counterparts to return to college after completing their freshman year?

The following are the findings for each research question. For clarity, each research question is restated and followed by the relevant statistical findings.

Did fewer Upward Bound participants require remedial math than their non-Upward Bound counterparts?

The chi-Square results in table 4.1 show that more Upward Bound students enrolled in remedial math than did the non-Upward Bound students. The difference was statistically significant at the .05 level ($\chi^2 = 5.449$, $P = .02$).

Table 4.1

Math remediation taken				Total	Chi-Square
		Control	Research		
Actual	Yes	0 (0%)	5 (25%)	5	5.449
	No	19 (100%)	15 (75%)	34	
		19	20	39	Probability
					0.020
Expected	Yes	2.44	2.56		
	No	16.56	17.44		
				Sum Diffs	2.4359 0.0026
					0.3582 0.3403

Did fewer Upward Bound participants require remedial English than their non-Upward Bound counterparts?

The findings shown in table 4.2 revealed no difference between the research and control groups regarding their participation in remedial English. The findings were not statistically significant at the .05 level ($\chi^2=.006$, $p=.939$).

Table 4.2

English remediation taken				Total	Chi-Square 0.006 Probability 0.939	
		Control	Research			
Actual	Yes	1 (06%)	1 (05%)	2		
	No	17 (94%)	19 (95%)	26		
		18	20	38		
Expected	Yes	0.95	1.05		Sum Diffs 0.0029 0.0026 0.0002 0.0001	
	No	18.05	18.95			

Were Upward Bound students less likely than their non-Upward Bound Counterparts to be placed on academic probation?

As shown in table 4.3, there was no significant difference in the percentage of Upward Bound students who were placed on academic probation and the percentage of non-Upward Bound students placed on probation. The findings were not significantly different at the .05 level ($\chi^2=.102$, $p=.749$).

Table 4.3

Probation				Total	Chi-Square 0.102 Probability 0.749
		Control	Research		
Actual	Yes	9 (45%)	8 (40%)	17	
	No	11 (55%)	12 (60%)	23	
		20	20	40	
Expected	Yes	8.50	8.50		
	No	11.50	11.50		
Sum Diffs					0.0294 0.0294 0.0217 0.0217

Were Upward Bound students less likely than their non-Upward Bound counterparts to drop out during or at the end of their freshman year?

Were Upward Bound students more likely than their non-Upward Bound counterparts to return to college after completing their freshman year?

More Upward Bound freshmen dropped out by the end of their first year and did not return to the University than did non-Upward Bound students. These two questions were coupled because those students who dropped out during or at the end of their freshman year also did not return for the sophomore year. The findings shown in table 4.4 were not significant at the .05 level of significance ($\chi^2=.475$, $p=.491$).

Table 4.4

Dropout				Total	Chi-Square 0.475 Probability 0.491	
		Control	Research			
Actual	Yes	7 (35%)	10 (45%)	17		
	No	13 (65%)	12 (55%)	25		
		20	22	42		
Expected	Yes	8.10	8.90			
	No	11.90	13.10		Sum Diffs 0.1482 0.1347 0.1008 0.0916	

Do Virginia Union University students who participated in the Upward Bound program meet the academic challenges found in the postsecondary educational arena more effectively than comparable students who did not participate in the program?

The t-test findings in this area were mixed. The mean freshman GPA for Upward Bound participants was higher than that for non-Upward Bound students. The mean GPA for the Upward Bound group was 1.97 and the GPA for the non-Upward Bound group was 1.78. However, this difference was not statically significant at the .05 level of significance ($p > .05$, $df=38$, $t = -0.57$).

The average math grade was higher for non-Upward Bound students than it was for Upward Bound students. The mean score for the control group was 2.59 and for the research group it was 1.82. The difference was significant at the .05 level of significance ($p = .05$, $df=31$, $t=1.68$).

Upward Bound students averaged better in freshman English than did their non-Upward Bound counterparts. The average

English grade for the research group was 2.36, and the average grade for the control group was 1.73. This difference is significant at the .05 level ($p < .05$, $df = 31$, $t = -1.99$).

Discussion

The statistical findings yielded mixed results. In certain areas Upward Bound participation appears to have had a positive impact on students' academic performance while in other areas it may have had no impact or a negative impact.

Statistically Significant Findings

The findings revealed that the strongest segment of the Upward Bound program at Virginia Union University is the English component. The Upward Bound students had a statistically significant higher English average than did the non-Upward Bound students.

Conversely, the math component of Virginia Union's Upward Bound program was the least effective with regard to academic performance. A statistically significant higher number of Upward Bound students took remedial math than did non-Upward Bound students. Similarly, Upward Bound students had a statistically significant lower average in freshman math (i.e., regular for credit math not remedial math) than did comparable non-Upward Bound students.

Findings Yielding No Statistical Significance

There were other findings that compare the performance of Upward Bound students and non-Upward Bound students but yielded no statistically significant results. These non-statistically significant findings were for the following variables: academic probation, remedial English, freshman GPA, and drop-out rates.

Summary

The findings make it impossible to conclude that the Upward Bound program has an overall positive impact on the academic performance of participants. However, conclusions about the program's impact in specific areas may be drawn. Clearly, the performance of students in English and math are at opposite ends of the continuum. The findings suggest that participation in Upward Bound has helped students' performance in freshman English, but has not positively impacted students' performance in the area of math.

Chapter 5

Summary and Recommendations

Introduction

When the Upward Bound program began in 1964 its purpose was to (1) motivate at-risk high school students to seek postsecondary education and (2) academically prepare them for the postsecondary education curricula (United States Department of Education, 1964). These have been the primary aims of Upward Bound and other subsequent academic enhancement programs. Upward Bound seeks to reach these goals by providing tutoring to students during the academic year and offering a summer residency program on a college campus. Academic advising and career counseling are also included in the academic year and summer components of the Upward Bound program.

Upward Bound functions at the local level as a collaborative effort between a four-year college or university and the local school division's secondary education program. It is expected that the added tutorial experiences, the summer residency program, and the career and academic counseling associated with Upward Bound will increase program participants' level of academic success once they enter postsecondary educational institutions. Also, it may be further assumed that as a result of participation in Upward Bound, the participants will perform better than a comparable group of non-Upward Bound students.

Summary of Findings

To evaluate the effects Upward Bound has on academic performance, this study compared the freshman year academic performance of Virginia Union University Upward Bound participants with that of a comparable group of Virginia Union University non-Upward Bound students. The two groups were compared on their academic performance (i.e., need for remedial math and English, performance in regular freshman math and English, whether they were placed on academic probation, and average freshman GPA). The two groups were also compared on their progress and persistence (i.e., drop-out rate during the freshman year and matriculation into the sophomore year).

The findings yielded mixed results. There were areas in which Upward Bound appears to have had a positive relationship with academic performance while in other areas a negative relationship or no relationship was found. Upward Bound students performed better in freshman English than did non-Upward Bound students. At the opposite end of the continuum were the math findings. Upward Bound students performed worse in freshman math than did comparable non-Upward Bound students, and Upward Bound students enrolled in more remedial math courses than did non-Upward Bound students. These English, math, and remedial math findings were statistically significant at the .05 level.

This study also yielded findings on the following variables: academic probation, remedial English, freshman GPA, and drop-out rates. However, the differences on these variables for the two

student groups were not statistically significant. These findings suggest that (1) there was no difference in the need for remedial English between Upward Bound participants and non-Upward Bound students, (2) Upward Bound was not effective in decreasing students' drop-out rates (3) Upward Bound participation did not decrease a student's chance of being placed on academic probation, and (4) Upward Bound participation did not increase students' average GPA.

Implications of the Findings

English

The Upward Bound students had a statistically significant higher English average than the non-Upward Bound students. This finding supports the hypothesis that the Upward Bound program at Virginia Union University helps in preparing students for college-level English. Several factors may have led to the positive relationship between Upward Bound participation and freshman English performance. High school students may opt to take their first semester of freshman English during the Upward Bound summer residential program. The quiet atmosphere associated with the summer college environment, and the lack of pressure and stress associated with multiple courses may have aided in producing the strong English performance for Upward Bound students. Also, the academic tutoring from previous Upward Bound experiences (academic year and summer residential) may have attributed to the Upward Bound students' statistically significant higher average in freshman English.

Math

Upward Bound students performed more poorly in freshman math than did comparable non-Upward Bound students. The statistical significance of this finding suggests the need for improvement in the math component of the Upward Bound program at Virginia Union University. The data on the math variable also revealed some uniquenesses about the freshman math curriculum at Virginia Union University that should be mentioned at this time. Virginia Union University offers three types of freshman math--(1) math for business majors, (2) math for math and science majors, and (3) general math for all other majors. This study did not evaluate student performance in the individual types of math. It could be that the Upward Bound program makes no distinction among the three types of freshman math and does not adequately prepare students for the variety of math courses from which they may choose. Although these points merit discussion and consideration, they do not negate the fact that Upward Bound participation should improve students' math performance. It should not result in the participants performing at a statistically significant lower level than non-participants.

Remedial English and Remedial Math

The findings in the area of remedial education suggest that Upward Bound students required remedial math at a statistically significant higher rate than comparable non-Upward Bound students. This finding augments the previously mentioned finding on regular math performance.

There was no statistically significant difference in the number of Upward Bound students and non-Upward Bound students enrolling in remedial English. The data on remedial education suggest that the Virginia Union Upward Bound program is not effective in decreasing the participants' need for remedial education once they enter postsecondary education. It was expected that participation in Upward Bound would decrease students' need for remedial courses. According to the data, Upward Bound students enrolled in more remedial math than their counterparts and their enrollment in remedial English was equal to their counterparts. However, the following information should be considered when interpreting the data on remedial education.

Virginia Union University may admit students under a provisional status. Provisional acceptance is available for those students who show signs of academic potential but have a weak high school academic record. The provisional acceptance requires a student to take the university's remedial math and English courses before he or she may be permitted to enroll in the basic math and English courses for academic credit. Several students who were expected to enroll in remedial education courses did not. Instead, they were permitted to register for the regular, for credit, freshman math and English.

Of the twenty Upward Bound students studied, nine (45 percent) were admitted under the provisional status, compared to eight (40 percent) of the comparable non-Upward Bound students. Of the nine Upward Bound students expected to enroll in remedial

courses only five (25 percent) enrolled in remedial math and one (5 percent) enrolled in remedial English. Similarly, of the eight (40 percent) non-Upward Bound students expected to enroll in remedial courses only one (5 percent) enrolled in remedial math and one (5 percent) enrolled in remedial English.

The chi-square findings regarding the number of students who actually enrolled in remedial math suggest that non-Upward Bound students enrolled in remedial math at a much lower rate than did Upward Bound students. However, if the non-Upward Bound students who were told by the Admission's Office to take remedial courses (i.e., provisional acceptance into the university) had actually enrolled in the remedial courses, the findings would be reversed on the variable, remedial math. Provisional acceptance was not a variable examined in this study. Provisional acceptance comes with the requirement/recommendation that students enroll in remedial courses. When analyzing the number of students from each group who were recommended for remedial work as a result of their provisional acceptance, more non-Upward Bound students received the provisional acceptance than did Upward Bound students. Further analysis from this perspective might reveal that Upward Bound is effective in decreasing participants need for provisional acceptance (i.e., remedial education). These findings in the area of remedial math and English imply that university is unable to monitor the academic activities of provisionally accepted students. The university lacks a method of monitoring the types of courses in which provisionally

accepted students are permitted to enroll. Also, more emphasis may need to be placed on the academic advising given to provisionally accepted students.

Academic Probation

Students at Virginia Union University with a GPA below 1.8 at the end of the academic year are placed on academic probation (Bailey, 1995). The academic probation period is for one semester. Students are expected to raise their GPA to 2.0 by the end of the probationary period. If the GPA is not raised to 2.0 by the end of the semester for which a student has been placed on probation, the student is then placed on academic suspension.

Students on academic probation are required to improve their academic performance or face suspension from the University. Students on academic probation are usually not eligible for certain forms of financial aid. Students on probation are limited to twelve (12) credit hours or four (4) courses - whichever is greater. (Virginia Union University 1995-1997 Catalog)

The study's findings on this variable were not statistically significant. The assumption was that participation in the Upward Bound program would decrease students' chances of being placed on academic probation. The lack of statistical significance suggests no relationship between program participation and academic probation. In addition to focusing on Upward Bound's goal of motivating students to enter postsecondary education, the program at Virginia Union University should also consider ways to positively impact students' academic performance after they

enroll. Better academic advising, assuring that students are aware of all tutorial services available, or limiting the first year course-load of Upward Bound students may aid in decreasing the academic probation experienced by Upward Bound students.

Drop-out Rates

There was no statistically significant difference between the drop-out rates of the Upward Bound students and the non-Upward Bound students. By the end of the freshman year nine (45 percent) Upward Bound students had dropped out--six dropped out mid-year, and three dropped out at the end of the freshman year. None returned after dropping out. A total of seven (35 percent) non-Upward Bound students dropped out--four dropped out mid-year and three dropped out at the end of the freshman year. Like the Upward Bound students who dropped out, none of the non-Upward Bound students returned after dropping out.

The statistical insignificance of these findings suggests that Virginia Union University's Upward Bound program is not effective in influencing students' drop-out rates. Therefore, the Upward Bound program needs to take steps to improve the drop-out rate of Upward Bound students. Through collaboration with the university, Upward Bound administrators may want to consider devising a method of monitoring the academic activities of Upward Bound students during their freshman year. Potential problems that may lead to a student dropping out may be foreseen and corrected, thus decreasing a student's chance of dropping out.

Also, although the university offers guidance and counseling, continued academic guidance and counseling from the Upward Bound program after the students have entered college may be a method of positively influencing the drop-out rate.

Freshman GPA

There was no statistically significant difference between the overall freshman GPA of Upward Bound students and comparable non-Upward Bound students. It was assumed that participation in the Upward Bound program would result in higher academic performance. The lack of difference between the two groups suggests that the program has not been successful in influencing the overall academic performance of students.

Limitations of the Study

There are four major limitations to this study. (1) There are a variety of programs that seek to motivate and prepare students for postsecondary education. This study was limited to the Upward Bound program. (2) Upward Bound programs operate at colleges and universities throughout Virginia and other states. This study focused only on the Upward Bound program at Virginia Union University. (3) It is further limited in that it analyzed the academic performance of Upward Bound students who had their freshman year experience between 1985 and 1993. (4) Finally, students who participated in Upward Bound at Virginia Union University entered a variety of two-year and four-year institutions of higher education after completing high school. This study was limited to those students who entered Virginia

Union University for their undergraduate experience.

Although these findings are limited to a specific population, this study may be replicated for other Upward Bound programs or similar school-college transition programs.

Concluding Recommendations

The statistically significant findings support the need for improvement in the math component of the Upward Bound program at Virginia Union University. Since the university offers three types of freshman math, further study of this variable is needed. This follow-up study also should include information about the type of math the students take during the freshman year. Such an analysis would provide insight as to whether students are not prepared for a specific type of freshman math or whether they are generally not prepared for any type of freshman math.

Additionally, this study indicates that a stronger collaboration is needed among high school math teachers, Upward Bound math tutors, and math faculty members at Virginia Union University. Such collaboration should be directed toward achieving the following objectives:

- Assuring that all groups of faculty have a clear understanding of what students will be expected to know when they enter freshman math.
- Identifying the best way(s) to prepare students for the three types of math the university offers.
- Reviewing of the textbooks and materials used by the Upward Bound program.
- Pursuing methods for continued collaboration and communication among Upward Bound, high school, and university faculty.

Within this same domain, it is recommended that the communication and coordination between the University's Admissions Office and Registrar's Office be improved. The two offices should work more closely together to assure that students recommended for remedial work enroll in remedial courses. The findings show that students admitted on a provisional basis are not held to the provisional acceptance guidelines when registering for courses. It is recommended that the Admissions Office and Registrar's office consult with internal and/or external computer programmers to review this problem. Their discussion and analysis should be centered on, but not limited to, the following:

- Upgrading the computer capabilities within each office.
- Linking the computer capabilities between the two offices.

Ways of identifying provisionally accepted students to prevent them from registering for basic math and English courses until after they have successfully completed remedial math and English.

Further study is needed on the statistically insignificant variables. The findings indicate that Upward Bound is not effective in decreasing drop-out rates. Because of the statistical insignificance of the findings, however, it cannot be said that there is a true difference in the drop-out rates for the two groups. Further research could help to clarify why Upward Bound at Virginia Union University is failing to facilitate the retention of at-risk college students.

Additional research on the variables GPA and academic

probation is also needed. This study compared the academic performance of Upward Bound and non-Upward Bound students in the disciplines of math and English. Additional research could compare the performance of the two groups in other core courses. The findings would inform the Upward Bound program of its weaknesses in other academic areas. Identifying and improving as many program weaknesses as possible may improve students' overall GPA and decrease the number of students experiencing academic probation.

Summary

The purpose of this study was to evaluate the success of the Upward Bound program at Virginia Union University. To do so, a series of research questions was presented. The findings yielded mixed results which make it impossible to say whether or not the overall program is successful. However, the data do make it possible to draw conclusions about specific components of the Virginia Union University Upward Bound program, such as English and math. Further, this study serves as the foundation for additional research on specific components of the Upward Bound program at Virginia Union University. Although these findings are limited to the population at Virginia Union University, this study may be replicated for other Upward Bound programs.

Implications for Future Research on Upward Bound and Other College Transition Programs

The findings of this study revealed opportunities for further research. The following are additional research questions that may serve as a follow-up to this study.

1. Do fewer Upward Bound students receive provisional acceptance into Virginia Union University than do comparable non-Upward Bound students?

Research in this area would augment the research findings comparing Upward Bound and non-Upward Bound students' need for remedial education.

2. Do Upward Bound students complete undergraduate programs at a higher rate than their non-Upward Bound counterparts?

A longitudinal study following two groups of students (Upward Bound and non-Upward Bound) through their entire undergraduate experience would further illuminate Upward Bound's impact on students' progress and persistence.

3. Do Upward Bound participants enroll in graduate and professional programs at a higher rate than their non-Upward Bound counterparts?

Research in this area would help to further examine Upward Bound's influence on students' motivation to continue their education after completing an undergraduate program.

These research questions may be used to further examine Upward Bound programs or other school-college transition programs. They will aid in advancing our understanding of how to improve the impact school-college transition programs have on student's academic performance once they enter college.

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